DECEMBER 2021

FINAL APRIL 2024

City of Ellensburg

WATER SYSTEM PLAN

PREPARED BY RH2 ENGINEERING

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City of Ellensburg Water System Plan

DECEMBER 2021
FINAL APRIL 2024

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CERTIFICATION

This Water System Plan for the City of Ellensburg was prepared under the direction of the following professional engineers registered in the State of Washington.

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1 | INTRODUCTION

WATER SYSTEM OWNERSHIP AND MANAGEMENT

The City of Ellensburg (City) is a municipal corporation that owns and operates a public water system inside and outside of its City limits. Water system data on file at the Washington State Department of Health (DOH) for the City's system is shown in **Table 1-1**.

Table 1-1

Water System Ownership Information

Information Type	Description
System Type	Group A - Community - Public Water System
System Name	Ellensburg Water Department
County	Kittitas
DOH System ID Number	22950M
Address	501 North Anderson St, Ellensburg, WA 98926
Contact	Mike Helgeson Assistant Public Works Director
Contact Phone Number	(509) 962-7133

OVERVIEW OF EXISTING SYSTEM

In 2018, the City provided water service to an average of approximately 5,804 customer meters, or 11,732 equivalent residential units (ERUs), within the City's water service area. The City limits comprise an area of approximately 8.3 square miles, and the retail service area is approximately 14.8 square miles. The 2018 population served by the water system was approximately 20,912, whereas the population residing in the City limits was approximately 19,660.

The City's water supply currently is provided by 11 well sources. Eight well sources provide water supply to the 1740 Pressure Zone and the remaining three wells provide water supply to the 1824 Pressure Zone. All well sources are treated with chlorine gas and fluoride at the wellhouses, except for the Brooklane Well, which is not fluoridated. The City's distribution system has two pressure zones, with one pressure reducing station. The system has 1 booster pump station and approximately 110 miles of water main. A summary of the 2018 water system data is shown in **Table 1-2**.

Table 1-2

2018 Water System Data

Description	Data
Water Service Area Population	20,912
Retail Service Area	14.8 square miles
Total Customer Meters	5,804
Total Service Connections (2019 WFI Form)	9,969
Total ERUs	11,732
ERU_{ADD}	363 gpd
ERU_{MDD}	842 gpd
Annual Supply	1,555,206,450 gallons
Average Day Demand	2,959 gpm
Distribution System Leakage (3-year Rolling Average)	8.0%
Maximum Day/Average Day Demand Factor	2.32
Peak Hour/Maximum Day Demand Factor	1.62
Number of Pressure Zones	2
Number of Well Sources	11
Total Capacity of City Sources	10,190 gpm
Number of Pump Stations and Total Capacity	1 (1,700 gpm)
Number of Reservoirs and Total Capacity	2 (5.1 MG)
Number of Pressure Reducing Stations	1
Total Length of Water Main	110 miles

AUTHORIZATION AND PURPOSE

The City authorized RH2 Engineering, Inc., (RH2) to prepare this Water System Plan (WSP) as required by state law under Washington Administrative Code (WAC) 246-290-100. In accordance with WAC 246-290-100, the WSP shall be updated and submitted to DOH every 10 years. The previous WSP was prepared for the City in 2014. The purpose of this updated WSP is as follows:

- To evaluate existing water demand data and project future water demands.
- To analyze the existing water system to determine if it meets minimum requirements mandated by DOH and the City's own policies and design criteria.
- To identify water system improvements that resolve existing system deficiencies and accommodate the system's future needs for at least 20 years into the future.
- To prepare a schedule of improvements that meets the goals of the City's financial program.
- To evaluate past water quality and identify water quality improvements, as necessary.
- To document the City's operations and maintenance program.

- To prepare water use efficiency, cross-connection control, and water quality monitoring plans.
- To comply with all other WSP requirements of DOH.

SUMMARY OF WSP CONTENTS

A brief summary of the content of the chapters in this WSP is as follows:

- **Chapter 1** introduces the reader to the City's water system, the objectives of the WSP, and its organization.
- **Chapter 2** presents the water service area, describes the existing water system, and identifies adjacent water purveyors.
- **Chapter 3** presents related plans, land use, and population characteristics.
- **Chapter 4** identifies existing water demands and projected future demands.
- **Chapter 5** presents the City's operational policies and design criteria.
- **Chapter 6** discusses the City's water sources, water rights, and water quality monitoring program.
- **Chapter 7** discusses the water system analyses and existing system deficiencies.
- **Chapter 8** discusses the City's operations and maintenance program.
- **Chapter 9** presents the proposed water system improvements, their estimated costs, and their schedule for implementation.
- **Chapter 10** summarizes the financial status of the water system and presents a plan for funding the water system improvements.
- The **Appendices** contain additional information and plans that supplement the main chapters of the WSP.

DEFINITION OF TERMS

The following terms are used throughout this WSP.

Capital Facilities Charge/General Facilities Charge: A one-time fee paid by a property owner when connecting to the City's water system. This fee pays for a new customer's equitable share of the cost of the existing system. This fee offsets the costs of providing water to new customers and recognizes that the existing water system was largely built and paid for by the existing customers.

Consumption: The true volume of water used by the water system's customers. The volume is measured at each customer's connection to the distribution system.

Connection Charge: A one-time fee paid by a property owner when connecting to the City's system that is made up of both the Capital Facilities Charge and the Meter Installation Charge.

Cross-Connection: A physical arrangement that connects a public water system, directly or indirectly, with facilities that could present the potential for contaminating the public water system.

Demand: The quantity of water required from a water supply source over a period of time to meet the needs of domestic, commercial, industrial, and public uses, and provide enough water to supply firefighting, system losses, and miscellaneous water uses. Demands are normally discussed in terms of flow rate, such as million gallons per day (MGD) or gallons per minute (gpm), and are described in terms of a volume of water delivered during a certain time period. Flow rates pertinent to the analysis and design of water systems are as follows:

- **Average Day Demand (ADD)**: The total amount of water delivered to the system in a year divided by the number of days in the year.
- **Maximum Day Demand (MDD)**: The highest actual or estimated quantity of water that is, or is expected to be, used over a 24-hour period, excluding unusual events or emergencies.
- **Peak Hour Demand (PHD)**: The maximum rate of water use, excluding fire flow, that can be expected to occur within a defined service area over a continuous 60-minute time period.

Distribution System Leakage (DSL): Water that is measured as going into the distribution system but not metered as going out of the system.

Equivalent Residential Units (ERUs): One ERU represents the amount of water used by one single-family residence for a specific water system. The demand of other customer classes can be expressed in terms of ERUs by dividing the demand of each of the other customer classes by the demand represented by one ERU.

Existing Service Area: The specific area within the retail service area where the City already provides direct service, remote service, or where service connections are currently available.

Fire Flow: The rate of flow of water required during firefighting, which is usually expressed in terms of gpm.

Future Service Area: The specific area within the retail service area where the City currently does not provide direct service, remote service, or where service connections are currently not available.

Head: A measure of pressure or force exerted by water. Head is measured in feet and can be converted to pounds per square inch (psi) by dividing feet by 2.31.

Head Loss: Pressure reduction resulting from pipeline wall friction, bends, physical restrictions, or obstructions.

Hydraulic Elevation: The height of a free water surface above a defined datum; the height above the ground to which water in a pressure pipeline would rise in a vertical open-end pipe.

Local Facilities Charge: A one-time fee paid by a property owner when connecting to the City's water system. The local facilities charge provides for reimbursement of a pro rata portion of the original cost of water system local distribution extensions.

Maximum Contaminant Level (MCL): The maximum permissible level of contaminant in the water that the purveyor delivers to any public water system user, measured at the locations identified under WAC 246-290-300, Table 3.

Meter Installation Charge: The installation charge or hook-up fee that is paid by a property owner to reimburse the City for the cost incurred to make the physical connection to the water system. This cost includes both direct and indirect costs for installing the service line off the system's water main up to and including the City-owned water meter and advanced metering infrastructure (AMI) equipment.

Plant Investment Fee (PIF): A charge representing a landowner's equity in the existing depreciated utility plant that benefits all users of a particular utility. PIFs shall be based on the size of the customer's utility meter.

Potable: Water suitable for human consumption.

Pressure Zone: A portion of the water system that operates from sources at a common hydraulic elevation. For example, the 1740 Zone refers to the City's lower pressure zone, which has a reservoir with an overflow elevation of 1,740 feet.

Purveyor: An agency, subdivision of the state, municipal corporation, firm, company, mutual or cooperative association, institution, partnership, or persons or other entity owning or operating a public water system. Purveyor also means the authorized agents of such entities.

Retail Service Area: The specific area where the City has a duty to serve new service connections under certain conditions.

Service Area: The largest area identified on a map where the City currently provides direct service and remote service, and the area it plans to serve.

Supply: Water that is delivered to a water system by one or more supply facilities, which may consist of supply stations, booster pump stations, springs, and wells.

Storage: Water that is "stored" in a reservoir to supplement the supply facilities of a system and provide water supply for emergency conditions. Storage is broken down into the following five components, which are defined and discussed in more detail in **Chapter 7**: operational storage; equalizing storage; standby storage; fire flow storage; and dead storage.

Wholesale Service Area: The service area of entities with whom the City has a contract to provide wholesale water service. The wholesale service area is part of the City's service area; however, the City has no duty to service the wholesale service area.

LIST OF ABBREVIATIONS

The abbreviations listed in **Table 1-3** are used throughout this WSP.

Table 1-3

Abbreviations

Abbreviation	Description
AC	asbestos cement
ADD	Average Day Demand
AMI	Advanced Metering Infrastructure
AWWA	American Water Works Association
BPS	Booster Pump Station
CCR	Consumer Confidence Report
CFR	Code of Federal Regulations
CIP	Capital Improvement Program
City	City of Ellensburg
CMMS	computerized maintenance management system
County	Kittitas County
CWSP	Coordinated Water System Plan
CWSSA	Critical Water Supply Service Area
CWU	Central Washington University
DBP	disinfection byproduct
DOH	Washington State Department of Health
DSL	Distribution System Leakage
ECC	Ellensburg City Code
Ecology	Washington State Department of Ecology
EPA	U.S. Environmental Protection Agency
ERU	Equivalent Residential Unit
fps	feet per second
FTE	full-time equivalent
GMA	Growth Management Act
gpd	gallons per day
gpm	gallons per minute
GWC	Ground Water Certificate
GWI	ground water under the influence of surface water
GWR	Groundwater Rule
HDPE	high-density polyethylene
HGL	hydraulic grade line
IDSE	Initial Distribution System Evaluation
IESWTR	Interim Enhanced Surface Water Treatment Rule
MCL	Maximum Contaminant Level
MCLG	Maximum Contaminant Level Goal
MDD	Maximum Day Demand
MG	million gallons
MGD	million gallons per day

Table 1-3

Abbreviations (continued)

Abbreviation	Description
mg/L	milligrams per liter
MMADD	Maximum Month Average Day Demand
MSDS	material safety data sheets
MUTCD	Manual on Uniform Traffic Control Devices
OFM	Office of Financial Management
OSHA	Occupational Safety & Health Administration
PHD	Peak Hour Demand
PRV	pressure reducing valve
psi	pounds per square inch
PSV	pressure sustaining valve
PVC	polyvinyl chloride
RCW	Revised Code of Washington
RTU	remote telemetry unit
SCADA	Supervisory Control and Data Acquisition
SDWA	Safe Drinking Water Act
SEPA	State Environmental Policy Act
SOC	synthetic organic chemical
SSMA	Satellite System Management Agency
SWTR	Surface Water Treatment Rule
TCF	Twin City Foods
TDH	total dynamic head
TDR	transfer of development rights
THM	Trihalomethane
TWSA	total water supply available
UCMR	Unregulated Contaminant Regulation
UGA	Urban Growth Area
USGS	United States Geological Survey
VFD	Variable Frequency Drive
VOC	volatile organic chemical
WAC	Washington Administrative Code
WFI	Water Facilities Inventory
WHPA	wellhead protection area
WISHA	Washington Industrial Safety & Health Act
WRIA	Water Resource Inventory Area
WSP	Water System Plan
WUCC	Water Utility Coordinating Committee
WUE	Water Use Efficiency

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2 | WATER SYSTEM DESCRIPTION

INTRODUCTION

This chapter describes the City of Ellensburg's (City) water service area and water service agreements and provides a thorough description of the water system and its individual components. The results of the evaluation and analyses of the existing water system are presented later in **Chapter 7**.

WATER SERVICE AREA

History

The City of Ellensburg is located in central Washington, 110 miles east of Seattle and 170 miles west of Spokane in Kittitas County. The Interstate 90 and Interstate 82 interchange is located just to the southeast of the City. In addition to the interstate highways, various state highways provide access to the City through the Cascades to the west and farmland to the east.

The town was originally platted in 1875. The Northern Pacific Railroad donated land in hopes that the town would be a rail-based center for the area's abundant farmland, forests, and mines. Ellensburg grew slowly until plans for rail access were completed. The 1886 arrival of the Northern Pacific Railroad helped stimulate markets in cattle, dairy products, timber, wool, and hay. Community boosters hoped Ellensburg would be the new state capitol due to its central location. Such speculation even led to the construction of a mansion to house the future governor on the corner of what is now Chestnut Street and Third Avenue.

A disastrous fire on July 4, 1889, changed the course of the community's history. The fire, fanned by Ellensburg's famous winds, destroyed most of the business district and many homes. Although the community put forth a heroic effort and rebuilt its downtown within the year, Olympia was ultimately chosen as the state capitol. The efforts to place the state capitol did help bring an important element to Ellensburg; during the State Legislature's first session, Washington State Normal School (now Central Washington University) was established. In 1891, the doors opened for 86 students. Today, Central Washington University has an on campus enrollment exceeding 9,600 students, occupies more than 300 acres, and is the county's largest employer.

The City's water is supplied from 11 wells, the oldest of which is the City Well, which was constructed in 1913. In 1960, the City constructed the 4.0 million gallon (MG) Craig Hill Reservoir to provide storage for the lower 1740 Pressure Zone. As the City expanded further north into higher elevation terrain and more development began to take place, there was a need for additional water infrastructure. This led to the development of the upper 1824 Pressure Zone, the Airport Reservoir, and the Vuecrest Booster Pump Station. The City's distribution system also has one pressure reducing station, which is referred to as the Transfer Station. This facility allows the City to utilize the 1824 Zone supply sources, and storage in the Airport Reservoir, in both of its pressure zones.

The inventory of City facilities will be discussed in more detail in the remainder of **Chapter 2**.

Retail Service Area and Service Area

The City is located near the center of Kittitas County, Washington, adjacent to the Yakima River. The City boundaries encompass an area of approximately 8.3 square miles, as shown in **Figure 2-1**. The City's existing water distribution system extends south to Berry Road and Canyon Road, north to West Bowers Road, east past Pfenning Road on the Vantage Highway, and west to the City Well on State Route 10.

The City's retail service area and service area boundaries are identical. The City's service area boundary is currently the same as the City's Urban Growth Area (UGA), as defined in the City's 2019 *Comprehensive Plan*, plus approximately 71 acres outside the UGA. The City is responsible for providing public water service, utility management, and water system development within this area. The UGA boundary extends north to approximately Hungry Junction Road, east to approximately Wilson Creek Road, south to Tjossom Road, and west to approximately Faust Road, encompassing an area of approximately 14.7 square miles. The City also provides water service to approximately 15 parcels outside the UGA along the City Well/Route 10 Well/ Hayward Well transmission main.

The City's existing water rights can be used throughout the defined service area per the 2003 Municipal Water Law. The service area is shown on **Figure 2-1**.

Topography

The topography of the City's water service area slopes southwest towards the Yakima River. The north side of the service area is the highest in elevation, with land sloping gradually downward from the northeast to the Yakima River, which is southwest of the City. Ground elevations range from approximately 1,730 feet near Bowers Field in the northwestern portion of the City to approximately 1,480 feet in the southern portions of the City. Generally, slopes in the City are very gradual, with the exception being the area surrounding Craig Hill, which has more moderate to steep slopes.

Geology

The City is located within the Yakima Fold Belt physiographic subprovince of the Columbia Plateau. Within the Yakima Fold Belt, the City is located within the Kittitas Basin. The Yakima Fold Belt is a highly folded and faulted region due to ongoing tectonic forces. The northwest-southeast trending Kittitas Valley Syncline runs beneath the City and lies between the Ainsley Canyon Anticline and Manastash Anticline to the southwest and the Wilson Creek Monocline to the northeast. This basin has accumulated sediments that are over 2,000 feet thick below the City. Beneath the accumulated sediments lie bedrock of the Columbia River Basalt Group.

The geology of the Kittitas Basin, basin-fill deposits, can be lumped as the recent alluvial deposits, older alluvial deposits (including the alpine glacial drift and Thorp Gravels), and the Ellensburg Formation deposits. The Ellensburg Formation deposits are volcaniclastic deposits of

sandstone, siltstone, and conglomerate originating from the Cascade Range. This unit is weekly lithified and represents the unit containing the aquifers tapped by most of the City's wells. The Ellensburg Formation is only found in the subsurface in the immediate vicinity of the City.

The surficial geology is dominated by fluvial deposits and wind-blown sediments. From oldest to most recent includes the Thorp Gravels, Alpine Glacial Drift, loess, and recent alluvial deposits.

All fluvial deposits, including the Thorp Gravels, Alpine Glacial Drift, and recent alluvial deposits can be broken out, depending on whether they were deposited by the mainstream or a sidestream. The mainstream deposits are usually well sorted sand and gravel with clasts that are subrounded to rounded with diverse rock types derived from the Cascades. The sidestream deposits are usually moderately sorted boulder to pebble gravel with clasts that are subangular to subrounded with less diverse, locally derived rock types, most commonly basalt.

The Thorp Gravel sediment consists of mainstem and tributary deposits. The deposits are weakly cemented and moderately to highly weathered. The Thorp Gravel deposits form the highest terraces in the area.

Alpine glacial drift sediments (Kittitas Drift – older, higher terrace; Lakedale Drift – younger, lower terrace) consist primarily of stratified sand and gravel with local silt and clay. These deposits are poorly indurated and slightly weathered. They form the terraces below the Thorp Gravel deposits and above the active, present-day depositional surface.

The loess sediment consists of windblown silt and fine sand with local clay. The sediment was carried by the wind and can be situated as a veneer on any of the older surfaces.

The alluvial sediments consist of silt, sand, and gravel deposited by the Yakima River or its tributaries. Coarser-grained material is generally associated with deposition by the Yakima River, while finer-grained material is associated with deposition by tributaries. Alluvial fan deposits are predominantly angular basalt clasts in a matrix of iron-stained clay. These sediments are unweathered and represent the current depositional environment in the basin.

In the vicinity of the City, depth to groundwater is generally shallow, measuring between 5 and 30 feet below ground surface. Shallow groundwater has the potential to necessitate dewatering during certain construction activities.

Liquefaction susceptibility of surficial deposits has been generally identified by the Washington State Department of Natural Resources. Seismic events can cause liquefaction in certain deposits. Alluvium deposits are identified as having a moderate to high liquefaction susceptibility. Loess deposits are identified as having a low liquefaction susceptibility. Alluvial fan deposits are identified as having a very low to low liquefaction susceptibility. Glacial drift deposits are identified as having a very low liquefaction susceptibility. The Thorp Gravel deposits are considered to be bedrock; therefore, they are assumed to have no liquefaction susceptibility.

INVENTORY OF EXISTING WATER FACILITIES

This section provides a detailed description of the existing water system and the current operation of the facilities. The analysis of the existing water facilities is presented in **Chapter 7**. Additional information on the City's existing water system facilities is included on the

Washington State Department of Health (DOH) Water Facilities Inventory (WFI) form in **Appendix A**.

Pressure Zones

The City currently serves customers within an elevation range of approximately 1,480 feet along Berry Road to approximately 1,730 feet near the Airport Reservoir. The wide range of elevations requires that water pressure be increased or decreased to maintain pressures that are safe and sufficient to meet the system's flow requirements. The City achieves this by dividing the water system into two distinct pressure zones, as shown in **Figure 2-1**. A portion of the water service area to the north, beyond Bowers Road, is too high in elevation to be served with the existing City facilities. However, there are currently no potential customers in this area, only the runways of Bowers Field. Providing service to this area would require construction of a new pressure zone.

Pressures in the 1740 Zone, which covers the southern portion of the water service area, are established by the surface water level in the Craig Hill Reservoir, as illustrated in the hydraulic profile (**Figure 2-2**). Water is supplied to the 1740 Zone by 8 of the City's 11 active wells. Additionally, water can be supplied to the 1740 Zone from the 1824 Zone via the Transfer Station pressure reducing valve (PRV). Service elevations in the 1740 Zone range from approximately 1,480 feet near Berry Road to approximately 1,680 feet on Craig Hill.

The pressures in the 1824 Zone, which covers the northern portion of the water service area, are established by the Airport Reservoir level, as shown on **Figure 2-2**. The Illinois Well, Brooklane Well, and Airport Well No. 3 currently supply water to the 1824 Zone. Additionally, water can be supplied from the 1740 Zone to the 1824 Zone via the Vuecrest Booster Pump Station. Service elevations in the 1824 Zone range from approximately 1,600 feet near the Vuecrest Booster Pump Station (BPS) to approximately 1,730 feet near the Airport Reservoir.

Supply Facilities

Wells

The City's water supply is provided from 11 active well sources. Eight wells supply water to the 1740 Zone, and three wells supply water to the 1824 Zone. Water from the City's wells is treated at the wellhouses with chlorine gas. Fluoride is added at all sources, with the exception of the Brooklane Well. A summary of the City's wells is shown in **Table 2-1**. Additional information on the City's sources of supply, water treatment, and water quality monitoring is contained in **Chapter 6** and **Appendix J**.

Table 2-1
Supply Facilities Summary

Facility	Pressure Zone	Year Constructed	Use	Existing Capacity (gpm)	Well Depth (feet)	Water Treatment
City Well	1740 Zone	1913	Active	1,366	Infiltration Gallery	Chlorine, Fluoride
Route 10 Well	1740 Zone	2009	Active	1,080	818	Chlorine, Fluoride
Hayward Well	1740 Zone	2009	Active	1,097	1,028	Chlorine, Fluoride
Mt. Stuart Well	1740 Zone	1977	Active	649	1,200	Chlorine, Fluoride
Kiwanis Well	1740 Zone	1987	Active	819	700	Chlorine, Fluoride
Memorial Well	1740 Zone	1932	Active	381	307	Chlorine, Fluoride
Rodeo Well	1740 Zone	1947	Active	590	1,209	Chlorine, Fluoride
Whitney Well	1740 Zone	1987	Active	772	761	Chlorine, Fluoride
Illinois Well	1824 Zone	2020	Active	2,500	1,007	Chlorine, Fluoride
Brooklane Well	1824 Zone	1972	Active	780	1,000	Chlorine
Airport Well No. 3	1824 Zone	2011	Active	156	771	Chlorine, Fluoride
Airport Well No. 1	1824 Zone	1950s	Inactive/ Available for Use [1]	N/A	-	N/A
Airport Well No. 2	1824 Zone	-	Inactive/ Available for Use [1]	N/A	-	N/A
Anderson Well	1740 Zone	-	Active [2]	75	-	N/A
Lions Park/Mt. View Park Well	1740 Zone	-	Active [2]	N/A	-	N/A

gpm = gallons per minute

1 = Airport Well No. 1 and Airport Well No. 2 are not currently used by the City due to poor production capacity. However, these wells are outfitted with the necessary equipment such that they could be used if deemed necessary by the City and after any DOH authorization, as may be required.

2 = The Anderson Well and Lions Park/Mt. View Park Well are currently only used to irrigate Parks. These wells are not connected and do not contribute to the City's potable water distribution system.

City Well

The City Well was originally constructed in 1913, and last rehabilitated in 2006. The well is configured as an infiltration gallery, consisting of a 30-inch perforated concrete pipe laid in the shallow gravel adjacent to the Yakima River. It is located approximately 4 miles to the northwest of the City, just off State Route 10 and outside the UGA. Water from the well is supplied to the distribution system via a transmission main that follows State Route 10, the John Wayne Pioneer Trail, and Dry Creek Road until it reaches the 1740 Zone.

City Well

The City Well is treated with chlorine gas and fluoride. The well was historically a major source of the City's water, but is currently used much less, as its infiltration gallery has been determined to be in hydraulic continuity with surface water; therefore, it is subject to additional disinfection requirements. The wellhouse contains a 150 horsepower (hp) vertical turbine pump operated with a variable frequency drive (VFD), which slows the pumping rate if the well is drawn down due to an inadequate water supply at certain times of the year. The well currently is pumped at a rate of approximately 1,366 gallons per minute (gpm). Security is provided by a chain-link fence.

Route 10 Well

The Route 10 Well is located next to the City Well, slightly closer to State Route 10. The Route 10 Well was drilled in 2009 to a depth of approximately 818 feet and currently is pumped at a rate of approximately 1,080 gpm. Water is pumped by a 250 hp vertical turbine pump equipped with a VFD into the same transmission main utilized by the City Well.

Route 10 Well

Water produced from the Route 10 Well receives chlorination and fluoridation treatment at the well site. Like the City Well, the Route 10 Well is fenced as a means of security. The well is equipped with a Caterpillar 250 kilowatt (kW) emergency generator for backup power.

Hayward Well

The Hayward Well, constructed in 2009, is located on Passmore Road near a former open reservoir, approximately 3 miles to the northwest of the City limits. The well pumps into the same transmission main as the City Well and Route 10 Well. The well is approximately 1,028 feet deep and equipped with a 250 hp vertical turbine pump operated on a VFD. The well's current pumping rate is approximately 1,097 gpm. Chlorine and fluoride treatment is provided on site. Backup power is supplied by an on-site Cummins 300 kW emergency generator.

Hayward Well

Mt. Stuart Well

The Mt. Stuart Well is located to the southwest of Mt. Stuart Elementary School off Dry Creek Road and is the westernmost well source within the City limits. The 1,200-foot deep well, which supplies water to the 1740 Zone, was originally constructed in 1977, and last rehabilitated in 2019. The wellhouse contains a 200 hp vertical turbine pump. The current pumping rate is approximately 649 gpm. Chlorination and fluoridation is performed on site. The Mt. Stuart Well is not currently fenced, but doors are kept locked when City staff are not on site.

Mt. Stuart Well

Kiwanis Well

The Kiwanis Well, originally constructed in 1987, and last rehabilitated in 2019, is located in the southwest corner of Kiwanis Park in the City's 1740 Zone. The wellhouse building is attached to the Kiwanis Park restroom building. The 700-foot deep well is equipped with a 100 hp fixed-speed vertical turbine pump, which operates at a pumping rate of approximately 819 gpm. Water produced from this well receives fluoridation and chlorination treatment before entering the City's water distribution system. The site is not fenced, but the doors are kept locked when City staff is not on site.

Kiwanis Well

Memorial Well

The Memorial Well is located in Memorial Park and is approximately 50 feet north of the Memorial Pool & Fitness Center. The 307-foot deep well was originally constructed in 1932, and was last rehabilitated in 2003. The well is equipped with a 40 hp submersible pump and currently is pumped at a rate of approximately 381 gpm. Chlorination and fluoridation are provided at the well site. The wellhouse is not fenced, but doors are kept locked when City staff are not on site.

Memorial Well

Rodeo Well

The 1,209-foot deep Rodeo Well is located at the Ellensburg Rodeo Arena site. Originally constructed in 1947, and last rehabilitated in 1998, the well provides water to the City's 1740 Zone. The well is equipped with a 75 hp fixed-speed vertical turbine pump and currently is pumped at a rate of approximately 590 gpm. Chlorination and fluoridation is provided at the well site. The wellhouse is enclosed by the rodeo arena's fence for security and doors kept are locked.

Rodeo Well

Whitney Well

The Whitney Well is located directly to the south of the Ellensburg High School (1203 E Capitol Avenue) in a small paved area adjacent to one of the school's smaller parking lots. The Whitney Well is located in the 1740 Zone and currently is pumped at approximately 772 gpm. Originally constructed in 1987, the 761-foot deep well was last rehabilitated in 2020. It is equipped with a 100 hp vertical turbine pump with a soft-start. The Whitney Well is typically run only during the summer. Chlorine and fluoride treatment are provided at the well site.

Whitney Well

Illinois Well

The Illinois Well is located near the western end of Illinois Street. The well was drilled to a depth of 1,007 feet and will pump water at a rate of 2,500 gpm to the 1824 Zone. The well outfitting design has been completed and source approval for construction of the pump and well building was approved by DOH in late May 2021. Plans are currently being finalized for

bidding and construction is expected to be scheduled for spring 2022, with water being pumped by late winter 2022.

Brooklane Well

Brooklane Well

The Brooklane Well is owned by Central Washington University (CWU), and the water produced by the well is split between the City and CWU, who uses its share of the water for irrigation purposes. The well is located in the City's 1824 Zone near the intersection of East 18th Avenue and Brook Lane, before entering Brooklane Village. The 1,000-foot deep well was originally constructed in 1972, and was last rehabilitated in 2002. The well is equipped with a vertical turbine pump. The well is operated seasonally, from May 1st to October 1st, and is typically off during the winter. When the well is operated, water is typically pumped to the City from 8 AM to 6 PM at a flow rate of approximately 780 gpm. Also contained in the wellhouse is a small open irrigation reservoir that provides storage for CWU's irrigation needs. Unlike the City's other wells, water produced from this well is treated with chlorine only and does not receive fluoride treatment.

Airport Well No. 3

Airport Well No. 3

Airport Well No. 3 is located at the corner of Piper Road and Elmview Road in the City's 1824 Zone and is one of three active sources of supply to this zone. The well was drilled to a depth of approximately 771 feet in 2011, and put online in 2014. The well is equipped with a 150 hp vertical turbine pump with VFD and currently is pumped at a rate of approximately 156 gpm. Airport Well No. 3 also is equipped with a Cummins 200 kW emergency generator for backup power. Chlorine and fluoride treatment is provided at the well site.

Inactive Wells

The City owns four other wells that are currently inactive. Two of these wells, Airport Well Nos. 1 and 2, are located in the 1824 Zone at the north end of the distribution system. Two others, the Anderson Well and the Lions Park/Mt. View Park Well, are no longer functional, although the City still owns the water rights to these wells.

Pump Station Facilities

The City's water system has one booster pump station facility, the Vuecrest Booster Pump Station, which provides supply to the 1824 Zone from the 1740 Zone. A summary

of the pumping facility's characteristics is shown in **Table 2-2**, and a detailed description follows.

Table 2-2

Booster Pump Station Facilities Summary

Pump Station	Suction Pressure Zone	Discharge Pressure Zone	Year Constructed	Existing Pumping Capacity (gpm)	Number of Pumps	Pump Type	Pump Motor Size (HP)	Generator
Vuecrest BPS	1740 Zone	1824 Zone	2000	1,700	2	(2) Vertical Turbine VFD	(2) 75 hp	Yes

Vuecrest BPS

Vuecrest Booster Pump Station

The Vuecrest BPS is located approximately 200 feet to the east of the intersection of North Willow Street and North Brooklane Street in a concrete vault. The BPS was constructed in 2000 and is currently the only BPS in the system. The BPS allows water to be pumped from the 1740 Zone to the 1824 Zone. It is typically run at night during the winter to fill the Airport Reservoir when the Brooklane Well is not operating. The BPS is equipped with two VFD-controlled vertical turbine pumps with 75 hp motors, which provide a constant discharge pressure of approximately 100 pounds per square inch (psi). The station has an existing pumping capacity of approximately 1,700 gpm with both pumps running simultaneously. The station is equipped with a Cummins 100 kW/75 hp emergency generator to provide backup power in emergency situations.

Storage Facilities

The City's water system has two storage facilities, with one located in each pressure zone. A summary of the storage facilities is shown in **Table 2-3**, and a detailed description of each facility follows.

Table 2-3

Storage Facilities Summary

Reservoir	Approximate Location	Pressure Zone	Year Constructed	Construction Type	Capacity (MG)	Diameter (feet)	Base Elev. (feet)	Overflow Elev. (feet)
Craig Hill Reservoir	1301 Craig Ave	1740 Zone	1960	Steel	4.0	103.5	1,676.5	1,740.0
Airport Reservoir	1147 Bowers Rd	1824 Zone	2000	Steel	1.1	43	1,722.0	1,824.0

Craig Hill Reservoir

The 4.0 MG Craig Hill Reservoir is located near 1301 Craig Avenue on the top of Craig Hill. Originally constructed in 1960, the steel reservoir was last painted in the early 1990s. The reservoir is approximately 63.5 feet tall with a diameter of 103.5 feet, providing approximately 62,936 gallons of storage to the 1740 Zone per foot of height. The reservoir is surrounded with a chain-link fence topped with barbed wire and is monitored via security cameras. Several cell service antennas are mounted on top of the reservoir, and a small building owned by a cell service company is located within the reservoir's surrounding fence.

Craig Hill Reservoir

A single 16-inch asbestos cement water main serves as the reservoir's common inlet/outlet pipe. The reservoir primarily is filled from the eight wells that supply water to the 1740 Zone, but can be filled by the 1824 Zone wells via the Transfer Station PRV.

Airport Reservoir

Airport Reservoir

The 1.1 MG Airport Reservoir is located on Bowers Road, near Bowers Field at the north end of the City limits. The 43-foot-diameter, 102-foot-tall steel reservoir was constructed in 2000 and provides approximately 10,863 gallons of storage for the 1824 Zone per foot of height. A single 16-inch-diameter ductile iron water main serves as the reservoir's common inlet/outlet pipe. The reservoir was constructed with seismic restraints. Similarly to the Craig Hill Reservoir, the Airport Reservoir is surrounded by a chain-link fence that is furnished with barbed wire as a form of security for the reservoir.

When the Brooklane Well is operating, it is the preferred supply source for the reservoir. If the well fills the reservoir to its maximum height, water is transferred to the 1740 Zone through the Transfer Station PRV. During winter months when the Brooklane Well is not operating, water can be pumped to the Airport Reservoir from the 1740 Zone via the Vuecrest BPS.

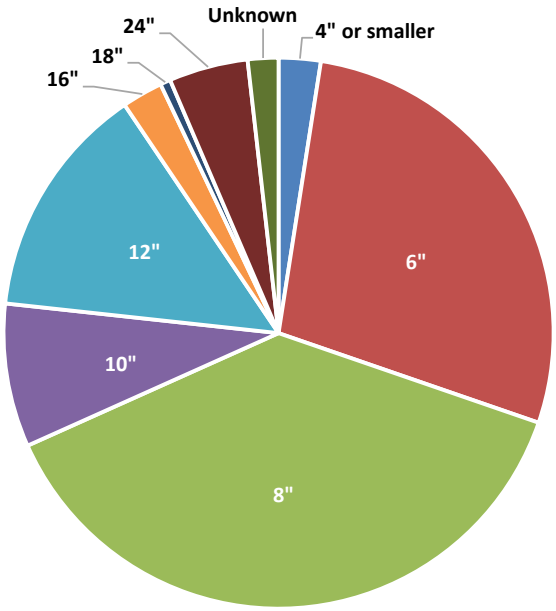
Distribution and Transmission System

The City's water service area contains approximately 110 miles of water main ranging in size from 2 to 24 inches. As shown in **Table 2-4**, most of the water main (approximately 66 percent) within the service area is 6- or 8-inch diameter, and an additional 22 percent of all water main is 12 inches in diameter or larger.

Table 2-4

Water Main Diameter Inventory

Diameter (Inches)	Length (Feet)	% of Total
4 or smaller	14,328	2.5%
6	161,284	27.8%
8	220,611	38.0%
10	48,857	8.4%
12	80,168	13.8%
16	13,927	2.4%
18	3,508	0.6%
24	26,983	4.7%
Unknown	10,442	1.8%
Total	**580,108**	**100%**

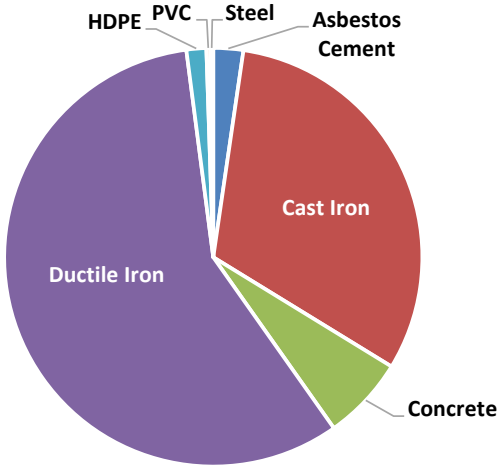


The majority of the water main in the City's water system (approximately 58 percent) is constructed of ductile iron. Much of the remainder (approximately 31 percent) is constructed of cast iron. Other water main materials in the City's system include asbestos cement, concrete, high-density polyethylene (HDPE), polyvinyl chloride (PVC), and steel. All new water main installations are required to use ductile iron water main in accordance with the City's development and construction standards. A detailed breakdown of the City's water main material inventory is shown in **Table 2-5**.

Table 2-5

Water Main Material Inventory

Material	Length (Feet)	% of Total
Asbestos Cement	13,411	2.3%
Cast Iron	182,357	31.4%
Concrete	37,500	6.5%
Ductile Iron	334,883	57.7%
HDPE	8,905	1.5%
PVC	1,736	0.3%
Steel	1,316	0.2%
Total	**580,108**	**100%**



Per industry standard, the life expectancy of water main is generally 50 to 75 years, depending on a variety of piping, water quality, and soil conditions. Little information is available on the age of the pipes in the City's water system. Ductile iron pipe, which makes up the majority of the City's system, generally began to be used for water mains in the mid-1950s and eventually replaced the use of cast iron, asbestos cement, and steel in new construction. The 24-inch-diameter concrete transmission main, which conveys water from the City Well, Route 10 Well, and Hayward Well, was constructed in 1947.

Pressure Reducing, Pressure Sustaining, and Flow Control Stations

Pressure reducing stations are connections between adjacent pressure zones that allow water to flow from the higher pressure zone to the lower pressure zone by reducing the pressure of the water as it flows through the station, thereby maintaining an optimal range of pressures in the lower zone. A pressure reducing station is typically a below-grade vault that contains one or more pressure reducing valves, sometimes a pressure relief valve, piping, and other appurtenances. The pressure reducing valve hydraulically varies the flow rate through the valve (up to the flow capacity of the valve) to maintain a constant set pressure on the downstream side of the valve for water flowing into the lower pressure zone.

Pressure reducing stations can serve multiple purposes. They can function as an active supply facility by maintaining a continuous supply of water into a lower zone that has no other source of supply. Pressure reducing stations also can function as standby supply facilities that are normally inactive (no water flowing through them). The operation of this type of station is typically triggered by a drop in water pressure near the downstream side of the station. A typical application of this function is a pressure reducing station that is needed only to supply additional water to a lower zone during a fire flow situation. The pressure setting of the control valve within the station allows it to remain closed during normal system operation and open only during high demand conditions, like fire flows, to provide the additional supply needed.

Transfer Station

The City's water system has one active pressure reducing station, referred to as the Transfer Station, as shown in profile view in **Figure 2-2**. The current purpose of the Transfer Station is to move water from the 1824 Zone to the 1740 Zone when the Brooklane Well is operating and the Airport Reservoir is full. The station is solenoid controlled and activated by the telemetry system when these conditions are satisfied. The Transfer Station is never operated simultaneously with the Vuecrest BPS.

The station is equipped with a single 12-inch Cla-Val PRV that has the ability to move 2,000 gpm of water at a 30 psi differential when the Airport Reservoir is full, and 1,000 gpm at a 20 psi pressure differential when the Airport Reservoir is empty. The valve also has a pressure sustaining feature that will not allow water to move from the 1824 Zone into the 1740 Zone if pressure in the 1824 Zone drops to 20 psi.

Illinois Well PRV Station (Currently Under Construction)

An 8-inch-diameter PRV will be installed in a vault onsite at the Illinois Well to allow transfer of water from the Upper Zone to the Lower Zone. The PRV will be set to open only on a low pressure condition in the Lower Zone where the Craig Hill Reservoir has dropped below its normal minimum operational level. In the future, the Illinois Well PRV will be equipped with a pressure sustaining function to prevent the PRV from draining the Airport Reservoir and depressurizing the Upper Zone if the flow through the PRV exceeds the capacity of the sources supplying the Upper Zone.

The maximum flow rate available from this valve will vary depending on the upstream and downstream hydraulic grade line and actual valve setpoint. Assuming a head/pressure differential of approximately 84 feet/36 psi (i.e. 1824 Zone to 1740 Zone), the flow rate through the valve could theoretically exceed 4,000 gpm per Cla-Val datasheets. However, actual reservoir levels and headloss in the distribution system and PRV station piping will impact the actual flow rate available.

Water System Operation and Control/Telemetry and Supervisory Control System

Successful operation of any municipal water system requires gathering and using accurate water system information. A telemetry and supervisory control system gathers information and can efficiently control a system by automatically optimizing facility operations. A telemetry and supervisory control system also provides instant alarm notification to operations personnel in the event of equipment failures, operational problems, fire, or other emergency situations.

The supervisory control and data acquisition (SCADA) system's central control unit is located at the City of Ellensburg Shop, at 607 South Industrial Way. The telemetry system is run by Wonderware software. System facilities, including source, storage, and pumping, can be controlled with the telemetry system. The system typically is operated in an automatic fashion by the SCADA system. Operators often adjust the levels at which each individual well runs (especially during months of lower demand) to keep all of the wells in rotation. The system will alarm if tank levels become too high or too low. Detailed, facility specific telemetry capabilities are included in **Chapter 8**.

WATER SERVICE AGREEMENTS

Central Washington University

The City has an interlocal agreement with CWU that allows the City to use water from the Brooklane Well for the City's water supply. In exchange, CWU receives City water for potable use and firefighting. CWU maintains the Brooklane Wellhouse, and the City operates the well as is needed. CWU also uses water directly from the Brooklane Well for irrigation. A copy of the agreement is included in **Appendix B**.

Kittitas County

The City has an interlocal agreement with Kittitas County that allows the County to receive water for the airport north of the City, in exchange for water right 3525-A and properties for the Airport Wells and Reservoir. A copy of the agreement is included in **Appendix B**.

SATELLITE SYSTEM MANAGEMENT

A Satellite System Management Agency (SSMA) is defined as a person or entity that is certified by DOH to own or operate more than one public water system without the necessity for a physical connection between such systems. SSMAs were created to stop the proliferation of small water systems, many of which could not meet federal and state water quality and water system planning regulations. Based on the success of SSMAs, DOH made recommendations to the legislature to include rules for designating entities as qualified SSMAs.

In July 1995, Senate Bill 5448 became law, governing approval of new water systems and setting forth requirements for SSMAs. The goal of the law is to ensure that the people of Washington State will receive safe and reliable water supplies in the future from professionally managed or properly operated water systems. SSMAs can provide three different levels of service:

1. Ownership of the satellite system;
2. Operations and management of the satellite system; or
3. Contract services only.

The service can be provided to new systems, existing systems that are no longer viable, or existing systems placed into receivership status by DOH.

The City is not currently an SSMA and does not presently intend to become one.

ADJACENT WATER SYSTEMS

Numerous small water systems are located in the vicinity of the City's retail water service area. The majority of these systems are small Group B, Non-Transient Non-Community Group A, or Transient Non-Community Group A systems. Selected larger systems are described in greater detail in the sections that follow.

Central Mobile Home Park

Central Mobile Home Park, located near the intersection of East Vantage Highway and Number 6 Road, operates a Group A Community water system. The system serves approximately 52 connections and a residential population of 110. Water is supplied from a single groundwater well.

City of Kittitas

The City of Kittitas system is a Group A community water system located approximately 8 miles to the east of the City of Ellensburg. This water system serves a residential population of approximately 1,418, a non-residential population of approximately 829, and has approximately 647 connections. Water is supplied to the system from a groundwater spring. A groundwater well also is available as an emergency source.

Cottage Farms

Cottage Farms operates a Group A Community water system with approximately 14 connections and a residential population of 30. Water is supplied to the system from a single groundwater well.

Ellensburg KOA

The Ellensburg KOA, located at 32 Thorp Highway South (i.e., the Interstate 90 and Highway 97 interchange), operates a Group A Transient Non-Community water system with a residential population of 2 and a non-residential population of 107. The system has approximately 106 connections and is supplied by 2 groundwater wells.

Grasslands Water System

The Grasslands Water System is located to the east of the City. The system is classified as a Group A Community water system, with approximately 75 connections and a residential population of 260. Water is supplied from three groundwater wells.

Millpond Mobile Manor

Millpond Mobile Manor, located to the south of the City, operates a Group A Community water system with approximately 105 connections and a residential population of 245. Water is supplied from a single groundwater well.

Yakima River RV Park

Yakima River RV Park operates a Group A Transient Non-Community water system with approximately 37 connections, serving a non-residential population of 39. Water is supplied from a single groundwater well.

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Legend

- PRV Station
- Tank
- Pump Station
- Well
- City Limits
- Urban Growth Area
- Retail Service Area/Service Area

Pressure Zones

- Unserviceable Area
- 1740 Zone
- 1824 Zone

Airport Reservoir
1.1 MG
Base Elev: 1,722'
Overflow Elev: 1,824'

Airport Well No. 3
(156 gpm)

Airport Well No. 1
(inactive)

Illinois Well
(2,500 gpm)

Transfer Station

Brooklane Well
(780 gpm)

Vuecrest BPS
(1,700 gpm)

Craig Hill Reservoir
4.0 MG
Base Elev: 1,676.5'
Overflow Elev: 1,740'

Mt. Stuart Well
(649 gpm)

Kiwanis Well
(819 gpm)

Rodeo Well
(590 gpm)

Memorial Well
(381 gpm)

Whitney Well
(772 gpm)

Northwest Wells
1" = 3,500'

NORTH

City Well (1,366 gpm)
Route 10 Well (1,080 gpm)

Hayward Well
(1,097 gpm)

C:\DWG\COPY_OF_FIGURE_2-1_EXISTING_WATER_SYSTEM.MXD BY: SPERKINS PLOT DATE: AUG 24, 2022 COORDINATE SYSTEM: NAD 1983 STATEPLANE WASHINGTON SOUTH FIPS 4602 FEET

RH2

NORTH

1 inch = 1,200 feet

0 600 1,200 2,400 Feet

DRAWING IS FULL SCALE WHEN BAR MEASURES 2"

City of Ellensburg WASHINGTON

Figure 2-1
Existing Water System
City of Ellensburg
Water System Plan

Vicinity Map

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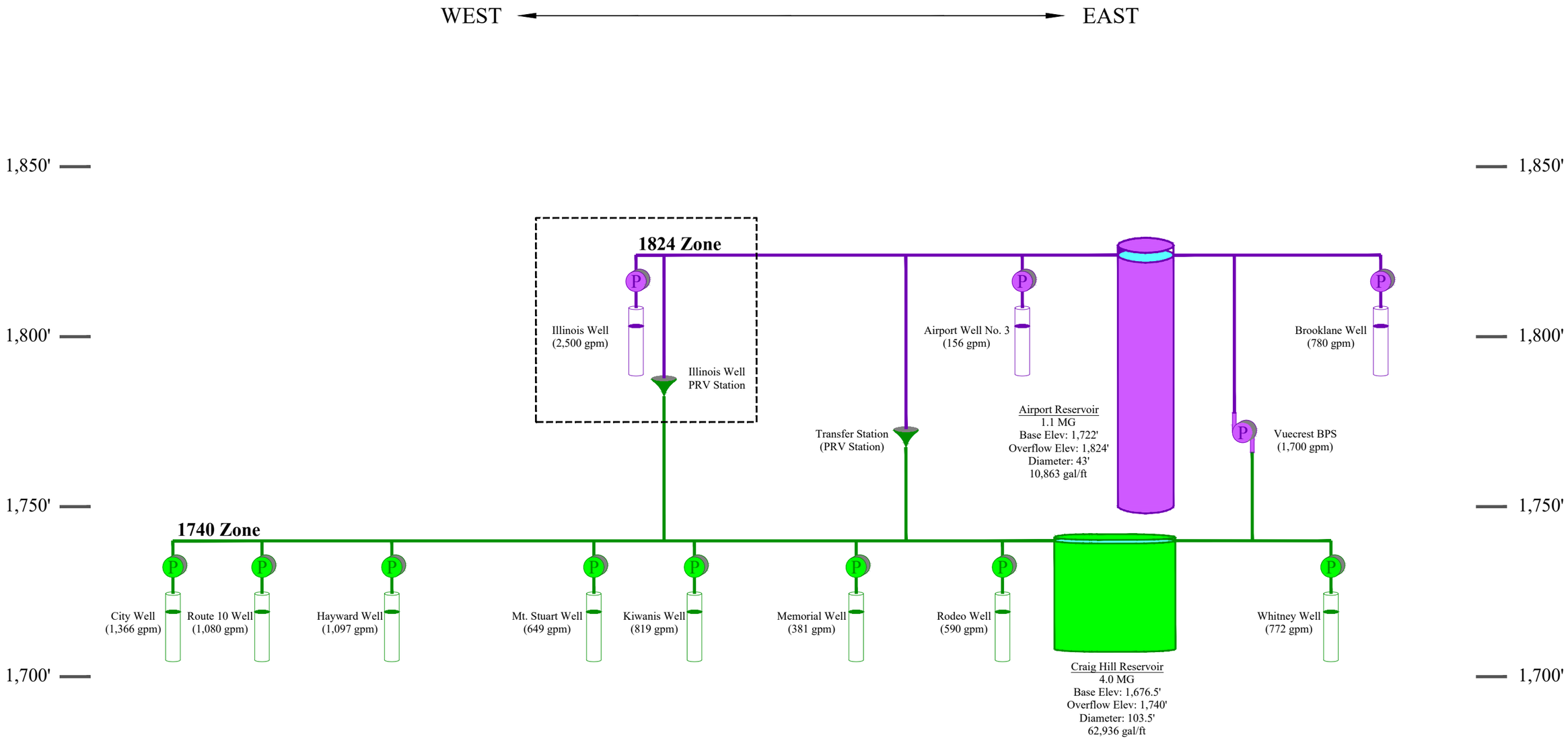

Legend

- 1740 Zone
- 1824 Zone
- Pressure Reducing Station/Valve
- Booster Pump Station
- Facilities at Same Site

Figure 2-2
Existing System Hydraulic Profile

City of Ellensburg
Water System Plan

Date: AUG 25, 2022 Filename: J:\DATA\ELL\219-144\01 WSP\CAD\ELLWSP-HPX.DWG

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3 | LAND USE AND POPULATION

INTRODUCTION

The *City of Ellensburg Comprehensive Plan* was originally prepared in 1975, and was last updated in 2019. The plan was developed to meet the requirements of the State of Washington's Growth Management Act (GMA). The GMA requires, among other things, consistency between land use and utility plans and their implementation.

This chapter demonstrates the compatibility of the Water System Plan (WSP) with other plans, identifies the designated land uses within the City of Ellensburg's (City) water service area, and details the population projections for the City's water system.

COMPATIBILITY WITH OTHER PLANS

Introduction

To ensure that the WSP is consistent with the land use policies that guide it and other related plans, the following planning documents were examined.

- Growth Management Act
- *2019 City of Ellensburg Comprehensive Plan* (Comprehensive Plan)
- *2019 Kittitas County Comprehensive Plan*
- *2016 Draft Kittitas County Land Capacity Analysis*
- *Central Washington University Capital Master Plan 2019-2029*

Growth Management Act

The State of Washington Growth Management Act of 1990 (and its multiple amendments) defined four goals relevant to this WSP.

1. Growth and services should be in urban areas.
2. There should be consistency between land use and utility plans and their implementation.
3. There should be concurrency of growth with public facilities and services.
4. Critical areas should be designated and protected.

Urban Growth Area

The GMA requires that Kittitas County (County) and the City cooperate in designating an Urban Growth Area (UGA). As part of the development of the *Comprehensive Plan*, the City and the County have designated a UGA that will accommodate the City's projected population growth and provide resource conservation. The City continues to coordinate occasional updates to the UGA with the County. The current UGA is shown in **Figure 3-1**.

Consistency

The GMA requires planning consistency from two perspectives. First, it requires consistency of plans among jurisdictions. This means that City and County plans and policies must be consistent per Revised Code of Washington (RCW) 36.70A.100. Second, the GMA requires the implementation of the WSP be consistent with the comprehensive plans (RCW 36.70A.120).

The 2003 Municipal Water Law also requires that water system plans be consistent with local plans and regulations. The signed Consistency Statement Checklists included in **Appendix C** from the City and Kittitas County Planning Departments document the determination that this WSP is consistent with their plans and regulations.

Concurrency

Concurrency means that adequate public facilities and services be provided at the time growth occurs. For example, growth should not occur where schools, roads, and other public facilities are overloaded. To achieve this objective, the GMA directs growth to areas already served or readily served by public facilities and services (RCW 36.70A.110). It also requires that when public facilities and services cannot be maintained at an acceptable level of service, new development should be prohibited (RCW 36.70A.110).

Critical Areas

The GMA requires that critical areas be designated and protected. Critical areas include fish and wildlife habitat, flood zones, aquifer recharge areas, streams, creeks, rivers, lakes, wetlands, and other surface water, as well as geologic hazard areas such as steep slopes and liquefaction zones. The City has adopted development regulations identifying and protecting critical areas as required. The State Environmental Policy Act (SEPA) Checklist in **Appendix D** addresses other environmental concerns.

City of Ellensburg Comprehensive Plan

The City adopted its first *Comprehensive Plan* in 1975 to help guide community growth. A key component of the 1975 *Comprehensive Plan* was a formal policy of keeping the downtown area as the heart of financial, service, government, and retail activities, which has been reaffirmed in later plan updates. The *Comprehensive Plan* was reviewed and updated in 1995 in response to the requirements of the GMA. Additional updates occurred in 2006 and 2019.

The Land Use chapter of the City's *Comprehensive Plan* is the City's vision of how growth and development should occur over a 20-year horizon. While the Land Use chapter goals and policies set forth general standards for locating land uses, the Future Land Use Map indicates geographically where certain types of uses may be appropriate. Land use designations from the Future Land Use Map are shown in **Figure 3-1**.

The Land Use chapter seeks to accommodate population and employment growth while preserving the community's character and protecting environmentally critical areas. It considers the general location of land uses, as well as their appropriate intensity and density given current development trends. The Transportation and Capital Facilities and Utilities chapters ensure that new development will be serviced adequately without compromising

existing levels of service, similar to the principal of concurrency as defined in the GMA. The City's WSP is reviewed and taken into consideration during the development of and subsequent revisions to the Capital Facilities and Utilities chapter of the *Comprehensive Plan*.

The City encompasses an area of approximately 5,284 acres or 8.3 square miles. Based on existing land use regulations and zoning, the City has sufficient land capacity to accommodate projected population and employment growth. A Land Capacity Analysis conducted in 2016 showed that there is vacant commercial/industrial land near each of the interchanges, and that commercial/industrial infill and redevelopment in the downtown area is possible. In the downtown area, surrounding area, and to the edges of the urban core, there are vacant and partially developed areas that have capacity for future residential development. The City's UGA outside of the City limits consists of approximately 4,136 acres, or approximately 6.5 square miles.

Kittitas County Comprehensive Plan

The County's *Comprehensive Plan* has undergone several updates and revisions since its original adoption, including UGA changes, capital facility plan changes, and land use changes. The current version of the *Comprehensive Plan* was adopted in June 2019, and includes the following chapters.

- Land Use
- Housing
- Transportation
- Capital Facilities Plan
- Utilities
- Snoqualmie Pass Subarea Comprehensive Plan – Master Plan
- Rural and Resource Lands
- Suncadia Planned Resort Subarea Plan
- Economic Development
- Recreation, Parks, Open Space and Natural Environment

The County's *Comprehensive Plan* guides development in rural, unincorporated Kittitas County and designates land use in the unincorporated UGA. Similar to the City's Comprehensive Plan, the County's plan contains the following land use goals:

- UGAs shall be consistent.
- Promote the development of large-scale, high intensity urban land uses within the UGA where there is supporting infrastructure.
- Development densities, intensities, or uses that require urban level of services should not be allowed outside of urban areas.
- Maintain a flexible balance of land uses that will protect, preserve, and enhance the rural character, historical forest lands, agricultural industries, mineral lands, and high-quality environment.

- Collaborate with cities to participate in the County's transfer of development rights (TDR) program to encourage and promote the protection of Rural Lands, Resource Lands, and frequently flooded areas.
- Identify, designate, and protect agriculture transportation corridors that facilitate farm use.
- Identify, protect, preserve, and restore sites that contain resources of cultural, archaeological, historic, educational, or scientific value or significance.

County land use inside the City's water service area is shown in **Figure 3-1**; the *Comprehensive Plan* can be referenced for County land use outside the water service area.

CWU Capital Master Plan

The *2019-2029 Central Washington University [CWU] Capital Master Plan* (Capital Master Plan) presents CWU's 10-year plan for expanding physical and virtual capacity at the university. According to the plan, the number of students enrolled has remained relatively constant since 2010, and the goal is to reach 12,000 students enrolled at the residential campus by 2024. Through development and implementation of the Capital Master Plan, CWU seeks to complement the goals and objectives of both the City and County Comprehensive Plans. The City typically has planned for growth by including CWU in the general population growth rate for the City.

LAND USE

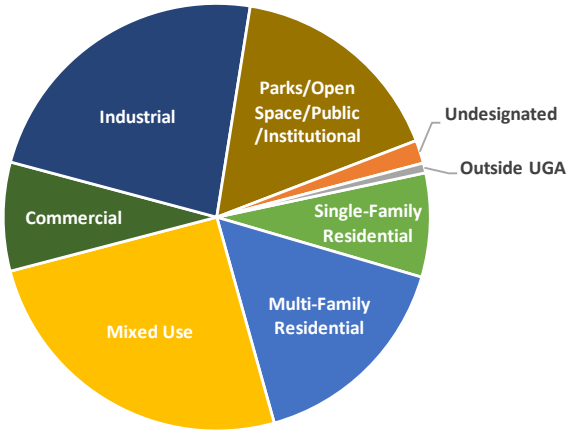
The City limits currently encompass an area of approximately 5,284 acres. The City's UGA encompasses an additional 4,136 acres outside of the current City limits, with a total area of approximately 9,420 acres. The water service area consists of the City limits and UGA, plus an additional 71 acres outside the UGA. The Land Use Map, shown in **Figure 3-1**, guides development within the water service area. Land use within the City limits is designated by the City, and land use inside and beyond the UGA is designated by the County, as shown on **Figure 3-1**.

Approximately 50 percent of the water service area is designated for residential and mixed use land use, as shown in **Table 3-1**. Approximately 24 percent of the water service area is designated for industrial land use, and approximately 8 percent for commercial land use. Approximately 17 percent of the water service area is designated for parks, open space, public, and institutional land use, which includes the CWU campus. The remainder of the water service area inside the UGA is undesignated land use, including interstate highway right-of-way. Approximately 0.7 percent of the water service area lies outside the UGA along the transmission main from the City Well, Route 10 Well, and Hayward Well. The County land use designation for these parcels is either Rural Residential or Rural Working.

Table 3-1

Land Use Inside Water Service Area

Land Use Type	Acres	% of Total
Single-Family Residential	746	7.9%
Multi-Family Residential	1,531	16.1%
Mixed Use	2,398	25.3%
Commercial	781	8.2%
Industrial	2,216	23.4%
Parks/Open Space/Public/Institutional	1,581	16.7%
Undesignated	167	1.8%
Outside UGA	71	0.7%
Total	9,491	100.0%



POPULATION

Household Trends

The City has a nearly equal number of single-family and multi-family residences. In 2019, the Office of Financial Management (OFM) estimated that 4,205 housing units, or 49 percent of the total 8,540 units within the City limits, were single-family detached homes. Approximately 4,022 housing units, or 47 percent of the total, had two or more units, and approximately 313 housing units, or 4 percent of the total, were mobile homes or other special housing units.

In the 2016 Land Capacity Analysis, the County identified the additional housing unit capacity beyond existing within the City and UGA. The results indicated that the City UGA has 2,073 gross acres allocated to future single-family residential development, and 53 gross acres allocated to future multi-family and mixed use development. This translates to a capacity of 5,683 housing units beyond existing.

According to the U.S. Census Bureau, the average household size in the City was 2.16 persons in 2010. The average number of people per household was 2.35 for owner-occupied housing units and 2.07 for renter-occupied units. The average household size in unincorporated Kittitas County was 2.50 persons per household in 2010.

Existing and Future City Population

Kittitas County has experienced rapid population growth and extensive physical development in recent years. The County's population increased approximately 40 percent from 2000 to 2019 based on OFM estimates. Within the City limits, the population has increased nearly 29 percent during the same time period. **Table 3-2** illustrates the City's historical population growth since 2010, with years 1990, 1995, 2000, and 2005 for reference. The historic City limits population since 2000 is shown in **Chart 3-1**.

Table 3-2

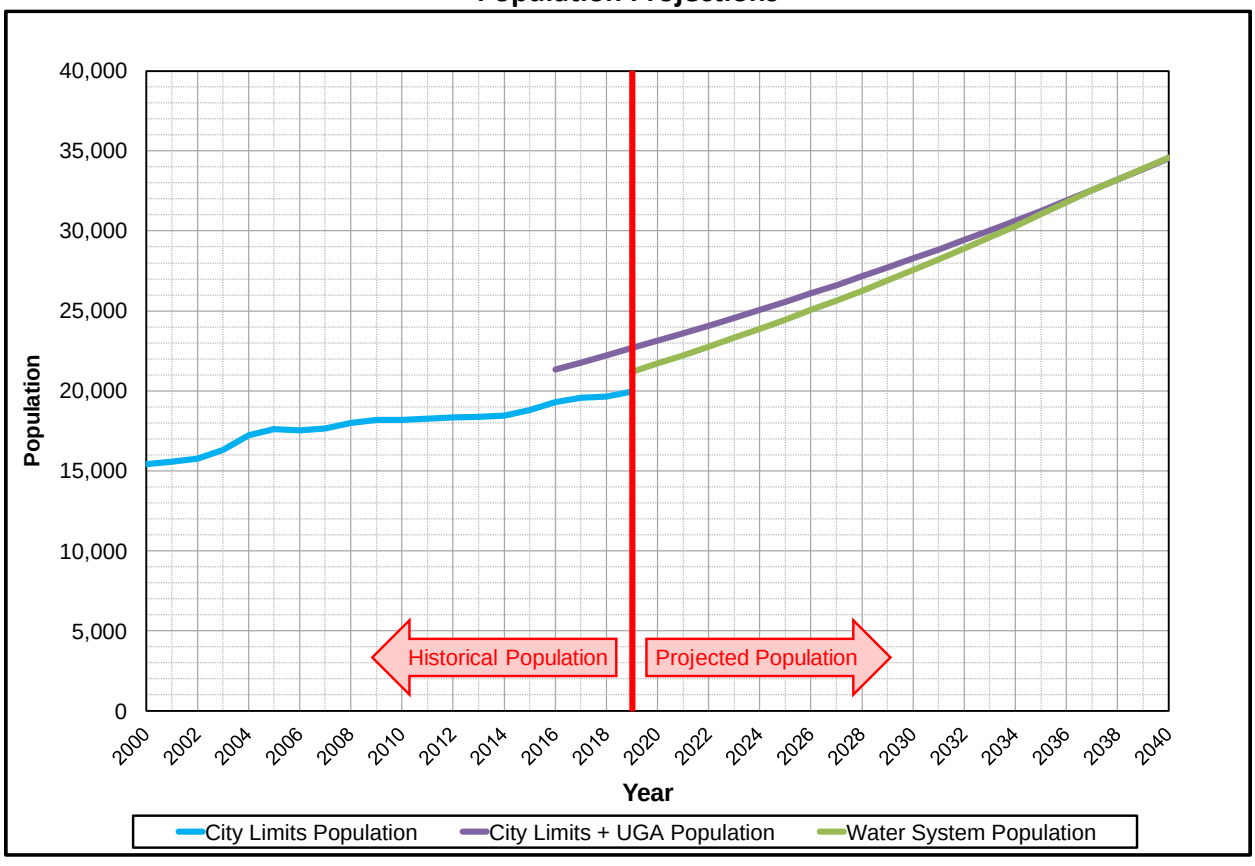
Population Trends within the City Limits

Year	Population
1990	12,360
1995	13,296
2000	15,414
2005	17,591
2010	18,174
2011	18,250
2012	18,320
2013	18,370
2014	18,440
2015	18,810
2016	19,310
2017	19,550
2018	19,660
2019	19,960

NOTE: The historical population represents the population within the City limits. The sources of the historical population numbers are the decennial census and OFM intercensal estimates.

Chart 3-1

Population Projections



Projected future growth for the City and UGA is shown in **Table 3-3**. Projections are based on City and UGA population estimates for years 2016 and 2037 from the City's *Comprehensive Plan*. Projected population for intermediate years was calculated by assuming a uniform population growth rate between data points. Projected population beyond 2037 is calculated assuming that the 2016 to 2037 population growth will continue at the same rate. The total City + UGA population is expected to experience an average annual growth rate of approximately 2.0 percent between 2019 and 2040. Population projections for the City and UGA are displayed in **Chart 3-1**.

Table 3-3

Projected Population

Year	City + UGA Population	Water System Population
2020	23,126	21,723
2021	23,595	22,247
2022	24,074	22,783
2023	24,562	23,332
2024	25,061	23,894
2025	25,569	24,470
2026	26,088	25,060
2027	26,618	25,664
2028	27,158	26,283
2029	27,709	26,917
2030 (+ 10 years)	**28,271**	**27,565**
2031	28,845	28,230
2032	29,430	28,910
2033	30,027	29,607
2034	30,637	30,321
2035	31,258	31,052
2036	31,893	31,800
2037	32,540	32,567
2038	33,200	33,227
2039	33,874	33,901
2040 (+ 20 years)	**34,561**	**34,588**

Water System Population

The actual population served by the water system differs from the population that resides within the City limits and UGA.

Currently, the entire population residing inside the City limits is served by the water system, with the exception of 5 residences on Tamarack Street. Multiplying this number of residences by the City's average household size results in an estimated population of 11 people.

Inside the UGA, but outside the City limits, an estimated 202 single-family residences and 282 units (The Verge apartment complex), are currently served by the water system. Multiplying this total of 484 households by the average household size for unincorporated Kittitas County results in an estimated population of 1,225 people.

As discussed in **Chapter 2**, the City also provides water to approximately 15 parcels outside the UGA, along the transmission main that extends to the City from the City Well, Route 10 Well, and Hayward Well. It was assumed that one single-family residence was located on each of these parcels. Multiplying this total of 15 households by the average household size for unincorporated Kittitas County results in an estimated population of 38 people.

Using these estimated populations, the actual population served by the existing water system was calculated and is shown in **Table 3-4**.

Table 3-4

Calculation of Existing (2018/2019) Water System Population

Year	City Population	Population Inside City Limits Not Served by Water System	Population Inside UGA (Outside City Limits) Served by Water System	Population Outside UGA Served by Water System	Water System Population
2018	19,660	-11	1,225	38	20,912
2019	19,960	-11	1,225	38	21,212

The future water system population projections, shown in **Table 3-3** and **Chart 3-1**, were determined based on the assumption that the City's water system will serve the entire population of the City and UGA by 2037, minus the population on Tamarack Street. It also was assumed that the transmission main customers outside the UGA would remain connected to the water system, and that no further connections would occur outside the UGA. It is estimated that the City's water system will serve a residential population of 34,588 people by 2040, the end of the 20-year planning period.

These population projections, along with the historical per capita water use data presented in **Chapter 4**, form the basis for determining future water demands for the City's water system.

2019-2021 Actual Water System Population Growth

Due to the COVID-19 pandemic and other factors, the development and approval of this WSP was delayed, and final approval was sought in 2022. While the City + UGA population projections in the City's *Comprehensive Plan* have not been updated since the WSP water system population growth projections were originally prepared, updated OFM estimates from 2018 to 2022 show that the average annual growth rate of the City population over this time period has been approximately 1.5 percent. For comparison, as previously stated in this chapter, the total City + UGA population was projected to experience an average annual growth rate of approximately 2.0 percent between 2019 and 2040. When considering the limited updated data available and potential short-term impacts of the COVID-19 pandemic on City growth trends, the City has chosen not to adjust the projections shown in **Table 3-3**.

Legend

City of Ellensburg Land Use

- Blended Residential Neighborhood (BRN)
- Community Mixed Use (CMU)
- General Commercial and Services (GCS)
- Heavy Industrial (HI)
- Industrial Residential (IR)
- Light Industrial (LI)
- Mixed Business Park (MBP)
- Neighborhood Commercial (NC)
- Neighborhood Mixed Use (NMU)
- Open Space (Pvt/Non-City Owned) (OS)
- Parks and Open Space (POS)
- Public/Institutional (P)
- Residential Neighborhood (RN)
- Urban Center (UC)
- Urban Neighborhood (UN)

Kittitas County Land Use

- Business Office Park (KC-BP)
- Commercial Tourist (KC-CT)
- General Commercial (KC-GC)
- Light Industrial (KC-LI)
- Mixed Residential (KC-MR)
- Neighborhood Commercial (KC-NC)
- Open Space (KC-OS)
- Public/Institutional (KC-P)
- Rural Residential - Outside UGA (KC-RR)
- Rural Working - Outside UGA (KC-RW)
- Tourist Commercial (KC-TC)
- Undesignated (KC-U)
- City Limits
- Urban Growth Area
- Water Service Area

Northwest Wells

1" = 3,500'

NORTH

C:\DWG\COPY_OF_FIGURE_3-1_LAND_USE.MXD BY: SPERKINS PLOT DATE: AUG 24, 2022 COORDINATE SYSTEM: NAD 1983 HARN STATEPLANE WASHINGTON NORTH FIPS 4601 FEET

RH2

NORTH

1 inch = 1,500 feet

0 750 1,500 3,000 Feet

DRAWING IS FULL SCALE WHEN BAR MEASURES 2"

City of Ellensburg WASHINGTON

Figure 3-1
Land Use
City of Ellensburg Water System Plan

Vicinity Map

Esri, HERE, Garmin, (c) OpenStreetMap contributors, and the GIS user community

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4 | WATER DEMANDS

INTRODUCTION

A detailed analysis of system demands is crucial to the planning efforts of a water supplier. A demand analysis first identifies current demands to determine if the existing system can effectively provide an adequate quantity of water to its customers under the most crucial conditions in accordance with federal and state laws. A future demand analysis identifies projected demands to determine how much water will be needed to satisfy the water system's future growth and continue to meet federal and state laws.

The magnitude of water demands is typically based on three main factors: 1) population; 2) weather; and 3) water use classification. Population and weather have the two largest impacts on water system demands. Population growth has a tendency to increase the annual demand, whereas high temperatures have a tendency to increase the demand over a short period of time. Population does not solely determine demand because different user types use varying amounts of water. The use varies based on the number of users in each customer class, land use density, and irrigation practices. Water use efficiency efforts also impact demands and can be used to accommodate a portion of the system's growth without increasing a system's supply capacity.

Demands on a water system determine the size of storage reservoirs, supply facilities, water mains, and treatment facilities. Several different types of demands were analyzed and are addressed in this chapter, including average day demand (ADD), maximum day demand (MDD), peak hour demand (PHD), fire flow demand, future demands, and a demand reduction forecast based on the Water Use Efficiency program.

CERTIFICATE OF WATER AVAILABILITY

In accordance with the requirements of the Growth Management Act (GMA), the City of Ellensburg (City) must identify that water is available prior to issuing a building permit. The requirement for providing evidence of an adequate water supply was codified in 1990 under Revised Code of Washington (RCW) 19.27.097 in the Building Code section.

Per Ellensburg City Code (ECC) 9.25.030, extension of City utilities to property located outside the City limits shall only take place if: the property utilizes City water, sewer, and electric services (with limited exceptions if utilities are unavailable or excessively costly); the property utilizes City natural gas for any new services; and the property constructs all improvements required by the public works development standards.

CURRENT POPULATION AND SERVICE CONNECTIONS

Water Use Classifications

Based on the available 2013 through 2017 consumption data, the City's water customers have been combined into five different groups for planning purposes, including Residential, Commercial, Central Washington University (CWU), Twin City Foods (TCF), and Municipal, as shown in **Table 4-1**. The City reads customer meters monthly. **Table 4-1** presents the average number of customer meters read each year (i.e. the total number of meter readings for the year divided by 12).

Table 4-1

Average Annual Metered Consumption and Number of Customer Meters 2013-2017

	Customer Class					
Year	**Residential**	**Commercial**	**CWU**	**TCF**	**Municipal**	**Totals**
			Average Number of Customer Meters			
2013	4,669	556	76	1	107	5,409
2014	4,722	557	76	1	108	5,464
2015	4,784	567	76	1	110	5,538
2016	4,868	568	75	1	108	5,620
2017	4,956	572	76	1	108	5,713
			Average Annual Consumption (gallons)			
2013	717,955,419	202,968,490	195,664,100	53,640,000	101,730,279	1,271,958,288
2014	742,929,682	208,708,100	258,739,300	30,410,000	95,404,600	1,336,191,682
2015	806,298,602	212,967,780	213,996,670	34,800,000	100,226,880	1,368,289,932
2016	745,757,848	223,973,023	201,766,325	44,110,000	96,489,629	1,312,096,825
2017	730,206,943	232,210,836	199,086,402	50,380,000	82,053,125	1,293,937,306
			Average Daily Consumption Per Customer Meter (gpd/meter)			
2013	421	1,000	7,054	146,959	2,605	644
2014	431	1,027	9,327	83,315	2,420	670
2015	462	1,029	7,714	95,342	2,496	677
2016	419	1,077	7,350	120,519	2,441	638
2017	404	1,112	7,177	138,027	2,082	621
Average	**427**	**1,049**	**7,724**	**116,833**	**2,409**	**650**

Equation 4-1 shows the sample calculation of Average Daily Consumption per Customer Meter, as follows.

$$\textbf{Average Daily Consumption per Customer Meter} = \frac{\left(\frac{\textbf{Average Annual Consumption}}{\textbf{365 Days per Year}}\right)}{\textbf{Average No. of Meters}} \qquad \textbf{(4-1)}$$

Additional consumption information data was available for 2018 that allowed single-family residential, multi-family residential, irrigation, and non-profit consumption to be separated from the other customer classes as shown in **Table 4-2**. The demand analysis that follows will

report on the water use patterns of the five base user groups for 2013 through 2017, and the eight user groups for which 2018 consumption data was available.

Table 4-2

2018 Average Annual Metered Consumption and Number of Customer Meters

	Customer Class								
Year	Single-Family Residential	Multi-Family Residential	Commercial	CWU	TCF	Irrigation	Non-Profit	Municipal	Totals
				Average Number of Customer Meters					
2018	4,377	532	561	77	1	135	15	106	5,804
				Average Annual Consumption (gallons)					
2018	506,854,292	151,604,028	220,402,157	239,220,775	52,940,000	87,808,248	5,926,762	93,819,628	1,358,575,890
				Average Daily Consumption Per Customer Meter (gpd/meter)					
2018	317	781	1,076	8,512	145,041	1,782	1,083	2,425	641
Average	**317**	**781**	**1,076**	**8,512**	**145,041**	**1,782**	**1,083**	**2,425**	**641**

Residential Population Served

The population within the City limits was 19,660 in 2018 based on estimates from the Washington State Office of Financial Management (OFM). Since the City provides water service to many customers outside the City limits and does not provide water service to some customers within the City limits, the actual population served by the City's water system differs from the population within the City limits. The 2018 residential population served by the City's water system is estimated to be approximately 20,912. The computation of the population served is discussed in **Chapter 3**, along with a more detailed discussion of the City's population and household trends.

As shown in **Table 4-1,** the City provided water service to an average of 5,804 customer meters inside the City limits in 2018. More detailed information was available for 2018; therefore, additional analyses were conducted as shown in **Table 4-2**. Of the residential customer meters in 2018, approximately 4,377 customer meters (75 percent) were single-family residential customers and 532 customer meters (9 percent) were multi-family residential customers.

The number of multi-family customer meters is less than the number of units served since one meter typically serves several units. The total number of multi-family dwelling units and associated consumption was only available for 2018. **Table 4-3** lists the approximate total number of dwelling units and average daily consumption per unit for the multi-family residential customer class in 2018.

Table 4-3

2018 Multi-Family Units

Year	Approximate Total Multi-Family Units	Approximate Average Daily Consumption Per Unit (gpd/unit)
2018	3,665	113

Equation 4-2 shows the calculation of 2018 Average Daily Consumption per Unit, as follows.

$$\textbf{Approximate Average Daily Consumption per Unit} = \frac{\left(\frac{\textbf{Average Annual Consumption}}{\textbf{365 Days per Year}}\right)}{\textbf{Approximate No. of Multi-Family Units}} \quad \textbf{(4-2)}$$

Total Connections Served

DOH's Water Facility Inventory (WFI) form calculates a total number of service connections that does not necessarily correlate with the total number of customer meters in the water system. Specifically, the City's 2019 WFI form (included in **Appendix A**) reports a total of 9,969 service connections. This includes 4,621 full-time single-family residences, 576 multi-family residential buildings with 4,546 full-time residential units, and 802 non-residential connections.

2019 WFI Form Total Connection Calculation: 4,621 single-family residences + 4,546 multi-family residential units + 802 non-residential connections = 9,969 total connections.

A similar calculation can be performed utilizing the data presented in **Table 4-2** and **Table 4-3**, with the understanding that this data represents 2018 (prior year) averages, rather than the 2019 snapshot represented by the WFI form. Accordingly, the totals will not match perfectly.

Total Connection Calculation, **Table 4-2** and **Table 4-3**: 4,377 single-family residential meters + 3,665 multi-family units + 895 other meters = 8,937 total connections.

EXISTING WATER DEMANDS

Water Consumption

Water consumption is the amount of water used by all customers of the system as measured by the customer's meters. **Table 4-1** shows the historical average number of customer meters, average annual consumption, and average daily consumption per customer meter for the five broad customer classes from 2013 through 2017. As discussed previously, more detailed information was available for 2018; therefore, more customer classes are presented for 2018 in **Table 4-2**.

The total customer meters and consumption by customer class inside the City's water service area are shown in **Charts 4-1a** and **4-1b**.

As shown in **Charts 4-1a** and **4-1b**, the percentage of single-family customer meters throughout the system is higher than the percentage of consumption attributed to these customers. This is due to single-family residential customers generally having a lower consumption per customer meter compared to other customer types. System-wide, as shown in **Table 4-2**, single-family residential customers use an average of 317 gallons per day (gpd) per customer meter, which is less than half of the consumption per customer meter of any other customer class. Since multiple units are typically served by one multi-family customer meter, **Table 4-3** includes the average daily consumption per unit for the multi-family class, which during 2018 was approximately 113 gpd per unit. The lower consumption of multi-family customers is expected

since the average household size of multi-family units is usually less than the average household size of single-family units. In addition, multi-family units consume considerably less water for lawn and garden maintenance.

Chart 4-1a

2018 Water Customer Meters by Customer Classes

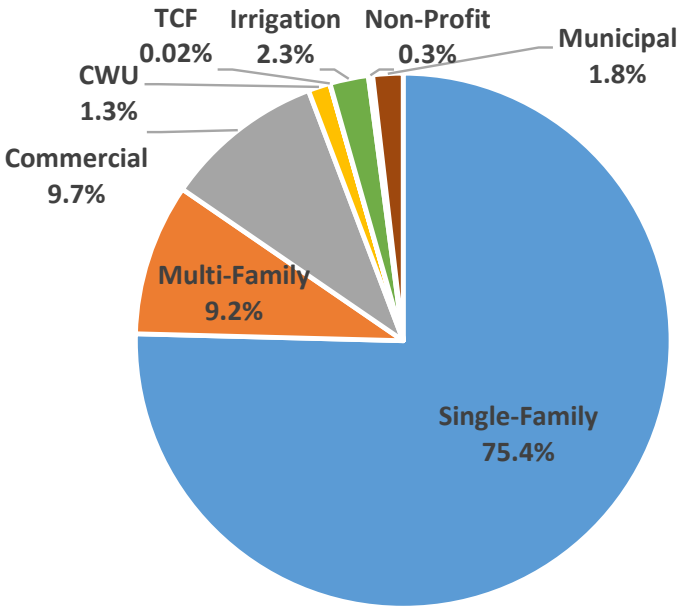


Chart 4-1b

2018 Water Consumption by Customer Classes

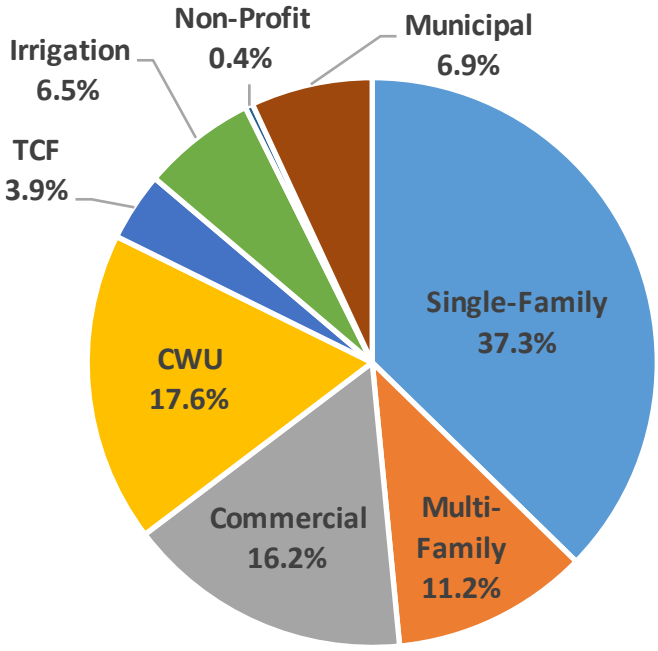


Table 4-4 shows the largest water users of the system in 2018 and their total amount of metered consumption for the year. The total water consumption of these 20 water accounts represented approximately 38.9 percent of the system's total metered consumption in 2018.

Table 4-4
2018 Largest Water Users

Address [1]	Customer Name	2018 Total Annual Consumption (gals)
Various	CWU Facilities Management	239,643,932
Various	City Parks	56,258,561
501 W 4th Avenue	Twin City Foods	53,306,600
Various	City Sewer	29,795,900
2101 N Alder Street	Crestview Terrace	15,398,900
Building 2, 2420 N Airport Road	Airport Road Housing Ellensburg	12,930,694
505 S Pearl Street	Branding Iron Trailer Park	12,154,000
Various	Ellensburg School District	11,660,668
Various	Kittitas Valley Healthcare	10,428,536
1700 S Canyon Road	NS Hospitality Ellensburg LLC	9,788,600
Various	The Meadows Ellensburg LLC	9,730,500
Building 8, 1001 S Chestnut Street	Briarwood	9,263,700
802 E Mountain View Avenue	Prestige Post-Active and Rehabilitation	9,200,500
Various	Housing Authority of Kittitas County	7,859,523
711 E 18th Avenue	Greenpointe Townhomes	7,330,327
301 E 18th Avenue	University Place Helena Apartments	7,292,316
Various	Kittitas Valley Event Center	6,743,670
905 W Cascade Court	Hillcrest Mobile Home Park	6,627,100
901 E Berry Road	R&H Hospitality DBA Days Inn Ellensburg	6,521,000
Various	Kittitas County	5,902,100
2018 Largest Water Users Total Consumption		**527,837,127**
2018 Water System Total Metered Consumption		**1,358,575,890**
Percent of Total		**38.9%**

1. Addresses listed as "Various" indicate users with multiple connections spanning a number of addresses.

The City reads water meters monthly. 2013-2017 monthly consumption for each of the five broad customer classes (residential, commercial, CWU, TCF, and municipal) is shown in **Charts 4-2**, **4-3**, **4-4**, **4-5**, and **4-6**.

Chart 4-2

Historical Monthly Residential Consumption 2013-2017

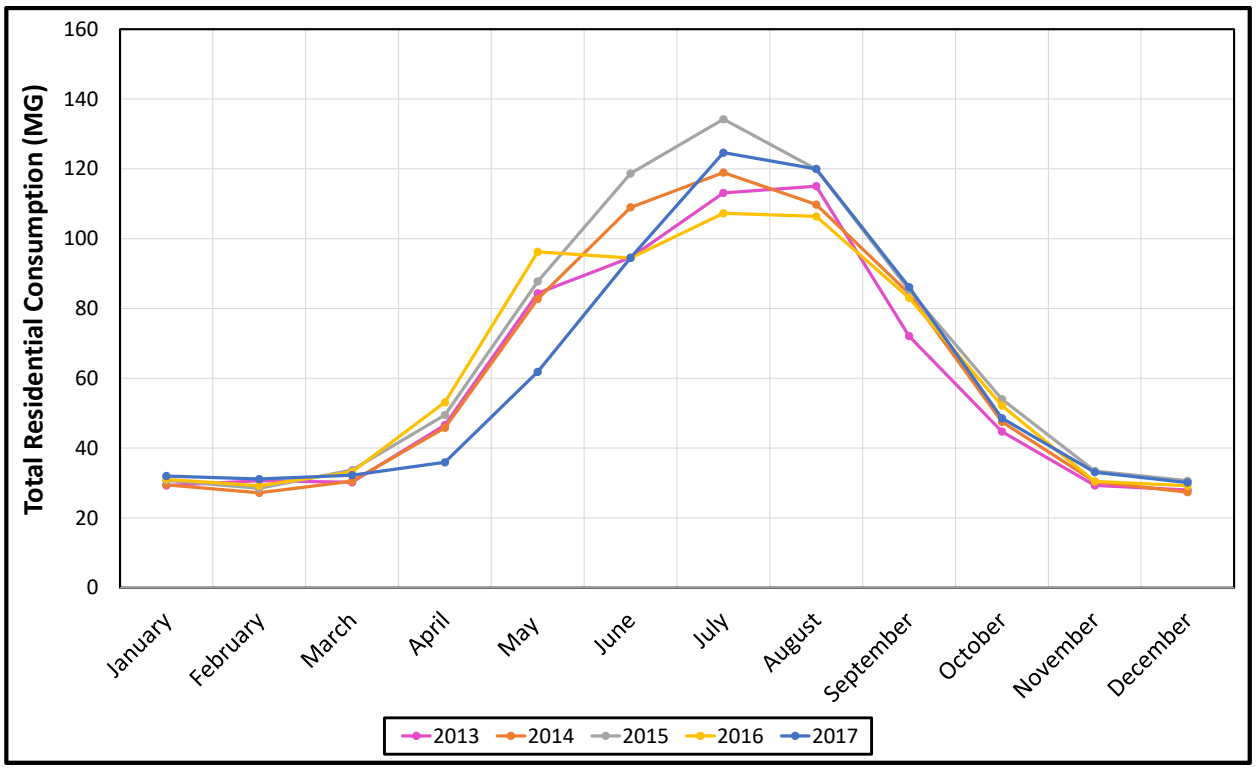


Chart 4-3

Historical Monthly Commercial Consumption 2013-2017

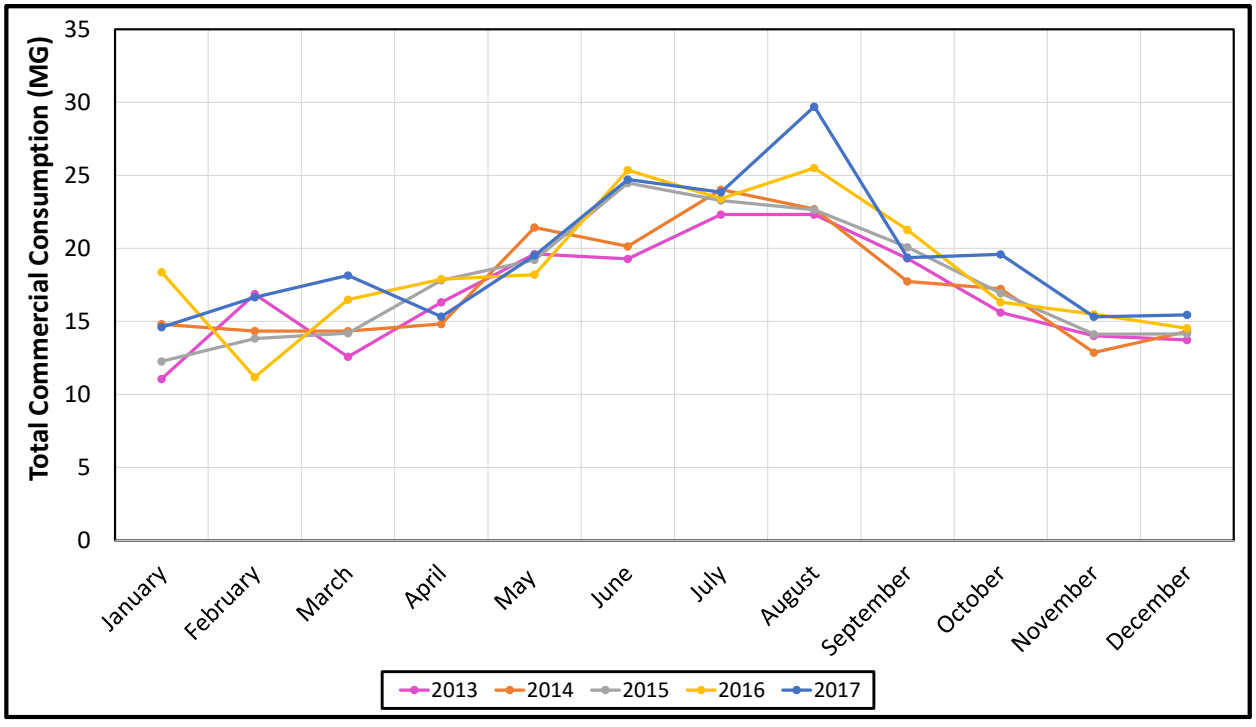


Chart 4-4

Historical Monthly Central Washington University Consumption 2013-2017

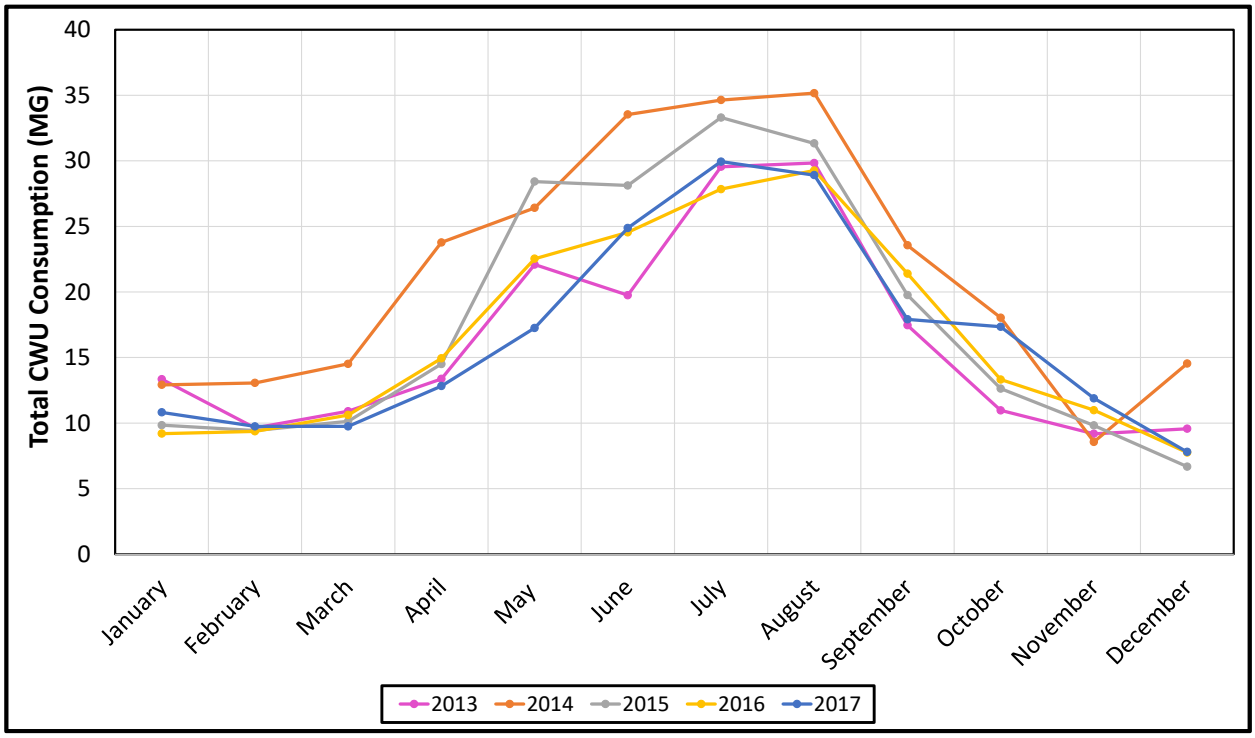


Chart 4-5

Historical Monthly Twin City Foods Consumption 2013-2017

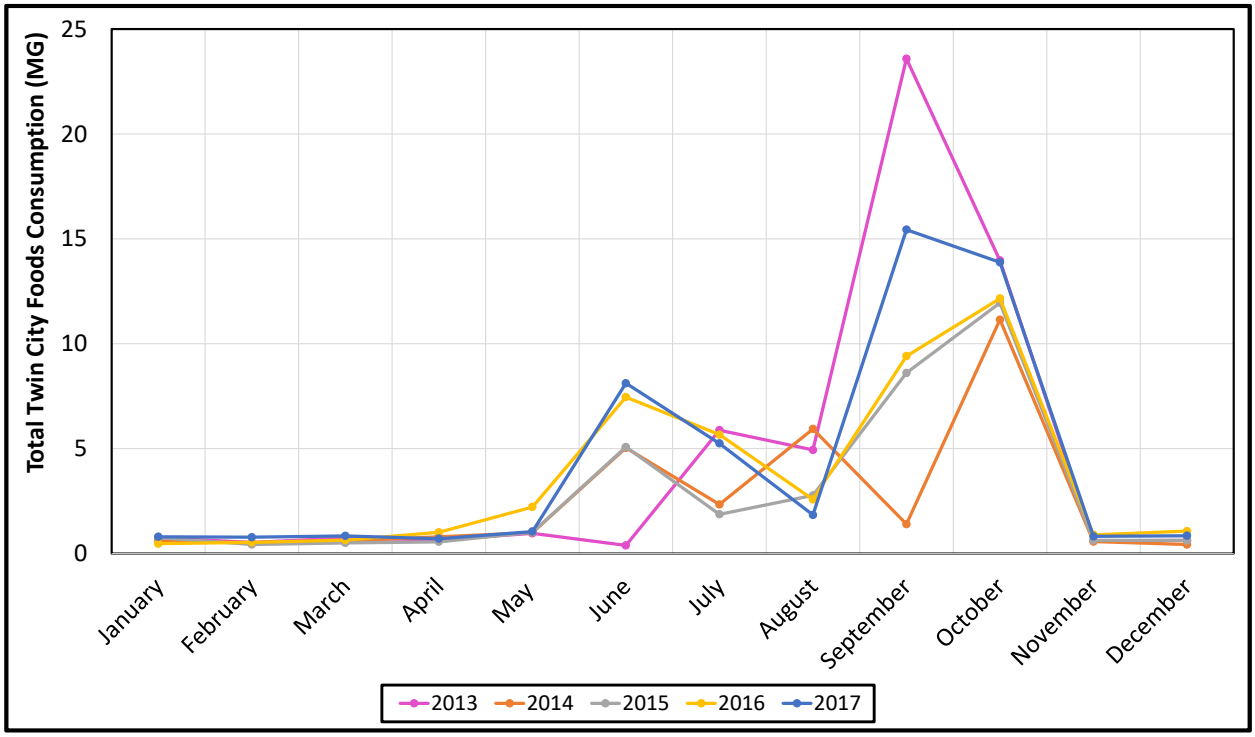
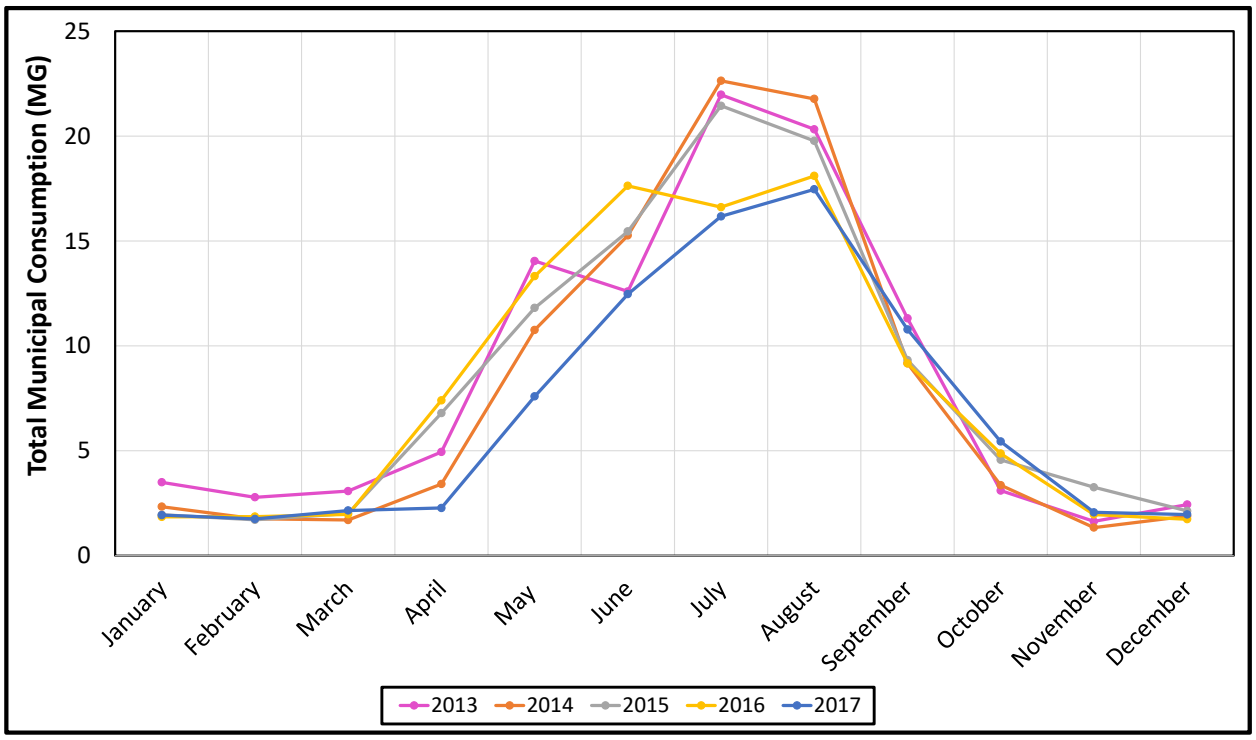


Chart 4-6

Historical Monthly Municipal Consumption 2013-2017



The 2018 monthly consumption for the eight more-detailed customer classes described in **Table 4-2** is shown on **Chart 4-7**.

Chart 4-7

2018 Historical Monthly Municipal Consumption

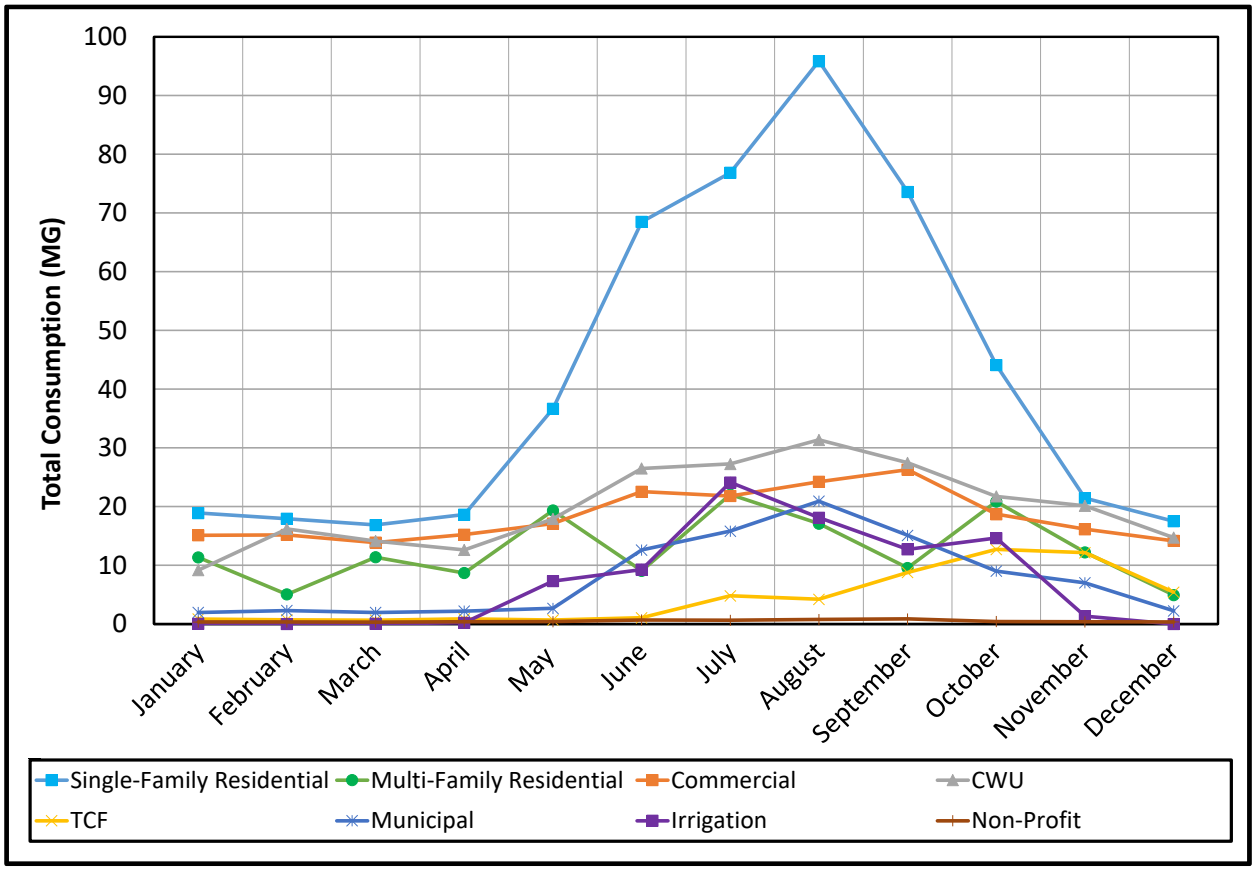
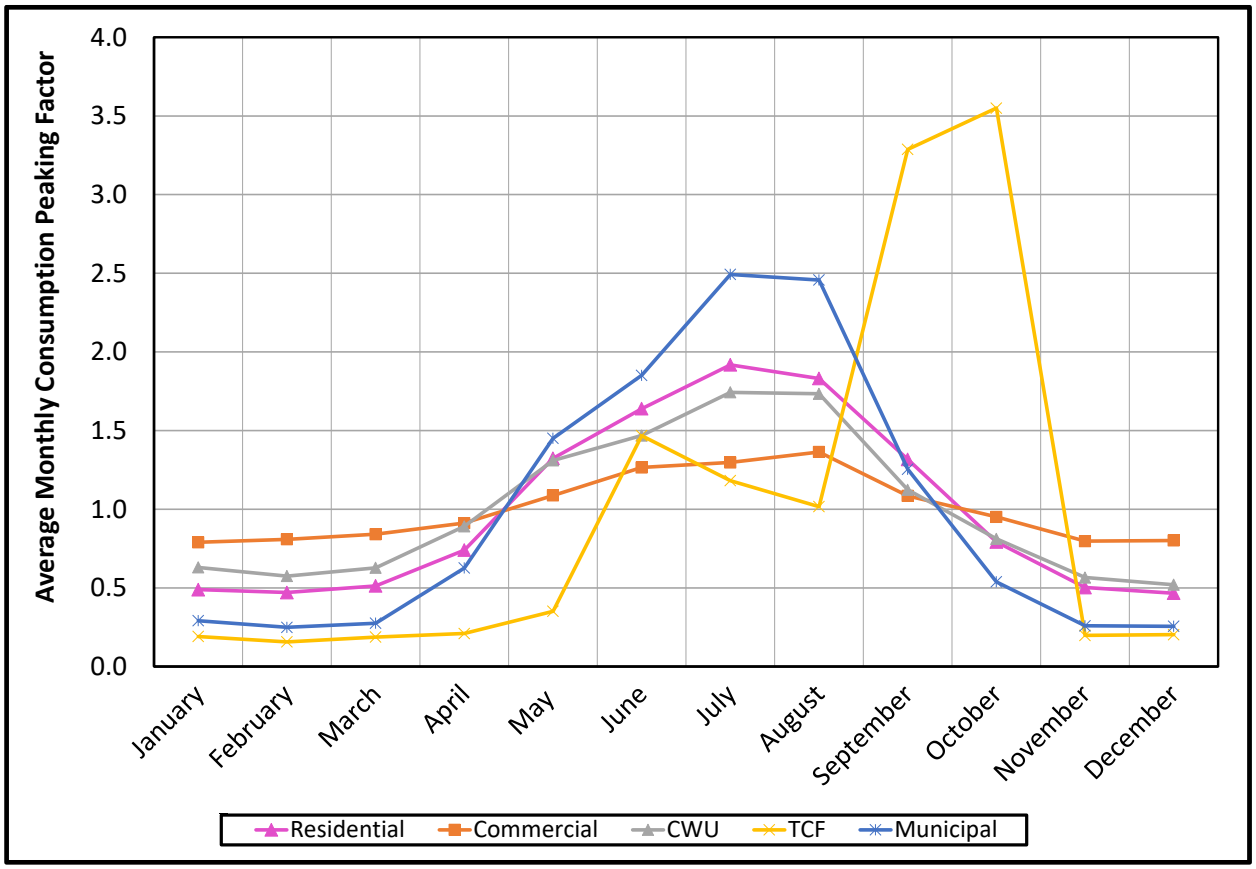


Chart 4-8 shows the ratio of monthly consumption to average annual consumption for each of the five broad customer classes for years 2013 through 2017. Most customer classes experience higher peaks in the summer months. Summer peaking usually is associated with irrigation and other residential summer water usage. Twin City Foods water usage peaks near September and October. As this customer is an industrial water user, it is likely that seasonal industrial demands, rather than irrigation, contribute to the peaking factor shown on **Chart 4-8**.

Chart 4-8

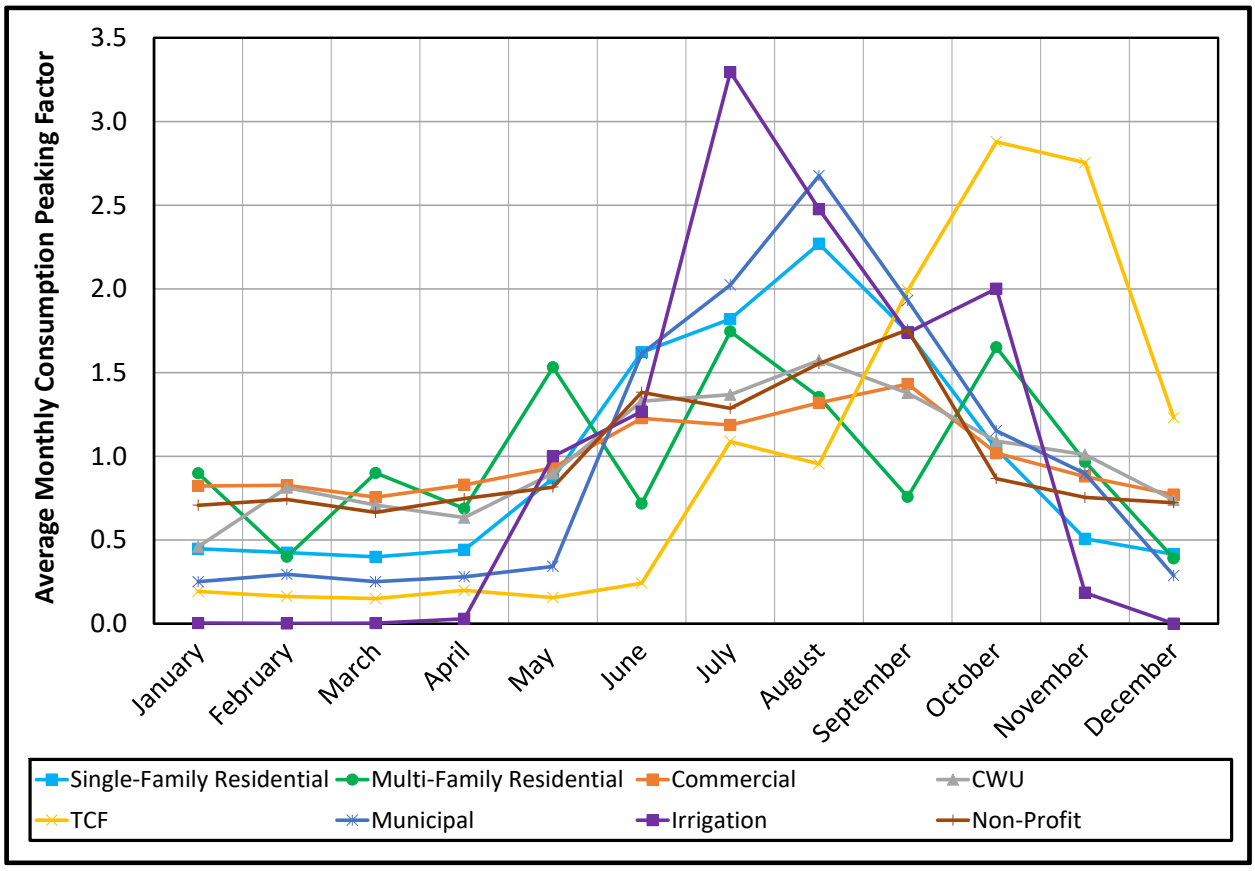
Average Monthly Peaking Factors by Customer Class for Years 2013 through 2017



The 2018 average monthly peaking factors for the eight more-detailed customer classes described in **Table 4-2** are shown on **Chart 4-9**. Similar summer peaking trends are observed in this data set.

Chart 4-9

Average Monthly Peaking Factors by Customer Class for Year 2018



Water Supply

Water supply, or production, is the total amount of water supplied to the system as measured by the meters at source of supply facilities. Water supply is different than water consumption in that water supply is the recorded amount of water put into the system, and water consumption is the recorded amount of water taken out of the system. The measured amount of water supply of any system is typically larger than the measured amount of water consumption due to non-metered water use and water loss (i.e., distribution system leakage), which will be described more in the **Distribution System Leakage** section. **Table 4-5** summarizes the total amount of water supplied to the system from 2013 through 2018.

Table 4-5

Historical Water Supply

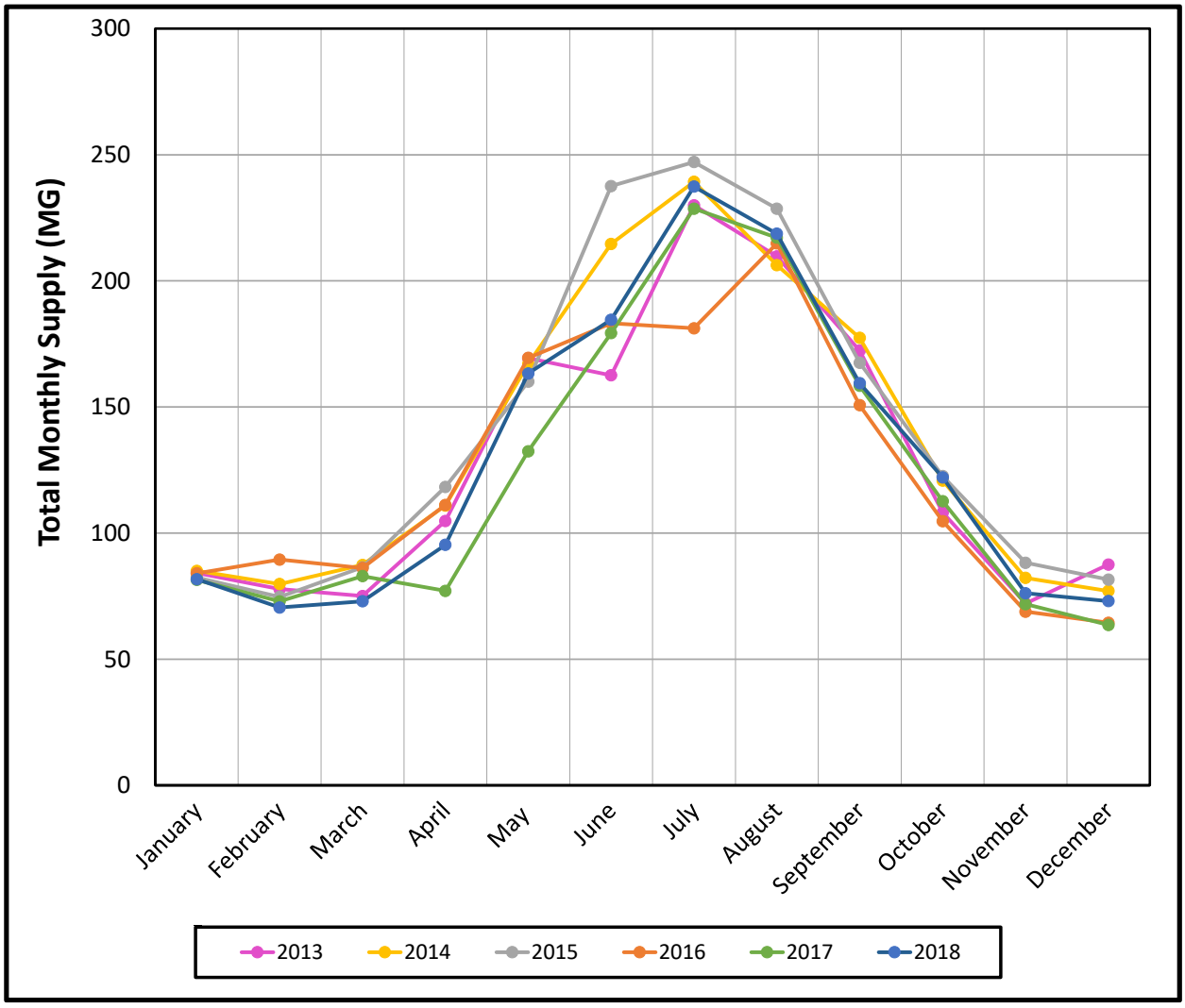
Year	Annual Supply (gallons)	Average Day Demand (gpm)	Average Day Demand (gpd)
2013	1,553,536,320	2,956	4,256,264
2014	1,647,881,356	3,135	4,514,743
2015	1,695,153,438	3,225	4,644,256
2016	1,508,321,512	2,862	4,121,097
2017	1,478,457,572	2,813	4,050,569
2018	1,555,206,450	2,959	4,260,840

In general, the amount of water consumed by the City's customers and other authorized uses remained relatively steady from 2013 until approximately 2018, although growth has been occurring. This was most likely the result of water use efficiency practices, including new buildings with low flow plumbing fixtures, and the repair of water system leaks.

Like most other water systems, the City's water use varies seasonally. **Chart 4-10** shows the historical amount of water supplied to the City's system for each month from 2013 to 2018.

Chart 4-10

Historical Monthly Water Supply



As shown in **Chart 4-10**, water supply increases significantly during summer months, primarily due to irrigation and other residential summer water usage. The City's highest water use typically occurs in July. On average, the amount of water supplied during July is approximately 14 percent of the total supply for the entire year.

Chart 4-11 shows the monthly water supply by source for 2018. **Chart 4-12** shows the annual water supply by source from 2013 to 2018. As shown in **Chart 4-12**, the City began significantly reducing use of the City Wells in 2014 after the infiltration gallery was determined to be in hydraulic continuity with surface water, subjecting the well to additional disinfection requirements.

Chart 4-11

2018 Monthly Water Supply by Source

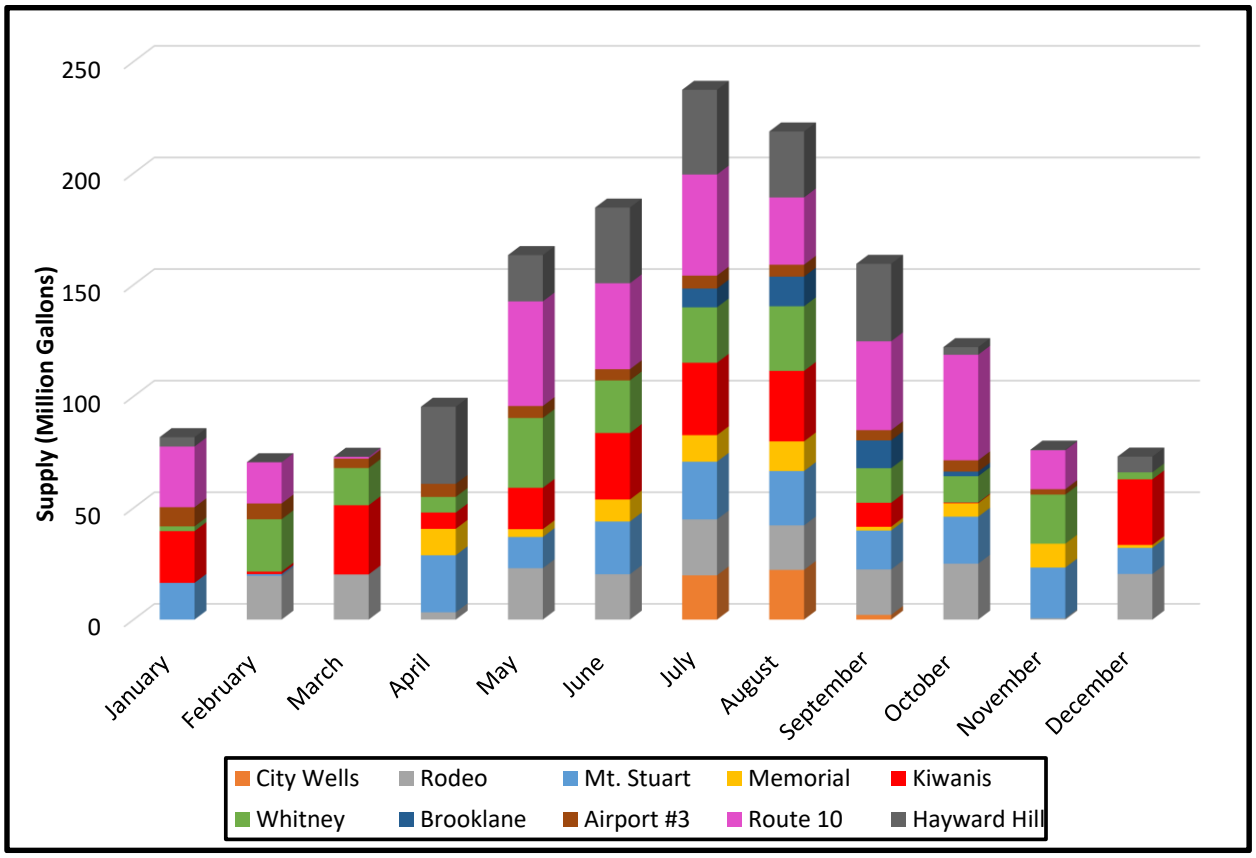
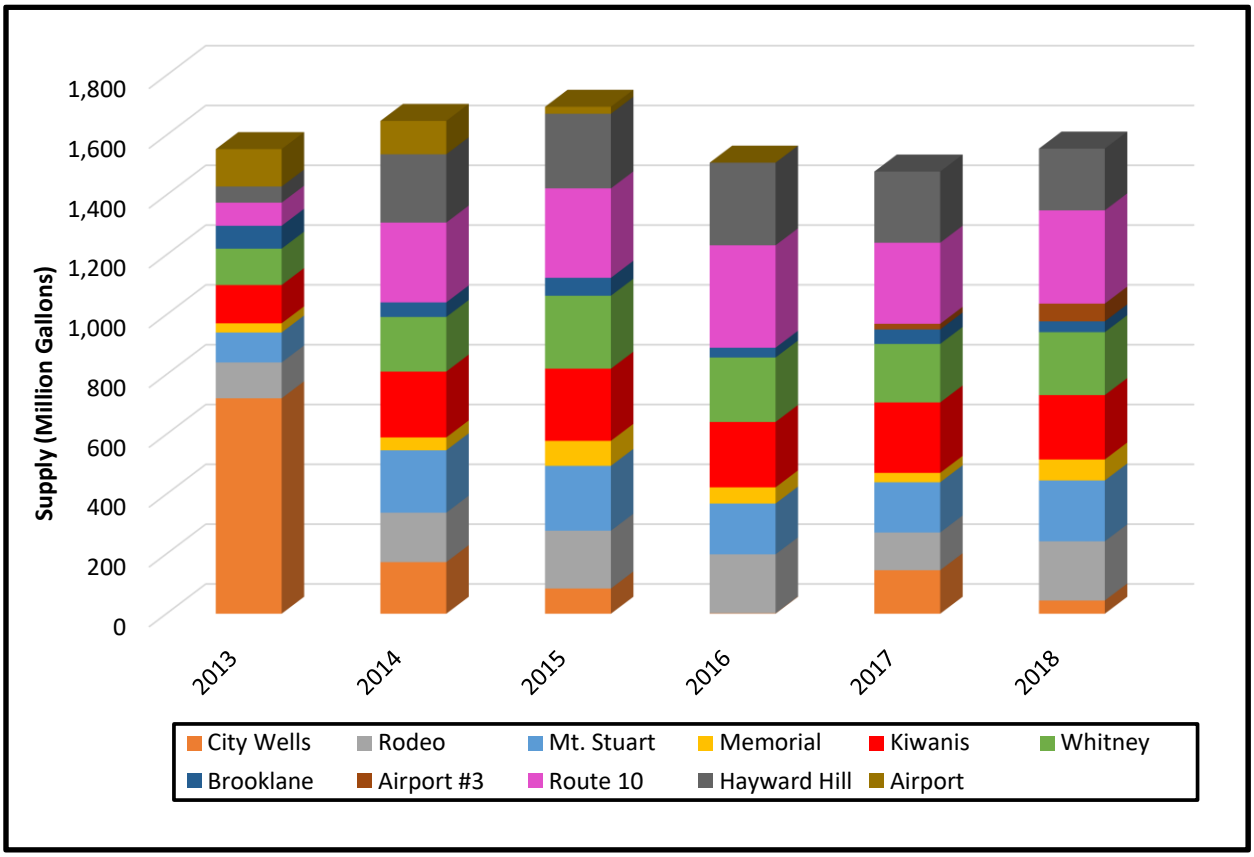


Chart 4-12

Annual Water Supply by Source



Distribution System Leakage

The difference between the amount of water supply and the amount of authorized water consumption is the amount of distribution system leakage (DSL). There are many sources of DSL in a typical water system, including water system leaks, inaccurate supply metering, inaccurate customer metering, illegal water system connections or water use, fire hydrant usage, water main flushing, and malfunctioning telemetry and control equipment resulting in reservoir overflows. Several of these types of usages, such as water main flushing and fire hydrant usage, may be considered authorized uses if they are tracked and estimated. Although real losses from the distribution system, such as reservoir overflows and leaking water mains, should be tracked for accounting purposes, these losses must be considered leakage. The Water Use Efficiency (WUE) Rule establishes a DSL standard of 10 percent or less based on a rolling 3-year average.

The City currently tracks authorized water usage from water main flushing and leak repairs.

The amount of DSL in the City's system has fluctuated from 2013 to 2018, as shown in **Table 4-6**. The total DSL from 2013 to 2015 was consistently above the WUE standard of 10 percent. In 2015, the City began aggressively searching for DSL and continues to do so. A leak detection company now inspects half of the water system annually for leaks. As shown in **Table 4-6**, the City's efforts to reduce DSL since 2015 have been successful, and the 3-year rolling DSL average has been reduced to 8 percent as of 2018.

Table 4-6

Distribution System Leakage

Description	Year					
	2013	2014	2015	2016	2017	2018
Authorized Consumption (AC)						
Metered Customer Use (MG)	1,272.0	1,336.2	1,368.3	1,312.1	1,293.9	1,358.6
Flushing Usage and Leaks Repaired (MG)	24.0	28.3	102.7	76.0	62.1	74.3
Total Authorized Consumption (MG)	1,295.9	1,364.5	1,471.0	1,388.1	1,356.0	1,432.9
Total Production (TP)						
Total Production/Supply (MG)	1,553.5	1,647.9	1,695.2	1,508.3	1,478.5	1,555.2
Distribution System Leakage (TP - AC)						
Total Distribution System Leakage (MG)	257.6	283.4	224.1	120.2	122.4	122.4
Total Distribution System Leakage (%)	16.6%	17.2%	13.2%	8.0%	8.3%	7.9%
Rolling 3-Year Average DSL (%)	---	---	15.7%	12.8%	9.8%	8.0%

Metered Customer Use from **Tables 4-1** and **4-2**.
Total Production/Supply from **Table 4-5**.

Equation 4-3 shows the sample calculation for Total DSL (MG), as follows.

$$\textbf{Total DSL (MG)} = \textbf{Total Production} - \textbf{Total Authorized Consumption} \qquad \textbf{(4-3)}$$

Equation 4-4 shows the sample calculation for Total DSL (%), as follows.

$$\textbf{Total DSL (\%)} = \frac{\textbf{Total DSL}}{\textbf{Total Production}} \qquad \textbf{(4-4)}$$

Equation 4-5 shows the sample calculation for Rolling 3-Year Average DSL, as follows.

$$\textbf{Rolling 3-Year Average DSL} = \frac{\textbf{Sum of 3 Years of Total DSL (\%)}}{\textbf{3 Years}} \qquad \textbf{(4-5)}$$

Table 4-7 presents the computation of the existing system per capita demand based on 2018 data. As shown in the upper portion of the table, the residential population served by the City's water system in 2018 was approximately 20,912. This population served, and the total annual supply in 2018, were used to arrive at the existing per capita demand of 204 gpd.

Per Capita Demand

Table 4-7

Existing Per Capita Demand

2018 Residential Population Served	
Calculated 2018 Residential Population Served	20,912
2018 Total Annual Supply (gal)	
2018 Total Annual Supply (gal)	1,555,206,450
Existing Per Capita Demand (gpd/capita)	**204**

Because the density and type of existing water users is generally consistent with expectations for the future development of the water system, no adjustments are necessary to the per

capita demand figures for future customers. Often, future per capita demands are adjusted to account for large industrial customers that are not considered representative of future users. However, for the City, the existing 204 gpd per capita demand was assumed to be representative of the future per capita demand. This number is used later in this chapter to forecast water demands in future years based on future population estimates.

Pressure Zone Demand

Table 4-8 shows the estimated average day demand of each of the City's two existing pressure zones. The City's 1740 Zone accounts for 77.9 percent of the system's total water demand, while the 1824 Zone accounts for the remaining 22.1 percent. **Figure 2-1** in **Chapter 2** displays the City's pressure zones.

Table 4-8

2018 Demands by Pressure Zone

Pressure Zone	2018 Annual Supply (gallons)	Average Daily Demand (gpm)	Average Daily Demand (gpd)	Percent of Total Demand (%)
1740	1,210,755,931	2,304	3,317,140	77.9%
1824	344,450,519	655	943,700	22.1%
Total	**1,555,206,450**	**2,959**	**4,260,840**	**100%**

Peak Demands

Average Day Demand

ADD is the total amount of water delivered to the system in a year divided by the number of days in the year. The ADD is determined from the historical water use patterns of the system and can be used to project future demands within the system. Water production records from the City's well sources were reviewed to determine the system's ADD. The system's average day demand from 2013 through 2018 is shown in **Table 4-5**.

Maximum Day Demand

MDD is the maximum amount of water used throughout the system during a 24-hour time period of a given year. MDD typically occurs on a hot summer day when lawn watering is occurring throughout much of the system. In accordance with Washington Administrative Code (WAC) 246-290-230, the distribution system shall provide fire flow at a minimum pressure of 20 pounds per square inch (psi) during MDD conditions. Supply facilities (wells, springs, pump stations, interties, etc.) typically are designed to supply water at a rate that is equal to or greater than the system's MDD.

MDD typically is determined from the combined flow of water into the system from all supply sources and reservoirs on the maximum day. While the City's daily reservoir flow data information is available, the MDD could not be determined in this fashion because daily supply

records are not available from all well sources. The Washington State Department of Health (DOH) recommends that systems serving 1,000 to 100,000 people multiply the maximum month ADD (MMADD) by 1.35 to determine the MDD. The City's MMADD for years 2013 through 2018, which occurred in July 2015, was 5,536 gallons per minute (gpm) as shown in **Table 4-9**. Multiplying the MMADD by 1.35 results in an estimated MDD of 7,474 gpm as shown in **Table 4-9**.

Table 4-9

Maximum Day Demands and Peaking Factors

Peak Demand Data			
Demand Type	**Date**	**Demand (gpm)**	**Demand (gpd)**
Average Day Demand (ADD)	2015	3,225	4,644,256
Maximum Month Average Day Demand (MMADD)	July, 2015	5,536	7,971,845
Maximum Day Demand (MDD)	Daily supply data unavailable Assumed MDD/MMADD = 1.35	7,474	10,761,991
Peak Hour Demand (PHD)	Hourly data unavailable Equation 3-1 from WSDM[1]	12,107	17,434,461
Peaking Factors			
Maximum Day Demand/Average Day Demand (MDD/ADD)		2.32	
Peak Hour Demand/Maximum Day Demand (PHD/MDD)		1.62	
Peak Hour Demand/Average Day Demand (PHD/ADD)		3.75	

1 = See discussion in text below.

Peak Hour Demand

PHD is the maximum amount of water used throughout the system, excluding fire flow, during a 1-hour time period of a given year. In accordance with WAC 246-290-230 – Distribution Systems, new public water systems or additions to existing systems shall be designed to provide domestic water at a minimum pressure of 30 psi during PHD conditions. Equalizing storage requirements typically are based on PHD data.

The PHD, like the MDD, typically is determined from the combined flow of water into the system from all supply sources and reservoirs. Hourly water production records and chart recordings of reservoir levels are available for all the City's storage facilities, but not for all the City's supply sources. Therefore, the system's PHD could not be computed based on actual system data. Instead, Equation 3-1 in DOH's *Water System Design Manual* was used to compute the system's PHD. During the development of the draft WSP, a 2015 ERU_{MDD} value of 842 gpd and N = 12,788 ERUs were utilized in DOH Equation 3-1, resulting in an estimated PHD of 12,107 gpm. During the draft WSP review, DOH required a multiplier of 1.09 to be applied to the ERU_{MDD} (described in **Equation 4-8**). This resulted in the PHD calculated by DOH Equation 3-1 to shift to approximately 12,119 gpm. Because this represents an increase of less than 0.1 percent in the PHD and would require significant updates to the WSP analyses with minimal meaningful impact, the original value of 12,107 gpm is utilized.

DOH Equation 3-1

$$PHD = (ERU_{MDD}/1440)[(C)(N) + F] + 18$$

Where:

PHD = Peak hourly demand in gpm

C = Coefficient associated with ranges of ERUs

N = Number of equivalent residential units (ERUs) based on MDD

F = Factor associated with ranges of ERUs

ERU_{MDD} = Maximum day demand per ERU (gpd).

Table 4-9 shows the peaking factors of the water system based on the average day, maximum day, and peak hour demand data. The MDD/ADD ratio of 2.32 is within the typical range of 1.2 to 2.5 for most systems. The estimated PHD/MDD ratio of 1.62 also is within the typical range of 1.3 to 2.0 for most systems. These peaking factors will be used later in this chapter, in conjunction with projected average day demands, to estimate the system's future maximum day and peak hour demands.

Equivalent Residential Units

The consumption of each customer class can be expressed in terms of ERUs for demand forecasting and planning purposes. One ERU_{ADD} is equivalent to the amount of water consumed by a single-family residence on an average day, not including DSL. One ERU_{MDD} is equivalent to the amount of water consumed by a single-family residence on the day that the water system experiences the highest demand of the year, not including DSL. The number of ERUs represented by the consumption of the other customer classes is determined from the total consumption of the customer class and the unit demand per ERU from the single-family residential demand data. The number of ERUs consumed by DSL also is calculated in this fashion.

Table 4-10 presents the computed number of ERUs for each customer class on a consumption basis for 2018, as well as the number of ERUs consumed by DSL and other authorized unmetered water use. The consumption shown is based on the totals of each customer class shown in **Table 4-2**. The average day consumption per ERU (ERU_{ADD}) of single-family residential customers for 2018 was 317 gallons. The maximum day consumption per ERU (ERU_{MDD}) of single-family residential customers for 2018, calculated by multiplying the ERU_{ADD} by the MDD/ADD peaking factor presented in **Table 4-9**, was 735 gallons.

Table 4-10

Equivalent Residential Units for Detailed Customer Classes (2018) – Consumption Basis

Year	Average Number of Customer Meters	Average Annual Consumption (gallons)	Consumption per ERU_{ADD} (gpd/ERU_{ADD})	Consumption per ERU_{MDD} (gpd/ERU_{MDD})[1]	Total ERUs
Single-Family Residential (ERU Basis)					
2018	4,377	506,854,292	317	735	4,377
Multi-Family Residential					
2018	532	151,604,028	317	735	1,309
Commercial					
2018	561	220,402,157	317	735	1,903
CWU					
2018	77	239,220,775	317	735	2,066
TCF					
2018	1	52,940,000	317	735	457
Irrigation					
2018	135	87,808,248	317	735	758
Non-Profit					
2018	15	5,926,762	317	735	51
Municipal					
2018	106	93,819,628	317	735	810
Flushing Usage and Leaks Repaired					
2018	--	74,277,900	317	735	641
Distribution System Leakage					
2018	--	122,352,660	317	735	1,057
Total System					
2018	**5,804**	**1,555,206,450**	**317**	**735**	**13,430**

(1) = Estimated based on MDD/ADD peaking factor from **Table 4-9**.

Equation 4-6 shows the Single-Family Residential ERUS in **Table 4-10**, as follows:

$$\text{ADD} = 317 \text{ gpd/ERU} = \frac{\left(\frac{506{,}854{,}292 \text{ gallons per year}}{365 \text{ days per year}}\right)}{4{,}377 \text{ ERUs}} \qquad \textbf{(4-6)}$$

where 1 single-family residential connection is 1 ERU.

Equation 4-7 shows the Multi-Family Residential ERUS in **Table 4-10**, as follows.

$$1{,}309 \text{ ERUs} = \frac{\left(\frac{151{,}604{,}028 \text{ gallons per year}}{365 \text{ days per year}}\right)}{317 \text{ gpd/ERU}} \qquad \textbf{(4-7)}$$

Tables 4-11a and **4-11b** present the computed number of ERUs for the five broad customer classes on a consumption basis for 2013 through 2017, as well as the number of ERUs

consumed by DSL and other authorized unmetered water use. The consumption shown is based on the totals of each customer class shown in **Table 4-1**.

The ERU_{ADD} for the 2018 single-family residential customer class from **Table 4-10**, with the DOH-required adjustment, was used as a basis for developing the number of ERUs for these broader customer classes. The broad residential customer class cannot be used as an accurate basis to estimate the consumption per ERU, as both single-family and multi-family residences are included. To develop the number of ERUs for these broader customer classes, DOH required that the consumption per ERU_{ADD} and ERU_{MDD} calculated for 2018 in **Table 4-10** be multiplied by 1.09. The basis for this requirement is the ratio between 2018 and 2015 supply, as shown in **Equation 4-8**, as 2015 is the year with the highest ADD shown in **Table 4-5**.

Equation 4-8 shows the DOH-Required ERU Multiplier as follows.

$$\frac{\textbf{2015 Supply}}{\textbf{2018 Supply}} = \frac{\textbf{3,225 gpm}}{\textbf{2,959 gpm}} = \textbf{1.09} \qquad \textbf{(4-8)}$$

Table 4-11a

Equivalent Residential Units for Broad Customer Classes (2013-2017) – Consumption Basis

Year	Average Number of Customer Meters	Average Annual Consumption (gallons)	Consumption per ERU_{ADD} (gpd/ERU_{ADD})	Consumption per ERU_{MDD} (gpd/ERU_{MDD})[1]	Total ERUs
Residential					
2013	4,669	717,955,419	346	801	5,688
2014	4,722	742,929,682	346	801	5,886
2015	4,784	806,298,602	346	801	6,388
2016	4,868	745,757,848	346	801	5,892
2017	4,956	730,206,943	346	801	5,785
Commercial					
2013	556	202,968,490	346	801	1,608
2014	557	208,708,100	346	801	1,654
2015	567	212,967,780	346	801	1,687
2016	568	223,973,023	346	801	1,770
2017	572	232,210,836	346	801	1,840
CWU					
2013	76	195,664,100	346	801	1,550
2014	76	258,739,300	346	801	2,050
2015	76	213,996,670	346	801	1,695
2016	75	201,766,325	346	801	1,594
2017	76	199,086,402	346	801	1,577
TCF					
2013	1	53,640,000	346	801	425
2014	1	30,410,000	346	801	241
2015	1	34,800,000	346	801	276
2016	1	44,110,000	346	801	349
2017	1	50,380,000	346	801	399

(1) = Estimated based on MDD/ADD peaking factor from **Table 4-9**.

Table 4-11b

Equivalent Residential Units for Broad Customer Classes (2013-2017) – Consumption Basis

Year	Average Number of Customer Meters	Average Annual Consumption (gallons)	Consumption per ERU_{ADD} (gpd/ERU_{ADD})	Consumption per ERU_{MDD} (gpd/ERU_{MDD})[1]	Total ERUs
Municipal					
2013	107	101,730,279	346	801	806
2014	108	95,404,600	346	801	756
2015	110	100,226,880	346	801	794
2016	108	96,489,629	346	801	762
2017	108	82,053,125	346	801	650
Flushing Usage and Leaks Repaired					
2013	--	23,976,080	346	801	190
2014	--	28,277,000	346	801	224
2015	--	102,748,500	346	801	814
2016	--	76,029,040	346	801	601
2017	--	62,086,600	346	801	492
Distribution System Leakage					
2013	--	257,601,952	346	801	2,041
2014	--	283,412,674	346	801	2,245
2015	--	224,115,006	346	801	1,776
2016	--	120,195,647	346	801	950
2017	--	122,433,666	346	801	970
Total System					
2013	5,409	1,553,536,320	346	801	12,308
2014	5,464	1,647,881,356	346	801	13,056
2015	5,538	1,695,153,438	346	801	13,430
2016	5,620	1,508,321,512	346	801	11,917
2017	5,713	1,478,457,572	346	801	11,713

(1) = Estimated based on MDD/ADD peaking factor from **Table 4-9**.

ERUs also can be calculated from a system demand standpoint, including estimated DSL and other authorized unmetered water use in the total water usage for each ERU. While this approach does not allow a direct calculation of the number of ERUs consumed by DSL, it provides a more conservative approach for forecasting future water demands by assuming that there will be DSL and authorized unmetered use associated with future growth. Although DSL is typically low in areas of new water main construction, it is also typically increasing in aging areas of the distribution system. Including estimated DSL in the water usage for each ERU helps approximate this increasing DSL volume as the overall system ages. Authorized unmetered use for flushing and leak repair also typically increases as the water system grows in size. As with DSL, including authorized unmetered use in the water usage for each ERU helps approximate this increasing volume. For these reasons, the City should use the ERU demand basis

calculations to prepare Certificates of Water Availability and track water availability for new service connections and future development.

Table 4-12 presents the computed number of ERUs for each customer class on a demand basis for 2018, plus a proportional percentage of the total DSL. The more detailed information available for 2018 was utilized to break out customers into eight customer classes. To estimate the demand for each customer class, the consumption totals of each customer class shown in **Table 4-2** are multiplied by the ratio between total production and metered customer use. The ERU_{ADD} of single-family residential customers for 2018 was 363 gpd. The ERU_{MDD} of single-family residential customers for 2018, calculated by multiplying the ERU_{ADD} by the MDD/ADD peaking factor presented in **Table 4-9**, was 842 gpd.

Table 4-12

Equivalent Residential Units for Detailed Customer Classes (2018) – Demand Basis

Year	Average Number of Customer Meters	Average Annual Demand (gallons)	Demand per ERU_{ADD} (gpd/ERU_{ADD})	Demand per ERU_{MDD} (gpd/ERU_{MDD})[1]	Total ERUs
Single-Family Residential (ERU Basis)					
2018	4,377	580,212,758	363	842	4,377
Multi-Family Residential					
2018	532	173,546,111	363	842	1,309
Commercial					
2018	561	252,301,589	363	842	1,903
CWU					
2018	77	273,843,879	363	842	2,066
TCF					
2018	1	60,602,157	363	842	457
Irrigation					
2018	135	100,516,986	363	842	758
Non-Profit					
2018	15	6,784,559	363	842	51
Municipal					
2018	106	107,398,410	363	842	810
Total System					
2018	**5,804**	**1,555,206,450**	**363**	**842**	**11,732**

(1) = Estimated based on MDD/ADD peaking factor from **Table 4-9**.

Equation 4-9 shows the Single-Family Residential ERUs in **Table 4-12**, as follows:

$$\textbf{ADD} = 363 \text{ gpd/ERU} = \frac{\dfrac{580{,}212{,}758 \text{ gallons per year}}{365 \text{ days per year}}}{4{,}377 \text{ ERUs}} \qquad \textbf{(4-9)}$$

where 1 single-family residential connection is 1 ERU.

Equation 4-10 shows the Multi-Family Residential ERUS in **Table 4-12**, as follows.

$$\textbf{1,309 ERUs} = \frac{\dfrac{\textbf{173,546,111 gallons per year}}{\textbf{365 days per year}}}{\textbf{363 gpd/ERU}} \qquad \textbf{(4-10)}$$

The 2018 ERU_{ADD} of 363 gpd was adjusted to 396 gpd using the DOH-required ERU multiplier shown in **Equation 4-8** to develop the ERU_{ADD} used later in this chapter to forecast ERUs in future years based on estimated future demands. This demand per ERU value also will be used to determine the capacity (in terms of ERUs) of the existing system in **Chapter 7**.

Tables 4-13a and **4-13b** present the computed number of ERUs for each broader customer class on a demand basis from 2013 through 2017. The demands shown are based on the consumption totals of each customer class shown in **Table 4-1**, plus a proportional percentage of the total DSL and authorized unmetered water use. For the same reasons as described previously, the ERU_{ADD} for the 2018 single-family residential customer class, adjusted with the DOH-required ERU multiplier, was used as a basis for developing the number of ERUs for these broader customer classes.

Table 4-13a

Equivalent Residential Units for Broad Customer Classes (2013-2017) – Demand Basis

Year	Average Number of Customer Meters	Average Annual Demand (gallons)	Demand per ERU_{ADD} (gpd/ERU_{ADD})	Demand per ERU_{MDD} (gpd/ERU_{MDD})[1]	Total ERUs
Residential					
2013	4,669	876,891,821	396	917	6,069
2014	4,722	916,230,799	396	917	6,341
2015	4,784	998,910,988	396	917	6,913
2016	4,868	857,286,279	396	917	5,917
2017	4,956	834,337,165	396	917	5,774
Commercial					
2013	556	247,900,363	396	917	1,716
2014	557	257,392,851	396	917	1,781
2015	567	263,842,521	396	917	1,826
2016	568	257,468,292	396	917	1,777
2017	572	265,324,964	396	917	1,836
CWU					
2013	76	238,978,973	396	917	1,654
2014	76	319,094,688	396	917	2,208
2015	76	265,117,197	396	917	1,835
2016	75	231,940,572	396	917	1,601
2017	76	227,476,862	396	917	1,574

(1) = Estimated based on MDD/ADD peaking factor from **Table 4-9**.

Table 4-13b

Equivalent Residential Units for Broad Customer Classes (2013-2017) – Demand Basis

Year	Average Number of Customer Meters	Average Annual Demand (gallons)	Demand per ERU_{ADD} (gpd/ERU_{ADD})	Demand per ERU_{MDD} (gpd/ERU_{MDD})[1]	Total ERUs
TCF					
2013	1	65,514,482	396	917	453
2014	1	37,503,655	396	917	260
2015	1	43,113,187	396	917	298
2016	1	50,706,671	396	917	350
2017	1	57,564,375	396	917	398
Municipal					
2013	107	124,250,681	396	917	860
2014	108	117,659,363	396	917	814
2015	110	124,169,546	396	917	859
2016	108	110,919,698	396	917	766
2017	108	93,754,205	396	917	649
Total System					
2013	5,409	1,553,536,320	396	917	10,752
2014	5,464	1,647,881,356	396	917	11,405
2015	5,538	1,695,153,438	396	917	11,732
2016	5,620	1,508,321,512	396	917	10,411
2017	5,713	1,478,457,572	396	917	10,232

(1) = Estimated based on MDD/ADD peaking factor from **Table 4-9**.

Fire Flow Demand

Fire flow demand is the amount of water required during firefighting as defined by applicable codes. Fire flow requirements are established for individual buildings and expressed in terms of flow rate (gpm) and flow duration (hours). Fighting fires imposes the greatest demand on the water system because a high rate of water must be supplied over a short period of time, requiring each component of the system to be properly sized and configured to operate at its optimal condition. Adequate storage and supply are not effective if the transmission or distribution system cannot deliver water at the required rate and pressure necessary to extinguish a fire.

General planning-level fire flow requirements were established for the City's different land use categories to provide a target level of service for planning and sizing future water facilities in areas that are not fully developed. The general planning-level fire flow requirement for each land use category is shown in **Table 4-14**. The water system analyses presented in **Chapter 7** are based on an evaluation of the water system to provide sufficient fire flow in accordance with these general planning-level fire flow requirements. The fire flow requirements shown in **Table 4-14** do not necessarily equate to actual existing or future fire flow requirements for all

buildings, since this is typically based on building size, construction type, and fire suppression systems provided. Improvements to increase the available fire flow to meet actual fire flow requirements greater than those shown in **Table 4-14** shall be the responsibility of the developer.

Table 4-14

General Planning-Level Fire Flow Requirements

Land Use Category	Fire Flow Requirement (gpm)	Flow Duration (hours)
Single-Family Residential	1,000	2
Multi-Family Residential	1,500	2
Commercial/Schools	3,000	3
Industrial	4,000	4
Heavy Industrial	4,000	5

FUTURE WATER DEMANDS

Basis for Projecting Demands

Future demands were calculated from the results of the existing per capita demand computations shown in **Table 4-7** and the projected population data from **Chapter 3**. Future demand projections were computed with and without water savings expected from implementing WUE measures contained in the City's WUE Program in **Appendix E**.

The calculated existing per capita demand of 204 gpd was used for all demand projections without savings from WUE measures. The per capita demand was reduced to reflect the WUE goals and used as the basis for future water demand projections with implementation of the WUE Program. The City's WUE Program presents the goal to reduce demand per ERU by 5 percent over the next 10 years (2020 to 2030), and then maintain this reduced demand per ERU for the remainder of the planning period (2030 to 2040). Using a base demand of 396 gpd per ERU in 2020, this goal would reduce water use to 376 gpd per ERU by 2030. The City also has the goal of maintaining DSL at 10 percent or less for the duration of the planning period.

Demand Forecasts and Water Use Efficiency

Table 4-15 presents the projected water demand forecast for the City's water system. The actual demand data from 2018 is shown for comparison purposes. Future ADDs were projected based on population estimates for the given years and the estimated demand per capita values. The future MDDs and PHDs shown were computed from the projected ADDs and the existing system peaking factors shown in **Table 4-9**. The future demand projections also are shown with and without estimated reductions in water use from achieving WUE goals.

Table 4-15
Future Water Demand Projections

Description	Actual	Projected													
	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030 (+10 years)	2033 (+13 years)	2040 (+20 years)
Population Data															
Water Service Area Population	20,912	21,212	21,723	22,247	22,783	23,332	23,894	24,470	25,060	25,664	26,283	26,917	27,565	29,607	34,588
Increase from Base Year 2018		300	811	1,335	1,871	2,420	2,983	3,559	4,149	4,753	5,371	6,005	6,654	8,695	13,676
Demand Basis Data (gpd/capita)															
ADD without WUE		204	204	204	204	204	204	204	204	204	204	204	204	204	204
Average Day Demand (gpm)															
Demand without WUE	2,959	3,034	3,106	3,181	3,256	3,334	3,414	3,495	3,579	3,664	3,752	3,841	3,933	4,222	4,927
Demand with WUE		3,034	3,106	3,165	3,224	3,284	3,345	3,408	3,471	3,536	3,602	3,668	3,736	4,011	4,680
Maximum Day Demand (gpm)															
Demand without WUE	6,857	7,031	7,198	7,370	7,546	7,726	7,910	8,099	8,293	8,491	8,694	8,901	9,114	9,784	11,417
Demand with WUE		7,031	7,198	7,333	7,471	7,610	7,752	7,897	8,044	8,194	8,346	8,501	8,658	9,294	10,846
Peak Hour Demand (gpm)															
Demand without WUE	11,108	11,390	11,662	11,940	12,224	12,516	12,815	13,121	13,434	13,755	14,084	14,420	14,765	15,849	18,495
Demand with WUE		11,390	11,662	11,880	12,102	12,328	12,559	12,793	13,031	13,274	13,520	13,771	14,027	15,057	17,570

Population per **Table 3-3**.
Demand Basis Data per **Table 4-7**.
Peaking Factors per **Table 4-9**.

Equation 4-11 shows the sample calculation of Projected Demands without WUE, as follows:

$$\textbf{Projected ADD without WUE} = \textbf{(2018 ADD) + ((Projected Year Population} - \textbf{2018 Population)} * \textbf{204 gpd/capita)} \quad \textbf{(4-11 a)}$$

$$\textbf{Projected MDD without WUE} = \textbf{Projected ADD} * \frac{\textbf{MDD}}{\textbf{ADD}} \textbf{ Peaking Factor} \quad \textbf{(4-11 b)}$$

$$\textbf{Projected PHD without WUE} = \textbf{Projected ADD} * \frac{\textbf{PHD}}{\textbf{ADD}} \textbf{ Peaking Factor} \quad \textbf{(4-11 c)}$$

where the Demand Basis Data (gpd/capita) for ADD without WUE is per **Table 4-7**, and the Peaking Factors are per **Table 4-9**.

Equation 4-12 shows the sample calculation of Projected Demands with WUE, as follows:

$$\textbf{Projected Demand per ERU}_{\textbf{ADD}} \textbf{ with WUE} = \textbf{(2020 ERU Basis [gpd/ERU}_{\textbf{ADD}}\textbf{])} + \textbf{((2020 ERU Basis [gpd/ERU}_{\textbf{ADD}}\textbf{]} * \textbf{0.95)} - \textbf{2020 ERU Basis [gpd/ERU}_{\textbf{ADD}}\textbf{])} * \left(\frac{\textbf{(Projected Year} - \textbf{2020)}}{\textbf{(2030} - \textbf{2020)}}\right) \quad \textbf{(4-12 a)}$$

$$\textbf{Projected ADD with WUE} = \textbf{Projected Year ERUs} * \textbf{Projected Demand per ERU}_{\textbf{ADD}} \textbf{ with WUE} \quad \textbf{(4-12 b)}$$

$$\textbf{Projected MDD with WUE} = \textbf{Projected ADD with WUE} * \left(\frac{\textbf{MDD}}{\textbf{ADD}} \textbf{ Peaking Factor}\right) \quad \textbf{(4-12 c)}$$

$$\textbf{Projected PHD with WUE} = \textbf{Projected ADD with WUE} * \left(\frac{\textbf{PHD}}{\textbf{ADD}} \textbf{ Peaking Factor}\right) \quad \textbf{(4-12 d)}$$

where the 2020 ERU Basis is per **Table 4-12**, the WUE goal is to reduce demand per ERU by 5 percent from 2020 to 2030 (**Appendix E**), and the peaking factors are per **Table 4-9**.

The analysis and evaluation of the existing water system with proposed improvements, as presented in **Chapters 7** and **9**, is based on the 2040 projected demand data without WUE reductions. This ensures that the future system will be sized properly to meet all requirements, whether or not additional water use reductions are achieved. However, the City will continue to pursue reductions in water use by implementing the WUE Program contained in **Appendix E** of this Water System Plan.

Table 4-16 presents the existing and projected ERUs of the system. The ERU forecasts are based on the projected water demands from **Table 4-15** and the average ERU_{ADD} demand that was computed from 2018 data. ERU forecasts based on the average ERU_{ADD} consumption also are presented for comparison purposes.

Table 4-16

Future ERU Projections

Description	Actual	Projected													
	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030 (+10 years)	2033 (+13 years)	2040 (+20 years)
Demand Data (gpm)															
ADD	2,959	3,034	3,106	3,181	3,256	3,334	3,414	3,495	3,579	3,664	3,752	3,841	3,933	4,222	4,927
MDD without WUE	6,857	7,031	7,198	7,370	7,546	7,726	7,910	8,099	8,293	8,491	8,694	8,901	9,114	9,784	11,417
MDD with WUE		7,031	7,198	7,333	7,471	7,610	7,752	7,897	8,044	8,194	8,346	8,501	8,658	9,294	10,846
Demand per ERU - Consumption Basis															
ERU_{ADD} (gpd/ERU_{ADD})	317	346	346	346	346	346	346	346	346	346	346	346	346	346	346
ERU_{MDD} without WUE (gpd/ERU_{MDD})	735	801	801	801	801	801	801	801	801	801	801	801	801	801	801
ERU_{MDD} with WUE (gpd/ERU_{MDD})		801	801	797	793	789	785	781	777	773	769	765	761	761	761
ERUs - Consumption Basis															
Total System ERUs	13,430	12,634	12,936	13,244	13,560	13,884	14,215	14,555	14,902	15,258	15,622	15,996	16,378	17,581	20,516
Demand per ERU - Demand Basis															
ERU_{ADD} (gpd/ERU_{ADD})	363	396	396	396	396	396	396	396	396	396	396	396	396	396	396
ERU_{MDD} without WUE (gpd/ERU_{MDD})	842	917	917	917	917	917	917	917	917	917	917	917	917	917	917
ERU_{MDD} with WUE (gpd/ERU_{MDD})		917	917	913	908	904	899	894	890	885	881	876	871	871	871
ERUs - Demand Basis															
Total System ERUs	11,732	11,037	11,300	11,570	11,846	12,128	12,418	12,714	13,018	13,329	13,647	13,973	14,307	15,358	17,922

Demand Data per **Table 4-15**.
Demand per ERU - Consumption Basis per **Table 4-10** and **Table 4-11**.
Demand per ERU - Demand Basis per **Table 4-12** and **Table 4-13**.

Equation 4-13 shows the sample calculation of ERU_{MDD} with WUE – Consumption Basis, as follows:

$$\textbf{Projected Demand per ERU}_{\textbf{MDD}}\textbf{ without WUE} = \left(\textbf{2020 ERU Basis}\left[\frac{\textbf{gpd}}{\textbf{ERU}_{\textbf{MDD}}}\right]\right) * \frac{\textbf{MDD}}{\textbf{ADD}}\textbf{ Peaking Factor} \quad \textbf{(4-13 a)}$$

$$\textbf{Projected Demand per ERU}_{\textbf{MDD}}\textbf{ with WUE} = \textbf{(2020 ERU Basis [gpd/ERU}_{\textbf{MDD}}\textbf{ without WUE])} + \textbf{((2020 ERU Basis [gpd/ERU}_{\textbf{MDD}}\textbf{ without WUE] * 0.95)} - \textbf{2020 ERU Basis [gpd/ERU}_{\textbf{MDD}}\textbf{ without WUE])} * \left(\frac{\textbf{Projected Year} - \textbf{2020}}{\textbf{2030} - \textbf{2020}}\right) \quad \textbf{(4-13 b)}$$

where the 2020 ERU Basis is per **Table 4-12**, peaking factors are per **Table 4-9**, and the WUE goal is to reduce demand per ERU by 5 percent from 2020 to 2030 (**Appendix E**).

Equation 4-14 shows the sample calculation of ERUs – Consumption Basis, as follows:

$$\textbf{ERUs (Consumption Basis)} = \frac{\textbf{(ADD [gpm])} * \left(\frac{\textbf{1440 minutes}}{\textbf{1 day}}\right)}{\textbf{Consumption Basis ERU}_{\textbf{ADD}}\textbf{ (gpd/ERU}_{\textbf{ADD}}\textbf{)}} \quad \textbf{(4-14)}$$

Equation 4-15 shows the sample calculation of ERU_{MDD} with WUE Demand – Demand Basis, as follows:

$$\textbf{Projected Demand per ERU}_{\textbf{MDD}}\textbf{ without WUE} = \left(\textbf{2020 ERU Basis } \left[\frac{\textbf{gpd}}{\textbf{ERU}_{\textbf{ADD}}}\right]\right) * \left(\frac{\textbf{MDD}}{\textbf{ADD}}\textbf{ Peaking Factor}\right) \quad \textbf{(4-15 a)}$$

$$\begin{aligned}\textbf{Projected Demand per ERU}_{\textbf{MDD}}\textbf{ with WUE} &= \textbf{(2020 ERU Basis [gpd/ERU}_{\textbf{MDD}}\textbf{ without WUE])} \\ &+ \textbf{((2020 ERU Basis [gpd/ERU}_{\textbf{MDD}}\textbf{ without WUE]} * \textbf{0.95)} \\ &- \textbf{2020 ERU Basis[gpd/ERU}_{\textbf{MDD}}\textbf{ without WUE])} * \left(\frac{\textbf{Projected Year} - \textbf{2020}}{\textbf{2030} - \textbf{2020}}\right)\end{aligned} \quad \textbf{(4-15 b)}$$

where the 2020 ERU Basis is per **Table 4-12**, the peaking factors are per **Table 4-9**, and the WUE goal is to reduce demand per ERU by 5 percent from 2020 to 2030 (**Appendix E**).

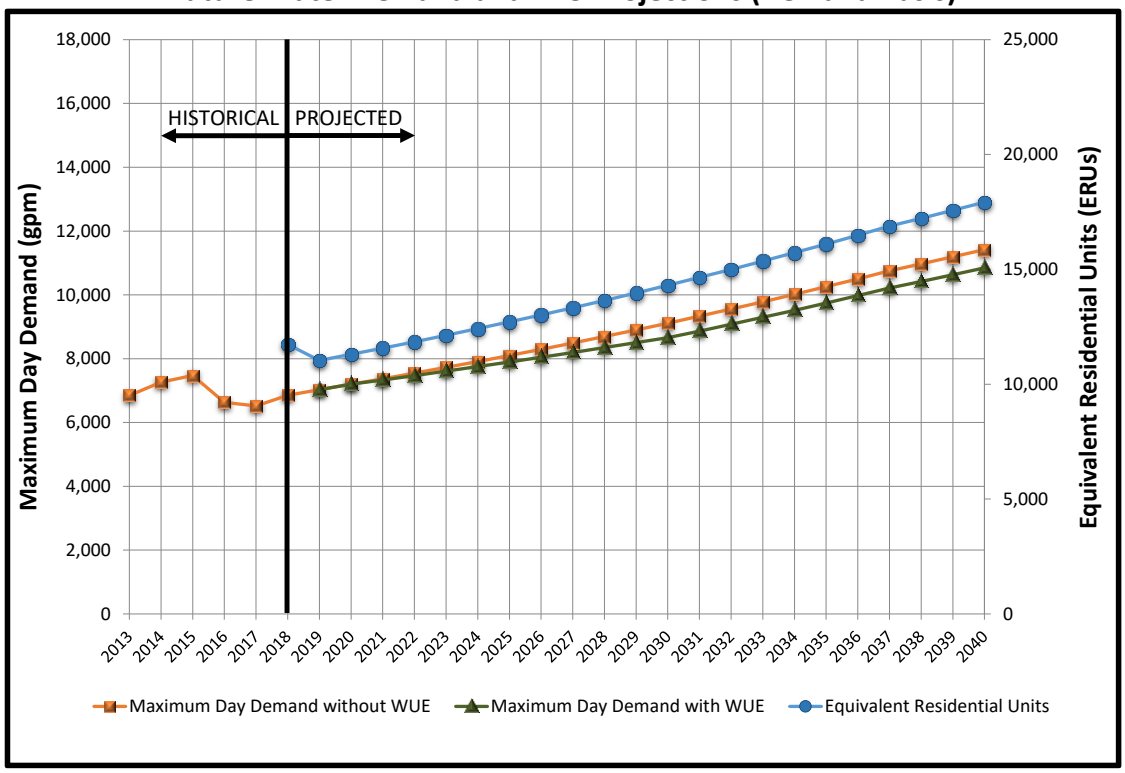
Equation 4-16 shows the sample calculation of ERUS – Demand Basis as follows.

$$\textbf{ERUs (Demand Basis)} = \frac{\textbf{(ADD [gpm])} * \left(\frac{\textbf{1440 minutes}}{\textbf{1 day}}\right)}{\textbf{Demand Basis ERU}_{\textbf{ADD}}\textbf{ (gpd/ERU}_{\textbf{ADD}}\textbf{)}} \quad \textbf{(4-16)}$$

The historical and projected maximum day water demand and demand-basis ERU data from **Tables 4-15** and **4-16** also are shown graphically in **Chart 4-13**. **Chart 4-13** will be used in **Chapter 7** to compare demand projections with source of supply availability.

Chart 4-13

Future Water Demand and ERU Projections (Demand Basis)



2019-2021 ACTUAL DEMANDS

Due to the COVID-19 pandemic and other factors, the development and approval of this Water System Plan (WSP) was delayed, and final approval was sought in 2022/2023. Accordingly, several years of additional demand data beyond the presented 2018 base year became available. Although budgetary constraints did not permit a full update of the WSP with the base year shifted from 2018 to 2021, a high-level comparison was performed between the actual 2019 to 2021 demands and the projected demands presented in **Table 4-15** and **Table 4-16** to demonstrate the validity of the WSP projections. The comparison is presented in **Table 4-17**.

Table 4-17

Comparison of Projected and Actual Demands 2019-2021

Year	Projected ADD (gpm)[1]	Actual ADD (gpm)[2]
2019	3,034	2,788
2020	3,106	2,783
2021	3,181	2,889

1 = Projected ADD without WUE, from Table 4-15.
2 = Total Water Produced and & Purchased (TP) from City's WUE Annual Performance Reports.

Table 4-17 shows that actual system demands are tracking somewhat below projected demands for the years 2019 through 2021. It should be noted that 2020 and 2021 demand data is likely not representative of long-term system demand trends due to the impacts of the COVID-19 pandemic, including closures at Central Washington University, one of the water system's largest customers. Additionally, an unusually extreme heat wave occurred in the June-July 2021 timeframe, which likely had an impact on system demands. When considering the trends shown in **Table 4-17** and the limitations of the dataset due to unusual/extreme events, the City has chosen not to adjust the projections shown in **Table 4-15** and **Table 4-16**.

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5 | POLICIES AND DESIGN CRITERIA

INTRODUCTION

The City of Ellensburg (City) operates and plans water service for City water system customers according to the design criteria, laws, and policies that originate from the seven sources listed in **Table 5-1** in descending order from those with the broadest to narrowest authority.

Table 5-1

Regulatory Agencies

Agency	Design Criteria/Laws/Policies
U.S. Department of Health & Human Services	Federal Regulations
U.S. Environmental Protection Agency	Federal Regulations
Washington State Department of Health	State Regulations
Washington State Department of Ecology	State Regulations
Kittitas County Board of Commissioners	County Regulations
Ellensburg City Council	City Regulations
American Water Works Association	Design Criteria

These laws, design criteria, and policies guide the City's operation and maintenance of the water system on a daily basis, and its planning for growth and improvements. Their overall objective is to ensure that the City provides high-quality water service at a minimum cost to its customers. They also set the standards the City must meet to ensure that its water supply is adequate to meet existing and future water demands. The system's ability to meet these demands is detailed in **Chapter 7**, and the recommended improvements are identified in **Chapter 9**.

The highest three governmental entities establishing policies and laws – the U.S. Government, Washington State, and the Kittitas County Board of Commissioners – establish requirements in statutes, regulations, or ordinances. The Ellensburg City Council adopt policies that cannot be less stringent or in conflict with those established by governments above them. The City's policies take the form of ordinances, memoranda, and operational procedures, many of which are summarized in this chapter.

The policies associated with the following categories are presented in this chapter.

- Supply
- Customer Service
- Facilities

- Finance
- Organization

SUPPLY POLICIES

Quality Protection

- The City will pursue steps to meet or exceed all water quality regulations and standards.
- The City will take all reasonable measures to protect its system and customers.

Cross-Connection Control

- The City has a responsibility to protect the public water system from contamination due to cross-connections. Cross-connections that can be eliminated will be eliminated. Cross-connections that cannot be eliminated must be controlled by an approved air-gap or backflow preventer that is commensurate with the assessed degree of hazard.
- The City has a cross-connection control program for eliminating cross-connections. A copy of the City's Cross-Connection Control Plan is contained in **Appendix F**.
- The City has staff that is certified for backflow prevention and testing.
- The City will comply with the backflow prevention assembly installation and testing requirements as indicated in Washington Administrative Code (WAC) 246-290-490, and as published in the most recent version of the *Cross Connection Control Manual Accepted Procedure and Practice*, Pacific Northwest Section – American Water Works Association (AWWA).

Quantity

- The City will plan for at least a 20-year projected use of its supply sources so that future water resource limitations can be handled effectively.
- The City will ensure that the capacity of the system, including wells, treatment systems, pump stations, storage, and transmission mains, is sufficient to meet the maximum day demands of the system.

Fire Flow

- The City will plan to provide the minimum fire flows as outlined in **Table 4-14**. Actual fire flow requirements, as determined by the local fire marshal, may differ from those shown based on such factors as proposed use and building size. Improvements to increase the available fire flow to meet actual fire flow requirements greater than those shown, in **Table 4-14**, shall be the responsibility of the developer.

Water Use Efficiency

- The City will promote the efficient and responsible use of water and will implement conservation measures during a water shortage.
- The City has established water use efficiency goals through a public process. Water use efficiency goals will be evaluated and reported annually and updated at least every 10 years as part of the Water System Plan (WSP) update.
- The City's Water Use Efficiency Program, which is contained in **Appendix E**, describes the City's current adopted program.

Regional Participation

- The City will continue to participate in regional supply management and planning activities (such as the Yakima Basin Integrated Plan) to protect the environment, reduce cost of service, increase reliability, improve water quality, and secure needed quantity.

CUSTOMER SERVICE POLICIES

Duty to Serve

The City has a duty to provide service to all new connections within the retail service area when the circumstances meet the following four threshold factors:

- The City has sufficient capacity to serve water in a safe and reliable manner.
- The service request is consistent with local plans and development regulations.
- The City has sufficient water rights to provide service.
- The City can provide service in a timely and reasonable manner.

The following section, **Water Service and Connection**, provides additional details regarding the City's duty to serve policies.

Water Service and Connection

- The City will strive to provide potable water service to all people within the City limits and designated retail water service area (i.e., where there are existing water mains), provided all policies related to service can be met.
- When a property is located within the corporate City limits or within the City's Urban Growth Area (UGA), and requests water service, the property shall be required to apply for, and make connection to, water, sewer, and electric services as a condition of the permit. However, if the property consists of a single-family dwelling unit, connection to less than all three services may be approved by the City if, at the time of application:

  - One or more of the utility services is not available to serve the property; or
  - The connection cost for a particular utility service would be excessive in comparison to the average cost for a similar service connection, as determined by the Public Works & Utilities Director.

- When the City enters into a utility extension agreement under Chapter 2.48 of the Ellensburg City Code (ECC) for properties beyond the corporate City limits, the following shall take place:
  - The property shall be required to utilize City water, sewer, or electric service;
  - The property shall be required to utilize City natural gas service for any new services; and
  - The property shall be required to construct all improvements required by the public works development standards. These improvements include water, sanitary sewer, surface water flow control and treatment, street improvements, which include street, sidewalk, curb and gutter, street sign, and street lighting improvements, and when applicable, natural gas and electrical utility improvements.
- All proposed developments within the City's water service area shall connect directly to the City's water system, unless deemed unfeasible by the City at the time of the request.
- Water system extensions required to provide water service to proposed developments shall be approved by the City and must conform to the City's adopted design criteria, and construction standards and specifications, as shown in the City's Water System Standards contained in **Appendix H**. All costs of the extension shall be borne by the developer, with the following exceptions:
  - In cases where larger mains are required, the developer may request payment from the City for the costs of oversizing the water main.
  - In cases where water main or service extensions are desired by the City, the developer may request payment from the City for the costs of extending the water main or services.
- When new buildings are to be erected on the site of old ones and it is desired to increase the size or change the location of the old service connection, or where a service connection to any premises is abandoned or no longer used, the Public Works & Utilities Director may cut out or remove such service connection, after which, should a service connection be required to said premises, a new service shall be placed only upon the owner making an application for a new tap in the regular manner.
- When water has been shut off for any cause, and is turned on again or allowed or caused to be turned on by the owner, no refund of rates will be made on account of its having been shut off, and the Public Works & Utilities Director may then shut off the water at the main, or remove a portion of the service connection in the street, and shall charge the actual cost of cutting out and reinstating the water supply.

- Water for construction purposes may be furnished by meter, and the payment for the same shall be made at the same time and in the manner as other meter rates. All water for building or construction purposes shall be charged against the property upon which it is used, and the owner thereof.
- The City will install a temporary meter upon request. The meters will be considered temporary until such time that the service is used for its intended purpose or occupancy of the facility served, which shall be considered permanent. If a meter or appurtenances requires maintenance or moving vertically or horizontally when it becomes permanent, the City will perform required work and the permit holder will be billed for the work.
- When several houses, buildings, or premises are supplied or are to be supplied with water through one service connection with the City main, the Public Works & Utilities Director may, in his/her discretion, either decline to furnish water until separate services are provided or the service is metered. In case any one of the owners or occupants becomes delinquent or violates any of the provisions of this chapter, the Public Works & Utilities Director may shut off the original or main service until all delinquent and unpaid charges and other charges are paid, and the premises supplied by the main service shall be held responsible for all delinquent and unpaid charges against any one or all of the separate owners or users. No change of ownership or occupation shall affect the application of this section.
- It is unlawful for any person to waste water or allow it to be wasted by imperfect or leaking stops, valves, pipes, closets, faucets, or other fixtures, to use water closets without self-closing valves, to allow any pipes or faucets to run open to prevent the service from freezing or for any other reason, to use the water for purposes other than those named in the application upon which rates for water are based or for any other purpose than that for which his utility service agreement provides, or to use it in violation of any provision of this chapter.
- When the water utility has been requested to attach a meter to pipes within a building or buildings occupied by several tenants, and it is divided without alteration being made in the plumbing that is divided, written notice and request to make such necessary alterations shall be given by the water department to the owner or occupant. In the event of failure to comply with said notice within 10 days after its date, the supply may be withdrawn until the alteration shall have been made.
- The developer shall submit a water plan designed by a registered professional engineer licensed in the State of Washington. The licensed professional engineer shall certify that the design and construction of the water distribution system meets or exceeds all applicable standards as required by section one (Water Standards) of the City's Public Works Development Standards.
- The owner shall agree to pay all costs of design, engineering, and construction of the extension of water, sanitary sewer, and required street improvements associated with the project and, when included in the project, natural gas and electrical services from the City. The design, engineering, and construction of the required public improvements shall be performed according to City standards and conform to plans reviewed and approved by the City's Public Works & Utilities Director.

- The owner shall secure and obtain at the owner's sole cost and expense all permits, easements, and licenses necessary to construct the extension.
- If requested by the City, the owner shall agree to dedicate all capital facilities constructed as part of the water and sanitary sewer extension (such as water or sewer main lines, pump stations, wells, etc.) at no cost to the City, upon the completion of construction, approval, and acceptance by the City.
- Obtaining the necessary permits for water main extension will be the responsibility of the developer.
- Requests for new service will be evaluated based on the water system capacity analyses contained in **Chapter 7** and will consider pressure and fire flow availability. If the City has water capacity available to serve the property, a certificate of water availability shall be issued by the City and will be valid for six months from the date of issuance.
- When time extensions are denied, the disputes are handled through the rules guiding the permit process. Disputes can be brought to the City Council for discussion.
- Where franchises, easements, or deeds to property are required, it shall be the responsibility of the developer to obtain and provide the same and submit appropriate documentation to the City.
- The developer shall notify the City 48 hours prior to connection between the City's existing system and the new water distribution system.
- The City will perform all tie-ins to the existing City water distribution system where shutdown of the water main results in loss of service to customers. Prior to that tie-in, the developer shall be required to excavate, shore, and provide all material to City crews that are necessary to perform the tie-in, at the developer's cost.

  Also, the developer shall be required to perform a live tap if the connection is not at an existing connection point on the water main, and it shall be the developer's option to utilize a private tapping service or to utilize City crews to perform the live tap, at the developer's cost.
- Water main extension projects shall be conveyed to the City for operation and maintenance upon final project acceptance.
- For existing platted lots, the City may enter into Latecomer Agreements with developers, prior to installation of water mains and appurtenances, to provide for the reimbursement to developers for a pro-rata share of the cost of construction pursuant to Ellensburg City Code as now exists or as may hereafter be amended.

Annexations

- Areas annexed without existing municipal water supply will be served by the City, provided the area is within the water service area and the area is not being served by another water purveyor at the time of annexation.
- Areas annexed with existing municipal water supply must meet City water standards.

- The City will follow State guidelines in the assumption of facilities in annexation areas.
- The owner of the property requesting water service shall provide the City with an irrevocable power of attorney to allow a City representative to sign a petition for annexation on behalf of the property owner or the property owner shall agree to sign a petition for annexation of the owner's property when requested to do so by the City. This provision shall only be exercised by the City if the owner's property is within an area that the City is allowed by law to annex (including, but not limited to, an urban growth area).

Temporary Services

- No temporary service is allowed, unless there is a bona fide health emergency.

Emergency Service

- Compliance with standards may be temporarily deferred for emergency water service.
- Policy criteria may be waived for emergency service.

Planning Boundaries

- The City's retail water service area and existing and future water service areas will be designated in the current WSP and will be consistent with the *Kittitas County Comprehensive Plan.*
- The City will follow State of Washington guidelines in assuming portions of adjacent water systems as a result of annexation.

Satellite System Management

- The City currently is not planning on providing satellite system management or ownership services within and adjacent to the City's existing service area.

Private Wells

The City lies wholly within Water Resource Inventory Area (WRIA) 39 – Upper Yakima. WRIA 39 is not included in the WRIAs that are regulated under the Streamflow Restoration Act, Chapter 90.94 RCW (Revised Code of Washington). Due to impacts on senior water right holders, the drilling and use of new permit-exempt wells, as described in RCW 90.44.050, without mitigation, is not authorized.

All new uses of groundwater, even for a single-family residence, must be mitigated.

If the City determines that water service from the City's water system is unfeasible, the property owner may submit a request for land subdivision or building permit for new construction reliant on a mitigated use of groundwater. Use of groundwater under these circumstances by the property owners shall be limited by the mitigation water procured.

In order to subdivide property or secure building permits for connections to be served by mitigated groundwater, the property owner must prove that they have obtained sufficient mitigation water, under a water budget neutral determination or from a water bank, to fully cover the groundwater use anticipated for the proposed project.

FACILITY POLICIES

This section describes the planning criteria and policies used to establish an acceptable hydraulic behavior level and standard of quality for the water system. Additional criteria are contained in the City's Water System Standards, a copy of which is included in **Appendix H**.

Minimum Standards

- All proposed developments within the City's existing and future service areas shall conform to the City's adopted design criteria, construction standards, and specifications, in addition to the requirements of governmental agencies.

Pressure

- The City will endeavor to maintain a minimum pressure of 40 pounds per square inch (psi) at customer meters during normal demand conditions, excluding a fire or emergency.
- The City will endeavor to maintain a maximum pressure of 100 psi in the water mains during normal demand conditions. Individual residences are responsible for reducing pressures over 80 psi.
- The City will endeavor to maintain a minimum pressure of 30 psi at customer meters during peak hour demand conditions, excluding a fire or emergency.
- During fire flow plus maximum day demand or other emergency conditions, the minimum pressure at customer meters and throughout the remainder of the system is 20 psi.
- During a failure of any part of the system, the maximum pressure will not exceed 150 psi.

Velocities

- During normal demand conditions, the velocity of water in a water main should be less than 5 feet per second (fps).
- During emergency conditions such as a fire, and for design purposes, the City will endeavor to ensure the velocity of water in a water main does not exceed 8 fps.

Storage

- Storage within the distribution system must be of sufficient capacity to supplement supply when system demands are greater than the supply capacity (equalizing storage),

and still maintain sufficient storage for proper pump operation (operational storage), fire suppression (fire flow storage), and other emergency conditions (standby storage).

- Equalizing storage must be provided when source pumping capacity cannot meet peak hour demands. Equalizing storage must be available at 30 psi to all service connections.
- Standby storage must be located above an elevation that yields a 20 psi service pressure to all services in the zone under peak hour demand conditions with the largest source out of service.
- The City will provide sufficient standby storage for an emergency condition in which a major supply source is out of service. The volume of storage will be sufficient to maintain uninterrupted supply equivalent to one day of maximum day demands. Standby storage will not be less than 200 gallons per equivalent residential unit.
- Fire suppression storage must be located above an elevation that yields a 20 psi service pressure to all services in the zone under maximum day demand conditions.
- The City will provide sufficient fire suppression storage for a fire condition equal to the system's maximum fire protection water demand and required duration.
- The City's supervisory control and data acquisition (SCADA)/telemetry system will monitor high-water level and low water level conditions and will generate alarms to be received by operations and maintenance personnel and after-hours standby personnel.
- A water level indicator will be maintained on the City's SCADA/telemetry system.
- Storage facilities will be located in areas where they will satisfy the following requirements:
    1. Minimize fluctuations in system pressure during normal demands.
    2. Maximize use of storage facilities during fires and maximum demands.
    3. Improve the reliability of supply to the City.

Transmission and Distribution

- Where practical, transmission and distribution mains will be looped to increase reliability and fire flow capacity and decrease head losses.
- All mains will comply with the generally recognized design criteria from AWWA and Washington State Department of Health guidelines that follow.
    1. All new construction will be in accordance with the City of Ellensburg Water System Standards, a copy of which is included in **Appendix H** of this WSP.
    2. Distribution system design assumes that adequately sized service lines will be used. All residential service lines will be ¾ inch or larger. Service lines will be the same size as the meter or larger.
    3. The minimum diameter of distribution mains will be 8 inches, unless otherwise approved by the City. All new water mains will be ductile iron pipe, unless corrosivity tests recommend an alternate material.

4. All new distribution mains will be sized by hydraulic analysis.
5. All new mains providing fire flow will be sized to provide the required fire flow at a minimum residual pressure of 20 psi and a maximum pipeline velocity of 8 fps during maximum day demand conditions. In general, new water mains that will carry fire flow in residential areas shall be a minimum of 8 inches in diameter and looped for multi-family residential developments. New water mains in commercial, industrial, and school areas shall be a minimum of 12 inches in diameter and looped.
6. Valve installations will satisfy the following criteria:
    a. Zone valves will be located at all pressure zone boundaries to allow future pressure zone realignment without the need for additional pipe construction.
    b. Isolation valves will be installed in the lines to allow individual pipelines to be shut down for repair or installation of water appurtenances (tee for a fire hydrant, a valve, or other appurtenances that cannot be connected by direct tap). The distance between isolation valves will not exceed 600 feet. A minimum of three valves will be provided per cross and two valves per tee.
    c. Air and vacuum release valves will be placed at all high points, or "crowns," in all pipelines. Water lines shall be constructed so air release valves may be installed in convenient locations.
    d. Blow-off assemblies shall be located at main dead ends where there is not a fire hydrant. If a water main extension is expected in the future, the blow-off assembly shall have a valve the same size as the main with concrete thrust blocking.
7. Individual pressure reducing valves must be installed in all customer service lines in the City where the pressure exceeds 80 psi. Pressure reducing valves protect customers from high pressures in case a mainline pressure reducing station fails and are the property of the customer. The customer is responsible for the maintenance of individual pressure reducing valves.
    a. Fire hydrant installations will satisfy the criteria shown in Table A-III-B-1 from the 1997 Uniform Fire Code. Kittitas Valley Fire and Rescue will review all proposed fire hydrant installations to ensure the correct number and spacing of fire hydrants for each project.

Supply and Booster Pump Stations

- All existing and future booster pump stations will be modified/constructed to comply with the following minimum standards:
    1. All structures will be non-combustible, where practical.
    2. All buildings will have adequate heating, cooling, ventilation, insulation, lighting, and workspaces necessary for on-site operation and repair.

3. Sites will be fenced to reduce vandalism and City liability, where appropriate.
4. Each station will be equipped with a flow meter and all necessary instrumentation to assist personnel in operating and troubleshooting the facility.
5. Emergency power capability will be provided to at least one booster pump station supplying each pressure zone.

- Pumps will be operated automatically, with flexibility in pump start/stop settings.
- Stations will be operated with the provision for at least two methods of control to minimize system vulnerability.
- Manual override of stations will be provided for using the City's SCADA/telemetry system.
- Stations will be monitored with alarms for the following conditions.
    1. Pump started manually (indicator light for pump started automatically)
    2. Power phase failure
    3. Power outage/generator running
    4. Communication failure
    5. Water in structure (flood)
    6. Low suction pressure
    7. High and low discharge pressure
    8. Intrusion
    9. Pump failure
    10. Smoke detector
    11. Heat detector
- Stations will have the following indicators:
    1. Local flow indication and totalizing.
    2. Flow indication and totalizing to the City's SCADA/telemetry system.
    3. Recording of combined supply flow to the system.
    4. Discharge pressure gauges.
    5. Motor amperage gauges.
    6. Alarm indicators for all items included under station monitoring.
    7. Appropriate hazardous material signage on exterior of buildings.
- Booster pump stations will be placed wherever necessary to fulfill the following criteria:
    1. Provide supply redundancy to a pressure zone.
    2. Improve the hydraulic characteristics of a pressure zone.

3. Maximize storage availability and transmission capacity.
4. Improve water quality (i.e., increase circulation) and quantity.

Pressure Reducing Stations

- All pressure reducing valves will be placed in vaults that are large enough to provide ample workspace for field inspection and valve repair.
- Vaults will drain to daylight or be equipped with sump pumps to prevent vault flooding.
- Pressure relief valves will be provided on the low pressure side of the pressure reducing valves to prevent system over pressurization in case of a pressure reducing valve failure.

Supervisory Control

- The City's supervisory control system must be capable of efficiently operating the water system's components in accordance with this WSP, and in response to reservoir levels, system pressures, abnormal system conditions, and water costs.

Maintenance

- Facility, equipment, and infrastructure breakdowns are given the highest maintenance priority. Emergency repairs will be made even if overtime labor is involved.
- Equipment will be scheduled for replacement when it becomes obsolete and as funding is available.
- Worn parts will be repaired, replaced, or rebuilt before they represent a high failure probability.
- Spare parts will be stocked for all facility, equipment, and infrastructure items whose failure will impact the ability to meet other policy standards.
- Equipment and infrastructure that is out of service will be returned to service as soon as possible.
- A preventive maintenance schedule will be established for all facilities, equipment, infrastructure, and processes.
- Tools will be obtained and maintained to repair all items whose failure will impact the ability to meet other policy standards.
- Dry, heated shop space will be available for maintenance personnel to maintain facilities.
- All maintenance personnel will be trained to efficiently perform their job duties.
- Maintenance will be performed by the Water Division staff and supervised by the Water Foreperson who oversees maintenance activities.
- Written records and reports showing operation and maintenance history will be maintained for each facility and item of equipment.

Reliability

- Supply to the service area will be pursued to meet maximum day demand during a reasonable worst-case supply system failure.
- System planning will determine whether connections with nearby systems will be reliable or available for use in emergency situations.
- System demand planning will use historical demand data and assume all available land will be developed at saturation.

Vulnerability

- Supply vulnerability analyses will determine a reasonable worst-case failure for the water system. The analyses will consider the following conditions:
    1. Failure of the single largest source of supply.
    2. Reservoir out of service.
- Storage vulnerability analyses will determine a worst-case failure scenario for the water system. The analyses will consider the following conditions:
    1. Maximum day demand with simultaneous fire.
    2. Peak hour demand with the largest source of supply out of service.

Joint Use

- All joint-use facilities (with other public water systems) must comply with City policies and design standards.
- All joint-use facilities will be maintained by the Water Division.
- Joint-use facilities will be pursued only in those areas that improve reliability or reduce operating costs.

FINANCIAL POLICIES

General

- The City will set rates that comply with standards established by AWWA.
- Rates and additional charges established for the City should be:
    1. Cost-based rates that recover current, historical, and future costs associated with the City's water system and services;
    2. Equitable charges to recover costs from customers commensurate with the benefits they receive; and
    3. Adequate and stable source of funds to cover the current and future monetary needs of the City.

- Existing City customers will pay the direct and indirect costs of operating and maintaining the facilities through user rates. In addition, the user rates will include debt service incurred to finance the capital assets of the City.
- New customers seeking to connect to the water system will be required to pay a connection charge for an equitable share of the historical cost of the system and for the system's capital improvement program (CIP). Connection charge revenues will be used to fund the CIP in conjunction with rate revenue.
- New and existing customers will be charged for extra services through separate ancillary charges based on the costs to provide the services. Ancillary charges can increase equitability and operating efficiency by discouraging unnecessary demand for services. The charges should be reviewed regularly and updated annually based on increases in the Consumer Price Index. Revenue from ancillary charges will be used to finance annual operations and maintenance.
- The City will maintain information systems that provide sufficient financial and statistical information to ensure conformance with rate setting policies and objectives.
- User charges must be sufficient to provide cash for the expenses of operating and maintaining the system. To ensure the fiscal and physical integrity of the utility, an amount also should be set aside each year and retained for capital expenditures.
- A Working Capital Reserve will be maintained to cover unanticipated emergencies and fluctuations in cash flow.
- Water rates will strive to equitably charge customers with different service requirements based on the cost of providing the water service. Service requirements relate to the total volume of water used, peak rates of use, and other factors.
- Water rates will be tiered to encourage the efficient use of water.
- Fees and charges are calculated based on the service provided. Charges may differ based on the location of the service, inside or outside of the City Limits, as customers will be held responsible for fees associated with extending utilities to outside of the City limits.

Connection Charges

- Owners of properties that have not been assessed, charged, or borne an equitable share of the cost of the water system will pay one or more of the following connection charges prior to connection to a water main:
    - Plant Investment Fee: A plant investment fee shall be assessed for each new water connection. The basis for the plant investment fee shall be the water meter size and shall provide the City with funds to construct major water utility facilities and equipment.
    - Meter Connection Fee: A meter connection fee shall be assessed for each new water connection. The basis of the meter connection fee shall be the water meter size and to provide means by which water service customers bear an

equitable share of the cost of construction and replacement of major water utility facilities and equipment.

- Connection Charges for those outside of City limits:
  - Utility Connection Charges: As a part of the City's Utility Extension Agreement, the owner of the property requesting the extension of utility services will be required to pay a connection charge, in addition to any costs of construction, as a condition of connecting to the City utility system at the rate schedules applicable at the time the owner requests to actually connect his/her property to the system.

ORGANIZATIONAL POLICIES

Staffing

- Personnel certification will comply with State standards.
- The Water Division will promote staff training.

Relationship with Other Departments

- The Finance Department is responsible for customer billing, payment collection, project cost accounting, and fund activity reporting.
- The Public Works & Utilities Department is responsible for construction and oversight of capital improvement projects.
- The Public Works & Utilities Department is responsible for water system development standards and review and inspection of new infrastructure built by private developers.
- Kittitas Valley Fire and Rescue uses water utility facilities for fire protection and establishes fire flow requirements. Kittitas Valley Fire and Rescue also is responsible for emergency responses to hazardous events at water system facilities.
- The Police Department is responsible for enforcing violations of City water ordinances.
- Kittitas Valley Fire and Rescue is responsible for fire hydrant testing.

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6 | WATER SOURCE AND QUALITY

INTRODUCTION

The two basic objectives of a municipal water supply system are to provide a sufficient quantity of water to meet customer usage demands and to provide high quality water. **Chapter 7** discusses the City of Ellensburg's (City) ability to supply a sufficient quantity of water and identifies future source requirements. This chapter discusses the City's existing water sources, water rights, water quality regulations, and water quality monitoring results.

EXISTING WATER SOURCES AND TREATMENT

Water Sources

The City is served by multiple ground water sources located within and outside its water system service area. They include the City Well, Route 10 Well, Hayward Well, Kiwanis Park Well, Whitney Well, Anderson Well, Memorial Well, Rodeo Well, Airport Well Nos. 1, 2, and 3, Brooklane Well, Mt. Stuart Well, Illinois Well, and Lions Park/Mt. View Park Well. The ground water sources of supply are served by aquifers that underlie the Yakima River Watershed within the Kittitas Structural Basin (Jones, Vaccaro, & Watkins, 2006[1]). Terminology for the hydrostratigraphic units (lumping of geologic units based on common hydrogeologic characteristics) used in this Water System Plan (WSP) are consistent with those identified by Jones, et al. (2006). These ground water sources are responsible for meeting all the City's existing and projected potable municipal water supply demand, except for the Anderson and Lions Park/Mt. View Park Wells, which are used independently for irrigation of City parks.

City Source Aquifers – Overview

The aquifers tapped by the City for municipal supply include aquifers found within the recent alluvium (Hydrogeologic Unit 1) and the deeper Ellensburg Formation (Hydrogeologic Unit 3).

Alluvial Aquifer

The alluvium unit occurs at a shallow depth beneath the floodplain of the Yakima River. This unit is composed primarily of cobbles, gravel, and sand with less thin and discontinuous fine-grained sediments. The maximum thickness of the alluvial unit within the Kittitas Basin is 100 feet, while the alluvium in the vicinity of the City Well is less than 25 feet thick (Jones, et al., 2006). The aquifer contained within the alluvium unit is generally unconfined and is in direct hydraulic continuity with the Yakima River. Aquifer recharge is from infiltration through the land surface (precipitation, snowmelt, irrigation system leakage, and irrigation return flow), lateral groundwater inflow from adjacent aquifers, and exchange of water with the Yakima

[1] Jones, M.A., Vaccaro, J.J., & Watkins, A.M. (2006). *Hydrogeologic framework of sedimentary deposits in six structural basins, Yakima River Basin, Washington*. U.S. Geological Survey Scientific Investigations Report 2006-5116, 24 p.

River. Natural aquifer discharge is to the Yakima River, but this can be reversed to allow river water to recharge the aquifer depending on releases from the upriver dams, which are part of the Yakima Basin Project, and groundwater pumping in the vicinity. The alluvial aquifer within the vicinity of the City Well (approximately 6 miles northwest of the City) is very productive, with the well yield at that location exceeding 1,300 gallons per minute (gpm).

Ellensburg Formation Aquifer

The Ellensburg Formation aquifer occurs within the Ellensburg area and lies beneath the unconsolidated deposits (United States Geological Survey (USGS) Hydrogeologic Unit 2) and on top of the Columbia River Basalt Group bedrock. The aquifers within this hydrostratigraphic unit typically are found within the coarser-grained layers of sand, gravel, and sandstone. Finer-grained silt, clay, and siltstone found within this hydrostratigraphic unit do not transmit water effectively. The maximum thickness of the Ellensburg Formation in the Kittitas Basin is 2,040 feet, while the Ellensburg Formation in the vicinity of the City's wells is between approximately 200 and 1,200 feet thick (Jones, et al., 2006). The Ellensburg Formation aquifers are confined and receive their recharge as mountain-front recharge, where the Ellensburg Formation aquifers are exposed at the ground surface, from upward groundwater flow from the Columbia River Basalt Group, and as regional-scale downward leakage through the overlying hydrostratigraphic units. Natural discharge from the Ellensburg Formation is to the south beneath the City and vertically upward through shallower aquifer units to the Yakima River (Vaccaro, et al., 2009[2]).

City Source Aquifers – Reliability

It is common for ground water wells to show decreased production over time, which is the case for many of the City's wells. Rehabilitating wells can be a tool that is used to try to regain lost capacity. However, rehabilitation usually does not return the production capacity back to the original capacity when the well was first drilled. The ultimate solution to a well whose production has dropped off too much is to drill an additional or replacement well.

Alluvial Aquifer

The alluvial aquifer is reliable from a physical standpoint due to its hydraulic connection to the Yakima River. However, this close connection to the river has caused the Washington State Department of Health (DOH) to limit when the City Well can be used due to concerns about ground water under the influence of surface water (GWI). If a determination of GWI was made for the City Well, the City would have to treat the water as if it was a surface water source, which is more expensive than ground water treatment. Also, shallow ground water is more

[2] Vaccaro, J.J., Jones, M.A., Ely, D.M., Keys, M.E., Olsen, T.D., Welch, W.B., & Cox, S.E. (2009). *Hydrogeologic framework of the Yakima River basin aquifer system, Washington*. U.S. Geological Survey Scientific Investigations Report 2009–5152, 106 p.

susceptible to contamination from human actions. The City's wells tapping the alluvial aquifer include the City Well and Lions Park/Mt. View Park Well.

City Well

The City Well was completed in approximately August 1913 to a total depth of 23 feet. No Washington State Department of Ecology (Ecology) Unique Well ID is affixed to the structure. No information is contained on the water well report about the well completion, except to say that it is an infiltration trench. Depth to water was approximately 11 feet after original construction.

Lions Park/Mt. View Park Well

The Lions Park/Mt. View Park Well was completed in 1982 to a total depth of 22 feet. No Ecology Unique Well ID is affixed to the well casing. The well contains a 48-inch-diameter concrete casing running from the wellhead to a depth of 21 feet. The well is completed with a filter pack from a depth of 12 to 22 feet. The casing is perforated with drilled holes to obtain water from the alluvial aquifer. Static water level as measured in June 1982 was 4 feet below the top of the well casing.

Ellensburg Formation Aquifers

The Ellensburg Formation aquifers are regional in nature. The City's wells tapping the Ellensburg Formation aquifer include the Route 10 Well, Hayward Well, Whitney Well, Kiwanis Well, Rodeo Well, Brooklane Well, Airport Well No. 1, Airport Well No. 2, Airport Well No. 3, Anderson Well, Mt. Stuart Well, and Illinois Well. The thickness of the Ellensburg Formation sediments, combined with the static water level being near the ground surface, provides substantial available drawdown, which is what allows for high production rates from the wells, even though the specific capacities of those wells are not high. The City should continue to monitor the static water level in the Ellensburg Formation aquifers. If declining water levels are observed from year to year, that would suggest that the water is being withdrawn faster than it can recharge and could point to production problems in the future.

Route 10 Well

The Route 10 Well was completed in September 2009 to a total depth of 818 feet. The Ecology Unique Well ID affixed to the well casing is AAS 152. The well contains a 20-inch-diameter steel casing running from the wellhead to a depth of 401 feet. The well is completed with a filter pack and a 12-inch pipe size well screen assembly that is exposed to the formation from a depth of 393 to 798 feet within the Ellensburg Aquifer. The stainless steel wire-wrapped screen has 0.080-inch openings, and the total screen length over the exposed interval is 155 feet, excluding the pressure relief screen. Static water level as measured on August 25, 2009 was approximately 9 feet above the top of the well casing (shut-in pressure of 4 pounds per square inch (psi)). The top of the riser pipe is at a depth of 369 feet in the well. The well was test pumped in August 2009 at a rate of 1,190 gpm for 72 hours, which caused 262 feet of drawdown. The initial specific capacity is calculated to be 4.5 gpm per foot.

Hayward Well

The Hayward Well was completed in June 2009 to a total depth of 1,028 feet. The Ecology Unique Well ID affixed to the well casing is AAS 252. The well contains a 20-inch-diameter steel casing running from the wellhead to a depth of 600 feet. The well is completed with a filter pack and a 12-inch pipe size well screen assembly that is exposed to the formation from a depth of 582 to 1,022 feet within the Ellensburg Aquifer. The stainless steel wire-wrapped screen has 0.060-inch openings, and the total screen length over the exposed interval is 160 feet, excluding the pressure relief screen. Static water level as measured on June 5, 2009 was 123 feet below the top of the well casing. The top of the riser pipe is at a depth of 551 feet in the well. The well was test pumped in June 2009 at a rate of 1,800 gpm for 24 hours, which caused 364 feet of drawdown. The initial specific capacity is calculated to be 4.9 gpm per foot.

Whitney Well

The Whitney Well was completed in April 1988 to a total depth of 761 feet. The Ecology Unique Well ID affixed to the well casing is AFK 916. The well contains a 20-inch-diameter steel casing running from the wellhead to a depth of 573 feet and a 12-inch-diameter steel casing from a depth of 468 feet to a depth of 757 feet. The well is completed with a filter pack and a 6-inch pipe size well screen assembly that is exposed to the formation and torch cut from a depth of 488 to 757 feet within the Ellensburg Aquifer. Static water level as measured on April 26, 1988 was approximately 29 feet below the top of the well casing. The top of the riser pipe is at a depth of 468 feet in the well. The well was test pumped in April 1988 at a rate of 1,200 gpm for 6 hours, which caused 165 feet of drawdown. The initial short-term specific capacity is calculated to be 7.3 gpm per foot.

Kiwanis Well

The Kiwanis Well was completed in October 1987 to a total depth of 617 feet. The Ecology Unique Well ID affixed to the well casing is ABR 092. The well contains a 20-inch-diameter steel casing running from the wellhead to a depth of 575 feet and a 12-inch-diameter steel casing from a depth of 398 feet to a depth of 595 feet. The well is completed with a filter pack and a 12-inch pipe size well screen assembly that is exposed to the formation from a depth of 410 to 595 feet within the Ellensburg Aquifer. The water well report identifies that a stainless steel wire-wrapped screen is used (although length and opening size is absent), in addition to the pipe being perforated from a depth of 410 to 595 feet. Static water level as measured on October 11, 1987 was approximately 39 feet below the top of the well casing. The top of the riser pipe is at a depth of 398 feet in the well. The well was test pumped in October 1987 at a rate of 1,200 gpm for 24 hours, which caused 139 feet of drawdown. The initial specific capacity is calculated to be 8.6 gpm per foot.

Rodeo Well

It is unknown when the Rodeo Well was completed to a total depth of 1,205 feet. No Ecology Unique Well ID is affixed to the well casing. Well construction details are not clear. The casing is perforated from a depth of 232 to 1,205 feet within the Ellensburg Aquifer. The well was test

pumped after completion at a rate of 1,000 gpm for 24 hours, which caused approximately 195 feet of drawdown. The initial specific capacity is calculated to be 5.1 gpm per foot.

Memorial Well

The Memorial Well was completed in 1931 to a total depth of 303.5 feet. No Ecology Unique Well ID is affixed to the well casing. The well contains a 12-inch-diameter steel casing running from the wellhead to a depth of 189 feet and a 10-inch-diameter steel casing runs from 189 feet to 282 feet, with an open hole to a depth of 304 feet. The well casing is slotted from 23 to 282 feet within both the alluvial aquifer and the Ellensburg Aquifer. In January 1932, the well was flowing artesian in nature and the shut-in pressure was 1 psi (2.31 feet above the well head). The well was test pumped in December 1931 at a rate of 700 gpm for an undetermined length, which caused 60 feet of drawdown. The initial specific capacity is calculated to be 11.7 gpm per foot.

Brooklane Well

The Brooklane Well was completed in April 1972 to a total depth of 1,000 feet. No Ecology Unique Well ID is affixed to the well casing. The well contains a 20-inch-diameter steel casing running from the wellhead to a depth of 200 feet and a 12-inch-diameter casing running from a depth of 180 to 1,000 feet. The 12-inch-diameter casing is perforated from a depth of 600 to 890 feet. Inside the 12-inch casing is a 10-inch well screen assembly with 4 screen sections situated between a depth of 635 feet and 875 feet. The stainless steel wire-wrapped screen has 0.020- to 0.040-inch openings, and the total screen length over the exposed interval is 70 feet. Static water level as measured on April 14, 1972 was approximately 92 feet below the top of the well casing. The well was test pumped in April 1972 at a rate of 1,775 gpm for 24 hours, which caused 90 feet of drawdown. The initial specific capacity is calculated to be 20 gpm per foot.

Airport No. 1 Well

The Airport No. 1 Well was started in approximately April 1943 and drilled to a total depth of 730 feet. No Ecology Unique Well ID is affixed to the well casing. The well contains a 12-inch-diameter steel casing running from the wellhead to a depth of 290 feet, a 10-inch-diameter steel casing running from a depth of 283 feet to a depth of 580 feet, and an 8-inch-diameter steel perforated liner from a depth of 580 feet to a depth of 660 feet. The well is completed as a natural completion with the 8-inch casing being perforated. Static water level as measured before the original pumping test was approximately 68 feet below the top of the well casing. The well was test pumped after completion at a rate of 600 gpm for 10 hours, which caused 78 feet of drawdown. The initial specific capacity is calculated to be 7.7 gpm per foot.

Airport No. 2 Well

The Airport No. 2 Well was started in approximately April 1943 and drilled to a total depth of 420 feet. No Ecology Unique Well ID is affixed to the well casing. The well contains a

10-inch-diameter steel casing running from the wellhead to a depth of 326 feet and an 8-inch-diameter steel casing from the wellhead to a depth of 420 feet. The well is completed as a natural completion with the 8-inch casing being perforated between a depth of 317 and 420 feet. Static water level as measured before the original pumping test was approximately 64 feet below the top of the well casing. The well was test pumped after completion at a rate of 190 gpm for 4 hours, which caused 146 feet of drawdown. The initial short-term specific capacity is calculated to be 1.3 gpm per foot.

Airport No. 3 Well

The Airport No. 3 Well was completed in November 2011 to a total depth of 771 feet. The Ecology Unique Well ID affixed to the well casing is BCF 685. The well contains a 16-inch-diameter steel casing running from the wellhead to a depth of 335 feet and a 12-inch-diameter steel casing from the wellhead to a depth of 730 feet. The well is completed as a natural completion with an 8-inch pipe size well screen assembly that is exposed to the formation from a depth of 715 to 720 feet and 741 to 760 feet within the Ellensburg Aquifer. The stainless steel wire-wrapped screen has 0.080-inch openings, and the total screen length over the exposed interval is 20 feet. Static water level as measured on November 28, 2011 was approximately 168 feet below the top of the well casing. The top of the riser pipe is at a depth of 675 feet in the well. The well was test pumped in November 2010 at a rate of 692 gpm for 72 hours, which caused 267 feet of drawdown. The initial specific capacity is calculated to be 2.6 gpm per foot.

Anderson Well

The Anderson Well was completed in August 1931 to a total depth of 400 feet. No Ecology Unique Well ID is affixed to the well casing. The well contains a 14-inch-diameter steel casing running from the wellhead to a depth of 200 feet, a 12-inch-diameter steel casing running from a depth of 200 to 300 feet, and a 10-inch-diameter steel casing running from a depth of 300 to 400 feet. No information is contained on the water well report about the well completion. The well was flowing artesian when originally constructed with a shut-in pressure of 3 psi (7 feet above the wellhead).

Mt. Stuart Well

The Mt. Stuart Well was completed in approximately 1977 to a total depth of 900 feet. No Ecology Unique Well ID is affixed to the well casing. The well contains a 16-inch-diameter steel casing running from the wellhead to a depth of 400 feet and a 12-inch-diameter casing with screened intervals running from a depth of 400 to 900 feet. The well is completed with gravel outside of the casing to 30 feet below ground surface. The well screen assembly is exposed to the formation from a depth of 480 to 890 feet within the Ellensburg Aquifer. Static water level as measured on September 24, 2003 was approximately 38 feet below the top of the well casing. The well was test pumped in December 1977 at a rate of 1,500 gpm for 24 hours, which caused 240 feet of drawdown. The initial specific capacity is calculated to be 6.3 gpm per foot.

Illinois Well

The Illinois Well was completed in September 2019 to a total depth of 1,007 feet. The Ecology Unique Well ID affixed to the well casing is AAR 986. The well contains a 20-inch-diameter steel casing running from the wellhead to a depth of 400 feet. The well is completed with a filter pack and a 12-inch pipe size well screen assembly that is exposed to the formation from a depth of 400 to 1,007 feet within the Ellensburg Aquifer. The stainless steel wire-wrapped screen has 0.060-inch openings, and the total screen length over the exposed interval is 188 feet, excluding the pressure relief screen. The design capacity of the well screen installed is 8,460 gpm at the industry standard water entrance velocity of 0.1 feet per second. Static water level as measured on August 6, 2019 was approximately 80 feet below the top of the well casing. The top of the riser pipe is at a depth of 374 feet in the well. The well was test pumped in August 2019 at a rate of 2,925 gpm for 35 hours, which caused 209 feet of drawdown. The initial specific capacity is calculated to be 14 gpm per foot. The City is currently in the process of obtaining source approval for this well, equipping it with a pump, and connecting it to the City's water system.

Additional information on each of the City's existing potable sources is presented in **Chapter 2**.

Water Treatment

All the City's well sources, excluding the Anderson Well and Mt. View/Lions Park Well, are disinfected using chlorine gas. All sources except the Anderson Well, Mt. View/Lions Park Well and Brooklane Well are fluoridated. The City Well source has an infiltration gallery with a hydraulic connection to surface water. The City accounts for this increased susceptibility through extended disinfectant contact time for all water entering the distribution system from this source.

WATER RIGHTS

Existing Ground Water Rights and Interties

The City currently utilizes eight ground water certificates that provide its potable water supply and minor stand-alone park irrigation. In total, the City's ground water rights authorize an instantaneous withdrawal rate (Qi) of 10,431 gpm or 15 million gallons per day (MGD), and an annual withdrawal volume (Qa) of 8,867.6 acre-feet per year (afy) or 7.9 MGD.

All ground water rights utilized by the City withdraw water from wells located within Water Resource Inventory Area (WRIA) 39 – Upper Yakima.

All water right certificates were issued to the City, except for one (G3-20414C), which was issued to Central Washington State College (now Central Washington University). G3-20414C originally was issued for seasonal irrigation of 154 acres of lawn and landscaping on the campus. Since the issuance of this water right, the Central Washington University (CWU) water system has been integrated into the City's water system. Now, the City provides CWU with

water to meet its demand and CWU's water right is utilized by the City to help meet the City's overall summer demands.

All year-round ground water rights utilized by the City identify the purpose of use on the most recent water right document as being municipal. The seasonal water rights (G3-20414C and G4-27814C) identify the purpose of use as irrigation from April 1st through October 31st. The irrigation use under both water rights is for lawn and open space and not agricultural irrigation.

A summary of the ground water rights and water sources utilized by the City is presented in **Table 6-1**, and the principal water right documents are contained in **Appendix I**.

Table 6-1

Existing Ground Water Right Certificates

				Instantaneous Rate (gpm)		Annual Volume (afy)	
Water Right	**Priority Date**	**Document**	**Source Name**	**Additive**	**Non-Additive**	**Additive**	**Non-Additive**
GWC 926-D	4/13/1913	Change Authorization	City, Route 10, Hayward, Kiwanis, Whitney plus 3 undrilled Wells	4,861	0	3,850	0
GWC 924-D	8/1/1931	Certificate	Anderson Well	400	0	79	0
GWC 925-D	1/1/1932	Certificate	Memorial Well	700	0	565	0
GWC 816-A	12/29/1947	Certificate	Rodeo Well	700	0	1,130	0
GWC 3525-A	7/31/1959	Superseding Certificate	Airport Wells	1,050	0	0	1,675
G4-25307C	6/8/1977	Change Authorization	Mt. Stuart and Illinois Wells	1,700	0	2,742	0
			Year-Round Subtotal	***9,411***	-	***8,366***	-
G3-20414C	10/25/1972	Certificate	Brooklane Well	910	0	480	0
G4-27814C	1/26/1982	Certificate	Lions Park/Mt. View Park Well	110	0	21.6	0
			Seasonal Subtotal	***1,020***	-	***502***	-
			Total	**10,431**		**8,867.6**	

Notes:

The annual volume under GWC 3525-A is depicted as non-additive, as denoted on the reports of examination for it and G4-25307C.

Change authorization under GWC 926-D requires full beneficial use by October 31, 2020.

Change authorization under G4-25307C requires completion of construction by December 31, 2020, and full use by December 31, 2027.

Seasonal water rights authorize use from April 1 through October 31.

Table does not include water right claims held by the City for ground water sources.

Table does not include surface water rights held by the City but not currently distributed through the City's potable water system.

The City's ground water rights are described in the sections that follow in priority date order.

Ground Water Certificate (GWC) 926-D

GWC 926-D, with a priority date of April 13, 1913, authorizes the withdrawal of a total of 4,861 gpm and 3,850 afy from 8 wells for year-round municipal supply. This water right specifically authorizes withdrawal of water from the City Well located in the S ½ Section 26, Township 22 North, Range 6 East W.M., the Kiwanis Well located in NW ¼ SE ¼ Section 35, Township 18 North, Range 18 East W.M., the Whitney Well located in the SW ¼ NE ¼ Section 1, Township 17 North, Range 18 East W.M., the Route 10 Well located in the SE ¼ SE ½ Section 12, Township 18 North, Range 17 East W.M., the Hayward Well located in the S ½ Section 17, Township 18 North, Range 18 East W.M., and three wells that are yet to be drilled that can be

located within the following legal descriptions: Section 20, S ½ NW ¼ Section 21, S ½ NW ¼ Section 27, Section 28, and N ½ Section 34, all in Township 18 North, Range 18 East W.M.

The original certificate was issued to the City of Ellensburg on June 3, 1949 in response to the filing of a ground water declaration (No. 551).

On November 2, 1999, the City filed water right change application CG4-GWC926-D requesting to add additional points of withdrawal under this water right. Originally, the water right only authorized withdrawal from the City Well. The water right change was approved on August 6, 2004, and the City is currently operating under that Report of Examination for Change.

A provision on the water right change limited the maximum individual pumping rate from the Kiwanis and Whitney Wells to no greater than 1,500 gpm.

The wells must all have water flow meters with the water use recorded daily. Maximum monthly instantaneous rate and volume must be reported to Ecology by January 31st of the following year.

GWC 924-D

GWC 924-D, with a priority date of August 1, 1931, authorizes the withdrawal of a total of 400 gpm and 79 afy from one well for year-round municipal supply. This water right specifically authorizes withdrawal of water from the Anderson Well located near North A Street near the Milwaukee Depot, Section 35, Township 18 North, Range 18 East W.M. The original certificate was issued to the City on June 3, 1949, in response to the filing of a ground water declaration (No. 549). No changes have been made to this certificate since it was issued.

GWC 925-D

GWC 925-D, with a priority date of January 1, 1932, authorizes the withdrawal of a total of 700 gpm and 565 afy from one well for year-round municipal supply. This water right specifically authorizes withdrawal of water from the Memorial Well located in Lot 1, Block 61 of Shoudy's Second Addition to the City of Ellensburg, Section 1, Township 17 North, Range 18 East W.M. The original certificate was issued to the City on June 3, 1949, in response to the filing of a ground water declaration (No. 550). No changes have been made to this certificate since it was issued.

GWC 816-A

GWC 816-A, with a priority date of December 29, 1947, authorizes the withdrawal of 700 gpm and 1,130 afy from one well for year-round municipal supply. This water right specifically authorizes withdrawal of water from the Rodeo Well located in the NE ¼ NW ¼ Section 1, Township 17 North, Range 18 East W.M. The original certificate was issued to the City on October 26, 1951. No changes have been made to this certificate since it was issued.

GWC 3525-A

GWC 3525-A, with a priority date of July 31, 1959, authorizes the withdrawal of 1,050 gpm and 1,675 afy (non-additive) from three wells for year-round municipal supply. This water right specifically authorizes withdrawal of water from the Airport Wells (Airport Well No. 1, Airport Well No. 2, and Airport Well No. 3) located in the N ½ NW ¼ Section 25, Township 18 North, Range 18 East W.M. The original certificate was issued to the City on December 10, 1959. A superseding certificate was issued on December 31, 1959 to correct the certificate number from GWC 3510-A to GWC 3525-A.

On March 22, 2012, Ecology received a Showing of Compliance with RCW 90.44.100(3) form submitted by the City that added Airport Well No. 3 as an additional point of withdrawal.

GWC G3-20414C (Central Washington University)

G3-20414C, with a priority date of October 25, 1972, authorizes the withdrawal of 910 gpm and 480 afy from a well for seasonal (April 1st through October 31st) irrigation of 154 acres within the CWU campus. This water right specifically authorizes withdrawal of water from the Brooklane Well located in the NW ¼ NE ¼ Section 36, Township 18 North, Range 18 East W.M. The original certificate was issued to Central Washington State College on August 26, 1986. No changes have been made to this certificate since it was issued.

This water right and the Brooklane Well are owned by CWU. The City operates the well to serve the campus. The City and CWU have an agreement (**Appendix B**) for the City to utilize the water right within its portfolio.

GWC G4-25307C

G4-25307C, with a priority date of June 8, 1977, authorizes the withdrawal of 1,700 gpm and 2,750 afy from two wells for year-round municipal supply. This water right specifically authorizes withdrawal of water from the Mt. Stuart Well located within SW ¼ NW ¼, and the Illinois Well located within the NW ¼ NW ¼, both within Section 35, Township 18 North, Range 18 East W.M. The original certificate was issued to the City on May 18, 1982.

On November 2, 1999, the City filed water right change application CG4-25307C requesting to add additional points of withdrawal under this water right. On July 1, 2003, the City amended the change application to limit the request to one additional point of withdrawal with both wells being located in the SW ¼ NW ¼ Section 35, Township 18 North, Range 18 East W.M. Originally, the water right only authorized withdrawal from the Mt. Stuart Well. The water right change was approved on August 6, 2004. The additional well was never drilled.

On February 24, 2017, the City filed water right change application CG4-25307C@1 (KITT-17-01) with the Kittitas County Water Conservancy Board (KCWCB) requesting to add an additional point of withdrawal under this water right in the NW ¼ NW ¼ Section 35, Township 18 North, Range 18 East W.M. (Illinois Well). On April 18, 2017, the KCWCB recommended approval of the change application. On May 26, 2017, Ecology approved, but modified, KCWCB's recommendation. The modification order contains a development schedule that requires

construction of the project to be complete by December 31, 2020, and the water put to full beneficial use by December 31, 2027. If the City will not meet the development schedule, it will need to file an extension request and demonstrate that it has shown due diligence in proceeding toward utilizing the entire water right, consistent with the authorization provided in the Report of Examination for Change and Ecology modification order.

The wells must all have water flow meters with the water use recorded monthly. Maximum monthly instantaneous rate and volume must be reported to Ecology by January 31st of the following year.

GWC G4-27814C

G4-27814C, with a priority date of January 26, 1982, authorizes the withdrawal of 110 gpm and 21.6 afy from a well for seasonal (April 1st through October 31st) irrigation of 7 acres within the City's Lions Park/Mt. View Park. This water right specifically authorizes withdrawal of water from the Lions Park/Mt. View Park Well located in Lot 2 of St. Andrews short plat Santa Anna Addition being within the E ½ SW ¼ Section 1, Township 17 North, Range 18 East W.M. The original certificate was issued to the City on June 2, 1983. No changes have been made to this certificate since it was issued.

This water right contains a provision that identifies it as a Publicly Owned Land Permit under the Family Farm Water Act (Chapter 90.66 RCW). This provision is not appropriate for this water right since it was not intended and has never been used for irrigation of agricultural lands.

Water Right Claims

In addition to the ground water certificates discussed previously, the City also filed a number of water right claims during the Claims Registration Act. In many cases, these water right claims appear to be similar to the water right certificates held by the City. However, the extent and validity of a water right claim can only be determined by the Superior Court in a General Water Right Adjudication. While surface water rights in the Yakima River Watershed have been adjudicated in Department of Ecology v. James J. Acquavella, et al., Yakima County Cause No. 77-2-01484-5 (Acquavella adjudication), the ground water rights have not been adjudicated.

Table 6-2 identifies each of the City's water right claims.

Table 6-2

Existing City Water Right Claims

Water Right Claim	Claimed Date of First Use	Document	Source Name	Claimed Instantaneous Rate (gpm)		Claimed Annual Volume (afy)	
				Additive	Non-Additive	Additive	Non-Additive
G4-050887CL	4/13/1913	Long Form Claim	City Well	6,600	0	10,709	0
G4-005767CL	8/1/1931	Long Form Claim	Anderson Well	440	0	713	0
G4-005763CL	1/1/1932	Long Form Claim	Memorial Well	1,000	0	1,620	0
G4-005765CL	12/29/1947	Long Form Claim	Rodeo Well	1,000	0	1,620	0
G4-026703CL	12/1/1959	Long Form Claim	Unknown (SE 1/4 Sec. 24)	300	0	480	0
G4-026704CL	12/1/1959	Long Form Claim	Airport Wells	1,200	0	1,920	0
			Total	**10,540**		**17,062**	

Notes:
The ground water code (Chapter 90.44 RCW) was enacted on June 6, 1945. Ground water use starting after that date needed to be authorized through application to the State.
The claimed date of first use corresponds with the priority date of water rights associated with the same wells.

The City retains ownership of these water right claims. To be conservative, for planning purposes, RH2 Engineering, Inc., has not included them in its water right total used in the analysis. This conservatism should in no way indicate that the City believes these water right claims are not valid.

Interties

The City does not have any interties with other public water systems for potable municipal water supply.

Pending Ground Water Right Applications

The City has three ground water right applications pending for additional municipal water supply.

Ground Water Application G4-29206A

G4-29206A, with a priority date of February 19, 1987, requests the withdrawal of 1,500 gpm and 1,200 afy for year-round municipal supply from the Kiwanis Well located within the NW ¼ SE ¼ Section 35, Township 18 North, Range 18 East W.M. This application remains pending in Ecology's water right application processing queue.

Ground Water Application G4-29308A

G4-29308A, with a priority date of February 19, 1987, requests the withdrawal of 1,500 gpm and 1,200 afy for year-round municipal supply from the Whitney Well located within the SW ¼ NE ¼ Section 1, Township 17 North, Range 18 East W.M. This application remains pending in Ecology's water right application processing queue.

Ground Water Application G4-33267A

G4-33267A, with a priority date of January 4, 2021, requests the withdrawal of 3,200 gpm (additive) and 3,200 afy (non-additive) for year-round municipal supply from the Illinois Well located within the NW ¼ NW ¼ Section 35, Township 18 North, Range 18 East W.M. This application is currently being processed under a streamlined cost reimbursement process with Ecology.

Surface Water Rights Held by the City

The City currently has a right to utilize water under four adjudicated surface water rights that divert water from the Yakima River, including 308 shares under a water right issued to the Ellensburg Water Company (S4-84605-J), a recently acquired water right issued to Ronald and Robin Anderson (S4-83603-J), a water right issued to the Mill Ditch Company, Inc. (S4-83651-J), and a seasonal water right issued to the City for municipal water use within the Kittitas Reclamation District (S4-83580-J) (**Table 6-3**).

Table 6-3

Surface Water Rights

		Certificate		Instantaneous Rate (cfs)		Annual Volume (afy)	
Water Right	**Priority Date**	**Issued To**	**Period of Use**	**Additive**	**Non-Additive**	**Additive**	**Non-Additive**
S4-84605-J	4/25/1885	Ellensburg Water Company	4/1 through 10/31	308 Shares			
S4-83603-J	5/20/1885	Ronald T. and Robin L. Anderson	4/1 through 10/15	0.225	0	88.36	0
S4-83651-J	5/6/1893	Mill Ditch Company, Inc.	Year Round	1.14	0	375	0
S4-83580-J	5/10/1905	City of Ellensburg	4/20 through 10/15	23.33	0	6,000	0
				Uncertain		**Uncertain**	

Notes:

cfs = cubic feet per second (1 cfs = 448.83 gpm)

afy = acre-feet per year

These water rights are mentioned here due to the City having the right to utilize them, but they are not included in any of the calculations when comparing the City's water supply available to meet existing or future potable demands since they are not currently being used for potable supply by the City.

Adjudicated Certificate S4-84605-J

Adjudicated Certificate S4-84605-J is held by the Ellensburg Water Company and has a priority date of April 25, 1885. The City currently holds 308 Ellensburg Water Company shares for domestic use from April 1st through October 31st to be taken from the Town Canal.

The Ellensburg Water Company water right is a senior water right in the Yakima watershed regulatory setup. Water is available, up to the water right limits, for senior water rights every year in the Yakima watershed.

Adjudicated Certificate S4-83603-J

S4-83603-J was issued to Ronald T. and Robin L. Anderson, with a priority date of May 20, 1885, and authorizes the diversion of 0.225 cubic feet per second (cfs) and 88.36 afy for seasonal (April 1st through October 15th) irrigation of 9 acres within Section 34, Township 18 North, Range 18 East W.M. from a point of diversion located on the east bank of the Yakima River within the SE ¼ SW ¼ NE ¼ Section 29, Township 18 North, Range 18 East W.M.

Adjudicated Certificate S4-83651-J

S4-83651-J was issued to the Mill Ditch Company, Inc., with a priority date of May 6, 1893, and authorizes the diversion of 1.14 cfs and 375 afy for year-round stock watering use within Section 3, Township 17 North, Range 18 East W.M. from a point of diversion located on the east bank of the Yakima River within the SE ¼ SW ¼ NE ¼ Section 29, Township 18 North, Range 18 East W.M.

While this adjudicated certificate identifies the Mill Ditch Company, Inc., as the water right holder, the water right was provided by Ecology to the City based on the City's ownership of land within the place of use.

Adjudicated Certificate S4-83580-J

This water right has been confirmed as adjudicated certificate S4-83580-J in the Acquavella adjudication.

S4-83580-J (previously referenced as S4-CV1-3P3), was issued to the City with a priority date of May 10, 1905, and authorizes the diversion of 23.33 cfs and 6,000 afy for seasonal (April 20th through October 15th) municipal use on land served by the Ellensburg Municipal Water System in the Ellensburg urban area from points of diversion located on the east bank of the Yakima River within the SW ¼ SE ¼ Section 3 and the W ½ NE ¼ Section 10, Township 17 North, Range 18 East W.M. A provision on this water right requires that the water use be consistent with the contract signed between the City, Kittitas Reclamation District, and the United States Department of Interior, Bureau of Reclamation, on December 21, 1971.

Based on the priority date of this water right, it is a proratable water right within the Yakima watershed regulatory setup. A proratable water right is not guaranteed to be fully available in any given year; in times of shortage, the United States Bureau of Reclamation can limit how much water is taken under this water right.

The original certificate (SWC 4498) was issued to the United States of America, Bureau of Reclamation, for use within the Kittitas Reclamation District, on January 18, 1952. The original water right certificate authorized diversion of 1,320 cfs, and the certificate of change was only applicable to a small portion of the water right.

On January 4, 1968, Ecology's predecessor agency received a water right change application filed by the Kittitas Reclamation District on this water right. The change application requested to split the right such that a portion of the water right would be diverted from different points of diversion and be used for municipal supply within the City. This change application was approved and led to the issuance of the Certificate of Change Volume 1-3 Page 3.

On May 4, 1990, the City filed water right change application CS4-SWC4498 requesting to add an additional point of diversion under this water right within the NE ¼ SW ¼ Section 3, Township 17 North, Range 18 East W.M. The water right change application has not been acted on by Ecology and remains pending at this time.

Water Right Action Items

This section is intended to clearly identify recommended actions, as well as upcoming water right due dates for the City with respect to its water rights.

Recommended

- Install and maintain water flow meters at each wellhead. Read and record, at least daily, not only the volume pumped, but also the maximum pumping rate, at each wellhead.
- Measure static and pumping depth to water in all wells at least monthly.
- Submit a letter to Ecology requesting that it recognize the purpose of use under G3-20414C as municipal water supply purposes and issue a new certificate under RCW 90.03.560 explicitly identifying that purpose of use on the face of the document.
- Submit a letter to Ecology requesting that it recognize the purpose of use under G4-27814C as municipal water supply purposes and issue a new certificate under RCW 90.03.560 explicitly identifying that purpose of use on the face of the document. Also include a request to have the Family Farm Water Act provision removed from the water right, since the water right has never been used for agricultural irrigation.

Upcoming Water Right Due Dates

- **January 31st each year** – The due date for the City to submit metering data to Ecology as required by the provisions contained on the change authorization for GWC 926-D and G4-25307C, which applies to the City Well, Route 10 Well, Hayward Well, Kiwanis Well, Whitney Well, Mt. Stuart Well, and Illinois Well.
- **December 31, 2022** – The development schedule under the change authorization for G4-25307C (CG4-25307C@1) requires completion of construction of all wells, pumps, and pipes by this date.
- **October 31, 2030** – The development schedule under the change authorization for GWC 926-D (CG4-GWC926-D) requires completion of construction of all wells, pumps, and pipes by this date. If this schedule cannot be met, the City filed an extension request with Ecology in November 2020 and awaits a decision by Ecology.

Water Supply Evaluation

An evaluation of the combined existing potable ground water rights utilized by the City was performed to determine the sufficiency of the water rights to meet both existing and future water demands. **Table 6-4** compares the combined maximum instantaneous water right rates with the maximum day demand of the system, and the combined maximum annual water right volume with the average day demand of the system. As shown in the table, the City has sufficient water rights (both instantaneous rate and annual volume) to meet the demands of its existing customers.

Table 6-4

Existing Ground Water Rights Evaluation

Description	Instantaneous Rights/ Maximum Day Demand (gpm)	Annual Rights/ Average Day Demand (afy)	(gpm)
Total Water Rights	10,431	8,867.6	5,498
Existing (2018) Water Demand	6,857	4,773	2,959
Surplus (or Deficient) Rights	**3,574**	**4,094.6**	**2,539**

2018 ADD/MDD per **Table 4-15**.

Table 6-5 summarizes the results of the future water rights evaluation, which compares the water rights of the existing sources with the system's future 10-year and 20-year demand projections. The analyses considered future demand projections with and without water use reductions from the City's planned water use efficiency efforts, as shown in the table. The results of the future water rights evaluation indicate the City has sufficient water rights annual volume to meet the average day demand, but does not have sufficient water rights instantaneous rate to meet the maximum day demand through the year 2040.

Table 6-5

Future Ground Water Rights Evaluation

Description	Instantaneous Rights/ Maximum Day Demand (gpm)	Annual Rights/ Average Day Demand (afy)	(gpm)
Year 2030 (+ 10 years) Without Water Use Efficiency			
Total Water Rights	10,431	8,867.6	5,498
Projected (2030) Water Demand	9,114	6,344	3,933
Surplus (or Deficient) Rights	**1,317**	**2,523.6**	**1,564**
Year 2033 (+ 13 years) Without Water Use Efficiency			
Total Water Rights	10,431	8,867.6	5,498
Projected (2033) Water Demand	9,784	6,810	4,222
Surplus (or Deficient) Rights	**647**	**2,057.6**	**1,276**
Year 2040 (+ 20 years) Without Water Use Efficiency			
Total Water Rights	10,431	8,867.6	5,498
Projected (2040) Water Demand	11,417	7,947	4,927
Surplus (or Deficient) Rights	**(986)**	**920.6**	**571**
Year 2030 (+ 10 years) With Water Use Efficiency			
Total Water Rights	10,431	8,867.6	5,498
Projected (2030) Water Demand	8,658	6,027	3,736
Surplus (or Deficient) Rights	**1,773**	**2,840.6**	**1,761**
Year 2033 (+ 13 years) With Water Use Efficiency			
Total Water Rights	10,431	8,867.6	5,498
Projected (2030) Water Demand	9,294	6,470	4,011
Surplus (or Deficient) Rights	**1,137**	**2,397.6**	**1,487**
Year 2040 (+ 20 years) With Water Use Efficiency			
Total Water Rights	10,431	8,867.6	5,498
Projected (2040) Water Demand	10,846	7,550	4,680
Surplus (or Deficient) Rights	**(415)**	**1,317.6**	**817**

ADD/MDD per **Table 4-15**.

LONG-TERM WATER SUPPLY PLANNING

Table 6-5 has highlighted that the City does not have sufficient authorized instantaneous rate under its existing ground water rights to meet the maximum day demand in 2040, with or without water use efficiency.

As the City moves forward, it will maintain, rehabilitate, and upgrade its existing facilities to allow for full utilization of its sources up to the water right limits, and/or pursue water right change applications to match production capacity with water rights, and/or pursue

authorization to pump additional additive instantaneous rate under a new water right to meet future maximum day demand.

Feasibility of Obtaining New Water Rights

When considering supply redundancy, one option to investigate is the ability to obtain new water rights for municipal purposes.

The City's current water sources and municipal boundary fall within WRIA 39 – Upper Yakima. Surface water rights in the Yakima River Watershed (WRIAs 39 and 40) were recently adjudicated in the Acquavella adjudication, which had the final decree issued on May 9, 2019. In drought years, there is not enough surface water to meet the full need of all surface water rights that have been issued and confirmed through the adjudication.

Since 2006, USGS has been studying the ground water hydrogeology of the Yakima River Watershed. The results of the USGS study show that ground water is connected to surface water in the vicinity of the City, and pumping ground water ultimately reduces the flow of surface water in the Yakima River.

Any new ground water right processed for the City for additive annual volume would need to be fully mitigated by a senior water right (priority date of May 9, 1905 or earlier) such that it does not impact the surface water flow and reduce the total water supply available (TWSA) in the watershed, which is defined in the 1945 Consent Decree[3] as the,

> …amount of water available in any year from natural flow of the Yakima River, and its tributaries, from storage in the various Government reservoirs on the Yakima watershed and from other sources, to supply the contract obligations of the United States to deliver water and to supply claimed rights to the use of water on the Yakima River and its tributaries, heretofore recognized by the United States.

Therefore, the City will need to develop a mitigation plan to avoid impairing any existing water right holders if it chooses to have one of its pending new water right applications processed that request additive annual volume.

However, it might be possible for the City to obtain a ground water right that grants additive instantaneous rate but no additive annual volume. This type of water right would allow the City to pump at a higher rate to meet the maximum day demand but would not increase the annual volume that the City can take beyond that of its existing water rights.

Feasibility of Transferring Existing Water Rights

Changing attributes of existing City-owned water rights is dependent on passing the statutory tests outlined in Chapters 90.03 and 90.44 RCW and as clarified in case law.

[3] Retrieved from https://www.usbr.gov/pn/programs/yrbwep/reports/tm/1watres.pdf

Water right change applications requesting to add additional points of withdrawal to existing water rights should be able to be processed for the City with a high likelihood of approval. The City should utilize the Kittitas County Water Conservancy Board as a timely way to get water right change applications processed.

The production capacity of the currently active wells (City, Route 10, Hayward, Anderson, Airport Well No. 3, Mt. Stuart, Kiwanis, Whitney, Brooklane, Rodeo, and Memorial Wells) is 7,765 gpm. The production capacity is 2,666 gpm less than the combined instantaneous rate authorized under the ground water rights, which is 10,431 gpm. The Illinois Well is being designed to pump up to 2,500 gpm. After adding this new well to the City's system and refurbishing the Lions/Mt. Park well, the combined pumping capacity of all wells will only be 56 gpm less than the combined water right limit.

DRINKING WATER REGULATIONS

Overview

The quality of drinking water in the United States is regulated by the Environmental Protection Agency (EPA). Under provisions of the Safe Drinking Water Act (SDWA), the EPA is allowed to delegate primary enforcement responsibility for water quality control to each state. In the State of Washington, DOH is the agency responsible for implementing and enforcing drinking water regulations. For the State of Washington to maintain primacy (delegated authority to implement requirements) under the SDWA, the State must adopt drinking water regulations that are at least as stringent as the federal regulations. In meeting these requirements, the State, in cooperation with the EPA, has published drinking water regulations that are contained in Chapter 246-290 Washington Administrative Code (WAC).

Existing Regulations

The Federal SDWA was enacted in 1974 as a result of public concern about water quality. The SDWA sets standards for the quality of drinking water and requires water treatment if these standards are not met. The SDWA also sets water testing schedules and methods that water systems must follow. In 1986, the SDWA was amended as a result of additional public concern and frequent contamination of groundwater from industrial solvents and pesticides. The 1986 Amendments require water systems to monitor and treat for a continuously increasing number of water contaminants identified in the new federal regulations. The EPA regulated approximately 20 contaminants between 1974 and 1986. The 1986 Amendments identified 83 contaminants the EPA was required to regulate by 1989. Implementation of the new regulations has been marginally successful due to the complexity of the regulations and the associated high costs. To rectify the slow implementation of the new regulations, the SDWA was amended again and re-authorized in August of 1996.

In response to the 1986 SDWA Amendments, EPA established six rules, known as the Phase I Rule, Phase II and IIb Rules, Phase V Rule, Surface Water Treatment Rule, Total Coliform Rule,

and Lead and Copper Rule. The EPA regulates most chemical contaminants through the Phase I, II, IIb, and V Rules. The City's active sources are affected by many of these rules.

The EPA set two limits for each contaminant that is regulated under the rules. The first limit is a health goal, referred to as the Maximum Contaminant Level Goal (MCLG). The MCLG is zero for many contaminants, especially known cancer-causing agents (carcinogens). The second limit is a legal limit, referred to as the Maximum Contaminant Level (MCL). MCLs are equal to or higher than the MCLGs; however, most MCLs and MCLGs are the same, except for contaminants that are regulated as carcinogens. The health goals (MCLGs) for carcinogens are typically zero, because they cause cancer and it is assumed that any amount of exposure may pose some risk of cancer. A summary of each rule follows.

To fully understand the discussion that follows, a brief definition of several key terms is provided below.

- Organic Chemicals – Animal or plant produced substances containing carbon and other elements such as hydrogen and oxygen.
- Synthetic Organic Chemicals (SOCs) – Man-made organic substances, including herbicides, pesticides, and various industrial chemicals and solvents.
- Volatile Organic Chemicals (VOCs) – Chemicals, as liquids, that evaporate easily into the air.
- Inorganic Chemicals (IOCs) – Chemicals of mineral origin that are naturally occurring elements. These include metals such as lead and cadmium.

Phase I Rule

The Phase I Rule, which was the EPA's first response to the 1986 Amendments, provided limits for eight VOCs that may be present in drinking water. VOCs are used by industries in the manufacturing of rubber, pesticides, deodorants, solvents, plastics, and other chemicals. VOCs are found in everyday items such as gasoline, paints, thinners, lighter fluid, mothballs, and glue, and are typically encountered at dry cleaners, automotive service stations, and elsewhere in industrial processes. The City currently complies with all contaminant monitoring requirements under this rule.

Phase II and IIb Rules

The Phase II and IIb Rules update and create limits for 38 contaminants (organics and inorganics). Some of the contaminants are frequently applied agricultural chemicals (nitrate), while others are more obscure industrial chemicals. The City currently complies with all contaminant monitoring requirements under this rule.

Phase V Rule

The Phase V Rule sets standards for 23 additional contaminants, of which 18 are organic chemicals (mostly pesticides and herbicides) and 5 are IOCs (such as cyanide). The City currently complies with all contaminant monitoring requirements under this rule.

Surface Water Treatment Rule

Surface water sources, such as rivers, lakes, and reservoirs (which are open to the atmosphere and subject to surface runoff), and GWI sources are governed by the Surface Water Treatment Rule (SWTR). The SWTR seeks to prevent waterborne diseases caused by the microbes *Cryptosporidium, Legionella,* and *Giardia lamblia*, which are present in most surface waters. The rule requires disinfection of all surface water and GWI sources. All surface water and GWI sources also must be filtered unless a filtration waiver is granted. A filtration waiver may be granted to systems with pristine sources that continuously meet stringent source water quality and protection requirements. The City's water supply is classified as ground water at all sources except the City Well, which has an infiltration gallery determined to be hydraulically connected with surface water. The City complies with this rule through increased disinfection contact time for the City Well source.

Interim Enhanced Surface Water Treatment Rule

The Interim Enhanced Surface Water Treatment Rule (IESWTR) became effective concurrent with the Stage 1 Disinfectants/Disinfection Byproducts Rule. The rule primarily applies to public water systems that serve 10,000 or more people and use surface water or GWI sources. The rule also requires primacy agencies (i.e., DOH in Washington State) to conduct sanitary surveys of all surface water and GWI systems, regardless of size. The rule is the first to directly regulate the protozoan *Cryptosporidium* and has set the MCLG for *Cryptosporidium* at zero. The City's water supply is classified as ground water at all sources except the City Well, which is hydraulically connected to surface water. The City complies with this rule through increased disinfection contact time for the City Well source.

Long Term 1 Enhanced Surface Water Treatment Rule

The Long Term 1 Enhanced Surface Water Treatment Rule (LT1ESWTR) addresses water systems using surface water or GWI sources serving fewer than 10,000 people. The rule extends protections against *Cryptosporidium* for smaller water systems. The City's water system serves greater than 10,000 people; therefore, the rule is not applicable.

Revised Total Coliform Rule

The Revised Total Coliform Rule sets an MCL for *Escherichia coli (E. coli)* and specifies the frequency and timing of coliform testing based on population served, public water system type, and source water type. When total coliform is detected, it is a treatment technique trigger. The water system must conduct an assessment of its water system facilities and operations and fix any sanitary defects. For confirmed *E. coli* incidents, known as an *E. coli* MCL violation, the water system must perform a Level 2 assessment and provide public notice within 24 hours. If a positive sample is collected on a consecutive system, the City also will need to collect source samples.

Coliform is a group of bacteria, some of which live in the digestive tract of humans and many animals, and is excreted in large numbers with feces. Coliform can be found in sewage, soils,

surface waters, and vegetation. The presence of any coliform in drinking water indicates a potential health risk and potential waterborne disease outbreak, which may include gastroenteric infections, dysentery, hepatitis, typhoid fever, cholera, and other infectious diseases. *E. coli* is a member of the coliform group that is almost exclusively of fecal origin, and its presence can lead to increased health risks.

A copy of the City's Water Quality Monitoring Plan, including the coliform monitoring program and *E. coli* response plan, is contained in **Appendix J**.

Lead and Copper Rule

The Lead and Copper Rule identifies action levels for both lead and copper. An action level is different than an MCL. An MCL is a legal limit for a contaminant, and an action level is a trigger for additional prevention or removal steps. The action level for lead is greater than 0.015 milligrams per liter (mg/L). The action level for copper is greater than 1.3 mg/L. If the 90th percentile concentration of either lead or copper from the group of samples exceeds these action levels, a corrosion control study must be undertaken to evaluate strategies and make recommendations for reducing the lead or copper concentration below the action levels. The rule requires systems that exceed the lead level to educate the affected public about reducing its lead intake. Systems that continue to exceed the lead action level after implementing corrosion control and source water treatment may be required to replace piping in the system that contains lead sources. Corrosion control typically is accomplished by increasing the pH of the water to make it less corrosive, which reduces its ability to break down water pipes and absorb lead or copper.

The EPA is in the process of implementing a lead trigger level of 10 micrograms per liter (µg/L) that would require additional monitoring and treatment requirements.

Lead is a common metal found throughout the environment in lead-based paint, air, soil, household dust, food, certain types of pottery, porcelain, pewter, brass, and water. Lead can pose a significant health risk if too much of it enters the body. Lead builds up in the body over many years and can cause damage to the brain, red blood cells, and kidneys. The greatest risk is to young children and pregnant women. Lead can slow normal mental and physical development of growing bodies.

Copper is a common, natural, and useful metal found in our environment. It is also a trace element needed in most human diets. The primary impact of elevated copper levels in water systems is stained plumbing fixtures. At certain levels (well above the action levels), copper may cause nausea, vomiting, and diarrhea. It can also lead to serious health problems in people with Wilson's disease. Long-term exposure to elevated levels of copper in drinking water also could increase the risk of liver and kidney damage. The City currently complies with all contaminant monitoring and treatment requirements under this rule.

Radionuclides Rule

The EPA established interim drinking water regulations for radionuclides in 1976 under the SDWA. MCLs were established for alpha, beta, and photon emitters, and radium 226/228.

Radionuclides are elements that undergo a process of natural decay and emit radiation in the form of alpha or beta particles and gamma photons. The radiation can cause various kinds of cancers, depending on the type of radionuclide exposure from drinking water. The regulations address both man-made and naturally occurring radionuclides in drinking water.

The 1986 Amendments to the SDWA finalized the regulations for radionuclides by eliminating the term "interim." The amendments also directed the EPA to promulgate health-based MCLGs, as well as MCLs. The EPA failed to meet the statutory schedules for promulgating the radionuclide regulations, which resulted in a lawsuit. In 1991, the EPA proposed revisions to the regulations, but a final regulation based on the proposal was never promulgated. The 1996 Amendments to the SDWA directed the EPA to revise a portion of the earlier proposed revisions, adopt a schedule, and review and revise the regulations every 6 years, as appropriate, to maintain or improve public health protection. Subsequent to the 1996 Amendments, a 1996 court order required the EPA to either finalize the 1991 proposal for radionuclides or to ratify the existing standards by November 2000.

The final rule was published in the Federal Register on December 7, 2000, and became effective on December 8, 2003. The rule established an MCLG of zero for the four regulated contaminates and MCLs of 5 picocuries per liter (pCi/L) for combined radium-226 and radium-228, 15 pCi/L for gross alpha (excluding radon and uranium), 4 millirems per year (mrem/year) for beta particle and photon radioactivity, and 30 µg/L for uranium. The City currently complies with all contaminant monitoring requirements under this rule.

Wellhead Protection Program

Section 1428 of the 1986 SDWA Amendments mandates that each state develop a wellhead protection program. The Washington State mandate for wellhead protection, and the required elements of a wellhead protection program, is contained in WAC 246-290-135, Source Protection, which became effective in July of 1994. In Washington State, DOH is the lead agency for the development and administration of the State's wellhead protection program.

A wellhead protection program is a proactive and ongoing effort of a water purveyor to protect the health of its customers by preventing contamination of the groundwater that it supplies for drinking water. All federally defined Group A public water systems that use groundwater as their source are required to develop and implement a wellhead protection program. All required elements of a local wellhead protection program must be documented and included in either the Water System Plan (applicable to the City) or a Small Water System Management Program document (not applicable to the City). A copy of the City's Wellhead Protection Program is contained in **Appendix K**.

Consumer Confidence Report

The Consumer Confidence Report (CCR) is the centerpiece of the right-to-know provisions of the 1996 Amendments to the SDWA. The annual report must be updated and re-issued to all customers by July 1st of each year thereafter. This rule currently is being revised to possibly require delivery to customers every 6 months for water systems over 10,000 people. The EPA

also will require additional language to be included, but these final revisions are yet to be determined.

The CCR is a report on the quality of water that was delivered to the water users during the previous calendar year. The reports must contain certain specific elements, but they also may contain other information that the purveyor deems appropriate for public education. Some, but not all, of the information that is required in the reports includes the source and type of the drinking water, type of treatment, contaminants that have been detected in the water, potential health effects of the contaminants, identification of the likely source of contamination, violations of monitoring and reporting, and variances or exemptions to the drinking water regulations. A copy of the City's most recent CCR is contained in **Appendix L**.

Stage 1 Disinfectants/Disinfection Byproducts Rule

This rule is superseded by the Stage 2 Disinfectants/Disinfection Byproducts Rule and is now completely inapplicable.

Disinfection byproducts (DBPs) are formed when free chlorine reacts with organic substances, most of which occur naturally. These organic substances (called precursors) are a complex and variable mixture of compounds. The DBPs themselves may pose health risks. Trihalomethanes (THM) are a category of DBPs that had been regulated previous to this rule. However, systems with groundwater sources that serve a population of less than 10,000 were not previously required to monitor for THM.

The rule applies to most water systems that add a chemical disinfectant to the drinking water during any part of the treatment process. The rule reduced the MCL for total THM, which are a composite measure of four individual THM, from the previous interim level of 0.10 mg/L to 0.08 mg/L. The rule established MCLs and requires monitoring of three additional categories of DBPs (0.06 mg/L for five haloacetic acids (HAA5), 0.01 mg/L for bromate, and 1.0 mg/L for chlorite). The rule established maximum residual disinfectant levels for chlorine (4.0 mg/L), chloramines (4.0 mg/L), and chlorine dioxide (0.8 mg/L). The rule also requires systems using surface water or ground water directly influenced by surface water to implement enhanced coagulation or softening to remove DBP precursors unless alternative criteria are met.

Unregulated Contaminant Monitoring Rule

The EPA established the Unregulated Contaminant Monitoring Rule (UCMR) to generate data on contaminants that are being considered for inclusion in new drinking water standards. The information collected by select public water systems will ensure that future regulations established by the EPA are based on sound science.

Three separate lists of unregulated contaminants are maintained under the UCMR: List 1, List 2, and List 3. Contaminants are organized on the tiered lists based on the availability of standard testing procedures and the known occurrence of each contaminant, with List 1 containing contaminants that have established standard testing procedures and some, but insufficient, information on their occurrence in drinking water. Monitoring for contaminants on the three lists is limited to a maximum of 30 contaminants within a 5-year monitoring cycle, and the EPA

is required to publish new contaminant monitoring lists every 5 years. As new lists are published, contaminants will be moved up in the lists if adequate information is found to support additional monitoring. All public water systems serving more than 10,000 people and a randomly selected group of smaller water systems are required to monitor for contaminants. The City currently monitors for some unregulated contaminants.

Arsenic

Arsenic is highly toxic, affects the skin and nervous system, and may cause cancer. The Arsenic Rule sets the MCLG of arsenic at zero and reduces the MCL from the previous standard of 0.05 mg/L to 0.01 mg/L. Arsenic's monitoring requirements will be consistent with the existing requirements for other inorganic contaminants. The City complies with this rule since its ground water sources have levels of arsenic that are below the MCL.

Filter Backwash Recycling Rule

Public water systems using surface water or ground water under the direct influence of surface water that utilize filtration processes and recycling must comply with the Filter Backwash Recycling Rule. The rule aims to reduce risks associated with recycling contaminants removed during filtration.

The rule requires filter backwash water be returned to a location that allows complete treatment. In addition, filtration systems must provide detailed information regarding the treatment and recycling process to the state. The City's water supply is not filtered; therefore, this rule is not applicable.

Stage 2 Disinfectants/Disinfection Byproducts Rule

The EPA implemented the Stage 2 Disinfectants/Disinfection Byproducts Rule (D/DBP) simultaneously with the Long Term 2 Enhanced Surface Water Treatment Rule.

Similar to the Stage 1 D/DBPR, this rule applies to most water systems that add a disinfectant to the drinking water other than ultraviolet light or those systems that deliver such water. The Stage 2 D/DBPR changes the calculation procedure requirement of the MCLs for two groups of disinfection byproducts, total THM (TTHM) and HAA5. The rule requires each sampling location to determine compliance with MCLs based on their individual annual average DBP levels (termed the Locational Running Annual Average), rather than utilizing a system-wide annual average. The rule also proposes new MCLGs for chloroform (0.07 mg/L), trichloroacetic acid (0.02 mg/L), and monochloroacetic acid (0.03 mg/L).

Additionally, the rule requires systems to document peak DBP levels and prepare an Initial Distribution System Evaluation (IDSE) to identify Stage 2 D/DBPR compliance monitoring sites. IDSEs require each water system to prepare a separate IDSE plan and report, with the exception of those systems who obtain a 40/30 Certification or a Very Small System Waiver. In order to qualify for the 40/30 Certification, all samples collected during Stage 1 monitoring must have TTHM and HAA5 levels less than or equal to 0.040 mg/L and 0.030 mg/L, respectively. The City currently complies with all contaminant monitoring requirements under this rule.

Long Term 2 Enhanced Surface Water Treatment Rule

Following the publishing of the IESWTR, the EPA introduced the LT1ESWTR to supplement the preceding regulations. The second part of the regulations of the LT1ESWTR are mandated in the Long Term 2 Enhanced Surface Water Treatment Rule (LT2ESWTR). The final rule was implemented simultaneously with the Stage 2 D/DBPR described in the previous section. This rule applies to all systems that use surface water or GWI sources.

This rule establishes treatment technique requirements for filtered systems based on their risk level for contamination, calculated from the system's average *Cryptosporidium* concentration. Requirements include up to 2.5-log *Cryptosporidium* treatment, in addition to existing requirements under the IESWTR and LT1ESWTR. Filtered systems that demonstrate low levels of risk will not be required to provide additional treatment. Unfiltered systems under this rule must achieve at least a 2-log inactivation of *Cryptosporidium* if the mean level in the source water remains below 0.01 oocysts/L. If an unfiltered system's mean level of *Cryptosporidium* exceeds 0.01 oocysts/L, the LT2ESWTR requires the system to provide a minimum 3-log inactivation of *Cryptosporidium*. All unfiltered systems also are required to utilize a minimum of two disinfectants in their treatment process.

The LT2ESWTR also addresses systems with unfinished water storage facilities. Under this rule, systems must either cover their storage facilities or achieve inactivation and/or removal of 4-log virus, 3-log *Giardia lamblia,* and 2-log *Cryptosporidium* on a state-approved schedule. Lastly, the rule extends the requirement of the disinfection profiles mandated under the LT1ESWTR to the proposed Stage 2 D/DBPR. The City's water supply is classified as ground water at all sources except for the City Well. The City complies with this rule through increased disinfection contact time for the City Well source.

Groundwater Rule

The EPA promulgated the Groundwater Rule (GWR) to reduce the risk of exposure to fecal contamination that may be present in public water systems that use ground water sources. The GWR also specifies when corrective action (which may include disinfection) is required to protect consumers who receive water from ground water systems from bacteria and viruses. The GWR applies to public water systems that use ground water and to any system that mixes surface and ground waters if the ground water is added directly to the distribution system and provided to consumers without treatment equivalent to surface water treatment.

The rule targets risks through an approach that relies on the four following major components:

1. Periodic sanitary surveys of groundwater systems that require the evaluation of eight critical elements and the identification of significant deficiencies (such as a well located near a leaking septic system). DOH conducted its most recent sanitary survey of the City's water system on October 29, 2015, under the state's existing sanitary survey program.
2. Source water monitoring to test for the presence of *E. coli*, enterococci, or coliphage in the sample. There are two monitoring provisions.

- Triggered monitoring for systems that do not already provide treatment that achieves at least 99.99-percent (4-log) inactivation or removal of viruses and that have a total coliform positive routine sample under the Revised Total Coliform Rule sampling in the distribution system.
- Assessment monitoring is a complement to triggered monitoring. A state has the option to require systems to conduct source water assessment monitoring at any time to help identify high risk systems.

3. Corrective actions required for any system with a significant deficiency or source water fecal contamination. The system must implement one or more of the following corrective action options: correct all significant deficiencies; eliminate the source of contamination; provide an alternate source of water; or provide treatment that reliably achieves 99.99-percent inactivation or removal of viruses.
4. Compliance monitoring to ensure that treatment technology installed to treat drinking water reliably achieves at least 99.99-percent inactivation or removal of viruses.

The City's last sanitary survey was completed in October 2015. The City addressed or is currently addressing minor deficiencies identified in this sanitary survey and complies with all other requirements of the rule.

Per- and Polyfluoroalkyl Substances

In 2016, the US EPA established a health advisory level for per- and polyfluoroalkyl substances (PFAS) at 70 parts per trillion (ppt). DOH proposed a regulation for PFAS in 2017, and state action levels (SALs) for these substances are now in effect as of April 9, 2022. The SALs are 10 ppt for PFOA, 15 ppt for PFOS, 9 ppt for PFNA, 65 ppt for PFHxS, and 345 ppt for PFBS. All water systems in Washington State will be required to sample their sources for PFAS by December 2025. The primary source of PFAS contamination was the historical use of PFAS-based firefighting foam used by the US military, local fire departments, and airports. In June 2022, the EPA established interim health advisories of 0.004 ppt for PFOA and 0.02 ppt for PFOS and final health advisories of 10 ppt for GenX chemicals (PFOA replacements) and 2,000 ppt for PFBS (PFOS replacement). The EPA is still evaluating other health advisories and it is not currently known when or what a federal PFAS regulation may be or its implementation schedule. All community and nontransient-noncommunity public water systems must test for PFAS. Water systems that find PFAS in their supply are required to complete additional monitoring, and systems that exceed a SAL are required to notify all customers. The City should collect water samples to test for PFAS as soon as possible.

Future Regulations

Drinking water regulations are continuously changing in an effort to provide higher quality and safer drinking water. Modifications to the existing rules described previously and implementation of new rules are planned for the near future. A summary of upcoming drinking water regulations that will most likely affect the City is presented in the following sections.

Radon

In July of 1991, the EPA proposed a regulation for radon, as well as three other radionuclides. The 1996 SDWA Amendments required the EPA to withdraw the 1991 proposal due to several concerns that were raised during the comment period. A new proposed regulation was published in the Federal Register on November 2, 1999. Comments on the proposed rule were due to the EPA by February 4, 2000. Final federal requirements for addressing radon were delayed until 2008 but have not yet been published. The rule proposes a 300 pCi/L MCL for community water systems that use ground water or an alternative, less stringent MCL of 4,000 pCi/L for water systems where their state implements an EPA-approved program to reduce radon risks in household indoor air and tap water. It is not currently known when or what a radon regulation may require as adopted by the EPA or what the implementation schedule for the rule will be. Because the final radon rule requirements are uncertain, the impact of this rule on the City is unknown at this time.

Unregulated Contaminant Monitoring Rule Revisions

In accordance with the original UCMR and the SDWA, once every 5 years the EPA will issue a new list of no more than 30 unregulated contaminants to be monitored by public water systems. The fourth UCMR was proposed on December 11, 2015, and includes a list of 30 chemicals that will be monitored during the 2017 through 2021 monitoring cycle and approves several new testing methods to conduct the monitoring. For this upcoming cycle, all systems serving more than 10,000 people and a larger representative sample of smaller water systems will be required to monitor for contaminants. The rule also requires additional water system data to be reported with the monitoring results, establishes a procedure for determining minimum reporting levels, and proposes several revisions to the implementation of the monitoring program.

SOURCE WATER QUALITY

This section presents the current water quality standards for ground water sources and the results of the City's recent source water quality monitoring efforts. A discussion of the water quality requirements and monitoring results for the City's distribution system is presented in the section that follows.

Drinking Water Standards

Drinking water quality is regulated at the federal level by the EPA and at the state level by DOH. Drinking water standards have been established to maintain high-quality drinking water by limiting the levels of specific contaminants (i.e., regulated contaminants) that can adversely affect public health and are known or likely to occur in public water systems. Non-regulated contaminants do not have established water quality standards and generally are monitored at the discretion of the water purveyor and in the interest of customers.

The regulated contaminants are grouped into two categories of standards – primary and secondary. Primary standards are drinking water standards for contaminants that could affect

health. Water purveyors are required by law to monitor and comply with these standards and notify the public if water quality does not meet any one of the standards. Secondary standards are drinking water standards for contaminants that have aesthetic effects, such as unpleasant taste, odor, or color (staining). The national secondary standards are unenforceable federal guidelines or goals where federal law does not require water systems to comply with them. However, states may adopt their own enforceable regulations governing these contaminants. The State of Washington has adopted regulations that require compliance with some of the secondary standards. Water purveyors are not required to notify the public if their water quality does not meet the secondary standards.

Source Monitoring Requirements and Waivers

The City is required to perform water quality monitoring at each of its active sources for inorganic chemical and physical substances, organic chemicals, and radionuclides. The monitoring requirements that the City must comply with are specified in WAC 246-290-300. A description of the source water quality monitoring requirements and procedures for each group of substances is contained in the City's Water Quality Monitoring Plan, which is included as **Appendix J**.

DOH has developed the Susceptibility Assessment Survey Form for water purveyors to complete for use in determining a drinking water source's potential for contamination. The results of the susceptibility assessment may provide monitoring waivers that allow reduced source water quality monitoring. Based on the results of the susceptibility assessment survey for each source, DOH assigned high susceptibility ratings to the City Well source. All other sources were assigned a low susceptibility rating.

Source Monitoring Results

The City's sources maintain a high level of water quality and have met or exceeded all drinking water standards within the last 6 years, with the exception of 1 discrete detection of coliform in July 2015. Repeat coliform samples were not positive; therefore, these samples can be disregarded as outliers.

The City Well source (Source S01) has waivers for IOCs valid through December 2028, VOCs and radionuclides valid through December 2025, and herbicides, pesticides, and soil fumigants valid through December 2022. The source is sampled annually for nitrates.

The Rodeo Well source (Source S02) has waivers for radionuclides valid through December 2025, herbicides, pesticides, and soil fumigants valid through December 2022. The source is sampled annually for nitrates.

The Memorial Well source (Source S03) has waivers for IOCs valid through December 2028, VOCs and radionuclides valid through December 2025, and herbicides, pesticides, and soil fumigants valid through December 2022. The source is sampled annually for nitrates.

The Mt. Stuart Well source (Source S04) has waivers for IOCs valid through December 2028, VOCs and radionuclides valid through December 2025, and herbicides, pesticides, and soil fumigants valid through December 2022. The source is sampled annually for nitrates.

The Kiwanis Park Well source (Source S05) has waivers for IOCs valid through December 2028, VOCs and radionuclides valid through December 2025, and herbicides, pesticides, and soil fumigants valid through December 2022. The source is sampled annually for nitrates.

The Whitney Well source (Source S06) has waivers for IOCs valid through December 2028, VOCs and radionuclides valid through December 2025, and herbicides, pesticides, and soil fumigants valid through December 2022. The source is sampled annually for nitrates.

The Brooklane Well source (Source S07) has waivers for IOCs valid through December 2028, VOCs and radionuclides valid through December 2025, and herbicides, pesticides, and soil fumigants valid through December 2022. The source is sampled annually for nitrates.

The Route 10 Well source (Source S09) has waivers for IOCs valid through December 2028, VOCs and radionuclides valid through December 2025, and herbicides, pesticides, and soil fumigants valid through December 2022. The source is sampled annually for nitrates.

The Hayward Well source (Source S10) has waivers for IOCs valid through December 2028, VOCs and radionuclides valid through December 2025, and herbicides, pesticides, and soil fumigants valid through December 2022. The source is sampled annually for nitrates.

The Airport Well No. 3 source (Source S11) has waivers for IOCs valid through December 2028, VOCs and radionuclides valid through December 2025, and herbicides, pesticides, and soil fumigants valid through December 2022. The source is sampled annually for nitrates.

The results of inorganic chemical (including nitrate) and VOC monitoring for the City's sources indicate that all primary and secondary standards were met.

DISTRIBUTION SYSTEM WATER QUALITY

Monitoring Requirements and Results

The City is required to perform water quality monitoring within the distribution system for coliform bacteria, disinfectant (chlorine) residual concentration, DBPs, lead and copper, and asbestos in accordance with Chapter 246-290 WAC. A description of the distribution system water quality monitoring requirements and procedures are contained in the City's Water Quality Monitoring Plan that is included in **Appendix J**.

The City has been in compliance with all monitoring requirements for the past several years, except for one coliform violation that is described in the following section. A summary of the results of the distribution system water quality monitoring within the City's system also is presented.

Coliform Monitoring

From 2014 to 2020, coliform monitoring met regulations since samples did not test positive in more than 5 percent of the routine samples taken each month. One positive sample was found in July of 2015. All follow-up repeat samples were negative. The positive sample was likely due to error. Based on the City's current population, a minimum of 20 coliform samples per month from different locations throughout the system are required to be collected. A description of coliform monitoring protocol and sample locations is described in the City's Coliform Monitoring Program, which is included in **Appendix J**.

Disinfectant Residual Concentration Monitoring

Disinfection requirements applicable to the City are contained in WAC 246-290-310, which states that a disinfectant residual concentration of 0.2 mg/L shall be detectable in all active parts of the distribution system and that the maximum residual disinfectant level shall be 4.0 mg/L for chlorine and chloramines. Handheld chlorine residuals must be recorded each time a coliform sample is collected; therefore, the City collects a minimum of 20 samples each month in addition to its online chlorine analyzers. At least 95 percent of the monthly samples must have detectable levels. In addition, disinfectant residuals within the distribution system shall be reported for every calendar day and cannot be undetectable. The City is in compliance with these regulations.

Disinfectants/Disinfection Byproducts Monitoring

THM and HAA5 are DBPs that are formed when free chlorine reacts with organic substances (i.e., precursors), most of which occur naturally. Formation of THM and HAA5 are dependent on such factors as amount and type of chlorine used, water temperature, concentration of precursors, pH, and chlorine contact time. THM have been found to cause cancer in laboratory animals and are suspected to be human carcinogens. In response to the Stage 1 and Stage 2 D/DBPR, the City expanded its distribution system monitoring to include THM and HAA5. The City was granted a reduced sampling requirement and only collects two THM and two HAA5 samples on an annual basis. All recent samples show concentrations below both substances' MCLs. Therefore, the City is in compliance with this regulation. A copy of the City's Stage 2 D/DBP Monitoring Plan is provided in **Appendix J**. The City was granted 40/30 Certification based on historical water quality data; therefore, it was not required to perform an IDSE.

Lead and Copper Monitoring

The Lead and Copper Rule identifies the action level for lead as being greater than 0.015 mg/L, and the action level for copper as being greater than 1.3 mg/L. The City is required to collect 30 samples every 3 years. The latest tests occurred in September of 2018, which yielded a range of 0.001 to 0.0012 mg/L for lead and a range of 0.02 to 0.29 mg/L for copper. These results have all been satisfactory, since the 90th percentile concentration of either lead or copper from each group of samples has not exceeded the action levels.

Asbestos

Asbestos monitoring is required if the sources are vulnerable to asbestos contamination or if the distribution system contains more than 10 percent of asbestos cement pipe. The City has a 9-year waiver with DOH for asbestos monitoring that will expire in December 2028. The current MCL for asbestos is 7 million fibers per liter and greater than 10 microns in length. Should the City ever resume asbestos monitoring, it must be accomplished during the first 3-year compliance period of each 9-year compliance cycle. The water sample must be taken at a tap that is served by an asbestos cement pipe under conditions where asbestos contamination is most likely to occur.

7 | WATER SYSTEM ANALYSIS

INTRODUCTION

This chapter presents the analysis of the City of Ellensburg's (City) existing water system. Individual water system components were analyzed to determine their ability to meet policies and design criteria under existing and future water demand conditions. The policies and design criteria are presented in **Chapter 5**, and the water demands are presented in **Chapter 4**. A description of the water system facilities and current operation is presented in **Chapter 2**. The last section of this chapter presents the existing and projected system capacity analyses that were performed to determine the maximum number of equivalent residential units (ERUs) that can be served by the City's water system.

PRESSURE ZONES

The ideal static pressure of water supplied to customers is between 40 and 80 pounds per square inch (psi). Pressures within a water distribution system are commonly as high as 120 psi, requiring pressure reducing valves (PRVs) on individual service lines to reduce the pressure to 80 psi or less. It is difficult for the City's water system (and most others) to maintain distribution system pressures between 40 and 80 psi, primarily due to the topography of the water service area.

Table 7-1 lists the City's two existing pressure zones and two future proposed pressure zones, the highest and lowest elevation served in each zone, and the minimum and maximum distribution system pressures within each zone based on maximum static water conditions (full reservoirs with no demand) under existing and proposed future conditions. While this table presents the results of the pressure evaluations based on the adequacy of the pressure zones (under static conditions) (**Equation 7-1**), the hydraulic analysis section later in this chapter presents the results of the pressure evaluation based on the adequacy of the water mains (under dynamic conditions). Planned improvements to address low and high service pressures are described later in this chapter and in **Chapter 9**.

Table 7-1

Minimum and Maximum Distribution System Static Pressures

Pressure Zone	Highest Elevation Served		Lowest Elevation Served	
	Elevation (feet)	Static Pressure (psi)	Elevation (feet)	Static Pressure (psi)
Existing System				
1740 Zone	1,668	31	1,476	114
1824 Zone	1,734	39	1,599	97
Projected 20-Year System with Improvements				
1740 Zone	1,612	55	1,476	114
1760 Zone[1]	1,668	40	1,553	90
1824 Zone	1,702	53	1,572	109
1860 Zone[2]	1,734	72	1,688	92

1 = The 1760 Zone will be constructed as CIP PZ1.

2 = The 1860 Zone will be constructed as CIP PZ2.

Equation 7-1 shows the Static Pressure Calculation as follows.

$$\textbf{Static Pressure} = \frac{(\textbf{Pressure Zone HGL} - \textbf{Service Elevation})}{\textbf{2.31}} \qquad \textbf{(7-1)}$$

SOURCE CAPACITY EVALUATION

This section evaluates the combined capability of the City's existing sources to determine if they have sufficient capacity to meet the overall demands of the water service area based on existing and future water demands. The section that follows will address the evaluation of the individual facilities to determine if they have sufficient capacity to meet the existing and future demands of the water system. This section also identifies facility deficiencies that are not related to the capacity of the sources.

Analysis Criteria

Supply facilities must be capable of adequately and reliably supplying high-quality water to the system. In addition, supply facilities must provide a sufficient quantity of water at pressures that meet the requirements of Washington Administrative Code (WAC) 246-290-230. The evaluation of the combined capacity of the sources in this section is based on the criteria that they provide supply to the system at a rate that is equal to or greater than the maximum day demand (MDD) of the system.

Source Capacity Analysis Results

The combined capability of the City's active sources to meet both existing and future demand requirements, based on existing pumping and treatment capacities of the individual supply facilities and instantaneous water rights, is presented in **Table 7-2**. The demands used in the evaluation for

2030, 2033, and 2040 are future demand projections without reductions from water use efficiency (WUE) efforts as shown in **Table 4-15** of **Chapter 4**. Therefore, if additional reductions in water use are achieved through WUE efforts, the total source capacity required in the future will be less than that shown in **Table 7-2**.

Table 7-2

Water Source Capacity Evaluation

Description	Existing Instantaneous Water Right Capacity	Existing	Projected [1]		
		2020	2030 (+10 years)	2033 (+13 years)	2040 (+20 years)
Required Supply (gpm)					
Maximum Day Demand		**7,198**	**9,114**	**9,784**	**11,417**
Available Source Capacity (gpm)					
City Well	4,861	1,366	1,093	1,093	1,093
Route 10 Well		1,080	1,080	1,080	1,080
Hayward Well		1,097	1,097	1,097	1,097
Kiwanis Well		819	819	819	819
Whitney Well		772	772	772	772
Memorial Well	700	381	700	700	700
Rodeo Well	700	590	700	700	700
Mt. Stuart Well	1,700	649	649	649	649
Illinois Well		1,051	2,500	2,500	2,500
Brooklane Well	910	780	780	780	780
Airport Well No. 3	1,050	156	241	241	241
Unused Wells	510	-	-	-	-
Total Capacity	**10,431**	**8,741**	**10,431**	**10,431**	**10,431**
Surplus or Deficient Source Capacity (gpm)					
Surplus or Deficiency	**-**	**1,543**	**1,317**	**647**	**(986)**

1 = CIP M4 consolidates the City's water rights so that the City is able to fully utilize its existing instantaneous water right portfolio. The City will still require the development of an additional water right and source as described in CIPs M2 and M3.

MDD per **Table 4-15**.

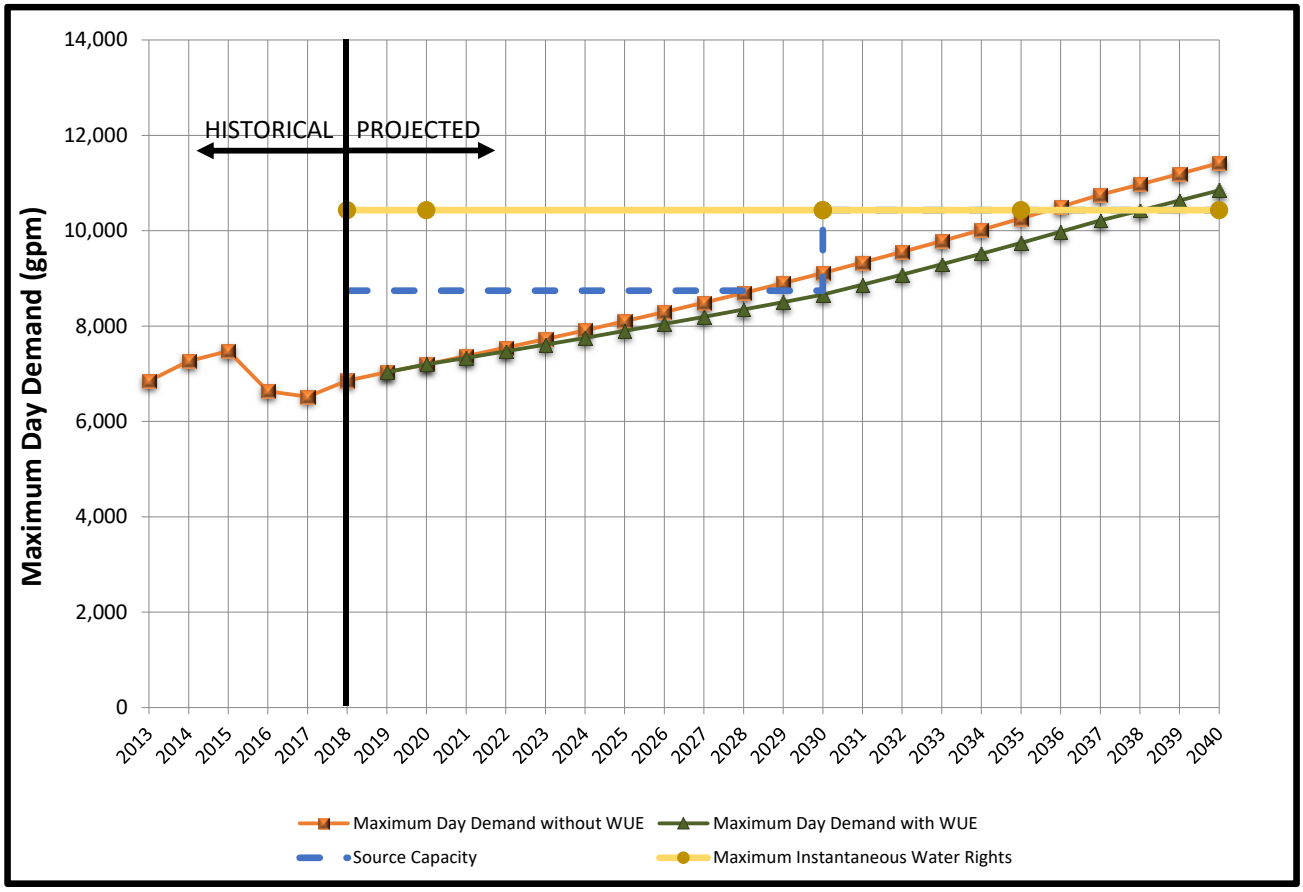
The results of the source capacity analysis indicate that the City has approximately 1,543 gallons per minute (gpm) of surplus source capacity to meet existing (year 2020) demands, approximately 1,317 gpm of surplus source capacity to meet 10-year (2030) demands, and approximately 647 gpm of surplus source capacity to meet 13-year (2033) demands. However, the City will have a source capacity deficiency of approximately 986 gpm by the end of the 20-year planning period (2040). The source capacity analysis shown in **Table 7-2** assumes that Capital Improvement Program (CIP) M4 will be completed by 2030; this project aims to consolidate the City's water rights so that they can be used more efficiently. Currently, the City makes use of 84 percent of its available water rights. Also, if the City were to operate the City Well, Route 10 Well, Hayward Well, Kiwanis Well, and Whitney Well at the pumping rates shown for the existing scenario in **Table 7-2**, then the City would exceed the instantaneous water right allocated to these wells. Therefore, for future scenarios, the City Well pumping rate has been reduced to 1,093 gpm. Other wells have been adjusted similarly to assumed pumping rates for the future scenarios to maximize the use of the City's existing water rights. Between 2030 and 2040, the City plans to conduct a study and develop

additional source capacity to remedy the projected deficiency. These projects are described in **Chapter 9** (CIP M2 and M3). An additional 1,000 gpm water right would be needed, as shown in **Table 7-2,** to resolve the 2040 projected source capacity deficiency.

Chart 7-1 shows the relationship between future and projected source capacity and demands.

Chart 7-1

Future Water Source Capacity and Demand Projections



MDD per **Table 4-15**.
Source capacity per **Table 7-2**.
Maximum instantaneous water rights per **Table 6-4**.

Facility Deficiencies

The City currently has permanent backup power with automatic transfer switches (ATS) onsite at the City Well, Route 10 Well, Hayward Well, Airport Well No. 3, and Illinois Well. The remaining supply sources do not have permanent on-site backup power. In order to improve system reliability and redundancy, and reduce the volume of standby storage required in the City's reservoirs, the City plans to install permanent backup power at all remaining sources: the Mt. Stuart Well, the Kiwanis Well, the Memorial Well, the Rodeo Well, the Whitney Well, and the Brooklane Well. These upgrades are described in **Chapter 9** (CIP F2).

WATER SUPPLY FACILITIES EVALUATION

This section evaluates the existing supply facilities to determine if they have sufficient capacity to provide water supply at a rate that meets the existing and future demands of each of the zones they supply. **Figures 2-1** and **2-2** in **Chapter 2** show the pressure zones described within this section. This section also identifies deficiencies that are not related to the capacity of the supply facilities.

Analysis Criteria

The evaluation to determine if supply facilities have adequate capacity is based on one of two criteria, as follows: 1) if the pressure zone that the facility provides supply into has water storage, then the amount of supply required is equal to the MDD of the zone; or 2) if the pressure zone that the facility provides supply into does not have water storage, then the amount of supply required is equal to the peak hour demand (PHD) and maximum fire flow requirement of the zone. The higher supply requirement of the latter criteria is compensating for the lack of equalizing and fire flow storage that typically is utilized to provide short-term supply during times of peak system demands. Where fire flow is supplied by pumping, it must be assumed for the analyses that the largest pump supplying the pressure zone is out of service. Calculations were performed for each pressure zone based on these criteria, with a description of the results provided for each pressure zone in the following sections.

It is assumed for the future system analyses that projected future customer demands will be allocated based on the existing percentages shown in **Table 4-8** of **Chapter 4**.

Supply Analysis Results

1740 Zone

The City's 1740 Zone contains the Craig Hill Reservoir; therefore, it is subject to the MDD requirement. The future 1760 Zone, CIP PZ1, is proposed to be a closed zone that will be supplied from the 1740 Zone; therefore, the 1760 Zone's MDD has been included in the required supply in **Table 7-3**. The 1740 Zone is directly supplied by the City Well, Route 10 Well, Hayward Well, Mt. Stuart Well, Kiwanis Well, Memorial Well, Rodeo Well, and the Whitney Well, which have an existing combined capacity of approximately 6,754 gpm. During the review of this WSP, DOH required that the Vuecrest Booster Pump Station (BPS) (required supply) and PRVs (available capacity) be added to **Table 7-3**. The available flow rate from the PRVs varies with the pressure differential (refer to the discussion in **Chapter 2**); **Table 7-3** includes what is believed to be a conservative estimate.

Table 7-3

1740 Zone Supply Capacity Evaluation

Description	Existing 2020	Projected [1] 2030 (+10 years)	2033 (+13 years)	2040 (+20 years)
Required Supply (gpm)				
1740 Zone MDD[2]	5,604	5,255	5,641	6,583
1760 Zone MDD	-	202	217	254
Vuecrest BPS	1,700	2,000	2,000	2,000
Total Required Supply	**7,304**	**7,458**	**7,859**	**8,837**
Available Supply Capacity (gpm)				
City Well	1,366	1,093	1,093	1,093
Route 10 Well	1,080	1,080	1,080	1,080
Hayward Well	1,097	1,097	1,097	1,097
Mt. Stuart Well	649	649	649	649
Kiwanis Well	819	819	819	819
Memorial Well	381	700	700	700
Rodeo Well	590	700	700	700
Whitney Well	772	772	772	772
Transfer Station (Estimated Flow Rate)	1,000	1,000	1,000	1,000
Illinois Well PRV (Estimated Flow Rate)	-	1,000	1,000	1,000
Total Supply Capacity	**7,754**	**8,910**	**8,910**	**8,910**
Surplus or Deficient Supply Capacity (gpm)				
Surplus or Deficiency	**450**	**1,452**	**1,051**	**73**

1 = CIP M4 consolidates the City's water rights so that the City is able to fully utilize its existing instantaneous water right portfolio. The City will still require the development of an additional water right and source as described in CIPs M2 and M3.

2 = Existing 1740 Zone MDD per **Table 4-15** and **Table 4-8**.

The well pumping rates shown for 2030, 2033, and 2040 in **Table 7-3** assume that the City is able to consolidate its water rights for more efficient use of its existing water rights. With this assumption, the City is projected to have a surplus supply capacity of approximately 73 gpm in the 1740 Zone at the end of the planning period.

1824 Zone

The City's 1824 Zone contains the Airport Reservoir; therefore, it is subject to the MDD requirement. The future 1860 Zone, CIP PZ2, is proposed to be a closed zone that will be supplied from the 1824 Zone; therefore, the 1860 Zone's MDD has been included in the required supply in **Table 7-4**. The 1824 Zone currently is supplied by the Brooklane Well, Airport Well No. 3, the Illinois Well, and the Vuecrest BPS, which have an existing combined capacity of approximately 3,687 gpm. During the review of this WSP, DOH required that the PRVs be added as "required supply" in

Table 7-4. The available flow rate from the PRVs varies with the pressure differential (refer to the discussion in **Chapter 2**); **Table 7-4** includes what is believed to be a conservative estimate. However, these PRVs currently are not, and are not anticipated to become, required normal supply to the 1740 Zone. Accordingly, the future supply deficiency that is presented in **Table 7-4** is not a true deficiency, assuming that the City is able to consolidate its existing water rights, and develop an additional water right and source as described previously.

Table 7-4

1824 Zone Supply Capacity Evaluation

	Existing	Projected [1]		
Description	2020	2030 (+10 years)	2033 (+13 years)	2040 (+20 years)
Required Supply (gpm)				
1824 Zone MDD[2]	1,594	3,638	3,905	4,557
1860 Zone MDD	-	18	20	23
Transfer Station (Estimated Flow Rate)	1,000	1,000	1,000	1,000
Illinois Well PRV (Estimated Flow Rate)	-	1,000	1,000	1,000
Total Required Supply	**2,594**	**5,656**	**5,925**	**6,580**
Available Supply Capacity (gpm)				
Brooklane Well	780	780	780	780
Airport Well No. 3	156	241	241	241
Illinois Well	1,051	2,500	2,500	2,500
Vuecrest BPS[3]	1,700	2,000	2,000	2,000
Total Supply Capacity	**3,687**	**5,521**	**5,521**	**5,521**
Surplus or Deficient Supply Capacity (gpm)				
Surplus or Deficiency	**1,093**	**(135)**	**(404)**	**(1,059)**

1 = CIP M4 consolidates the City's water rights so that the City is able to fully utilize its existing instantaneous water right portfolio. The City will still require the development of an additional water right and source as described in CIPs M2 and M3.

2 = Existing 1824 Zone MDD per **Table 4-15** and **Table 4-8**.

3 = CIP F6 proposes increasing the capacity of the Vuecrest BPS to provide the required fire flow near the Knudson Lumber Co.

1760 Zone (Future)

In order to resolve low pressure deficiencies in the 1740 Zone, a new closed 1760 Zone will be constructed on Craig Hill before 2030 (CIP PZ1, identified in **Chapter 9** and shown on **Figures 9-1** and **9-2**). The proposed 1760 Zone will be supplied by a new closed zone BPS. **Table 7-5** shows the supply capacity evaluation for the proposed 1760 Zone. Because the 1760 Zone will not have storage, the estimated capacity of the 1760 Zone BPS includes capacity to supply the highest planning-level fire flow requirement in the future 1760 Zone (1,000 gpm for single-family residential land use) and the estimated PHD of the proposed 1760 Zone.

During review of this WSP, DOH commented that the 1760 Zone demands that were "carved out" of the 1740 Zone demands to determine the 1760 Zone PHD may be too low, as the smaller pressure zone would have a relatively higher peaking factor. The predesign for the 1760 Zone BPS will include a more detailed review of the PHD that the pump station will be required to supply.

Table 7-5

1760 Zone Supply Capacity Evaluation

Description	Projected 2030 (+10 years)	Projected 2033 (+13 years)	Projected 2040 (+20 years)
Required Supply (gpm)			
1760 Zone PHD	328	352	411
1760 Zone Maximum Fire Flow Requirement	1,000	1,000	1,000
Total Required Supply	**1,328**	**1,352**	**1,411**
Available Supply Capacity (gpm)			
1760 Zone BPS	1,500	1,500	1,500
Total Supply Capacity	**1,500**	**1,500**	**1,500**
Surplus or Deficient Supply Capacity (gpm)			
Surplus or Deficiency	**172**	**148**	**89**

1860 Zone (Future)

In order to resolve storage deficiencies identified later in this chapter, a new 1824 Zone reservoir will be constructed (CIP F4) and an 1860 Zone will be developed (CIP PZ2). As a part of CIP PZ2, which is identified in **Chapter 9** and shown on **Figure 9-1** and **Figure 9-2**, portions of the distribution system near the airport will be converted from the 1824 Zone to the proposed 1860 Zone to mitigate low service pressures and minimize dead storage in the Airport Reservoir. Because the 1860 Zone does not include storage, the supply requirement is the PHD of the area supplied plus the highest planning-level fire flow requirement in the proposed 1860 Zone, which is 4,000 gpm for 4 hours for the industrial land use type. **Table 7-6** shows the estimated supply capacity evaluation of the 1860 Zone.

During review of this WSP, DOH commented that the 1860 Zone demands that were "carved out" of the 1824 Zone demands to determine the 1860 Zone PHD may be too low, as the smaller pressure zone would have a relatively higher peaking factor. The predesign for the 1860 Zone BPS will include a more detailed review of the PHD that the pump station will be required to supply.

Table 7-6

1860 Zone Supply Capacity Evaluation

Description	Projected 2030 (+10 years)	Projected 2033 (+13 years)	Projected 2040 (+20 years)
Required Supply (gpm)			
1860 Zone PHD	30	32	37
1860 Zone Maximum Fire Flow Requirement	4,000	4,000	4,000
Total Required Supply	**4,030**	**4,032**	**4,037**
Available Supply Capacity (gpm)			
1860 Zone BPS[1]	4,100	4,100	4,100
Total Supply Capacity	**4,100**	**4,100**	**4,100**
Surplus or Deficient Supply Capacity (gpm)			
Surplus or Deficiency	**70**	**68**	**63**

1 = Constructed as part of CIP PZ2.

Table 7-3, **Table 7-4**, **Table 7-5**, and **Table 7-6** show that all existing and proposed pressure zones will have sufficient supply capacity by the end of the planning period, assuming all required CIP projects identified in **Chapter 9** are completed.

STORAGE FACILITIES

This section evaluates the City's existing water storage tanks to determine if they have sufficient capacity to meet the existing and future storage requirements of the system. This section also identifies facility deficiencies that are not related to the capacity of the water tanks.

It is assumed for the future system analyses that projected future customer demands will be allocated based on the existing percentages shown in **Table 4-8**.

Analysis Criteria

Water storage is typically made up of the following components: operational storage; equalizing storage; standby storage; fire flow storage; and dead storage. Each storage component serves a different purpose and will vary from system to system. A definition of each storage component and the criteria used to evaluate the capacity of the City's storage tanks is provided as follows.

Operational Storage – Volume of the reservoir used to supply the water system under normal conditions when the source or sources of supply are not delivering water to the system (i.e., sources are in the off mode). Operational storage is essentially the average amount of drawdown in the reservoir during normal operating conditions, which represents a volume of storage that will most likely not be available for equalizing storage, fire flow storage, or standby storage. The operational storage is based on the amount of storage between the fill, or pump starting setpoint level, and the pump off elevation or overflow elevation of the tank.

Equalizing Storage – Volume of the reservoir used to supply the water system under peak demand conditions when the system demand exceeds the total rate of supply of the sources. The Washington State Department of Health (DOH) requires that equalizing storage be stored above an elevation that will provide a minimum pressure of 30 psi at all service connections throughout the system under PHD conditions. Because the City's supply sources primarily operate on a "call on demand" basis to fill the reservoirs, the equalizing storage requirements are determined using the standard DOH formula that considers the difference between the system PHD and the combined capacity of the supply sources:

$$\mathbf{ES = (PHD - Q_S)(150\ minutes)}, \text{ but in no case less than zero}$$

Where:

ES = Equalizing Storage, in gallons

PHD = Peak Hour Demand, in gpm

Q_S = Sum of all installed and active sources, except emergency supply, in gpm.

For the purposes of these analyses, supply to the 1740 Zone through the Transfer Station and Illinois Well PRV were excluded. Supply to the 1824 Zone through the Vuecrest BPS also was excluded.

If the capacities of the sources that supply each zone are sufficient to meet the peak hour demands of their zones, the equalizing storage requirement for that supply area is zero.

Standby Storage – Volume of the reservoir used to supply the water system under emergency conditions when supply facilities are out of service due to equipment failures, power outages, loss of supply, transmission main breaks, and any other situation that disrupts the supply source. DOH requires that standby storage be stored above an elevation that will provide a minimum pressure of 20 psi at all service connections throughout the system. The criteria for determining the standby storage requirements for the City's system is based on the DOH recommendation that standby storage equal one day of maximum day demands. This volume may be reduced for pressure zones with multiple sources of supply that each have permanent backup power that starts automatically. The calculated volume is sufficient to supply the system for a 24-hour period when the primary supply facility is out of service and the system is experiencing maximum day demands:

$$\mathbf{SB = (1\ day)[(ERU_{MDD})(N) - (1\ day)(Q_S - Q_L)]}$$

Where:

SB = Standby Storage, in gallons

ERU_{MDD} = Maximum Day Demand per ERU, in gallons per day (gpd) per ERU

N = Number of ERUs

Q_S = Sum of all installed and continuously available sources with permanent backup power that starts automatically, except emergency supply, in gpd

Q_L = The capacity of the largest continuously available source with permanent backup power that starts automatically, in gpd.

DOH recommends that the minimum standby storage volume be no less than 200 gallons per ERU. During the review of the draft WSP, DOH required that the ERU_{MDD} be multiplied by 1.09, as described in **Chapter 4**. This resulted in the calculated standby storage being reduced in situations where the 200 gallons per ERU recommendation was applied. Accordingly, this minimum standby storage volume has been increased to 218 gallons per ERU to preserve the originally calculated standby storage volumes.

Fire Flow Storage – Volume of the reservoir used to supply water to the system at the maximum rate and duration required to extinguish a fire at the building with the highest fire flow requirement. The magnitude of the fire flow storage is the product of the fire flow rate and duration of the system's maximum fire flow requirement established by the local fire authority. DOH requires that fire flow storage be stored above an elevation that will provide a minimum pressure of 20 psi at all points throughout the distribution system under MDD conditions.

Dead Storage – Volume of the reservoir that cannot be used because it is stored at an elevation that does not provide system pressures that meet the minimum pressure requirements established by DOH without pumping. This unusable storage occupies the lower portion of most ground-level reservoirs. Water that is stored below an elevation that cannot provide a minimum pressure of 20 psi is considered dead storage for the analyses that follow.

Storage Analysis Results

System-Wide Storage

Table 7-7 shows the existing and future storage scenarios for the City's water system, assuming all required CIP projects as described in **Chapter 9** are completed. Sample calculations for storage volumes are included in the individual operating area sections that follow. The existing storage capacity analysis indicates that the City currently has a storage deficiency of approximately 6.5 million gallons (MG). This is due to the amount of dead storage required in the system to mitigate low service pressures and a lack of redundant power supply at some of the City's sources.

Table 7-7

System-Wide Storage Capacity Evaluation with Improvements

Description	Existing		Projected					
	2020		2030 (+10 years)		2033 (+13 years)		2040 (+20 years)	
	1740/1760 Operating Area	1824/1860 Operating Area	1740/1760 Operating Area	1824/1860 Operating Area	1740/1760 Operating Area	1824/1860 Operating Area	1740/1760 Operating Area	1824/1860 Operating Area
Available/Usable Storage (MG)								
Maximum Storage Capacity	3.84	1.04	3.84	5.11	3.84	5.11	3.84	5.11
Dead (Non-Usable) Storage	2.43	0.64	0.00	0.29	0.00	0.29	0.00	0.29
Total Available Storage	**1.81**		**8.65**		**8.65**		**8.65**	
Required Storage (MG)								
Operational Storage	0.25	0.04	0.25	0.04	0.25	0.04	0.25	0.04
Equalizing Storage	0.35	0.09	0.29	0.36	0.39	0.43	0.62	0.58
Standby Storage	4.94	0.56	1.87	2.04	2.08	2.42	2.34	2.25
Fire Flow Storage	1.20	0.96	1.20	0.96	1.20	0.96	1.20	0.96
Total Required Storage	**8.39**		**7.01**		**7.77**		**8.25**	
Surplus or Deficient Storage (MG)								
Surplus or Deficient Amount	**(6.58)**		**1.64**		**0.88**		**0.40**	

Without the implementation of the CIP projects described in **Chapter 9**, the City is projected to have a storage deficiency of approximately 13.7 MG by the end of the planning period. This is primarily due to the standby storage requirements at the end of the planning period.

1740/1760 Operating Area

As shown in **Table 7-8**, the 1740/1760 Operating Area (OA) has an existing maximum storage capacity of approximately 3.84 MG provided by the Craig Hill Reservoir, assuming the maximum storage used is up to 61 feet of tank height. Due to high elevation services near the Craig Hill Reservoir, the 1740 Zone has approximately 2.43 MG of dead storage (**Equations 7-2** and **7-3**). **Table 7-8** shows the storage capacity analysis for the duration of the planning period if no CIP projects were to be completed. The two factors that cause large deficiencies in the 1740/1760 OA include the dead storage and lack of redundant power supply to some of the City's sources.

Equation 7-2 shows the calculation for Maximum Storage Capacity as follows.

$$\textbf{Maximum Storage Capacity} = \textbf{Reservoir Storage per Foot} * \textbf{Reservoir Height (ft)} \quad \textbf{(7-2)}$$

Equation 7-3 shows the calculation for Dead Storage Volume as follows.

$$\textbf{Dead Storage Volume} = \textbf{Reservoir Storage per Foot} * (\textbf{(Highest Service Elevation + 20 psi)} - \textbf{(Tank Base Elevation)}) \quad \textbf{(7-3)}$$

Table 7-8

1740/1760 OA Storage Capacity Evaluation Without Improvements

Description	Existing	Projected		
	2020	2030 (+10 years)	2033 (+13 years)	2040 (+20 years)
Available/Usable Storage (MG)				
Maximum Storage Capacity	3.84	3.84	3.84	3.84
Dead (Non-Usable) Storage	2.43	2.43	2.43	2.43
Total Available Storage	**1.41**	**1.41**	**1.41**	**1.41**
Required Storage (MG)				
Operational Storage	0.25	0.25	0.25	0.25
Equalizing Storage	0.35	0.31	0.41	0.65
Standby Storage	4.94	4.72	5.30	6.71
Fire Flow Storage	1.20	1.20	1.20	1.20
Total Required Storage	**6.74**	**6.49**	**7.16**	**8.81**
Surplus or Deficient Storage (MG)				
Surplus or Deficient Amount	**(5.33)**	**(5.08)**	**(5.76)**	**(7.40)**

Future conversion of the services near the Craig Hill Reservoir to the 1760 Zone (CIP PZ1) will reduce the dead storage volume in the 1740 Zone to zero. Installation of redundant power at the remainder of the City's sources (CIP F2) will reduce the 2040 projected standby storage by approximately 4.4 MG. **Table 7-9** shows the 1740/1760 OA storage capacity analysis assuming all CIP projects have been implemented.

Table 7-9

1740/1760 OA Storage Capacity Evaluation with Proposed Improvements

Description	Existing	Projected		
	2020	2030 (+10 years)	2033 (+13 years)	2040 (+20 years)
Available/Usable Storage (MG)				
Maximum Storage Capacity	3.84	3.84	3.84	3.84
Dead (Non-Usable) Storage	2.43	0.00	0.00	0.00
Total Available Storage	**1.41**	**3.84**	**3.84**	**3.84**
Required Storage (MG)				
Operational Storage	0.25	0.25	0.25	0.25
Equalizing Storage	0.35	0.29	0.39	0.62
Standby Storage	4.94	1.87	2.08	2.34
Fire Flow Storage	1.20	1.20	1.20	1.20
Total Required Storage	**6.74**	**3.61**	**3.92**	**4.42**
Surplus or Deficient Storage (MG)				
Surplus or Deficient Amount	**(5.33)**	**0.23**	**(0.08)**	**(0.58)**

The 1740 Zone currently has 0.25 MG of operational storage, which is equivalent to a 4-foot band of the Craig Hill Reservoir. Equalizing storage (**Equation 7-4**) is required in the 1740 Zone because the supply capacity does not exceed the 1740 Zone's peak hour demand for the planning period.

Equation 7-4 shows the calculation for Operational Storage Volume as follows.

$$\textbf{Operational Storage Volume} = \textbf{Reservoir Storage per Foot} * \textbf{Operational Band (ft)} \quad \textbf{(7-4)}$$

Required standby storage under existing conditions is equal to one day of maximum day demands minus the sum of all sources with backup power that start automatically with the largest supply source in the 1740/1760 OA out of service. As permanent backup power with ATS is installed at the Mt. Stuart Well, the Kiwanis Well, the Memorial Well, the Rodeo Well, and the Whitney Well, the required standby storage volume will be reduced in the future. As a result, the recommended minimum standby storage volume of 218 gallons per ERU is utilized for the 20-year required storage projection. Under 20-year average day demand (ADD) conditions with no supply to the zone, the standby storage would be depleted in approximately 13 hours.

The required fire flow storage of 1.2 MG is based on the Heavy Industrial land use type's planning-level fire flow requirement of 4,000 gpm for 5 hours.

As described in **Chapter 9**, the City plans to construct a new closed 1760 Zone (CIP PZ1) and install backup generators with ATS at the remaining 1740 Zone wells (CIP F2) to reduce the amount of dead storage and standby storage required in the 1740 Zone. These improvements to the system will free up existing storage in the Craig Hill Reservoir and lower the required standby storage in the 1740/1760 OA. As shown in **Table 7-9**, the 1740/1760 OA has a storage deficiency for the existing and projected scenarios of the storage capacity analysis; however, as shown in **Table 7-7**,

there is projected surplus storage in the 1824/1860 OA that will be available to the 1740/1760 OA to meet the storage requirements in the 1740/1760 OA.

1824/1860 Operating Area

As shown in **Table 7-10**, the 1824 Zone has an existing maximum storage capacity of approximately 1.04 MG provided by the Airport Reservoir, assuming only 96 feet of the reservoir's height is used. Due to high elevation services near the Airport Reservoir, the 1824 Zone has approximately 0.64 MG of existing dead storage. Future conversion of the high elevation services near the reservoir to the 1860 Zone (CIP PZ2) will reduce the dead storage volume in the Airport Reservoir to 0.29 MG. Further reduction in dead storage in the Airport Reservoir would be difficult to accomplish due to the high elevation services that are located near Brick Road and Game Farm Road.

Table 7-10

1824/1860 OA Storage Capacity Evaluation Without Improvements

	Existing	Projected		
Description	**2020**	**2030 (+10 years)**	**2033 (+13 years)**	**2040 (+20 years)**
Available/Usable Storage (MG)				
Maximum Storage Capacity	1.04	1.04	1.04	1.04
Dead (Non-Usable) Storage	0.64	0.64	0.64	0.64
Total Available Storage	**0.40**	**0.40**	**0.40**	**0.40**
Required Storage (MG)				
Operational Storage	0.04	0.04	0.04	0.04
Equalizing Storage	0.09	0.59	0.66	0.81
Standby Storage	0.56	3.53	3.91	4.86
Fire Flow Storage	0.96	0.96	0.96	0.96
Total Required Storage	**1.65**	**5.12**	**5.57**	**6.68**
Surplus or Deficient Storage (MG)				
Surplus or Deficient Amount	**(1.25)**	**(4.72)**	**(5.17)**	**(6.28)**

Table 7-10 shows the storage capacity analysis of the 1824/1860 OA if no improvements described in **Chapter 9** are implemented. This analysis indicates that the 1824/1860 OA would have a 6.28 MG deficiency at the end of the planning period, mostly due to the required standby storage.

Table 7-11 shows the storage capacity analysis for the 1824/1860 OA if all projects recommended in **Chapter 9** are implemented.

Table 7-11

1824/1860 OA Storage Capacity Evaluation with Improvements

Description	Existing	Projected		
	2020	2030 (+10 years)	2033 (+13 years)	2040 (+20 years)
Available/Usable Storage (MG)				
Maximum Storage Capacity	1.04	5.11	5.11	5.11
Dead (Non-Usable) Storage	0.64	0.29	0.29	0.29
Total Available Storage	**0.40**	**4.81**	**4.81**	**4.81**
Required Storage (MG)				
Operational Storage	0.04	0.04	0.04	0.04
Equalizing Storage	0.09	0.36	0.43	0.58
Standby Storage	0.56	2.04	2.42	2.25
Fire Flow Storage	0.96	0.96	0.96	0.96
Total Required Storage	**1.65**	**3.40**	**3.85**	**3.83**
Surplus or Deficient Storage (MG)				
Surplus or Deficient Amount	**(1.25)**	**1.41**	**0.96**	**0.98**

The operational storage component of 0.04 MG, as shown in **Table 7-11**, is based on the existing operational band of 4 feet currently used by the City. Equalizing storage is required in the 1824/1860 OA projected scenarios because the supply capacity would not exceed the zone's peak hour demand. The standby storage is based on one day of maximum day demands minus the sum of all sources with backup power that start automatically with the largest supply source in the 1824/1860 OA out of service (for the standby storage analysis, the Vuecrest BPS was considered to be a source; if omitted, the 2040 standby storage component increases by approximately 2.9 MG). The highest planning-level fire flow requirement in the 1824/1860 OA is 4,000 gpm for 4 hours for areas of Light Industrial land use. This results in an existing required fire flow storage volume of 0.96 MG.

As shown in **Table 7-11**, the 1824/1860 OA currently has a storage deficiency of approximately 1.25 MG. As described in **Chapter 9**, the City plans to construct a new 1824 Zone Reservoir by 2030 to remedy the system's storage deficiency. The new 1824 Zone Reservoir should be constructed with the base elevation of the reservoir above an elevation of approximately 1,750 feet, if possible, in order to have a dead storage requirement of zero. The new 1824 Zone Reservoir will be constructed with a useable storage capacity of approximately 4.0 MG to remedy the storage deficiencies in the 1824/1860 OA for the 20-year planning period. It was also assumed that when the new 1824 Zone Reservoir is constructed, system controls can/will be configured to utilize the full height of the Airport Reservoir. Surplus storage in the 1824/1860 OA will be utilized for the storage requirements of the 1740/1760 OA as shown in **Table 7-7**.

Facility Deficiencies

The City's storage facilities are generally in good condition with few deficiencies. Some corrosion control CIP projects are recommended as described in **Chapter 9** (CIP F1). Specifically, the Craig Hill Reservoir's rectifier needs to be replaced, and the galvanic anode cathodic protection system needs to be replaced at the Airport Reservoir.

The Craig Hill Reservoir is not seismically restrained and may be vulnerable to damage during an earthquake.

DISTRIBUTION AND TRANSMISSION SYSTEM

This section evaluates the City's existing distribution and transmission system (i.e., water mains) to determine if it is adequately sized and looped to provide the necessary flow rates and pressures to meet the existing and future requirements of the system. This section also identifies deficiencies that are not related to the capacity of the water mains.

Analysis Criteria

Distribution and transmission mains must be capable of adequately and reliably conveying water throughout the system at acceptable flow rates and pressures. The criteria used to evaluate the City's distribution and transmission system are the state mandated requirements for Group A water systems contained in WAC 246-290-230 – Distribution Systems. The pressure analysis criteria state that the distribution system "…shall be designed with the capacity to deliver the design PHD quantity of water at 30 psi (210 kPa) under PHD flow conditions measured at all existing and proposed service water meters…" It also states that if fire flow is to be provided, "… the distribution system shall also provide MDD plus the required fire flow at a pressure of at least 20 psi (140 kPa) at all points throughout the distribution system…"

Hydraulic analyses of the existing system were performed under existing PHD conditions to evaluate its current pressure capabilities and identify existing system deficiencies. The existing system also was analyzed under existing MDD conditions to evaluate the current fire flow capabilities and identify additional existing system deficiencies. Additional hydraulic analyses were then performed with the same hydraulic model under future PHD and MDD conditions and with the proposed improvements to demonstrate that the identified improvements will eliminate the deficiencies and meet the requirements far into the future. The following is a description of the hydraulic model, the operational conditions, and facility settings used in the analyses.

Hydraulic Model

Description

A computer-based hydraulic model of the existing water system was updated to the CONNECT edition of the WaterGEMS® program (developed by Bentley Systems, Inc.). All water mains in the City's water system, including dead-end mains, were included in the model and were based on GIS water system mapping and as-built records provided by the City. Junction node elevations were assigned based on 2-foot-interval contour data obtained from the City. A hydraulic model node

diagram that provides a graphical representation of the model of the water system is contained in **Appendix M**.

Demand Data

The hydraulic model of the existing system contains demands based on 2018 individual customer meter water demand data provided by the City. Demand data for each parcel was distributed to the closest representative junction node of the model based on the recorded usage. Demands were then uniformly scaled from 2018 actual demand data to 2020 demands calculated in **Chapter 4**, resulting in the existing system 2020 ADD. The 2020 ADD was then uniformly scaled to simulate the 2020 MDD and PHD. The peaking factors calculated in **Chapter 4** were used to analyze the system under PHD and MDD conditions.

The hydraulic model of the proposed system contains 10-year demand levels that are projected for the year 2030, and 20-year demand levels that are projected for the year 2040. The future demand distribution used for hydraulic modeling purposes was based on the original 2018 demand distribution used for calibrating the hydraulic model, as shown in **Table 4-8**.

Facilities

The hydraulic model of the existing system contains all active existing system facilities. For the proposed system analyses in the years 2030 and 2040, the hydraulic model contains all active existing system facilities and proposed system improvements identified in **Chapter 9** for the 10- and 20-year planning periods, respectively.

The facility settings for the pressure analyses corresponded to a PHD event in the water system. Sources of supply for projected years 2030 and 2040 were operating as specified in **Table 7-12**, with adjusted pumping rates shown in **Table 7-2**. The reservoir levels were modeled to reflect full utilization of operational and equalizing storage. The operational conditions for the pressure and fire flow analyses are summarized in **Equation 7-5** and **Table 7-12**.

Equation 7-5 shows the calculation for PHD Pressure Analysis Reservoir Level as follows.

$$\textbf{PHD Pressure Analysis Reservoir Level} = \textbf{Tank Overflow Elevation} - \left(\frac{\textbf{OS Volume + ES Volume}}{\textbf{Tank Volume per Foot}}\right) \qquad \textbf{(7-5)}$$

Table 7-12
Hydraulic Analyses Operational Conditions

Description	PHD Pressure Analyses			Fire Flow Analyses		
	2020	2030 (+10 years)	2040 (+20 years)	2020	2030 (+10 years)	2040 (+20 years)
Demand	2020 PHD	2030 PHD	2040 PHD	2020 MDD	2030 MDD	2040 MDD
Storage Facilities HGL (feet)						
Craig Hill Reservoir	1,728.0	1,728.9	1,723.6	1,708.9	1,709.8	1,704.5
Airport Reservoir	1,805.8	1,821.1	1,819.5	1,722.0	1,814.2	1,812.6
Future 1824 Zone Reservoir[1]	-	1,821.1	1,819.5	-	1,814.2	1,812.6
Supply Facilities Status						
City Well	ON	OFF	OFF	ON	OFF	OFF
Route 10 Well	ON	OFF	OFF	ON	ON	ON
Hayward Well	ON	ON	ON	ON	ON	ON
Mt. Stuart Well	ON	OFF	OFF	ON	ON	ON
Kiwanis Well	ON	OFF	OFF	ON	ON	ON
Memorial Well	ON	ON	ON	ON	ON	ON
Rodeo Well	ON	ON	ON	ON	ON	ON
Whitney Well	ON	ON	ON	ON	ON	ON
Illinois Well	ON	ON	ON	ON	ON	ON
Brooklane Well	ON	ON	ON	ON	ON	ON
Airport Well No. 3	ON	OFF	OFF	ON	OFF	OFF
BPS Facilities Status						
Vuecrest BPS Lead	OFF	OFF	ON	OFF	ON	ON
Vuecrest BPS Lag	OFF	OFF	ON	OFF	ON	ON
Future Additional Vuecrest Pump[2]	-	-	ON	-	-	ON
Future 1760 Zone BPS	-	ON	ON	-	ON	ON
Future 1860 Zone BPS[3]	-	ON	ON	-	ON	ON
Pressure Reducing Valves HGL Setpoint (feet)[1]						
Transfer Station	OFF	OFF	OFF	OFF	OFF	OFF
Future 1824/1740 PRV[4]	-	-	ON	-	-	ON

1 = Additional 4.0 MG reservoir installed as CIP F4.
2 = The capacity of the Vuecrest BPS is proposed to be improved as CIP F6.
3 = CIP PZ2 includes the installation of a new BPS for a new closed 1860 Zone.
4 = Additional transference capacity between the 1740 Zone and the 1824 Zone is recommended as CIP PZ3.
HGL = Hydraulic Grade Line

Separate fire flow analyses were performed on the system to size distribution system improvements and calculate fire flow availability. The hydraulic model for the fire flow analyses contained settings that correspond to MDD events. Sources of supply for projected years 2030 and 2040 were operating as specified in **Table 7-12** with adjusted pumping rates shown in **Table 7-2**. Reservoir levels were modeled to reflect full utilization of operational, equalizing, and fire flow storage based on the maximum planning-level fire flow requirement (**Equation 7-6**).

Equation 7-6 provides the sample calculation for Fire Flow (FF) Analysis Reservoir Level as follows.

$$\textbf{FF Analysis Reservoir Level} = \textbf{Reservoir Overflow Elevation} - \left(\frac{\textbf{OS Volume + ES Volume + FF Volume}}{\textbf{Reservoir Volume per Foot}}\right) \qquad \textbf{(7-6)}$$

Calibration

Hydraulic model calibration is the process of adjusting hydraulic model data so the model closely reflects actual system pressures and flows under similar demand and operating conditions. Initial Darcy-Weisbach roughness coefficients were entered into the model based on computed estimates of the coefficients from available pipe age and material data. For example, assuming that the internal surface of water pipes becomes rougher as it gets older, older water mains were assigned higher roughness coefficients than new water mains.

Hydrant flow tests were performed in 28 locations in late 2019, with hydrant flows, static pressures, and residual pressures measured during each test for use in calibrating the hydraulic model. Where available, telemetry data for the City's water system facilities was used to initialize the settings of the facilities in the hydraulic model. Pressure transducers recording at 2-second intervals were installed throughout each pressure zone during the flow tests to verify the static and residual pressures at intermediate points in the system (between the water system facilities and the hydrant flow test locations).

The majority of the City's field fire flow results were found to be consistent with the hydraulic model results after adjusting pipe roughness coefficients within typical ranges in the hydraulic model. Static tests in the system were calibrated with 100-percent accuracy within industry standards. Dynamic tests in the system were calibrated with 96-percent accuracy, with the only inconsistency occurring in the 1740 Zone near West 15th Avenue. The City will continue to investigate this discrepancy, which will enable the hydraulic model calibration to be improved over time.

Hydraulic Analysis Results

Hydraulic analyses were performed to determine the capability of the system to meet the pressure and fire flow requirements identified in **Chapter 5** and contained in WAC 246-290-230. The first analysis was performed to determine the pressure throughout the system under existing (i.e., 2020) PHD conditions. The results of this analysis were used to identify locations of low and high pressures. To satisfy the minimum pressure requirements, the pressure at all water service locations must be at least 30 psi during PHD conditions. In addition, the system should not have widespread areas with high pressures, generally considered to be more than 120 psi. A summary of the pressure deficiencies identified from the results of this analysis is shown on **Figure 7-1**.

The second set of analyses was performed to determine the capability of the existing water system to provide fire flow throughout the system under MDD conditions. A separate fire flow analysis was performed for each node in the model to determine the available fire flow at a minimum residual pressure of 20 psi at all points throughout the distribution system and a maximum allowable water main velocity of 8 feet per second (fps). Over 1,600 fire flow analyses were performed to comprehensively evaluate the water system. For each node analyzed, the resulting fire flow was compared to its general planning-level fire flow requirement, which was assigned according to its land use classification. As is typical of most water systems, the City's distribution system was constructed to meet fire flow requirements that were in place at the time of construction. Land use classification changes and/or increases in fire flow requirements over time may create deficiencies.

Due to low pressures shown on **Figure 7-1**, the fire flow that is available to the system does not meet the planning-level fire flow requirements indicated in **Chapter 4**.

Figure 7-2 shows the PHD pressure analysis with improvements that are required to be completed by 2030 to mitigate low pressure concerns in the system under a PHD scenario. CIPs PZ1, PZ2, and PZ3 resolve low pressure issues as shown in **Figure 7-2**. However, as mentioned previously, the City's distribution system was constructed to meet fire flow requirements that were in place at the time of construction; therefore, minimal fire flow is available to the system due to velocity constraints.

Figure 7-3 shows the pressure throughout the system under PHD conditions at the end of the 20-year planning period with all improvements completed. As shown on **Figure 7-3**, all service connections will be provided a pressure of at least 30 psi under PHD conditions when all improvements are completed. **Figure 7-4** shows the available fire flow throughout the water system at the end of the 20-year planning period with all improvements completed. As shown on **Figure 7-4**, with completion of all improvements, the minimum planning-level fire flow or greater will be available at all locations where fire flow is provided at the end of the 20-year planning period.

The 2030 and 2040 fire flow analyses indicate that the capacity of the Vuecrest BPS would need to be increased in order for planning-level fire flow requirements to be met; however, this result is based on the assumption that the City will not acquire a new water right. Should the City acquire a new water right and install a new well or increase the capacity of an existing well in the 1824 Zone, then the Vuecrest BPS would not need to be improved. A study of the 1824/1860 OA has been planned for in CIP F5 to evaluate this situation at the time it is needed.

Deficiencies

Customer pressures less than 40 psi under existing PHD conditions occur in the higher elevations of the 1824 Zone near the Airport Reservoir on W Bowers Road. Customer pressures less than 30 psi under PHD conditions occur in the higher elevations of the 1740 Zone on Craig Hill near the Craig Hill Reservoir. Completion of the CIP projects described in **Chapter 9** will create a new 1860 Zone near the airport (CIP PZ2) that will mitigate existing low pressures near the Airport Reservoir. The high elevation services near the airport will be converted to the 1860 Zone, resulting in customer service pressures under PHD conditions of 40 psi or greater throughout the proposed 1860 Zone. A new 1760 Zone will be created on Craig Hill (CIP PZ1) to mitigate low pressures under PHD conditions on Craig Hill. Completion of pressure zone boundary adjustment projects (CIPs PZ1, PZ2, and PZ3) and other CIP projects will result in all customer service pressures in the system being greater than 40 psi and under 120 psi during 2040 PHD conditions.

The available derated fire flow in the system cannot currently meet the new planning-level fire flow requirements that have been adopted by the City during this Water System Plan due to customer service pressures dropping below 20 psi near both of the City's two existing reservoirs. Fire flow meeting the pressure criteria cannot be provided in these pressure zones. High velocities also limit fire flow availability, and operating the system with high water velocities can potentially damage the system due to the high surge pressures that commonly occur with high water velocities. Allowing system pressures to drop below 20 psi can lead to unacceptably low service pressures and

the possibility of backflow into the distribution system. Water main and other improvements identified in **Chapter 9** have been sized to maintain system pressures above 20 psi and to prevent water velocities from exceeding 8 fps.

The existing Vuecrest BPS can provide the required fire flow to the entire 1824 Zone with the exception of the area near the Knudson Lumber Co. Based on information available during the preparation of this WSP, fire flows in this area are required to be approximately 5,750 gpm. In order to provide this level of fire flow service, the water main in the area is required to be sized at 20 inches (CIP WM1 No. 72), and the capacity of the Vuecrest BPS would need to be increased to 2,600 gpm. However, further evaluation is necessary to determine actual facility requirements and impacts to the distribution system. A study has been identified in **Chapter 9** (CIP F5) to confirm the required fire flow level of service in this area. A project to increase the capacity of the Vuecrest BPS also has been identified in **Chapter 9** (CIP F6); however, this project would be dependent on CIP F5.

Some areas of the system have water mains that are more than 50 years old, which is beyond the average life expectancy of water mains. The City is planning to replace many of these in the future, as shown in the schedule of planned improvements in **Chapter 9**. All new water main installations are required to use Class 52 ductile iron water main or high density polyethylene in accordance with the City's Construction Standards and Specifications, which are contained in **Appendix H**.

PRESSURE REDUCING STATIONS

This section evaluates the City's single existing pressure reducing station to identify any deficiencies related to its current condition and operational capability.

Evaluation and Deficiencies

There are currently no deficiencies with the existing Transfer Station. However, the Transfer Station is currently the only method of supplying water from the 1824 Zone to the 1740 Zone. The system's reliability, redundancy, and supply capacity would be improved with the installation of an additional PRV between the two existing pressure zones. Part of the Illinois Well design includes the installation of a PRV from the 1824 Zone to the 1740 zone, which will address this issue. Additional PRV CIP projects described in **Chapter 9** include the installation of a new PRV between the 1824 Zone and 1740 Zone (CIP PZ3) near Pfenning Road and E 3rd Avenue.

TELEMETRY AND SUPERVISORY CONTROL SYSTEM

This section evaluates the City's existing telemetry and supervisory control system to identify deficiencies related to its condition and current operational capability.

Evaluation and Deficiencies

The City's telemetry and supervisory control system consists of a supervisory control and data acquisition (SCADA) system with master control located at the existing Public Works Warehouse and Maintenance Shop site. Using the Intouch 2012 version of the Wonderware application, the operator can view and control parameters and operational settings for the system's supply sources,

storage tanks, and BPS, as well as view historical logs of system conditions. No deficiencies were identified in the City's SCADA system.

SYSTEM CAPACITY

This section evaluates the capacity of the City's existing and future water system components (supply, storage, transmission, and water rights) to determine the maximum number of ERUs it can serve. Once established, system capacity becomes useful in determining how much capacity is available in the water system to support new customers that apply for water service through the building permit process. The system capacity information, together with the projected growth of the system expressed in ERUs, as shown in **Chart 4-11** of **Chapter 4**, also provides the City with a schedule of when additional system capacity is needed.

During the WSP review, DOH requested that an ERU capacity analysis using the "Worksheet 4-1" format from the *Water System Design Manual* be provided. This has been included as **Appendix P**.

Analysis Criteria

The capacity of the City's system was determined from the limiting capacity of the water rights, source and treatment, transmission, and storage facilities. The annual water rights capacity evaluation was based on the existing annual water rights, as summarized in **Chapter 6**, and the system's average day demand per ERU (ERU_{ADD}). The instantaneous water rights capacity evaluation was based on the existing instantaneous water rights, as summarized in **Chapter 6**, and the system's maximum day demand per ERU (ERU_{MDD}). The source and treatment capacity analysis was based on the limiting capacity of the source and treatment facilities and the system's ERU_{MDD}. The transmission capacity analysis was based on the total capacity of the transmission system for the supply sources and the system's ERU_{MDD}.

The storage capacity analysis was based on the storage capacity for equalizing and standby storage and the computed storage requirement per ERU. Operational and fire flow storage capacity were excluded from the storage analysis because these components are generally not directly determined by water demand or ERUs. For the analyses, a reserve amount equivalent to the operational and fire flow storage requirements were deducted from the total available storage capacity to determine the storage capacity available for equalizing and standby storage. The storage capacity available for equalizing and standby storage was divided by the existing number of ERUs presented in **Chapter 4** to determine the storage requirement per ERU.

The ERU-based demand data was derived from the average day demand of the system and demand peaking factors from **Chapter 4**.

Capacity Analysis Results

A summary of the results of the existing and projected system capacity analysis without improvements implemented is shown in **Table 7-13** and **Chart 7-2**.

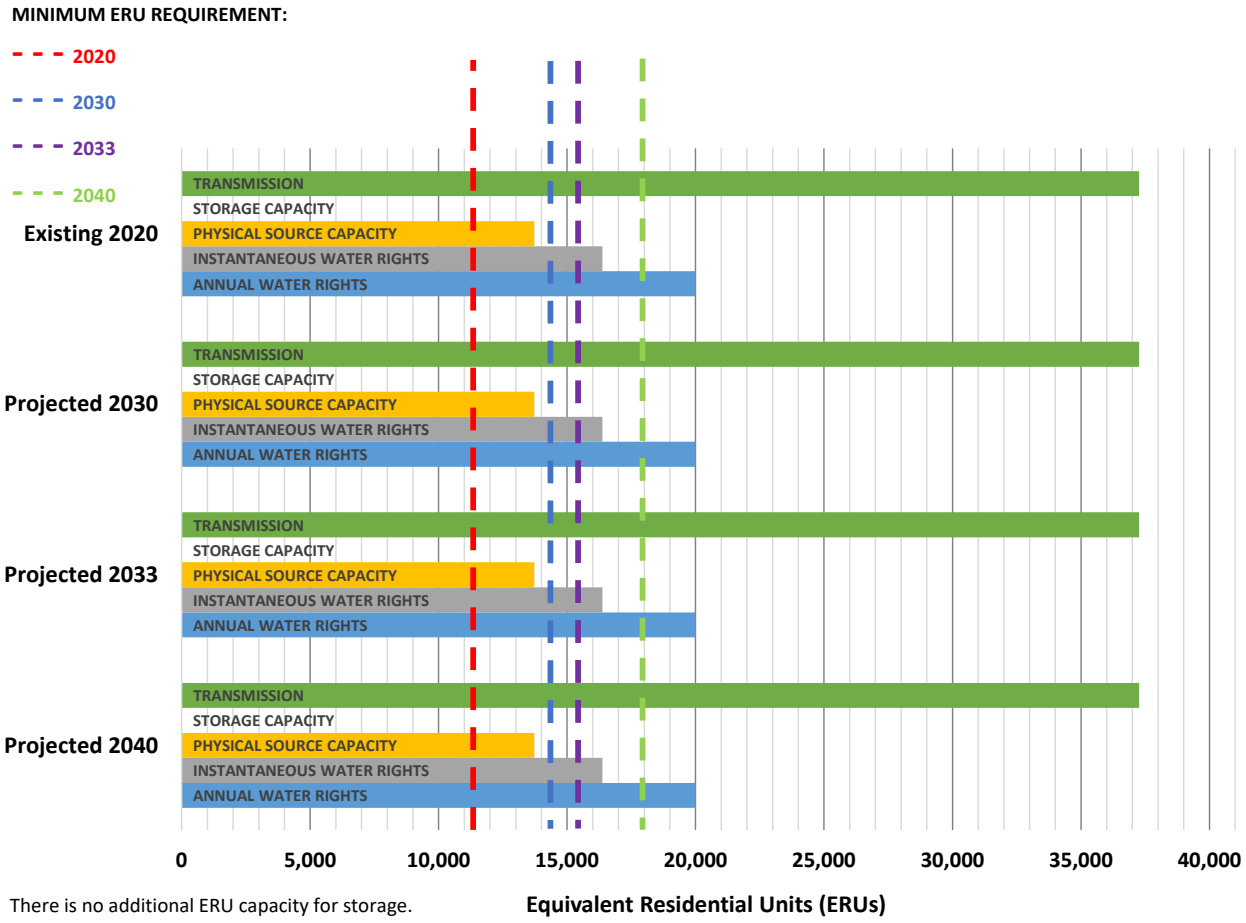
Table 7-13
System Capacity Analysis Without Improvements

Description	Existing 2020	Projected 2030 (+10 years)	Projected 2033 (+13 years)	Projected 2040 (+20 years)
Demands Per ERU Basis				
ERU_{ADD} (gpd/ERU_{ADD})[1]	396	396	396	396
ERU_{MDD} (gpd/ERU_{MDD})[1]	917	917	917	917
Peak Hour Demand per ERU (gpd)[1]	1,486	1,486	1,486	1,486
Source Capacity - Annual Water Rights				
Water Rights Capacity - Annual Average Based (gpd)	7,916,473	7,916,473	7,916,473	7,916,473
ERU_{ADD} (gpd/ERU_{ADD})	396	396	396	396
Water Rights Annual Average Based Source Capacity (ERUs)	**19,998**	**19,998**	**19,998**	**19,998**
Source Capacity - Instantaneous Water Rights				
Water Rights Capacity - Instantaneous Based (gpd)	15,020,640	15,020,640	15,020,640	15,020,640
ERU_{MDD} (gpd/ERU_{MDD})	917	917	917	917
Maximum Day Based Source Capacity (ERUs)	**16,375**	**16,375**	**16,375**	**16,375**
Physical Source Capacity - Maximum Day Based				
Physical Source Capacity - Maximum Day Based (gpd)	12,587,040	12,587,040	12,587,040	12,587,040
ERU_{MDD} (gpd/ERU_{MDD})	917	917	917	917
Maximum Day Based Source Treatment Capacity (ERUs)	**13,722**	**13,722**	**13,722**	**13,722**
Storage Capacity				
Maximum Equalizing & Standby Storage Capacity (gal)	(648,997)	(648,997)	(648,997)	(648,997)
Equalizing & Standby Storage Requirement per ERU (gal)	525	640	669	727
Maximum Storage Capacity (ERUs)	**(1,237)**	**(1,014)**	**(969)**	**(893)**
Transmission Capacity (8 fps)				
Transmission Capacity (gpd)	34,179,400	34,179,400	34,179,400	34,179,400
ERU_{MDD} (gpd/ERU_{MDD})	917	917	917	917
Maximum Transmission Capacity (ERUs)	**37,261**	**37,261**	**37,261**	**37,261**
Maximum System Capacity				
Maximum System Capacity (ERUs)	**(1,237)**	**(1,014)**	**(969)**	**(893)**
Limiting Facility	**Storage Capacity**	**Storage Capacity**	**Storage Capacity**	**Storage Capacity**
Unused Available System Capacity				
Maximum System Capacity (ERUs)	(1,237)	(1,014)	(969)	(893)
Projected ERUs	11,300	14,307	15,358	17,922
Unused Available System Capacity (ERUs)	**(12,537)**	**(15,322)**	**(16,328)**	**(18,815)**

1 = Includes distribution system leakage.

Chart 7-2

System Capacity Analysis Without Improvements



As shown in **Table 7-13** and **Chart 7-2**, the City will be deficient in storage capacity, physical source capacity, and instantaneous water rights at the end of the planning period if no improvements described in **Chapter 9** are implemented.

The results of the existing system capacity analysis indicate that the limiting capacity of the system is storage, with a deficiency of 1,237 ERUs. All other water system components have sufficient capacity to support existing water system customers. As described in **Chapter 9**, the City plans to construct additional storage, install backup generators with ATS at sources, and implement pressure zone projects by 2030 (CIPs F2, F4, PZ1, PZ2, and PZ3) to address the storage deficiency.

The 10-year projected system capacity analysis, as shown in **Table 7-14** and **Chart 7-3**, includes improvements that are planned to be completed within the 10-year planning period as described in **Chapter 9**. These improvements include supply, storage, and pressure zone improvements. The results of the 2030 system capacity analysis indicate that the proposed improvements will increase the system capacity to approximately 16,375 ERUs, based on the limiting component of the City's physical source capacity and instantaneous water right capacity. The 2030 water system will have a capacity surplus of approximately 2,067 ERUs.

The 20-year projected system capacity analysis, as shown in **Table 7-14** and **Chart 7-3**, includes improvements that are planned to be completed within the 20-year planning period as described in **Chapter 9**. The results of the 2040 system capacity analysis indicate that the system capacity will increase to approximately 17,945 ERUs, based on the limiting component of the City's instantaneous water right capacity. The 2040 water system will have a capacity surplus of approximately 22 ERUs.

As described in **Chapter 6** and **Chapter 9**, the City plans to acquire additional water rights and expand source capacity by the end of the 20-year planning period. If additional instantaneous water rights cannot be procured after 2030, the City will need to limit additional development until additional water rights can be procured.

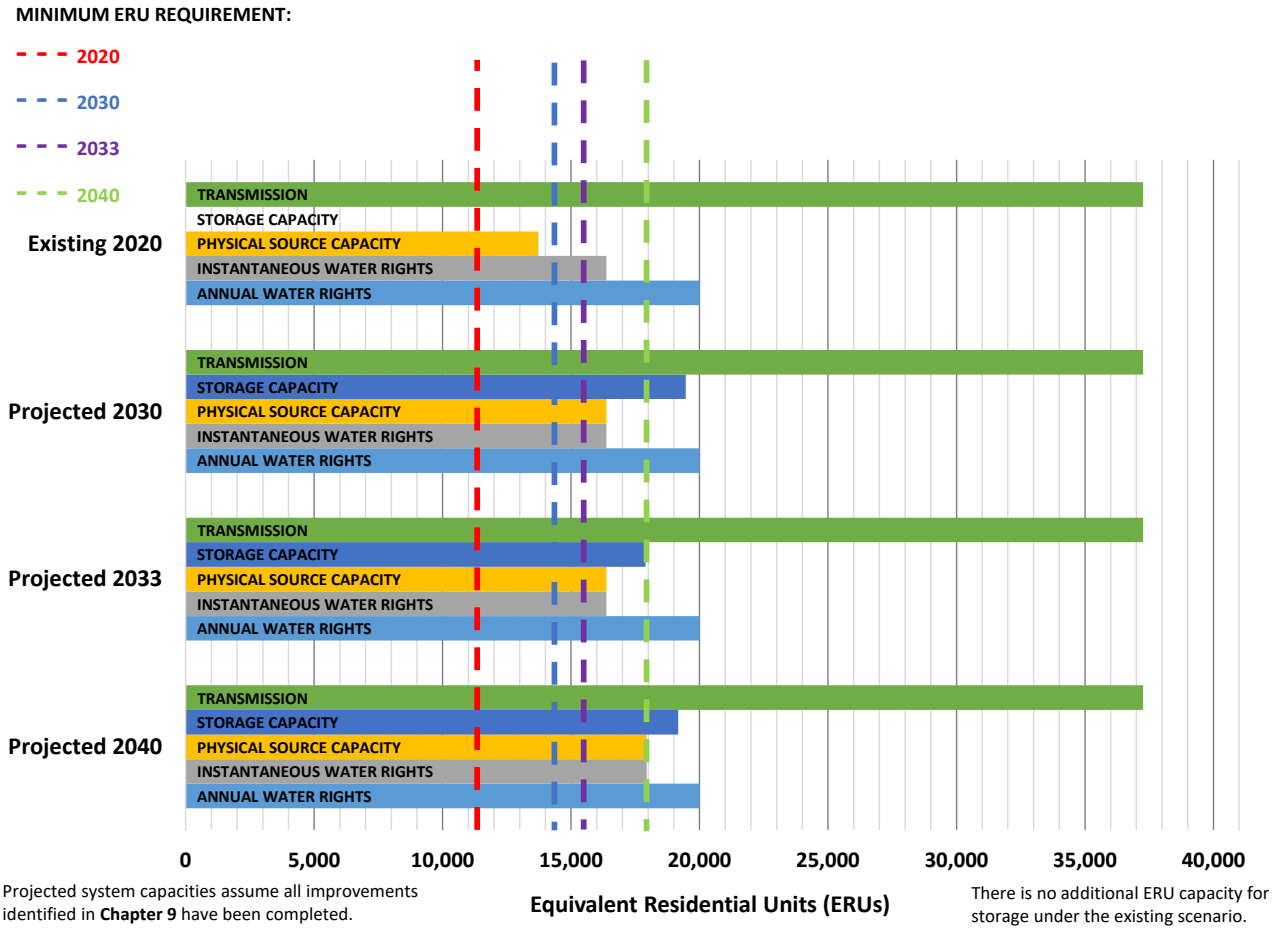
Table 7-14
System Capacity Analysis with Improvements

Description	Existing	Projected		
	2020	2030 (+10 years)	2033 (+13 years)	2040 (+20 years)
Demands Per ERU Basis				
ERU_{ADD} (gpd/ERU_{ADD})[1]	396	396	396	396
ERU_{MDD} (gpd/ERU_{MDD})[1]	917	917	917	917
Peak Hour Demand per ERU (gpd)[1]	1,486	1,486	1,486	1,486
Source Capacity - Annual Water Rights				
Water Rights Capacity - Annual Average Based (gpd)	7,916,473	7,916,473	7,916,473	7,916,473
ERU_{ADD} (gpd/ERU_{ADD})	396	396	396	396
Water Rights Annual Average Based Source Capacity (ERUs)	**19,998**	**19,998**	**19,998**	**19,998**
Source Capacity - Instantaneous Water Rights[2]				
Water Rights Capacity - Instantaneous Based (gpd)	15,020,640	15,020,640	15,020,640	16,460,640
ERU_{MDD} (gpd/ERU_{MDD})	917	917	917	917
Maximum Day Based Source Capacity (ERUs)	**16,375**	**16,375**	**16,375**	**17,945**
Physical Source Capacity - Maximum Day Based				
Physical Source Capacity - Maximum Day Based (gpd)	12,587,040	15,020,640	15,020,640	16,460,640
ERU_{MDD} (gpd/ERU_{MDD})	917	917	917	917
Maximum Day Based Source Treatment Capacity (ERUs)	**13,722**	**16,375**	**16,375**	**17,945**
Storage Capacity				
Maximum Equalizing & Standby Storage Capacity (gal)	(648,997)	6,197,752	6,197,752	6,197,752
Equalizing & Standby Storage Requirement per ERU (gal)	525	318	346	323
Maximum Storage Capacity (ERUs)	**(1,237)**	**19,464**	**17,895**	**19,170**
Transmission Capacity (8 fps)				
Transmission Capacity (gpd)	34,179,400	34,179,400	34,179,400	34,179,400
ERU_{MDD} (gpd/ERU_{MDD})	917	917	917	917
Maximum Transmission Capacity (ERUs)	**37,261**	**37,261**	**37,261**	**37,261**
Maximum System Capacity				
Maximum System Capacity (ERUs)	**(1,237)**	**16,375**	**16,375**	**17,945**
Limiting Facility	**Storage Capacity**	**Instantaneous Water Rights**	**Instantaneous Water Rights**	**Instantaneous Water Rights**
Unused Available System Capacity				
Maximum System Capacity (ERUs)	(1,237)	16,375	16,375	17,945
Projected ERUs	11,300	14,307	15,358	17,922
Unused Available System Capacity (ERUs)	**(12,537)**	**2,067**	**1,016**	**22**

1 = Includes distribution system leakage.

2 = Projected water rights capacities assumes that the City has obtained an additional 1,000 gpm instantaneous water right (CIPs M2 and M3).

Chart 7-3
System Capacity Analysis with Improvements



Projected system capacities assume all improvements identified in **Chapter 9** have been completed.

There is no additional ERU capacity for storage under the existing scenario.

Legend

- PRV Station
- Tank
- Pump Station
- Well

Low and High Pressures

- Less then 30 psi
- 30 - 40 psi
- 80 - 100 psi

- City Limits
- Urban Growth Area
- Water Service Area

Pressure Zones

- Unserviceable Area
- 1740 Zone
- 1824 Zone

Airport Reservoir
1.1 MG
Base Elev: 1,722'
Overflow Elev: 1,824'

Airport Well No. 3
(156 gpm)

Airport Well No. 1
(inactive)

Illinois Well
(2,500 gpm)

Transfer Station

Brooklane Well
(780 gpm)

Vuecrest BPS
(1,700 gpm)

Craig Hill Reservoir
4.0 MG
Base Elev: 1,676.5'
Overflow Elev: 1,740'

Mt. Stuart Well
(649 gpm)

Kiwanis Well
(819 gpm)

Rodeo Well
(590 gpm)

Memorial Well
(381 gpm)

Whitney Well
(772 gpm)

Northwest Wells
1" = 3,500'

NORTH

City Well (1,366 gpm)
Route 10 Well (1,080 gpm)

Hayward Well
(1,097 gpm)

J:\DATA\ELL\219-144\01 WSP\GIS\FIGURE_7-1_EXISTING_HIGH_AND_LOW_PRESSURES.MXD BY: ZSCHREMPP PLOT DATE: DEC 28, 2023 COORDINATE SYSTEM: NAD 1983 STATEPLANE WASHINGTON SOUTH FIPS 4602 FEET

RH2 NORTH

1 inch = 1,200 feet

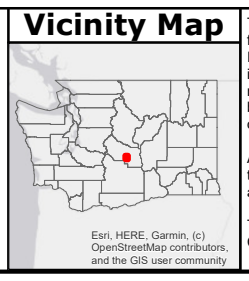
0 600 1,200 2,400 Feet

DRAWING IS FULL SCALE WHEN BAR MEASURES 2"

City of Ellensburg WASHINGTON

Figure 7-1
Existing High and Low Pressures
City of Ellensburg
Water System Plan

Vicinity Map



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Legend

- PRV Station
- Tank
- Pump Station
- Well
- City Limits
- Urban Growth Area
- Water Service Area

2030 Pressure Zones

- 1740 Zone
- 1760 Zone
- 1824 Zone
- 1860 Zone

Low and High Pressures

- 30 - 40 psi
- 80 - 100 psi

Proposed 1824 Zone Tank
Location TBD
4.0 MG
Base Elev: 1,793'
Overflow Elev: 1,824'

Airport Reservoir
1.1 MG
Base Elev: 1,722'
Overflow Elev: 1,824'

Proposed 1860 Zone BPS
(4,100 gpm)

Airport Well No. 3
(241 gpm)

Airport Well No. 1
(inactive)

Transfer Station

Illinois Well
(2,500 gpm)

Brooklane Well
(780 gpm)

Vuecrest BPS
(2,000 gpm)

Proposed 1760 Zone BPS
(1,500 gpm)

Craig Hill Reservoir
4.0 MG
Base Elev: 1,676.5'
Overflow Elev: 1,740'

Mt. Stuart Well
(649 gpm)

Kiwanis Well
(819 gpm)

Rodeo Well
(700 gpm)

Memorial Well
(700 gpm)

Whitney Well
(772 gpm)

Northwest Wells
1" = 3,500'

NORTH

City Well (1,093 gpm)
Route 10 Well (1,080 gpm)

Hayward Well
(1,097 gpm)

C:\USERS\ZSCHREMPP\DESKTOP\FIGURE_7-2_2030_HIGH_AND_LOW_P.MXD BY: ZSCHREMPP PLOT DATE: DEC 29, 2023 COORDINATE SYSTEM: NAD 1983 STATEPLANE WASHINGTON SOUTH FIPS 4602 FEET

RH2 NORTH

1 inch = 1,200 feet

0 600 1,200 2,400 Feet

DRAWING IS FULL SCALE WHEN BAR MEASURES 2"

City of Ellensburg WASHINGTON

Figure 7-2
2030 High and Low Pressures
City of Ellensburg
Water System Plan

Vicinity Map

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Legend

- PRV Station
- Tank
- Pump Station
- Well
- City Limits
- Urban Growth Area
- Water Service Area

2040 Pressure Zones

- 1740 Zone
- 1760 Zone
- 1824 Zone
- 1860 Zone

Low and High Pressures

- 80 - 100 psi
- Greater than 100 psi

Proposed 1824 Zone Tank
Location TBD
4.0 MG
Base Elev: 1,793'
Overflow Elev: 1,824'

Airport Reservoir
1.1 MG
Base Elev: 1,722'
Overflow Elev: 1,824'

Proposed 1860 Zone BPS
(4,100 gpm)

Airport Well No. 3
(241 gpm)

Airport Well No. 1
(inactive)

Transfer Station

Illinois Well
(2,500 gpm)

Brooklane Well
(780 gpm)

Vuecrest BPS
(2,000 gpm)

Proposed 1760 Zone BPS
(2,000 gpm)

Proposed 1824/1740 Zone PRV

Craig Hill Reservoir
4.0 MG
Base Elev: 1,676.5'
Overflow Elev: 1,740'

Mt. Stuart Well
(649 gpm)

Kiwanis Well
(819 gpm)

Rodeo Well
(700 gpm)

Memorial Well
(700 gpm)

Whitney Well
(772 gpm)

Northwest Wells
1" = 3,500'

NORTH

City Well (1,093 gpm)
Route 10 Well (1,080 gpm)

Hayward Well
(1,097 gpm)

J:\DATA\ELL\219-144\01 WSP\GIS\FIGURE_7-3_2040_HIGH_AND_LOW_P.MXD BY: ZSCHREMPP PLOT DATE: DEC 28, 2023 COORDINATE SYSTEM: NAD 1983 STATEPLANE WASHINGTON SOUTH FIPS 4602 FEET

RH2

NORTH

1 inch = 1,200 feet

0 600 1,200 2,400 Feet

DRAWING IS FULL SCALE WHEN BAR MEASURES 2"

City of Ellensburg WASHINGTON

Figure 7-3
2040 High and Low Pressures
City of Ellensburg
Water System Plan

Vicinity Map

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Legend

- PRV Station
- Tank
- Pump Station
- Well
- City Limits
- Urban Growth Area
- Water Service Area

2040 Pressure Zones

- 1740 Zone
- 1760 Zone
- 1824 Zone
- 1900 Zone

Available Derated Fire Flow (% of required)

- 100% - 120%
- Greater than 120%

Proposed 1824 Zone Tank
Location TBD
4.0 MG
Base Elev: 1,793'
Overflow Elev: 1,824'

Airport Reservoir
1.1 MG
Base Elev: 1,722'
Overflow Elev: 1,824'

Proposed 1860 Zone BPS
(4,100 gpm)

Airport Well No. 3
(241 gpm)

Airport Well No. 1
(inactive)

Transfer Station

Brooklane Well
(780 gpm)

Illinois Well
(2,500 gpm)

Vuecrest BPS
(2,000 gpm)

Proposed 1760 Zone BPS
(1,500 gpm)

Proposed 1824/1740 Zone PRV

Craig Hill Reservoir
4.0 MG
Base Elev: 1,676.5'
Overflow Elev: 1,740'

Mt. Stuart Well
(649 gpm)

Kiwanis Well
(819 gpm)

Rodeo Well
(700 gpm)

Memorial Well
(700 gpm)

Whitney Well
(772 gpm)

Northwest Wells
1" = 3,500'

NORTH

City Well (1,093 gpm)
Route 10 Well (1,080 gpm)

Hayward Well
(1,097 gpm)

J:\DATA\ELL\219-144\01 WSP\GIS\FIGURE_7-4_2040_FF.MXD BY: ZSCHREMPP PLOT DATE: DEC 28, 2023 COORDINATE SYSTEM: NAD 1983 STATEPLANE WASHINGTON SOUTH FIPS 4602 FEET

RH2

NORTH

1 inch = 1,200 feet

0 600 1,200 2,400 Feet

DRAWING IS FULL SCALE WHEN BAR MEASURES 2"

City of Ellensburg WASHINGTON

Figure 7-4
2040 Available Derated Fire Flow
City of Ellensburg
Water System Plan

Vicinity Map

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8 | OPERATIONS AND MAINTENANCE

INTRODUCTION

The City of Ellensburg's (City) water operations and maintenance (O&M) program consists of the following elements:

1. Normal operation of the water supply, treatment, and distribution system.
2. Emergency operation of the water system, with one or more of the components not available for normal use due to natural or man-made events.
3. Preventive maintenance program for ensuring the water system is maintained in accordance with generally accepted standards.
4. Cross-connection control program, as required by state law, to ensure that there is no threat to the integrity of the water supply due to contamination from a customer's operations.

NORMAL OPERATIONS

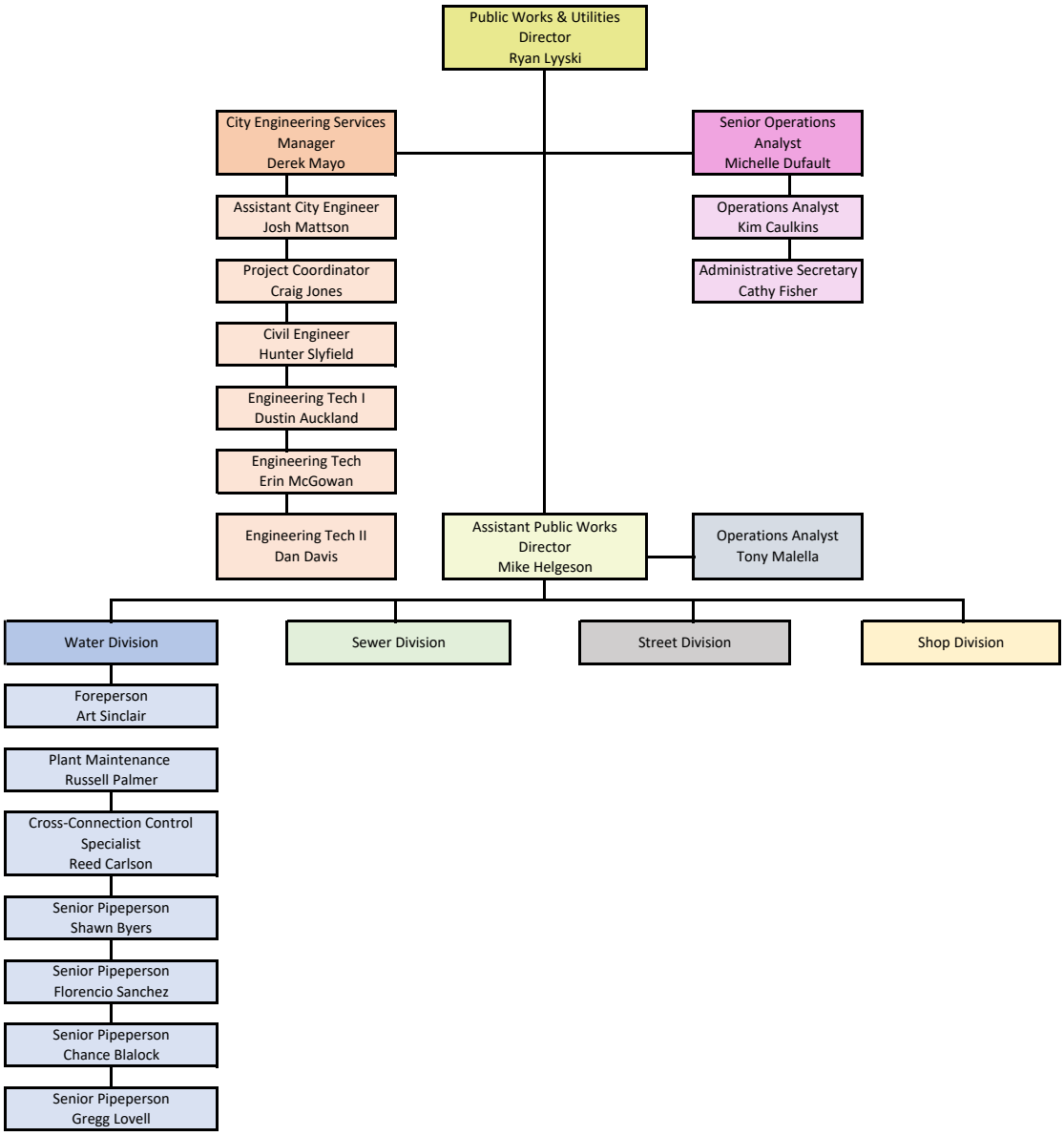
City Personnel

The City's water system personnel are under the direction of the Public Works & Utilities Director. As shown in **Figure 8-1**, the Assistant Public Works Director supervises daily operations of the Water, Sewer, Street, and Shop Divisions and reports to the Public Works Director. The City Engineer, who also reports to the Public Works Director, supervises daily operations of the Engineering Division.

As shown in **Figure 8-1**, the Water Division Operations staff consists of one foreperson, several maintenance and operations staff, and a cross-connection control specialist that function under the Foreperson of the Water Division. The water system tasks that are performed by the Water Division staff include inspecting, testing, installing, and repairing system facilities; routine operation and preventive maintenance; record keeping; administrative tasks; general clerical work; and corrective or breakdown maintenance required in response to emergencies.

Figure 8-1

Public Works Functional Organization Chart



Personnel Responsibilities

The key responsibilities of the water operations and maintenance staff are summarized in **Table 8-1**.

Table 8-1

Personnel Duties and Responsibilities

Personnel	Duties and Responsibilities
Public Works & Utilities Director	Annual Budget Capital Improvement Planning Capital Plan Implementation Annual Work Planning Public and Press Contacts
Assistant Public Works Director	Emergency Response Annual Budget Capital Improvement Planning Annual Work Planning State & Federal Compliance Issues
Operations Analyst	Administrative Support Records
Foreperson	Emergency Response Annual Work Planning Work Plan Implementation Trouble Reports Records Large Meter Test & Repair Program
Plant Maintenance	Source Maintenance Water Quality Monitoring Troubleshooting
Senior Pipeperson	New Service Installation Leak Detection and Repair Fire Hydrant Maintenance Valve Exercising Program Pipeline Installation
Engineering Division	Design Services Construction Engineering Bid Calls Permits Records

Certification of Personnel

Chapter 246-292 Washington Administrative Code (WAC) requires that the City's water system is operated under the direct supervision of a Certified Operator. The City's water system requires a Water Distribution Manager. In addition, specialty certification is required for backflow device inspection and testing.

The City is in full compliance with current laws and regulations regarding staff certification and training. Numerous City Public Works employees possess Washington State Department of Health (DOH) certifications. **Table 8-2** shows the current certifications of the City's O&M staff

that are pertinent to operation of the City's water system. It is City policy to maintain a well-qualified, technically trained staff. The City annually allocates funds for personnel training, certification, and membership in professional organizations such as the American Water Works Association (AWWA). The City believes that the time and money invested in training, certification, and professional organizations are repaid many times in improved safety, skills, and confidence.

Table 8-2

Personnel Certification

Name	Title	Certification
Ryan Lyyski	Public Works and Utilities Director	PE
Mike Helgeson	Assistant Public Works Director	WDM1
Art Sinclair	Foreperson	WDM3 CCS
Reed Carlson	Cross-Connection Control Specialist	WDM3 CCS BAT
Russell Palmer	Plant Maintenance Person	WDM3
Chance Blalock	Senior Pipeperson	WDM1
Shawn Byers	Senior Pipeperson	WDM3 CCS
Gregg Lovell	Senior Pipeperson	BAT
Florencio Sanchez	Senior Pipeperson	WDM1

WDM = Water Distribution Manager
CCS = Cross-Connection Control Specialist
BAT = Backflow Assembly Tester

Available Chemicals and Equipment

Rolling Stock

The Water Division rents its own stock from the Central Service Facility. The Water Division utilizes three pickups, two flatbeds, and two backhoes on a regular basis. Larger pieces of equipment (dump trucks, loaders, mini-hoe, Vactor truck) require scheduling since they are available to all departments. A complete list of the City's available rolling stock is in **Table 8-3**.

Table 8-3

City of Ellensburg's Rolling Stock

Equipment No.	Description
10	2003 Chevrolet 1/2-Ton Utility Truck
16	2004 Chevrolet 1/2-Ton Extended Cab Pickup
26	2000 Ford 1/2-Ton Pickup
38	2003 Chevrolet 1-Ton Pickup
41	2001 Peterbilt 10-Yard Dump Truck
48	1990 Ford 5-Yard Dump Truck
83	2003 Cat 928G Loader
98	Shoring & Trailer
102	2000 GMC 5-Yard Dump truck
106	2001 Freightliner 5-Yard Dump Truck
107	2000 Freightliner 5-Yard Dump Truck
130	2001 Ford F450 Flat Bed w/Crane
134	2002 JD 310SG Backhoe
136	2003 JD 310SG Backhoe
146	2006 CAT 304CCR Mini-Excavator
148	2006 Vactor Truck

Small Equipment

The Water Division has a variety of small equipment that it purchases and maintains on its own. This includes dewatering pumps, pipe cutters, shovels, wrenches, etc.

Supplies

Over 425 supply items are maintained in inventory by the Warehouseperson. It is the Foreperson's responsibility to set stock quantities. The Warehouseperson will maintain the inventory above the minimum levels. The inventory of supplies with their re-order level is maintained on a computer database.

Chlorine

All orders are handled directly with the vendor. Chlorine is ordered on an as-needed basis.

Fluoride

All fluoride is ordered by the Warehouseperson and transported to the wells by the Pump Maintenance person.

Routine Operations

Routine operations involve the analysis, formulation, and implementation of procedures to ensure that the facilities are functioning efficiently, and meeting pressure requirements and other demands of the system. The utility's maintenance procedures include prompt response and repairs to ensure customers receive high-quality water service.

Continuity of Service

As a municipality, the City has the structure, stability, authority, and responsibility to ensure that water service will be continuous. For example, changes in the City Council or staff would not have a pronounced effect on the City's customers or quality of service.

Routine Water Quality Sampling

DOH has adopted federal regulations that specify minimum monitoring requirements for water systems. The sampling requirements depend on the population served, source type, and treatment provided. The specific requirements and the minimum monthly routine coliform sampling requirements are contained in WAC 246-290-300. DOH also provided the City with an annual summary of all required water quality testing. The City currently performs all routine coliform sampling throughout the distribution system. Further discussion of the water quality monitoring program is contained in **Chapter 6** and **Appendix J**.

Cross-Connection Control

The City has adopted a cross-connection control program to comply with WAC 246-290-490 pertaining to contamination of potable water due to cross connections. The City's Cross-Connection Control Program is included in **Appendix F**. Backflow prevention devices are required at service connections where a potential for contamination exists, as outlined in the City's Municipal Code (9.40.700).

Recordkeeping and Reporting

DOH has enacted regulations for recordkeeping and reporting that may be found in WAC 246-290-480. The regulations identify recordkeeping and reporting procedures for operations and water quality testing.

Records are compiled and stored by each respective division that is responsible for the activity being documented. The Public Works & Utilities Department maintains records of capital projects, records of water quality programs and drinking water regulations, and records of water distribution system operation and maintenance/repairs. Standard maintenance logs and forms that are used by the City can be found in **Appendix G**. The Public Works & Utilities Department also maintains records of purchasing, bidding (non-capital projects), and other miscellaneous records. Official capital project bidding and construction documents are maintained by the City Clerk's office. Records are maintained in accordance with the Washington State records retention regulations. The City Clerk's office maintains the retention schedule of all documents Citywide. Public Works Administration assists with records retention for Public Works, including Engineering, Water Quality, and Water Operations. The City Clerk's office and Public Works & Utilities Department maintain a schedule of project files, file numbering system, and file storage location (generally capital projects only). Other records are stored locally at each division. Water operations, maintenance, and repair records are maintained electronically through the City's file system. Each year maintenance records are

reviewed for the annual report. The Assistant Public Works Director is responsible for submitting all State-required monthly forms to the appropriate agencies.

Recordkeeping

Records shall be kept for chlorine residual and other information as specified by DOH. DOH requires retention of critical records dealing with facilities and water quality issues as summarized as follows:

- Bacteriological analysis results: 5 years.
- Chemical analysis results: for as long as the system is in operation.
- Daily source meter readings: 10 years.
- Other records of operation and analyses as may be required by DOH: 3 years.
- Documentation of actions to correct violations of primary drinking water standards: 3 years after last corrective action.
- Records of sanitary surveys: 10 years.
- Project reports, construction documents and drawings, inspection reports, and approvals: life of the facility.
- Construction Completion Reports: life of the facility.

Reporting

1. The City must report the following to DOH:
    - Within 48 hours: A failure to comply with the primary standards or treatment technique requirements specified in Chapter 246-290 WAC.
    - Within 48 hours: A failure to comply with the monitoring requirements specified in Chapter 246-290 WAC.
    - As soon as practical, but no later than 24 hours: All Tier 1 violations, including a violation of a primary maximum contaminant level (MCL). A complete list of Tier 1 violations is located in Code of Federal Regulations (CFR) 141.202.
    - As soon as practical, but no later than 24 hours: A backflow incident per WAC 246-290-490(8)f.
2. The City must submit to DOH all applicable reports required by Chapter 246-290 WAC. Monthly reports are due by the tenth day of the following month, unless otherwise specified.
3. Daily source meter readings must be made available to DOH on request.
4. Total annual water production records for each source must be made available to DOH upon request.

5. A water facilities inventory and report form (WFI) must be submitted to DOH within 30 days of any change in name, category, ownership, or responsibility for management of the water system.
6. The City must notify DOH of the presence of:
    - Coliform in a sample within 10 days of notification by the testing laboratory; and
    - Fecal coliform or *E. coli* in a sample by the end of the business day in which the City is notified by the testing laboratory.
7. When a coliform MCL violation is determined, the City must:
    - Notify DOH within 24 hours of determining acute coliform MCL violations;
    - Notify DOH before the end of the next business day when a non-acute coliform MCL is determined; and
    - Notify water customers in accordance with WAC 246-290-495.
8. If volatile organic compound (VOC) monitoring is required, a copy of the results of the monitoring and any public notice must be sent to DOH within 30 days of receipt of the test results.

Other Reports

Several other reports are required for Washington State agencies, including the Department of Revenue, Department of Labor and Industries, Department of Social and Health Services, Department of Ecology, and the Employment Security Department. All of these reports are completed according to their instructions.

Operations and Maintenance Records

City records include, but are not limited to, the information presented in **Table 8-4**.

Table 8-4

City Records

Record Type	Duration Kept
Source Meter Readings	Daily readings kept indefinitely
Maximum Day Demand	Kept indefinitely
Service Meter Readings	Kept indefinitely
Unbilled Authorized Consumption	City estimates
Bacteriological Test Results	Records kept indefinitely
DOH Correspondence, incl. Sanitary Surveys	Records kept indefinitely
Legal Documents	Records kept indefinitely
Backflow Device Inspection Notices	Records kept indefinitely
Backflow Violation Case Files	Records kept indefinitely
Water Quality Complaints	Records kept indefinitely
O&M Manuals	Records kept indefinitely
Personnel Records	Records kept indefinitely

Safety Procedures and Equipment

Safety is a primary concern and responsibility of all water O&M staff. The City has taken steps toward educating its staff and providing resources to ensure a safe working environment. The City will strive to improve its safety program on an ongoing basis. AWWA publishes a manual entitled *Safety Practices for Water Utilities (M3)* that describes safety programs and provides guidelines for safe work practices and techniques for a variety of water utility work situations.

The following identifies procedures to be followed for O&M tasks that involve the most common potential workplace hazards in the water system.

Use of Chlorine or Chlorine Products

Standard Procedure – Handle with care, provide adequate ventilation, and wear safety glasses and rubber gloves.

Use of Water Treatment Chemicals

Standard Procedure – Follow material safety data sheets (MSDS) and facility standard operating procedures.

Working in Confined Spaces

Standard Procedure – Follow state requirements for confined space entry.

Working around Heavy Equipment

Standard Procedure – Obtain proper training and follow all safety procedures.

Working in Traffic Areas

Standard Procedure – Wear proper clothing and provide adequate signage and flagging for work area.

Working on or around Water Reservoirs

Standard Procedure – Follow proper safety harness procedures for working on tall structures.

Working in or around Pump Stations

Standard Procedure – Obtain proper training and follow all safety procedures for working on pumps and electrical equipment.

Working on Asbestos Cement Water Main

Standard Procedure – Obtain proper training and follow all safety procedures for working with asbestos materials.

The Public Works & Utilities Department follows all appropriate Occupational Safety and Health Administration (OSHA) and Washington Industrial Safety and Health Act (WISHA) regulations in its day-to-day operations and complies with the following State requirements:

- WAC 296-62-145 to 14529 Part M – Entry into confined spaces.
- WAC 296-155-650 to 66411 Part N – Shoring of open ditches.
- WAC 296-155-429 – Lockout-tagout for work on energized or de-energized equipment or circuits.
- Chapter 296-155 WAC Part C1 – Fall restraint for access to the top of the City's water reservoirs.
- *Manual on Uniform Traffic Control Devices* (MUTCD) – Traffic control for work in the public right-of-way.

Additional safety procedures are documented in the Water Division's Safety Manual.

EMERGENCY OPERATIONS

Capabilities

The City is well equipped to accommodate short-term system failures and abnormalities in accordance with WAC 246-290-420. Its capabilities are as described in the sections that follow.

Call-Up Lists

The names, phone numbers, and addresses where water system personnel can be reached in an emergency are listed on the Water System Personnel Emergency call-up list included in Appendix F of the City's *Water System Operations & Maintenance Manual*. The emergency response personnel include the City Manager, Public Works & Utilities Director, Assistant Public Works Director, Water Division Foreperson, Cross-Connection Control Specialist, Pump Maintenance Person, and the Police Chief. Names and phone numbers for other DOH personnel are included in Appendix G of the City's *Water System Operations & Maintenance Manual*.

Emergency Equipment

The City is equipped with the necessary tools to deal with common emergencies. If a more serious emergency should develop, the City will hire a local contractor who has a stock of spare parts necessary to make repairs to alleviate the emergency condition.

Material Readiness

Some critical repair parts, tools, and equipment are on-hand and kept in fully operational condition. As repair parts are used, they are re-ordered. Inventories are kept current and adequate for most common emergencies that reasonably can be anticipated. The City has ready access to an inventory of repair parts, including parts required for repair of each type and size of pipe within the service area.

Notification Procedures

If a water quality emergency develops, the current procedure is for the Public Works & Utilities Director to contact DOH either at work or at home to discuss the situation. If it is determined

that public notification is necessary, the Public Works Director will notify the local radio station (KXLE) and the local newspaper (The Daily Record) as soon as possible. The Public Works & Utilities Director shall notify Kittitas County Health Department that day or the following day if during non-working hours. In addition, businesses who serve the public, such as restaurants, will be notified of the situation. If it is deemed necessary, fliers may be delivered to the service connections that are affected.

Hazardous Waste and Chemical Spill – Yakima River

Hazardous and chemical waste being transported on the freeway could cause a spill in the river. Depending on the proximity to the City Wells and the material that is spilled, there exists a risk of contamination to the water supply.

The City has outlined a procedure in the case of such an event as follows:

1.1 Isolate the River Well.

1.2 Contact the Washington State Department of Ecology in Yakima – hazardous spill team.

1.3 Notify the City Manager, Mayor, and press.

1.4 Implement associated stage of water curtailment plan, if required.

Transmission Main Failure

The most likely cause of a transmission main failure would either be a dig-up or a washout at a creek crossing. Either case would result in the loss of transmission capacity from the City Wells. The City has outlined a procedure in the case of such an event as follows:

1.1 Isolate the transmission main break.

1.2 Advise the City Manager, Mayor, and press.

1.3 Implement the appropriate stage of the water curtailment plan, if necessary.

1.4 Implement temporary repairs using the appropriately sized steel well casing.

1.5 Disinfect the main and return to service.

Reservoirs

The risk of loss of a reservoir itself is considered low; however, it could conceivably become contaminated or otherwise inoperable for a period of time. If a reservoir must be inactivated, the variable frequency drive (VFD) at the City Wells will be operated to maintain system pressure. Also, two deep wells will be operated manually, and system pressure will be monitored. It is important that sufficient blow-offs around the system be opened to provide a continuous demand and provide some relief from shock loading. If a reservoir is to be inactivated for an extended period of time, large water users (Twin City Foods) must be curtailed.

Deep Wells

Each of the deep wells operate independently. The impact of loss to the system of one well would not be severe unless it occurred in August, and the chance of loss of a well due to natural disaster is considered minimal. In the event of the loss of a well due to mechanical failure, the City would utilize the services of its vendor and implement the water curtailment plan if necessary.

Multiple Supply Capability

The City could lose the operation of one of its supply sources without adversely impacting its ability to provide emergency supply to customers.

Distribution System

The most likely cause of disruption in the distribution system is a dig-up, rather than a natural disaster or malevolent act. The second most likely cause would be a planned shutdown to repair or replace leaking water main or an old service line. The City has outlined a procedure in the case of such an event as follows:

1.1 Isolate the break using the appropriate valves.

1.2 Notify the affected residents and businesses.

1.3 Notify the Communications Center.

1.4 Notify Public Works, Police, and Kittitas Valley Fire & Rescue.

1.5 Notify the School District (if bus routes are affected).

1.6 Excavate the damaged area.

1.7 Repair the damage with the appropriate repair band or coupling.

1.8 In the likely event the necessary material is not available, the first contacts would be Yakima Water Department and Nob Hill Water District; the second would be vendors in Yakima and/or Seattle.

The City also has attempted to loop water mains wherever possible to improve water circulation (i.e., water quality) and minimize impacts to the system if a portion of the distribution system must be taken out of service for maintenance or repairs.

Water Curtailment Program

Upon adoption of a water supply emergency resolution, the Public Works & Utilities Director shall implement a water consumption curtailment program corresponding to the emergency level declared by the City Council. The water curtailment program shall consist of the following measures and any other measures necessary, in the judgement of the Public Works & Utilities Director, to maintain the health and safety of the domestic water supply system. The City has outlined a procedure for each stage (Mild, Moderate, and Severe) of water curtailment as follows.

Mild Stage

1.1 The Public Works Department will establish a City website pertaining to water conditions within the City's official website.

1.2 The Public Works Department will prepare and send a water status report to large water users, such as Twin City Foods, Central Washington University, and City Parks. A representative also will meet with any other large water users as identified in the water utility billing system to inform them of the current condition and request a voluntary percentage reduction in their domestic water consumption.

1.3 The Public Works Department shall develop and distribute to customers within the water utility billing system a water conservation guide.

Moderate Stage

In addition to the following measures, all of the measures mentioned in the **Mild Stage** water emergency shall apply.

1.1 The Public Works Department will publish a notice of water supply emergency via an ad in the newspaper with general circulation in the City. Additional media communications shall be utilized as necessary.

1.2 The Public Works Department will establish an emergency water supply telephone hotline to address public concerns and questions.

1.3 Mandatory landscape water restrictions shall be implemented. The Public Works Department will publish notice requesting that Ellensburg domestic water customers using City water for irrigation conform to the following landscape watering schedule:

1.3.1 Even numbered addresses water on even numbered calendar days.

1.3.2 Odd numbered addresses water on odd numbered calendar days.

1.4 Washing of streets, sidewalks, driveways, or decks will be prohibited except as necessary for public health.

1.5 Construction operations receiving water from a hydrant shall not use water unnecessarily for any purposes other than those required by regulatory agencies.

1.6 Operators of hotels, motels, and other commercial establishments offering lodgings shall post in each room a notice of emergency water conditions as approved by the Public Works & Utilities Director.

Severe Stage

In addition to the following measures, all of the measures indicated in the **Mild Stage** and **Moderate Stage** water emergency shall apply.

1.1 All watering of any lawn, City Park, landscaping, recreational area or any other area containing vegetation shall be prohibited.

1.2 Hydrant permits shall be rescinded, and no new permits issued.

1.3 City-owned pools and wading pools shall be closed.

1.4 Washing of boats and vehicles is prohibited unless at a commercial car washing facility equipped with water recycling equipment.

1.5 The filling of swimming pools, spas, ponds, and artificial lakes is prohibited.

1.6 All restaurants that provide table service shall post in a conspicuous place a notice of emergency water conditions as approved by the Public Works & Utilities Director and shall refrain from serving water except upon a specific request from a customer.

1.7 In the event the above measures do not prevent a shortage of water supply available for the basic function of health and sanitation, the Public Works & Utilities Director may be authorized to implement a rolling system of water system outages as necessary to preserve basic health and sanitation.

Large-Scale Wildfires

The City's Emergency Response Plan (ERP) contains guidance for response to a wildfire, including a Wildfire Incident Action Checklist in Appendix F2-7.

Contamination of the Water System

The City's ERP contains extensive procedures that will be followed in the event of contamination of the water system. Incident Action Plans for numerous scenarios are included in ERP Appendix F2.

Vandalism

Vandalism to the City's water system could take many forms. The City's ERP discusses the potential impacts of vandalism in Table 1-2. If vandalism results in contamination or suspected contamination to the water system, the procedures discussed previously in this chapter would be followed.

Training

The City's training procedures for emergency response are described in Chapter 6 of the ERP. These include drills, tabletop exercises, practice exercises, and full-scale exercises for water utility emergency events and region-wide events.

Vulnerability Assessment and Emergency Response Plan

A Vulnerability Assessment and Emergency Response Plan have been prepared that conform to the requirements of the Bioterrorism Act of 2002. The documents contain a vulnerability assessment of the City's water system facilities, a contingency operation plan for responding to emergency events, a list of water personnel responsible for making decisions in emergency situations, and other elements. The Vulnerability Assessment and Emergency Response Plan also contain action plans and other confidential information that is exempt from public disclosure under the provisions of Revised Code of Washington (RCW) 42.56.210. These documents are available for review by authorized personnel on a need-to-know basis. Contact the Emergency Response Plan Administrator for additional details.

Per America's Water Infrastructure Act (AWIA), which was enacted in 2018, the City is required to complete an all-hazards risk and resilience assessment (RRA) and ERP. The City's deadline to complete the RRA and submit a certification letter to the U.S. Environmental Protection Agency (EPA) is June 30, 2021. The ERP must be completed within 6 months of the RRA certification, or by December 31, 2021. The RRA and ERP documents are currently being prepared and the City will submit certificates of completion to the EPA prior to the due dates.

Public Notification

The Federal Safe Drinking Water Act (SDWA) and WAC 246-290-495 require purveyors to notify their customers if any of the following conditions occur:

- Failure to comply with a primary MCL described under WAC 246-290-310.
- Failure to comply with a surface water treatment technique.
- Failure to comply with monitoring requirements under Chapter 246-290 WAC.
- Failure to comply with testing requirements.
- Failure to comply with a DOH order.
- Failure to comply with a variance or exemption schedule from DOH.
- If the system is identified as a source of waterborne disease outbreak.
- If DOH issues the system a category red operating permit.
- If DOH issues an order.
- If the system is operating under a variance or exemption.

Specific notice content, distribution channels, and time limit requirements, as specified in WAC 246-290-495, must be in compliance when notification is required.

The City's public notification processes are included in the ERP. ERP Chapter 3 describes communications. ERP Appendix A includes a list of emergency contact people and organizations, including key City staff, local, state, and federal agency contacts, contacts for utilities, including power, sewer, other water utilities, etc., chemical suppliers, and equipment suppliers. ERP Appendix C contains City communications staff roles and contact information for the City's media outlets. ERP Appendix F1 contains City priority water customer contact information.

Customer Complaint Process

Complaints are collected by office staff via e-mail or phone and routed to the City Engineering Services Manager, Assistant Public Works Director, or Field Supervisors for follow up or crew dispatch in a timely manner. Follow-up results are reviewed by the City Engineering Services Manager, Assistant Public Works Director, or Field Supervisors and recorded by office staff. An Infrastructure Management System Customer Service module is used to provide complaint tracking and confirm effective response.

PREVENTIVE MAINTENANCE

Maintenance schedules that meet or exceed manufacturer's recommendations have been established for all critical components in the City's water system. Water quality and maintenance technicians conduct inspections and perform preventative/corrective maintenance on pump stations, reservoirs, pressure reducing valves (PRVs), and other distribution system components at the frequency indicated in **Table 8-5**. Job standards have been developed for most maintenance tasks/activities performed by these technicians and are on file with the City. **Table 8-5** shows the summarized operations and maintenance activities and the frequency by which they are completed.

Table 8-5

Operation and Maintenance Practices

Activity	Frequency
Well Inspection	Daily
Chlorination System Inspection	Daily
Fluoridation System Inspection	Daily
Booster Station Inspection	Weekly
Record Well Production and Reservoir Data	Telemetry System (automatic)
Read Service Meters (Automatic Meter Reading System)	Monthly
Flush Dead-End Mains	Twice Annually (Fall and Spring)
Flush fire hydrants (902 total hydrants)	1/2 of Hydrants Annually
Exercise Valves (3,005 total valves)	1/2 of Valves Annually
Leak Detection Survey (110 total miles)	50% of System Annually
Cross-Connection Control Devices (2,253 devices)	Annually
Replace 5/8" Meters (4,560 meters)	12-Year Interval
Replace 1" Meters (540 meters)	8-Year Interval
Test 1.5" Meters (98 meters)	6-Year Interval
Test 2" Meters (181 meters)	6-Year Interval
Test 3" Meters (36 meters)	3-Year Interval
Test >3" Meters (20 meters)	2-Year Interval
Inspect Air-Vacuum Assemblies (11 assemblies)	Semi-Annually
Review electrical draw and run times	Semi-Annually
Inspect and Clean Reservoir	10-Year Interval
Exercise Generators	Weekly
Pull and Inspect Well Pumps and Motors	30,000 Hours of Run Time
Rebuild Pump Motors	30,000 Hours of Run Time

The following subsections list key preventive maintenance tasks that are performed by the City.

Sources

Chlorination equipment, fluoridation equipment, and pumps are maintained at the City's supply sources.

Pumps and Motors

For every 30,000 hours of running time, supply pumps are pulled from service and the impellers and end-bearings are inspected for wear. During the pump inspection, the column line shaft and line shaft bearings are inspected for wear.

When needed, pumps and motors are sent out to private companies for rebuilding and/or repair.

Chlorination and Fluoridation Equipment

Chlorination and fluoridation equipment is checked daily. During daily checks and when chlorine cylinders are exchanged, if any problems are immediately evident, the maintenance person will handle the repairs needed.

Booster Pump Station

The Vuecrest Booster Pump Station is inspected weekly for any changes in running characteristics. Bearing life on the pumps is calculated to be in excess of 200,000 hours; therefore, it requires very little maintenance. The motor control center is cleaned annually.

Reservoirs

A visual inspection of the reservoirs (Craig's Hill Reservoir and the Airport Reservoir) interior is conducted in 5-year intervals. There exists a contract with Norton Corrosion for annual cathodic protection.

Emergency Generators

Emergency generators are started weekly by pump maintenance personnel. Emergency generators are serviced annually by City shop personnel.

Distribution System

The City conducts a number of tasks with regard to the distribution system as part of its preventive maintenance program. These tasks include leak detection and repair, hydrant testing and repair, valve exercising, cross-connection device testing, meter inspection, and air and vacuum valve maintenance.

Leak Detection

The Assistant Public Works Director and the Water Foreperson are responsible for scheduling leak detection for 25 percent of the water system annually. In order to detect leaks in the water system, the City makes use of outside personnel who are trained in leak detection. The leak detection personnel provide a survey that is used to schedule a work plan for repairs during the year.

The City also owns a Health Metrotech 480 leak detector that the City uses to confirm leak locations.

Hydrant Testing

The City maintains over 900 hydrants throughout the water system. The Water Division personnel exercise approximately 400 hydrants every year. When Water Division personnel discover a problem with a hydrant, they fill out a repair card and turn the card into the Water Foreperson. The Foreperson then schedules the hydrant for repair; the Foreperson also sets the priority for repairing the hydrant. The hydrant repair book and manufacturer's catalog are kept in the Foreperson's office. The Foreperson also is responsible for ordering parts needed to repair hydrants.

Valve Exercising

The City maintains a computer database of the over 3,000 valves in the water system; the valve inventory is maintained by the Office Manager in the Engineering Department. The City exercises half of the valves in the water system every year. The Foreperson is responsible for assigning the valves to be exercised. The Water Department personnel cleans the valve box, exercises the valve, and notes any problems encountered. Any problems encountered are then scheduled for correction.

Cross-Connection Devices

Approximately 2,638 backflow prevention assemblies/devices are installed in the water system, of which 252 are installed on the Central Washington University (CWU) campus. An inventory of the backflow prevention assemblies/devices is maintained by the Cross-Connection Control Specialist. Each of the assemblies/devices are inspected and tested annually by a Washington State certified backflow assembly tester. The devices/assemblies on the CWU campus also are inspected and tested annually by campus personnel who are certified by the State as Cross-Connection Control Specialists. The CWU campus personnel certify in writing each year the date of inspection and testing results of each device. The Cross-Connection Control Specialist notifies the property owner in advance by mail that testing of the cross-connection device is required. The Cross-Connection Control Specialist then follows up on the notice and completes the necessary paperwork so the inventory of backflow assemblies/devices can be updated.

Meters

The City maintains the customer water meters that are installed in the water system. The testing frequency of each size of meter is shown in **Table 8-6**.

Table 8-6

Water Meter Size and Testing Frequency

Size (Inches)	Test/Replace Frequency (Years)
5/8	12
1	8
1-1/2	6
2	6
3	3
4	2
6	2
8	2

Meters that are ⅝ inch in size are replaced every 12 years. Meters that 1 inch in size are replaced every 8 years. Meters of ⅝ inch and 1 inch are not rebuilt. Meters that are 1½ inches or 2 inches in size are maintained by Water Division personnel. Maintenance includes testing and rebuilding meters on their prescribed schedule. Replacement meters are purchased on a bid call, or through sole source resolution. Water Division personnel are responsible for ensuring each meter is tested or replaced and for completing the associated paperwork to keep the meter inventory up to date. The meter inventory is stored on a computer database by the Operations Analyst.

Air and Vacuum Assemblies

Th City maintains 11 air and vacuum valves in the water system that are all located along the transmission line. Maintenance consists of semi-annual inspection for leaks by the Pump Maintenance Person. The air and vacuum valves are designed to be operated until failure; therefore, when leaks appear, the air and vacuum valves are rebuilt.

STAFFING

The preventive maintenance procedures, as well as the normal and emergency operations of the utility, are described in the previous sections. The hours of labor and supervisory activity required to effectively provide this ongoing maintenance and operations schedule forms the basis for determining adequate staffing levels.

Current Staff

The current staff includes a cross-connection control specialist, senior pipepeople, a foreperson, a plant maintenance worker, and office personnel engaged in operating and maintaining the water system. There are currently 8.5 full-time employees supporting the water system.

Recommended Staff Level

A water system is a complex assortment of equipment and parts that require both operation and maintenance. The estimated level of effort required to provide effective operation and

maintenance in this document is based on a compilation of national standards, such as those provided by AWWA, and the pro-forma standards provided by similar water systems in the Pacific Northwest.

The available hours of a person during a year are not the total hours worked. There are many hours spent in training, non-work status, and other activities that deduct from the 2,080 hours in pay status during a year. The total available hours are typically reduced to 1,540, as shown in **Table 8-7**.

Table 8-7

Annual Available Hours per Person

Time Available Per Year Per Person	
Beginning Hours Available	2,080
Less average vacation of 3 weeks per year	-120
Less average sick leave of 2 weeks per year	-80
Less holidays of 10 days per year	-80
Less average training of 40 hours per year	-40
Less average 1 hour per day for miscellaneous tasks	-220
Net Total Available Hours Per Year Per Person	1,540

Preventive maintenance is the work performed to keep the water system in the condition necessary to provide the expected service. Preventive maintenance needs are based on the physical composition of the water system. Each component has a preventive maintenance need that ranges from minor to significant. **Table 8-8** provides the detail of the recommended staffing level for the water system's preventive maintenance program. As shown in **Table 8-8**, approximately 2.1 full-time employees are recommended for the preventive maintenance program.

Table 8-8

Preventive Maintenance Staff Needed

Description	Total Units In System	Frequency (Times/Year)	Time/Unit (Hours)	Time/Year (Hours)
Preventive Maintenance				
Hydrants	902	0.5	0.5	226
Isolation Valves, Hydrant Valves	3,005	0.5	0.2	301
Air and Vacuum Release Valves	11	2	0.5	11
Source Meters	11	1	2	22
Leak Survey of Water Mains	28 miles	1	4	110
Flushing Dead-End Water Mains	6 miles	2	16	176
Booster Pump Stations	1	52	1	52
Pressure Reducing/Control Valve Stations	1	1	24	24
Sources	11	52	4	2,288
Reservoirs	2	52	1	104
Telemetry and Control System	1	1	20	20
Total Hours Required				3,333
Total Full-Time Staff Required	**(based on 1,540 hours per year per person)**			**2.1**

The other component of O&M staffing is operations. Operations includes all activities other than preventive maintenance, such as water meter reading and repair of broken water mains. As a system ages, many of these activities can be expected to increase. Some operations staff demands can be reduced by replacing infrastructure with more efficient technology. Each technology or equipment upgrade should be analyzed for cost effectiveness. **Table 8-9** provides the recommended staffing level for the water system's operations program. As shown in **Table 8-9**, approximately 8.1 full-time employees are recommended for the operations program.

Table 8-9

Operations Staff Needed

Description	Total Units In System	Frequency (Times/Year)	Time/Unit (Hours)	Time/Year (Hours)
Operations				
Monitor System	14	260	0.5	1,820
False Alarm Response	1	24	2	48
Meter Reading	5,804	6	0.008	279
Groundskeeping	12	12	6	864
Inventory	1	1	40	40
Meter Repair/Replace	1	170	4	680
Main Breaks/Repair	1	24	48	1,152
Utility Locates	1	400	4	1,600
Service Connections	1	650	4	2,600
Main Connections	1	24	32	768
Water Quality Sampling	20	12	2	480
Administration	1	260	8	2,080
Total Hours Required				12,411
Total Full-Time Staff Required	**(based on 1,540 hours per year per person)**			**8.1**

To achieve the level of operations and maintenance shown in **Table 8-10**, approximately 10.2 full-time personnel are required for the water system alone. The City's current available staff is lacking 1.7 full-time equivalents (FTE) to meet these requirements. In addition, as the water system expands in the future, additional review of staffing needs will be required. The City plans to add staff to optimize preventive maintenance and meet the additional requirements from system expansion as the budget allows.

Table 8-10

Total Staffing Recommendation

Total Staff Recommended		
Preventive Maintenance Hours		3,333
Operations Hours		12,411
Total Hours		15,744
Total Full Time Staff Required	**(based on 1,540 hours per year per person)**	**10.2**

ASSET MANAGEMENT

The City currently has an informal asset management program in place, where ArcGIS and workforce are used to document all assets. The City also records all pump maintenance. The City is currently considering the implementation of a formal asset management program using computerized maintenance management system (CMMS) software in the future (City Works).

9 | WATER SYSTEM IMPROVEMENTS

INTRODUCTION

This chapter presents proposed improvements to the City of Ellensburg's (City) water system that are necessary to resolve existing system deficiencies and accommodate the projected growth of water customers. The water system improvements were identified from an evaluation of the results of the water system analyses presented in **Chapter 7**. The water system improvements were sized to meet both the existing and future demand conditions of the system.

A Capital Improvement Program (CIP) number has been assigned to each proposed improvement. The CIP projects, along with their assigned numbers, are shown in plan view on **Figures 9-1a** and **9-1b**. The improvements also are illustrated in the hydraulic profile of the future water system (**Figure 9-2**). The improvements are organized and presented in this chapter according to the following categories.

- Recent Water System Improvements
- Water Main Improvements
- Pressure Zone Improvements
- Facility Improvements
- Miscellaneous Improvements

The remainder of this chapter presents a brief description of each group of improvements, the criteria for prioritization, the basis for the cost estimates, and the schedule for implementation.

DESCRIPTION OF IMPROVEMENTS

This section provides a general description of each group of improvements and an overview of the deficiencies they will resolve. Most of the improvements are necessary to resolve existing system deficiencies.

Recent Water System Improvements

The water system has undergone several changes since 2014, when the City's Water System Plan (WSP) was last updated. The City has implemented many of the recommended projects as scheduled in its previous CIP, as well as several others. **Table 9-1** lists the projects that have been completed. In addition to these major projects, the City has implemented many smaller projects, including water main replacements and extensions.

Table 9-1

Improvements Completed Since 2014 WSP

Project Description	Year Completed
Refurbish Kiwanis Well	2014
Airport Well No. 3	2014
Sanders Loop	2014
Inspect Reservoirs	2016
Wilson Creek Main Relocation	2018
Railroad Loop	2019
Water Rights Consolidation Plan	Ongoing
24-inch Valve Rehabilitation	Ongoing

Water Main Improvements

The following water main improvements were identified from the results of the distribution and transmission system analyses discussed in **Chapter 7**. Most of the water main improvements will replace existing distribution system water main and are grouped in the "Annual Water Main Replacement Program" project (CIP WM1). The individual water main improvement projects within this group are numbered 1 through 221, as shown in **Figures 9-1a** and **9-1b**. The other water main improvements, identified as individual projects (CIP WM2 through WM5) are mostly high priority projects, larger diameter water mains, new alignments, or other unique projects that do not entail the replacement and/or upsizing of existing water main.

CIP WM1: Annual Water Main Replacement Program

Deficiency: Most of the water main improvements shown in **Figures 9-1a** and **9-1b** are required to resolve existing system fire flow deficiencies primarily caused by older, undersized water mains installed prior to the local government adoption of current planning-level fire flow requirements. Some projects to increase fire flow may not be required until the time that new development is proposed within the project vicinity that requires fire protection to be improved to current building codes.

Improvements: Replace existing water main with new ductile iron water main in accordance with the City's Construction Standards and Specifications, which are contained in **Appendix H**. The individual water main improvements grouped under this project are numbered 1, 2, 3, etc., as shown in **Figures 9-1a** and **9-1b**. The selection of specific projects will be accomplished during the City's annual budget development process and will be guided by the prioritization presented later in this chapter. This provides the City with the flexibility to coordinate these projects with other projects that may occur within the same area. A variable allowance per year has been established for the annual replacement of the water mains based on the City's available budget.

CIP WM2: Bull Road Utility Extension Project

Deficiency: The City plans to extend utilities, including water, sewer, natural gas, power, and telecommunications, on Bull Road and Berry Road for approximately 5,400 linear feet (LF),

including a trenchless crossing under Interstate 90. The cost for this project, as shown in **Table 9-6**, only considers the costs associated with the water utilities.

Improvements: Install approximately 5,400 LF of new utilities from the intersection of E Umptanum Road and Bull Road, along Bull Road and Berry Road, to the existing utilities in Berry Road near 281 Berry Road. This project is currently being designed.

CIP WM3: Airport Well No. 3 and 1824 Zone Connector

Deficiency: Airport Well No. 3 is connected to the distribution system in the area that is proposed to be converted from the 1824 Zone to the 1860 Zone (CIP PZ2). Since the 1860 Zone will be a relatively small closed zone without the ability to transfer water to other pressure zones, it is proposed to construct new water main to keep Airport Well No. 3 connected to the 1824 Zone.

Improvements: Install approximately 500 LF of new 8-inch-diameter water main along Piper Road from Airport Well No. 3 to the existing 1824 Zone water main in W Bowers Road. This project should be completed in conjunction with or prior to CIP PZ2.

CIP WM4: N Columbia Street Connector

Deficiency: There is approximately 841 LF of existing 8-inch-diameter dead-end water main in N Columbia Street from 26th Avenue to just north of Greenfield Avenue. This 8-inch-diameter dead-end water main cannot currently meet the planning-level fire flow requirement in the area.

Improvements: Install approximately 10 LF of new 8-inch-diameter water main in N Columbia Street to connect the existing water main in N Columbia Street and Greenfield Avenue. Completion of this loop will ensure planning-level fire flow requirements are able to be met. Additionally, there likely will be an improvement in water age in the N Columbia Street main as a result of this improvement.

CIP WM5: Greenfield Avenue Connector

Deficiency: The two existing 8-inch-diameter dead-end water mains in Greenfield Avenue between N Spar Lane and N Cobblefield Street do not currently have the capacity to meet the planning-level fire flow requirements for the area. These dead-end water mains should be connected to create a loop.

Improvements: Install approximately 135 LF of new 8-inch-diameter water main between the two existing 8-inch-diameter dead-end water mains in Greenfield Avenue between N Spar Lane and N Cobblefield Street. Completing this loop will ensure planning-level fire flow requirements can be met in this area.

Pressure Zone Improvements

The following pressure zone improvements will improve various low and high pressure problems, available fire flow, and system redundancy. A brief description of the existing deficiencies and proposed improvements is provided as follows.

CIP PZ1: New Craig Hill Pressure Zone (1760 Zone)

Deficiency: Numerous service connections on the top of Craig Hill have pressures of less than 30 pounds per square inch (psi) under existing peak hour demand (PHD) conditions. Low pressures in this area also limit the available fire flow in the 1740 Zone and cause a significant portion of the Craig Hill Reservoir volume to be unusable dead storage.

Improvements: Create a new 1760 Zone by converting the 1740 Zone on Craig Hill to the new zone by completing the following improvements. The sizing and configuration of improvements should be confirmed during the predesign phase of the project.

- Install a new 1,500 gallon per minute (gpm) capacity 1760 Zone Booster Pump Station (BPS) near the Craig Hill Reservoir to supply water from the reservoir and the 1740 Zone to the proposed 1760 Zone. The BPS should be equipped with variable frequency drives (VFDs) and sized to meet the build-out peak hour demand and fire flow requirement of the 1760 Zone service area.
- Construct a new parallel 8-inch-diameter 1760 Zone water main in Craig Avenue from the new 1760 Zone BPS to the existing 6-inch cast iron water main (to be upsized as CIP WM1 – 217) in Craig Avenue near 1104 Craig Avenue. Move the low pressure services from the existing 8-inch 1740 Zone water main in Craig Avenue to the new 1760 Zone water main.
- Close isolation valves along the pressure zone boundary at the following locations to complete the conversion:
    - Between 3rd Avenue and 4th Avenue at Walnut Street.
    - E 2nd Avenue and Chestnut Street.
    - Approximately Willow Street at E 3rd Avenue.
    - Approximately Willow Street between E 3rd Avenue and E 2nd Avenue.

CIP PZ2: New 1860 Pressure Zone

Deficiency: Numerous service connections in the 1824 Zone, in the vicinity of the Airport Reservoir, have low pressures under PHD conditions that do not meet Washington State Department of Health (DOH) standards and that limit the available fire flow in the 1824 Zone. In addition to experiencing low service pressures, these service connections cause a significant portion of the Airport Reservoir volume to be unusable dead storage.

Improvements: Create a new 1860 Zone near the existing Airport Reservoir by converting the northerly portion of the 1824 Zone to the new zone by completing the following improvements. The sizing and configuration of improvements should be confirmed during the predesign phase of the project.

- Install a new 4,100 gpm capacity 1860 Zone BPS at the Airport Reservoir site to supply water from the reservoir to the proposed 1860 Zone. The BPS should be equipped with VFDs and sized to meet the build-out peak hour demand and fire flow requirement of the 1860 Zone service area.

- Construct new parallel 16-inch 1860 Zone water main in W Bowers Road from approximately 1349 W Bowers Road to Piper Road to the intersection at W Bowers Road and Piper Road; connections along this alignment should be moved to this new 1860 Zone water main. Install new parallel 12-inch 1860 Zone water main from the intersection at W Bowers Road and Piper Road along W Bowers Road to Airport Road, then continue the new parallel 12-inch 1860 Zone water main along Airport Road to the existing 8-inch water main (to be converted to the 1860 Zone and upsized to 12-inch water main as CIP WM1-1) in the Airport Safe Storage near Airport Road.
- CIP WM3 (Airport Well No. 3 and 1824 Zone Connector) also must be completed prior to bringing the 1860 Zone online.

CIP PZ3: 1740/1824 Pressure Zone Conversion

Deficiency: Due to the projected increase in the population of the City, the water demands are projected to increase significantly. The increase in water demand is projected to be significant enough to cause higher elevation service pressures in the existing 1740 Zone, north of the John Wayne/Palouse to Cascades State Park Trail, to drop to near or below 30 psi.

Additionally, the 1740 Zone is projected to have a storage deficiency at the end of the planning period. Additional storage is planned to be built in the 1824 Zone to remedy the storage deficiency; however, because the additional storage is being built in a higher zone, it is important that there is adequate conveyance capacity between the 1824 Zone and the 1740 Zone. In order to ensure the system has adequate conveyance capacity between pressure zones and to increase redundancy on the east side of the system, it is recommended that an additional 1824/1740 Zone Pressure Reducing Valve (PRV) be installed.

Improvements: Convert the northerly portion of the 1740 Zone to the 1824 Zone by completing the following improvements:

- Open existing closed zone valves between the existing 1824 and 1740 Zones at the following locations.
    - N Water Street
    - N D Street
    - N Walnut Street
    - N Alder Street
    - N Pfenning Road
- Close valves at the following locations to create a new 1824/1740 Zone boundary.
    - N Water Street and W 15th Avenue
    - N B Street and W 12th Avenue
    - N B Street and W 11th Avenue
    - C Street and E 11th Avenue
    - N Wildcat Way and E 11th Avenue
    - Walnut Street and John Wayne Trail
    - N Chestnut Street and John Wayne Trail

  - N Alder Street and E 10th Avenue
  - N Pfenning Road and E 3rd Avenue
- Install approximately 65 LF of 1824 Zone water main to connect the previous pressure zone boundary at the intersection of Radio Road and N Pfenning Road. The diameter of the proposed water main should be confirmed in the analyses performed under CIP F5.
- In order to maintain a supply from the 1740 Zone to the Vuecrest BPS, install approximately 1,350 LF of new 20-inch-diameter water main from the existing 1740 Zone water main at E 8th Avenue and N Alder Street to the suction side of the Vuecrest BPS.
- Reconfigure the water main on the Illinois Well site to connect the 1824 Zone water main directly to Christy Avenue.
- Install a new 1824/1740 Zone PRV near the intersection of N Pfenning Road and E 3rd Avenue. Establish controls/setpoints for the PRV to minimize recirculation of water from the 1824 Zone to the 1740 Zone.
- Abandon the existing Transfer Station.

Facility Improvements

The following water system facility improvements were identified from the results of the water system analyses that are discussed in **Chapter 7**. The improvements are primarily necessary to resolve existing system deficiencies, but also have been sized to accommodate projected growth.

CIP F1: Reservoir Corrosion Control Program

Deficiency: Coffman Engineers conducted a *Natural Gas Piping and Water Storage Reservoirs Corrosion Control Evaluation* in 2019. The study identified that the galvanic anode cathodic protection (CP) system in the Airport Reservoir requires replacement. The rectifier in the Craig Hill Reservoir also has been identified as requiring replacement.

Improvements: Replace the galvanic anode CP system in the Airport Reservoir and the rectifier in the Craig Hill Reservoir.

CIP F2: Permanent On-Site Backup Generators for All City Sources of Supply

Deficiency: Several of the City's sources do not currently have permanent on-site backup power with automatic transfer switches (ATS). Implementing permanent backup power at all City sources will improve system reliability and redundancy and reduce the amount of standby storage required in the City's reservoirs.

Improvements: Add a permanent on-site backup generator with an ATS to the Mt. Stuart Well, the Kiwanis Well, the Memorial Well, the Rodeo Well, the Whitney Well, and the Brooklane Well.

CIP F3: Reservoir Siting Study

Deficiency: As described in **Chapter 7**, a new reservoir is required in the existing 1824 Zone (CIP F4) to resolve the projected system storage capacity deficiency.

Improvements: Perform a reservoir siting study to determine a suitable location for the future reservoir.

CIP F4: New 4.0 MG 1824 Zone Reservoir

Deficiency: The City currently has a storage deficiency, which is projected to increase in the future.

Improvements: Following the completion of the reservoir siting study, construct a new 1824 Zone Reservoir with a usable storage volume of 4.0 million gallons (MG) near the northeast corner of the water service area, or if possible at an elevation greater than 1,750 feet, to eliminate dead storage. Construct a new 16-inch 1824 Zone transmission main to connect the new 1824 Zone Reservoir to the existing distribution system.

CIP F5: City Fire Flow Evaluation

Deficiency: There are very large fire flow requirements associated with the Knudson Lumber Co. that are driving water main projects shown in CIP WM1. The specific projects associated with CIP WM1 include 2, 71, 72, and 73; these projects would be dependent on the results of this fire flow evaluation. The associated mains are proposed to be 16 inches and 20 inches in diameter, and would create a dead end, which may cause water quality issues.

Improvements: Construction of CIP PZ3 may mitigate theorized water quality issues along the proposed large diameter dead-end water main. However, the City should evaluate these large fire flow requirements and determine whether they can be reduced by the installation of sprinklers or some other means.

CIP F6: Vuecrest BPS Capacity Improvement

Deficiency: The Knudson Lumber Co. requires a significant amount of water to be supplied to meet its associated fire flow requirements. The Knudson Lumber Co. is significantly far away enough from the City's sources and storage in the 1824 Zone that it causes the available fire flow in the 1824 Zone to be restricted by service pressures dropping below 20 psi.

Improvements: Based on the results of the evaluation under CIP F5, improve the capacity of the Vuecrest BPS such that service pressures in the 1824 Zone do not drop below 20 psi and the fire flow requirement of 5,750 gpm can be provided at the Knudson Lumber Co. The additional capacity to be added to the Vuecrest BPS will maintain a higher hydraulic grade line (HGL) during fire flow events.

CIP F7: Illinois Well Construction

Deficiency: The City's supply sources are nearing capacity under existing conditions and are projected to have a deficiency in the near future.

Improvements: In order to resolve the near-term supply deficiency, install the new Illinois Well. This project is currently under construction and will be completed in 2021.

CIP F8: City Well Transmission Main Evaluation

Deficiency: The City does not have a comprehensive understanding of the condition of the 24-inch transmission main that supplies water from the City Well, Route 10 Well, and Hayward Well to the City's distribution system.

Improvements: Perform an inspection of the 24-inch transmission main to determine its existing condition and identify any needed rehabilitation.

CIP F9: City Well Transmission Main Rehabilitation

Deficiency: The City does not have a comprehensive understanding of the condition of the 24-inch transmission main that supplies water from the City Well, Route 10 Well, and Hayward Well to the City's distribution system.

Improvements: Rehabilitate the 24-inch transmission main according to results of the evaluation performed under CIP F8. For the purposes of the cost estimate presented in **Table 9-6** of this chapter, it is assumed that an open-cut rehabilitation of the entire alignment of the City well transmission main is required.

CIP F10: Craig Hill Reservoir Seismic Vulnerability Study

Deficiency: During a facility visit to the City's Craig Hill Reservoir, it was identified that the reservoir is not seismically restrained.

Improvements: Perform a study on the Craig Hill Reservoir to identify if the reservoir is vulnerable to seismic activity.

CIP F11: Craig Hill Reservoir Seismic Retrofit

Deficiency: During a facility visit to the City's Craig Hill Reservoir, it was identified that the reservoir is not seismically restrained.

Improvements: Evaluate the results of the seismic vulnerability study performed on the Craig Hill Reservoir and identify any deficiencies that must be addressed. Perform retrofitting of the Craig Hill Reservoir as deemed necessary by the study.

CIP F12: Mt. Stuart Well Rehabilitation

Deficiency: The capacity of the Mt. Stuart Well has declined. A recent study commissioned by the City indicates the cause of the decline in capacity is biofouling of the well.

Improvements: Rehabilitate the well by pulling the pump and cleaning the well to remove the biofilm.

Miscellaneous Improvements

The following improvements are planning efforts and program elements that are required to comply with various water regulations or are improvements that do not fit into one of the previous categories.

CIP M1: Water Utility Billing software

Deficiency: With the City's existing utility billing system, water bills showing consumption history cannot currently be provided.

Improvements: Upgrade the existing utility billing software.

CIP M2: Source of Supply Improvements Study

Deficiency: Based on the demand projections described in **Chapter 4**, the water rights analysis in **Chapter 6**, and the system capacity analyses described in **Chapter 7**, the City will experience an instantaneous water rights deficiency that will not allow it to meet its maximum day demand between 2030 and 2040.

Improvements: Conduct a study to identify the feasibility of different alternatives aimed at increasing the City's instantaneous ground water rights portfolio and the necessary infrastructure to pump the water from the ground and deliver it to the City's water system.

CIP M3: Source of Supply Improvements Implementation

Deficiency: As described in CIP M2, the City needs to procure additional source(s) of water supply to increase instantaneous production capacity between 2030 and 2040 to accommodate projected growth.

Improvements: Implement the recommendations of the study conducted in CIP M2 to secure authorization to withdraw ground water at a higher rate than allowed under the City's existing ground water rights, including permitting, designing, bidding, and construction of the new source(s) of supply. For budgeting purposes, it is assumed that a new instantaneous only water right will be acquired from the Washington State Department of Ecology (Ecology), a well will be drilled, tested, and equipped, and the well will be plumbed into the City's distribution system.

CIP M4: Consolidation of the City's Existing Instantaneous Water Rights

Deficiency: The City can currently only utilize 84 percent of its total instantaneous water rights. The limited utilization of the City's instantaneous water rights results in an increased standby storage requirement in the City. If the City were to fully utilize its instantaneous water rights, the required standby storage volume would be significantly reduced.

Improvements: Consolidate the City's existing instantaneous water rights so that they can be fully utilized anywhere within the water service area.

CIP M5: Aquifer Storage and Recovery (ASR) Program

Deficiency: As described in CIPs M2 through M4, the City is projected to have an instantaneous water rights deficiency by the end of the planning period.

Improvements: The City has recently initiated, during this water system planning period, and intends to propose and pursue an ASR program. The City has undertaken (spring 2021) an ASR pre-feasibility study, with funding through the Groundwater Subcommittee of the Yakima Basin Integrated Plan, supported by matching funds by the City. The ASR program involves diversion of

surface waters and recharge of an aquifer unit (Upper Ellensburg Aquifer) by using existing municipal well facilities and possible future project improvements. The aquifer unit has available storage capacity and promising storativity characteristics, and the City finds that sufficient information exists to proceed with an ASR pilot test. The City submitted (summer 2021) a grant application for an ASR pilot test to assess the viability of an ASR project. Studies will review the City's existing surface water rights as the source of ASR recharge water, including analysis of water quality issues and treatment possibilities in connection with potential use of surface water for recharge in an ASR project, for irrigation of City parks and open space, or as a drinking water source. The City intends (fall 2021) to submit an ASR application to Ecology, following a pre-application meeting with Ecology and presentation and dialogue with the Groundwater Subcommittee of the Yakima Basin Integrated Plan.

CIP M6: Water System Plan Update

Deficiency/Requirement: Washington Administrative Code (WAC) 246-290-100 requires that the City's WSP be updated every 10 years and submitted to DOH for approval.

Improvements: Update the WSP every 10 years to meet the requirements that are in effect at the time of the update.

CIP M7: Risk and Resilience Assessment and Emergency Response Plan

Deficiency/Requirement: America's Water Infrastructure Act of 2018 requires the City to develop or update its Risk and Resilience Assessment by June 30, 2025, and its Emergency Response Plan by December 30, 2025.

Improvements: Develop or update these documents by the required deadline.

Developer-Funded Water Main Improvements

Some water main improvements have been identified in **Table 9-6** as projects whose costs shall be borne by the developers, rather than the existing water customers.

CIP DF1: Anderson Road and Umptanum Road Loop

Deficiency: The area between Anderson Road and I-90 is currently undeveloped, and no water infrastructure currently exists in this area. The City anticipates future commercial development in this area with large fire flow requirements.

Improvements: Install approximately 11,730 LF of new 16-inch-diameter water main in W Umptanum Road from the existing 12-inch water main in W Umptanum Road to Anderson Road, then along Anderson Road from W Umptanum Road to the existing 6-inch water main to the north in Anderson Road. Then, complete a loop from the intersection of W Umptanum Road and Anderson Road around the proposed property joining this alignment to the proposed 16-inch water main in Anderson Road.

ESTIMATING COSTS OF IMPROVEMENTS

Project costs for the proposed improvements were estimated based on costs of similar, recently constructed water projects in the City and around the Central Washington area and are presented in 2020 dollars. The project cost estimates include the estimated construction cost of the improvement, sales tax of 8.3 percent, and a 20-percent contingency, as well as indirect costs estimated at 35 percent of the construction cost for engineering preliminary design, final design, and construction management services, permitting, legal, and administrative services.

The total project cost estimates for water main projects were determined from the water main unit costs (i.e., cost per foot length) shown in **Table 9-2** and the proposed diameter and approximate length of each improvement.

Table 9-2

Water Main Unit Costs (Total Project Cost)

Water Main Diameter (inches)	Project Cost Per Foot Length (2020 $/LF)
8	$314
12	$347
16	$380
18	$413
20	$449
24	$488

The unit costs for each water main size are based on estimates of all construction-related improvements, such as materials and labor for the water main installation, water services, fire hydrants, fittings, valves, connections to the existing system, trench restoration, asphalt surface restoration, other work necessary for a complete installation, indirect costs, contingency, and sales tax. Additional costs were added to some water main improvements to cover anticipated, increased costs related to the project location and degree of difficulty.

PRIORITIZING IMPROVEMENTS

The water system improvements were evaluated against established criteria to schedule projects that will correct the most deficiencies and meet the greatest need for improvement prior to projects correcting fewer deficiencies. A description of the criteria and method for prioritizing each category of improvements is provided in the sections that follow.

Water Main Improvements

Table 9-3 lists criteria that were established for prioritizing the water main improvements. The criteria are based on the underlying deficiencies of the existing water main that will be replaced by the proposed water main improvements. The criteria are arranged in three different categories with a weight factor assigned to each category. The criteria given the most weight are the Existing Water Main Fire Flow Capacity and Existing Water Main Material categories.

Table 9-3

Water Main Improvements Priority Ranking Criteria

Points	Category	Weight Factor	Weighted Points
	Existing Water Main Fire Flow Capability		
3	Available Fire Flow is 74% or Less of Required Fire Flow	3	9
2	Available Fire Flow is 75-89% of Required Fire Flow	3	6
1	Available Fire Flow is 90% or Greater of Required Fire Flow	3	3
	Existing Water Main Material		
3	Asbestos Cement or Unknown	2	6
2	Steel, Cast Iron, or Concrete	2	4
1	Ductile Iron, PVC, or HDPE	2	2
	Existing Water Main Year of Installation		
3	Unknown or Before 1970	1	3
2	1970 - 1990	1	2
1	After 1990	1	1

PVC = Polyvinyl chloride

HDPE = High density polyethylene

The Existing Water Main Fire Flow Capability category ranks the water main improvements based on the ability of the existing water mains to provide the required fire flow, as determined from the results of the hydraulic analyses in **Chapter 7**. The Existing Water Main Material category ranks the water main improvements based on the material of the existing water main. The Existing Water Main Year of Installation category ranks the water main improvements based on the age of the existing water mains.

The water main priority ranking criteria were applied to the annual water main replacement projects, which are grouped under CIP WM1. CIP WM1 Projects 1 through 221, as shown in **Figures 9-1a** and **9-1b**, are presented in **Table 9-4** and sorted by CIP number with their priority ranking. The CIP projects that received a ranking of “high” based on the criteria shown in **Table 9-3** are presented in **Table 9-5** and **Figure 9-3**.

Table 9-4

Prioritized Annual Water Main Replacement Projects (Sorted by Number)

	Location Description			Size			Priority		
CIP No.	In	From	To	Length (ft)	Ex. Diam. (in)	Prop. Diam. (in)	Points	Rank	Estimated Cost
1a	Piper Rd	E Bowers Rd	Falcon Rd	788	8	12	15	M	$2,480,000
				116	8	16			
1b	Elmview Rd	Piper Rd	N Airport Rd	2,041	8	12			
1c	Falcon Rd	Piper Rd	N Airport Rd	1,913	8	12			
1d	Bowers Business LP	N Airport Rd	N Airport Rd	1,305	8	12			
1e	700 Falcon Rd, Ellensburg, WA 98926	Airport Safe Storage		944	8	12			
2	N Airport Rd	Elmview Rd	E Country Side Ave	1,667	16	24	16	L	$817,000
3	Unnamed roads	All water main in loop that is not 12"		5,178	8	12	16	L	$1,809,000
4	26th Ave	N Ellington St	N Spar Ln	340	-	8	16	M	$107,000
5*	E 26th Ave	N Spar Ln	dead end	157	8	12	16	M	$55,000
6	N McIntosh St	E Greenfield Ave	dead end	431	8	12	16	M	$150,000
7*	N Cobblefield St	E Greenfield Ave	dead end	113	8	12	16	M	$40,000
8*	E Greenfield Ave	N Brentwood St	dead end	127	8	12	16	M	$85,000
	N Brentwood St	E Greenfield Ave	dead end	113	8	12			
9*	Landon Ln	W Idaho Ave	dead end	586	8	12	16	L	$1,219,000
	Abbey Glen Ct	W Idaho Ave	dead end	400	8	12			
	W Ridge View Ln	end	N Ridgeview Ln	424	6	12			
				462	6	8			
	N Ridgeview Ln	W Ridgeview Ln	W Ridgeview Ln	368	6	8			
				261	2	8			
	W Idaho Ave	N Ridgeview Ln	McIntosh St	1,196	6	8			
10	Cobblefield St	E Idaho Ave	E Helena Ave	652	6	12	16	M	$226,250
11*	Off of N Airport Rd	E Kyllo Rd	end	132	6	12	16	M	$46,000
12	The Verge Loop	N Airport Rd	N Airport Rd	2,895	8	12	16	M	$1,008,000
13*	Unnamed Road, near 2239 Airport Rd	N Airport Rd	dead end	264	8	12	16	M	$93,000
14*	E Olive Ln	N Alder St	dead end	340	8	12	16	M	$119,000
15	Dairy Ln	N Alder St	dead end	442	8	12	16	M	$155,000
16	Greenfield Ave	1003 Greenfield Ave	Dandelion Ln	1,528	8	12	15	M	$925,000
	Dandelion Ln	Greenfield Ave	dead end	466	8	12			
	Unnamed Road, near 2410 N Alder St	Greenfield Ave	end	644	8	12			
17	Wheaton Ct	Wheaton Ct	N Alder St	189	8	12	16	M	$66,000
18	Central Park Apartment Complex	E Helena Ave	Sycamore St	361	12	16	12	M	$1,284,000
				2,983	8	16			
19a	Crestview Terrace Apartments	Loop on the east side on N Alder St		980	6	8	17	H	$731,000
19b	Crestview Terrace Apartments	Water main on the west side of N Alder St		468	8	12			
				738	6	12			
20	Alder Terrace View	N Alder St	halfway of loop	670	6	8	16	M	$212,000
21	E 18th Ave	N Alder St	Small portion west of N Alder St	20	10	12	16	M	$7,000
22a	E 18th Ave	N Alder St	N Walnut St	2,150	6	16	16	M	$1,508,000
22b	901 E 18th Ave Ellensburg, WA 98926	E 18th Ave	N Chestnut St	849	6	8			
				202	6	12			
				192	2	12			
22c	Greenpointe Townhomes	E 18th Ave	N Walnut St	869	6	8			
23	N Chestnut St	In E Juniper St.		36	6	8	16	M	$28,000
				44	6	12			
24	E White Birch Ave	N Chestnut St	dead end	342	8	12	16	M	$119,000
25*	E Acacia Ln	N Chestnut St	dead end	309	8	12	16	M	$109,000
26	University Court Apartments	E Helena Ave	dead end	61	-	8	16	M	$20,000
27	The Meadows	N Walnut St	dead end	404	8	12	16	M	$141,000
28	Walnut Cir	N Walnut St	dead end	454	8	12	16	M	$159,000
29	N Walnut St	Near Walnut Cir		48	6	12	16	M	$17,000
30	University Place Apartments			436	8	12	16	M	$153,000
31	University Place Apartments			171	6	12	16	M	$60,000
32	University Park Apartments	River Ave	end	246	8	12	16	M	$86,000
33*	Unnamed Road west of N Yellowstone St	E Helena Ave	dead end	382	4	12	16	M	$133,000
34	N Regal St	E Helena Ave	E Queen Pl	532	8	12	16	M	$186,000
35	N Regal St	N Green Parks Dr	end	173	8	12	16	M	$61,000
36	Green Parks Dr	N Parklane Ave	1910 Green Parks Dr	652	6	8	16	M	$205,000
37*	N Regal Pl	E 18th Ave	dead end	163	6	12	16	M	$57,000
38*	N Victor Pl	N Parklane Ave	dead end	123	6	12	16	M	$43,000
39	N Water St	W Helena Ave	Parallel water main in W Helena Ave	29	6	12	16	M	$11,000
40*	W Mount Adams Ct	N Water St	dead end	327	8	12	16	M	$114,000
41*	W Mount Baker Ct	N Water St	dead end	330	8	12	16	M	$115,000
42*	W Mount Hood Ct	N Water St	dead end	313	8	12	16	M	$109,000
43*	N Trails Edge Dr	Christy Ave	dead end	179	8	12	16	M	$115,000
	E Christy Ave	N Trails Edge Dr	dead end	147	8	12			
44*	W Illinois Ave	N Trails Edge Dr	end	111	8	12	16	M	$39,000
45*	N Ohio St	W Illinois Ave	dead end	326	8	12	16	M	$115,000
46*	N Water St	Connects two parallel water mains in N Water St		62	8	12	16	M	$22,000
47*	N B St	E 17th Ave	end	284	2	12	16	M	$99,000
48*	N College Pl	E 17th Ave	dead end	199	6	12	16	M	$70,000
49*	Lexus Ln	N B St	dead end	720	8	12	16	M	$165,000

*These projects may only be necessary if new hydrants are installed in these alignments.

Table 9-4

Prioritized Annual Water Main Replacement Projects (Sorted by Number) (Continued)

	Location Description			Size			Priority		
CIP No.	In	From	To	Length (ft)	Ex. Diam. (in)	Prop. Diam. (in)	Points	Rank	Estimated Cost
50	N Glen Dr	E 17th Ave	N Wildcat Way	1,037	6	8	16	M	$328,000
51	Mercer Creek Meadows	N B St	end	378	8	12	16	M	$132,000
52	E 14th Ave	N B St	N D St	981	6	12	16	M	$395,000
				136	8	16			
53	Panda Express	E Dean Nicholson Blvd	end	223	6	16	16	M	$212,000
				333	8	16			
54	Jongeward Services Building	N D St	N B St	603	8	16	16	M	$1,092,000
				739	4	16			
	N B St	W 11th Ave	dead end	67	6	16			
				751	6	8			
	E 11th Ave	N B St	N D St	1,002	6	8			
55	Dean Hall	N D St	end of 8-inch water main	386	8	12	16	M	$135,000
56	Donald L. Garrity Japanese Garden	Science Building	Holmes Dining room	305	8	12	16	M	$106,000
57	E Dean Nicholson Blvd	Nicholson Pavilion	Randall Hall	267	6	16	16	M	$102,000
58	Near Wendell Hill Hall	N Alder St	E Dean Nicholson Blvd	1,057	8	12	16	M	$403,000
				92	10	12			
59	Near Stephens-Whitney Hall and Residence Life Office	N Walnut St	E 11th Ave	628	6	12	16	M	$1,893,000
				473	8	16			
	E 11th Ave	N Alder St	N Poplar St	2,537	8	12			
				963	6	12			
	N Poplar St	E 10th Ave	E 11th Ave	371	6	16			
				376	8	12			
60	N Willow St and E 14th Ave	N Brooklane Ln	N Alder St	1,608	6	8	17	H	$1,379,000
				376	8	12			
	N Alder St	E 14th Ave	E 11th Ave	1191	6	12			
	Alderwood Manor Apartments	N Alder St	N Willow St	69	10	12			
				489	6	12			
	N Brooklane Ln	N Willow St	Brick Rd	287	8	12			
				88	10	12			
61	N Alder St	E University Way	end	229	6	16	16	M	$88,000
62	Unnamed road near 1200 E University Way	E University Way	end	237	6	16	16	M	$91,000
63	N Brook Ln	1112 N Brooklane St Ellensburg, WA 98926	2220 Brick Rd Ellensburg, WA 98926	2,444	6	8	17	H	$2,316,000
				892	6	16			
				32	10	12			
				176	8	12			
				2,960	8	16			
64	E 17th Ave	N Brook Ln	1516 N Brook Ct	805	6	8	17	H	$254,000
65	N Brook Ct	E 15th Ave	dead end	221	6	12	17	H	$118,000
				113	2	12			
66	Brick Rd	E Radio Rd	E Skyline Rd	201	10	16	17	H	$772,000
				61	10	16		L	
	E Skyline Dr	Brick Rd	dead end	1,181	10	16		L	
				636	6	12		L	
67	N Vista Rd	N Thayer Ave	1306 Vista Rd	836	6	8	16	M	$593,000
	N Thayer Ave	N Vista Rd	1220 Thayer Ave	1,050	6	8			
68	Ashford Way	N Pfenning Rd	dead end	204	2	8	16	M	$65,000
69	Vista Rd	E Skyline Dr	Vantage Hwy	1,279	8	16	16	M	$856,000
				797	2	16			
	Vantage Hwy	1404 Vantage Hwy Ellensburg, WA 98926	KXLE-FM Ellensburg	170	6	16			
70	Chamith Ln	E Radio Rd	919 Chamith Ln	511	6	8	17	H	$279,000
71	E Radio Rd	Vista Rd	N Pfenning Rd	634	6	16	14	M	$493,000
				661	8	16			
72	N Pfenning Rd	E Radio Rd	E 3rd Ave	1,634	12	16	16	M	$1,170,000
				1,216	12	20			
73	Vantage Hwy	N Pfenning Rd	1617 Vantage Hwy, Ellensburg, WA 98926	658	8	16	16	M	$382,000
				288	8	20			
74	E 3rd Ave	N Pfenning Rd	1118 E 3rd Ave Ellensburg, WA 98926	2,306	8	12	16	M	$922,000
				341	6	12			
75	S Willow St	E 3rd Ave	E Kittitas Hwy	799	8	12	17	H	$1,407,000
				2,599	12	16			
				387	6	12			
76	Ellensburg High School and Valley View Elementary School	E 3rd Ave	E Capitol Ave	3,518	8	12	16	M	$1,280,000
				146	6	12			
77	E Capitol Ave	S Locust St	S Maple St	836	10	12	17	H	$741,000
				1,177	12	16			
78	E Washington Ave	S Willow St	end	274	8	16	16	M	$105,000
79	E Manitoba Ave	S Maple St	end	381	6	8	13	M	$120,000

Table 9-4

Prioritized Annual Water Main Replacement Projects (Sorted by Number) (Continued)

	Location Description			Size			Priority		
CIP No.	In	From	To	Length (ft)	Ex. Diam. (in)	Prop. Diam. (in)	Points	Rank	Estimated Cost
80	E Seattle Ave	S Willow St	S Tamarack Ln	708	6	8	16	M	$223,000
81	E Mountain Ave	S Bull Rd	S Dougal St	298 1,041	10 12	16 16	17	H	$511,000
82	S Tamarack Ln and S Viewridge Ct	E Mountain View Ave	E Seattle Ave	1,041	6	8	15	M	$329,000
83	Meadows Place	E Mountain View Ave	end	403	8	20	16	M	$182,000
84	Unnamed Road	Near Meadows Place		400	8	12	16	M	$140,000
85	Unnamed Road	West of S Bull Rd		198	6	8	16	M	$63,000
86	Kittitas Hwy S Gregory Pl	S Magnolia St Kittitas Hwy	S Gregory Pl S Roy Way	1,094 38 732	10 6 6	12 12 8	14	M	$627,000
87	E Hobert Ave S Cypress Ct S Locust Ave	Magnolia St E Hobert Ave E Hobert Ave	S Locust St dead end dead end	596 273 228	8 8 8	12 12 12	15	M	$384,000
88	Oak St	E Seattle Ave	dead end	136	8	12	16	M	$48,000
89*	3 Kittitas Hwy Ellensburg, WA 98926	S Rosewood Dr	end	222	4	12	16	M	$78,000
90*	818 E Mountain View Ave, Ellensburg, WA 98926	S Rosewood Dr	end	255	8	12	16	M	$90,000
91	Unnamed Road	E Umptanum Rd	Unnamed Road	539	6	8	16	M	$170,000
92	Off of E Umptanum Rd			127	6	8	16	M	$40,000
93	Off of E Umptanum Rd			520	6	8	16	M	$164,000
94	Aspen Grove Manufactured Homes	S Chestnut St	unnamed road connecting to E Umptanum Rd	833	6	8	16	M	$264,000
95	Briarwood Commons Apartments			220	6	12	16	M	$77,000
96	Briarwood Commons Apartments	South side of Briarwood Commons Apartments	North side of Briarwood Commons Apartments	456	8	12	16	M	$159,000
97	Bi-Mart Membership Discount Stores	Briarwood Commons Apartments	end	269 231	8 6	12 12	16	M	$175,000
98	Unnamed road north of Briarwood Commons Apartments	S Chestnut St	Water main identified as 96	757	8	12	16	M	$263,000
99	Kittitas Valley Urgent Care	Water main identified as 98	end	326 212	8 4	12 12	16	M	$189,000
100	Briarwood Commons Apartments	Water main identified as 98	end	317	8	12	16	M	$111,000
101	Days Inn by Wyndham Ellensburg Conference Center	Berry Rd	end	399	8	12	16	M	$139,000
102	Berry Road	Canyon Rd	end	200 570	2 6	12 12	17	H	$269,000
103	Canyon Rd	Berry Rd	E Umptanum Rd	1,658 380 2,459	8 10 6	12 12 12	17	H	$1,565,000
104	Canyon Rd	Near Dean's Towing And Auto Service		705	6	12	17	H	$245,000
105	Chevron Ellensburg	Canyon Rd	end	184	6	16	17	H	$70,000
106	1614 Canyon Rd UNIT 101, Ellensburg, WA 98926	Canyon Rd	1620 Canyon Rd, Ellensburg, WA 98926	116 130	8 8	12 12	17	H	$87,000
107	Holiday Inn Express Ellensburg	East Side of the Holiday Inn		255 407	8 6	12 12	16	M	$232,000
108	West of Holiday Inn Express			857	8	12	16	M	$299,000
109	1510 S, Canyon Rd, Ellensburg, WA 98926	Canyon Rd	end	378	6	12	16	M	$132,000
110	Canyon Rd	1410 Canyon Rd, Ellensburg, WA 98926	end	434 59	2 6	12 12	16	M	$172,000
111	Prestige Senior Living at Hearthstone	S Chestnut St	end	329	8	12	16	M	$115,000
112	Umptanum Rd	S Ruby St	Wilson Creek	1,125 358 454 223	8 6 8 12	12 12 16 16	15	M	$776,000
113	Lakeshore Way Opportunity St	W Umptanum Rd W Umptanum Rd	S Opportunity St dead end	1,875 2,034	10 10	12 12	12	M	$1,365,000
114	Canyon Rd	Umptanum Rd	W Mountain Ave	1,378	6	12	17	H	$480,000
115	S industrial Way	Umptanum Rd	1007 Industrial Way, Ellensburg, WA 98926	441 985 138	8 8 6	16 12 16	16	M	$565,000
116	301 Umptanum Rd #1, Ellensburg, WA 98926	W Umptanum Rd	1109 Industrial Way	422	8	16	16	M	$162,000
117	910 Anderson Rd, Ellensburg, WA 98926	Umptanum Rd	Water main identified as 118	1,313 463	8 6	16 16	16	M	$679,000
118	Unnamed Parcel	S Industrial Way	Water main identified as 117	687	6	16	17	H	$262,000
119	S Industrial Way	925 S, Industrial Way, Ellensburg, WA 98926	end	936 691	6 6	12 16	17	H	$590,000

*These projects may only be necessary if new hydrants are installed in these alignments.

Table 9-4

Prioritized Annual Water Main Replacement Projects (Sorted by Number) (Continued)

	Location Description				Size		Priority		
CIP No.	In	From	To	Length (ft)	Ex. Diam. (in)	Prop. Diam. (in)	Points	Rank	Estimated Cost
120	S Main St	Approximately W Mountain Ave	W Manitoba Ave	2,002	6	12	17	H	$697,000
121	1006 Ruby St, Ellensburg, WA 98926	S Ruby St	end	330	8	12	16	M	$115,000
122	S Ruby St	unnamed road	E Mountain Ave	734	10	12	17	H	$534,000
	E Mountain Ave	S Ruby St	S Ruby St	804	10	12			
123	S Pine St	S Ruby St	E Foster Ave	906	2	12	16	M	$398,000
				237	6	12			
124	Unnamed road between S Pearl St and S Pine St	E Mountain Ave	Manitoba Ave	1,321	6	12	17	H	$460,000
125	Jackson Ave	Water main identified as 124	S Pearl St	157	6	12	17	H	$249,000
	S Pearl St	Jackson Ave	E Mountain Ave	556	6	12			
126	S Anderson St	E Manitoba Ave	E Mountain Ave	1,194	6	12	16	M	$617,000
				170	8	12			
	E Cherry Ln	S Anderson St	dead end	405	2	12			
127	S Chestnut St	E Spokane Ave	E Manitoba Ave	398	8	12	16	M	$767,000
				422	6	12			
	E Manitoba Ave	S Chestnut St	Water main identified as 135	1,033	8	12			
	605 E Mountain View Ave, Ellensburg, WA 98926	E Mountain Ave	end	342	6	12			
128	606 E Manitoba Ave, Ellensburg, WA 98926	E Manitoba Ave	end	123	6	12	16	M	$43,000
129	700 E Manitoba Ave UNIT 101, Ellensburg, WA 98926	E Manitoba Ave	end	333	8	12	16	M	$161,000
				125	6	12			
130	S Walnut St	E Manitoba Ave	Unnamed alley between E 5th Ave and E 4th Ave	1,132	8	12	17	H	$973,000
				1,541	6	8			
				260	6	12			
131*	Unnamed alley between S Sampson St and S Walnut St	E Manitoba Ave	309 S Walnut St Ellensburg, WA 98926	130	2	12	16	M	$185,000
				398	6	12			
132	Unnamed alley between E Tacoma Ave and E Manitoba Ave	S Walnut St	S Maple St	1,455	6	12	16	M	$505,000
133	Unnamed alley between E Washington Ave and E Tacoma Ave	S Walnut St	S Maple St	1,453	6	8	16	M	$457,000
134	Unnamed alley between E 1st Ave and E Capitol Ave	S Walnut St	S Chestnut St	445	6	8	17	H	$140,000
135	Unnamed alley between N Anderson St and N Sampson St	E Manitoba Ave	E University Way	3,955	6	12	16	M	$1,553,000
				501	8	12			
136	E Capitol Ave	S Walnut St	Unnamed alley between S Walnut St and S Sampson St	166	6	12	17	H	$996,000
	E 7th Ave	Unnamed alley between S Walnut St and S Sampson St	N Walnut St	180	8	12			
	Unnamed alley between S Walnut St and S Sampson St	E Capitol Ave	E 7th Ave	2,367	6	8			
				374	6	12			
137	N Sampson St	E 2nd Ave	E 1st Ave	261	2	12	17	H	$217,000
	E 2nd Ave	Unnamed alley between N Anderson St and N Sampson St	Unnamed alley between N Sampson St and N Walnut St	359	6	12			
138	Unnamed alley between S Sprague St and S Anderson St	E Manitoba Ave	E Capitol Ave	804	8	12	17	H	$434,000
				404	6	12			
				40	6	12			
139	Unnamed alley between N Sprague St and N Anderson St	Capitol Ave	E University Way	427	6	12	16	M	$1,233,000
	Unnamed alley between N Sprague St and N Anderson St	E 1st Ave	E 5th Ave	1,212	6	12			
	Unnamed alley between N Sprague St and N Anderson St	E 6th Ave	E University Way	731	6	12			
	N Sprague St	Unnamed alley between N Sprague St and N Anderson St	Unnamed alley between N Sprague St and N Anderson St	676	6	12			
	E 1st Ave	N Anderson St	Unnamed alley between N Anderson St and N Sprague St	116	8	12			
	400 E 1st Ave, Ellensburg, WA 98926	E Capitol Ave	E 1st Ave	62	6	12			
				313	8	12			
140	Unnamed alley between N Ruby St and N Sprague St	E 1st Ave	E University Way	2,659	6	12	17	H	$1,187,000
	S Ruby St and E Capitol Ave	W 1st Ave	Unnamed alley between S Ruby St and S Sprague St	50	6	12			
				701	6	12			
141	Unnamed alley between S Pine St and S Ruby St	E Capitol Ave	E University Way	2,924	8	12	17	H	$1,058,000
				112	6	12			
142	W 5th Ave	Unnamed alley between N Pearl St and N Pine St	N Pearl St	118	8	12	17	H	$1,087,000
	Unnamed alley between N Pearl St and N Pine St	E Capitol Ave	E University Way	3,001	8	12			

*These projects may only be necessary if new hydrants are installed in these alignments.

Table 9-4

Prioritized Annual Water Main Replacement Projects (Sorted by Number) (Continued)

	Location Description			Size			Priority		
CIP No.	In	From	To	Length (ft)	Ex. Diam. (in)	Prop. Diam. (in)	Points	Rank	Estimated Cost
143	E 7th Ave	Unnamed alley between N Main St and N Pearl St	Unnamed alley between N Main St and N Water St	345	8	12	17	H	$1,164,000
				2,424	8	12			
	Unnamed alley between N Main St and N Pearl St	E 7th Ave	E Capitol Ave	256	10	12			
				313	6	12			
144	N Water St	E 5th Ave	E 6th Ave	673	8	12	17	H	$1,599,000
	Unnamed alley between N water St and S Main St	W 6th Ave	W University Way	356	6	12			
				365	8	12			
	N Water St	E 5th Ave	W Manitoba Ave	2,840	8	12			
				361	6	12			
145	Unnamed alley between N Kittitas St and N Water St	W University Way	W Manitoba Ave	2,518	8	12	17	H	$1,464,000
				339	8	16			
				1,317	6	12			
146	607 S Industrial Way	Industrial Way	Anderson Rd	433	6	12	14	M	$1,296,000
				510	8	12			
				302	8	16			
	Anderson Rd and S Railroad Ave	Water main in 607 S Industrial Way	W 1st Ave	2,046	6	16			
				188	2	16			
147	W 1st Ave	N Railroad Ave	Unnamed alley between N Kittitas St and N Water St	200	6	12	17	H	$524,000
				1,193	6	16			
148	400 W Washington Ave, Ellensburg, WA 98926			545	8	12	16	M	$191,000
149	201 S Water St, Ellensburg, WA 98926	Water main identified as 145	end	137	6	12	16	M	$147,000
				254	12	16			
150	N Kittitas St	W 1st Ave	W 3rd Ave	749	6	12	17	H	$260,000
151	W 3rd Ave	Unnamed alley between N Water St and N Main St	N Wenas St	935	6	12	17	H	$325,000
152	N Wenas St	W 5th Ave	W 1st Ave	364	8	12	16	M	$612,000
				428	8	16			
				922	6	12			
153	W 3rd Ave	N Wenas St	end	168	6	12	12	M	$60,000
154	501 W 4th Ave, Ellensburg, WA 98926	N Wenas St	end	670	8	20	17	H	$302,000
155	W 4th Ave	Water main identified as 145	N Kittitas St	284	8	20	17	H	$128,000
156	W 5th Ave	Unnamed alley	N Wenas St	1,144	8	12	17	H	$403,000
157	Unnamed alley between N Nanum St and N Kittitas St	W University Way	W 5th Ave	1,129	8	12	17	H	$394,000
158	Unnamed alley between N Cle Elum St and Nanum St	W University Way	W 5th Ave	677	8	12	17	H	$378,000
				407	6	12			
159	Unnamed alley between N Wenas St and N Cle Elum St	W University Way	W 5th Ave	1,113	8	12	17	H	$387,000
160	N Wenas St	W University Way	W 5th Ave	220	6	16	17	H	$465,000
				1,097	8	12			
161	Ellensburg Rodeo Arena	Craig Hill Reservoir	N Poplar St	387	10	12	16	M	$1,202,000
				1,583	6	12			
				104	16	20			
	N Poplar St and unnamed alley between E 5th Ave and E 4th Ave	N Poplar St	N Walnut St	964	6	8			
				472	6	12			
162	Unnamed alley between E 7th Ave and E 6th Ave	Water main identified 161	N Walnut St	1,245	6	12	16	M	$807,000
	N Walnut St	Unnamed alley between E 7th Ave and E 6th Ave	CWU Department of Communication	1,066	6	12			
163	N Poplar St	Unnamed alley between E 8th Ave and E 7th Ave	810 E University Way, Ellensburg, WA 98926	393	6	12	17	H	$529,000
	Unnamed alley between E 8th Ave and E 7th Ave	N Walnut St	901 E 7th Ave #1, Ellensburg, WA 98926	1,285	8	12			
				45	4	12			
164	N poplar St	E 9th Ave	Unnamed alley between E 9th Ave and E 8th Ave	207	6	12	16	M	$790,000
	Unnamed alley between E9th Ave and E 8th Ave and in N	N Poplar St	E 8th Ave	1,160	6	12			
	E 8th Ave	N Alder St	Water main identified as WM5	326	12	20			
	Near Craig Hill Reservoir	Craig Hill Reservoir	E 8th Ave	440	12	16			
165	400 E University Way, Ellensburg, WA 98926	E University Way	end	1,117	6	12	17	H	$390,000
166	Unnamed alley between E 10th Ave and E 9th Ave and in N D St	N C St	E 9th Ave	625	6	12	16	M	$465,000
	N D St	E 9th Ave	E University Way	709	6	12			
167	N main St	Unnamed alley between W 9th Ave and W University Way	W University Way	156	8	12	17	H	$542,000
	Unnamed alley between W 9th Ave and W University Way	N Main St	N D St	1,400	6	12			

Table 9-4

Prioritized Annual Water Main Replacement Projects (Sorted by Number) (Continued)

	Location Description				Size		Priority		
CIP No.	In	From	To	Length (ft)	Ex. Diam. (in)	Prop. Diam. (in)	Points	Rank	Estimated Cost
168	Unnamed alley between W 11th Ave and W 10th Ave	N Main St	N D St	1,391	6	12	13	M	$484,000
169	Unnamed alley between N Columbia St and N Water St	Unnamed alley between W 10th Ave and W 9th Ave	W 10th Ave	175	2	8	13	M	$232,000
	Unnamed alley between W 10th Ave and W 9th Ave	N Main St	Unnamed alley between N Columbia St and N Water St	561	6	8			
170	N Columbia St	W 11th Ave	Unnamed alley between W 12th Ave and W 11th Ave	200	2	8	10	L	$63,000
171	W 12th Ave	The length of the street		50	6	8	10	L	$16,000
172	W 13th Ave	The length of the street		42	6	8	10	L	$14,000
173	N Water St	W 14th Ave	Water main on W 14th Ave	187	6	8	16	M	$60,000
174	302 W 15th Ave Ellensburg, WA 98926			154	2	8	10	L	$49,000
175	401 W 15th Ave Ellensburg, WA 98926			223	6	8	10	L	$71,000
176	W 16th Ave	N Bluegrass Ln	end	143	8	12	16	M	$50,000
177	W 16th Ave	N Stonebridge St	end	108	8	12	16	M	$38,000
178	W Bridgewood Ln	N Stonebridge St	dead end	193	2	12	16	M	$67,000
179	N Cora St	W Rainer St	John Wayne Trail	1,603 1,048	10 6	12 12	15	M	$924,000
180	W 15th Ave	N Okanogan St	W Dry Creek Rd	649 968	6 6	8 12	12	M	$543,000
181	Unnamed alley between W 15th Ave and W 14th Ave	N Okanogan St	404 W 15th Ave Ellensburg, WA 98926	358	2	8	11	M	$517,000
	N Okanogan St	W 15th Ave	W 14th Ave	318	6	12			
	W 14th Ave	N Okanogan St	N Delphine St	453	6	12			
	N Delphine St	W 14th Ave	W 13th Ave	385	6	12			
182	W Rainier St	N Cora St	804 W Rainier Ave Ellensburg, WA 98926	125 469	6 6	8 12	16	M	$204,000
183	W 11th Ave	N Cora St	dead end	271 132	2 6	8 8	12	M	$128,000
184	W 10th Ave	614 W 10th Ave Ellensburg, WA 98926	602 W 10th Ave Ellensburg, WA 98926	285	2	8	13	M	$90,000
185	W University Way	N Water St	N Cora St	588 105 1,329	6 6 8	12 16 12	17	H	$709,000
186	N Okanogan St	Unnamed alley between W 9th Ave and W University Way	W University Way	148	6	12	17	H	$720,000
	Unnamed alley between W 9th Ave and W University Way	N Cora St	N Water St	1,770 149	6 4	12 12			
187	N Cora St	W University Way	Unnamed alley between W 10th Ave and W University Way	640	6	12	16	M	$225,000
188	W University Way 738 W University Way, Ellensburg, WA 98926	N Cora St	738 W University Way	485 739	6 6	16 16	16	M	$468,000
189	W University Way	N Cora St	Railroad crossing and W University Way near Reecer Creek Rd	212 487 1,884 105 4,841 102	8 2 10 6 6 6	12 12 12 8 12 16	16	M	$2,657,000
190	Unnamed alley between N Cascade St and N Railroad Ave	W 7th Ave	N Railroad Ave	178 140	8 6	12 12	17	H	$111,000
191	N Cascade St	W 7th Ave	W Dolarway Rd	113 386	8 6	12 12	17	H	$174,000
192	N Prospect St	W Dolarway Rd	dead end	787 113	8 6	16 16	16	M	$344,000
193	DirecTV on W Dolarway Rd			76	6	16	16	M	$29,000
194	Dolarway Rd	1314 W Dolarway Rd	W University Way	6,550	10	12	16	M	$2,278,000
195	N Enterprise Way	W Dolarway Rd	end	925	8	16	16	M	$355,000
196	N Pott Rd	W Dolarway Rd	end	534	8	16	16	M	$203,000
197	N Hibbs Rd	W Dolarway Rd	end	355 415	8 8	12 16	16	M	$282,000
198	N Dolarway Rd	1301 N Dolarway Rd, Ellensburg, WA 98926		199 201	6 2	12 12	16	M	$140,000

Table 9-4

Prioritized Annual Water Main Replacement Projects (Sorted by Number) (Continued)

	Location Description			Size			Priority		
CIP No.	In	From	To	Length (ft)	Ex. Diam. (in)	Prop. Diam. (in)	Points	Rank	Estimated Cost
199	US 97	W University Way	1817 US-97, Ellensburg, WA 98926	128 2,390	8 10	16 16	16	M	$961,000
200	Triple L Loop	US 97	US 97	1,357	8	12	15	M	$475,000
201	1817 US-97, Ellensburg, WA 98926	US 97	end	1,297	8	16	16	M	$496,000
202	W University Way	Us 97	Railroad crossing and W University Way near Reecer Creek Rd	2,724	10	12	16	M	$947,000
203	N Currier St	W University Way	end	310	8	12	16	M	$109,000
204	W University Way and Reecer Creek Rd	Railroad crossing and	W Dry Creek Rd	2,025	10	12	16	M	$704,000
205	W Clearview Dr N Creeksedge Way W Creeksedge Way 1800 Clearview Dr Ellensburg, WA 98926	N Clearview Dr N Sunnyview Ln N Sunnyview Ln Reecer Creek Rd	Clearview Dr Clearview Dr N Clearview Dr and W N Clearview Dr	1,670 1,360 1,780 253	8 8 8 8	12 12 12 12	16	M	$1,764,000
206	N Middlecrest Dr and W Peakview Dr	W Creeksedge Way	W Clearview Dr	1,464	8	12	15	M	$510,000
207	N Sunnyview Ln and W Sunnyview Ln	W Creeksedge Way	W Peakview Dr	1,680	8	12	13	M	$586,000
208	N Middlecrest Dr	W Peakview Dr	W Sunnyview Ln	445	8	12	13	M	$156,000
209	Clearview Dr	N Creeksedge Way	Old Highway Ten	212	8	12	12	M	$74,000
210	2015 Old Highway 10, Ellensburg, WA 98926	W Clearview Dr	end	823	8	12	16	M	$287,000
211	W Creeksedge Way	N Clearview Dr	W Dry Creek Rd	223	8	12	16	M	$79,000
212	Multiple Parcels	W Dry Creek Rd	W Dry Creek Rd	970 1,191	2 6	12 12	16	M	$752,000
213	W Dry Creek Rd	Existing 24" Water main	Existing 24" Water main	559	2	12	16	M	$196,000
214	Unnamed Road	W Dry Creek Rd	end	637	6	12	16	M	$222,000
215	Near 2121 Dry Creek Rd Ellensburg, WA 98926	W Dry Creek Rd	end	649 139	2 6	12 12	16	M	$275,000
216	607 N Willow St Ellensburg, WA 98926	Craig Ave	N Willow St	282	6	8	11	M	$89,000
217	N Maple St and Craig Ave	E Cliff Ave	1104 Craig Ave	1,257	6	8	17	H	$397,000
218	N Alder St and E Franklin Ave	Craig Ave	1134 Franklin St Ellensburg, WA 98926	240 1,264	2 6	8 8	15	M	$476,000
219	E 4th Ave	N Maple St	900 E 4th Ave	372	4	8	14	M	$117,000
220	E Cliff Ave	S Walnut St	1209 E 3rd Ave Ellensburg, WA 98926	154 1,528 1,008	4 6 6	8 8 12	16	M	$882,000
221	Unnamed alley between E 3rd Ave and E 2nd Ave	N Chestnut St	Water main identified as 75	2,007	6	8	15	M	$632,000

Table 9-5
High Priority Annual Water Main Replacement Projects (Sorted by Number)

	Location Description			Size			Priority		
CIP No.	In	From	To	Length (ft)	Ex. Diam. (in)	Prop. Diam. (in)	Points	Rank	Estimated Cost
19a	Crestview Terrace Apartments	Loop on the east side on N Alder St		980	6	8			
19b	Crestview Terrace Apartments	Water main on the west side of N Alder St		468 738	8 6	12 12	17	H	$731,000
60	N Willow St and E 14th Ave	N Brooklane Ln	N Alder St	1,608 376	6 8	8 12			
	N Alder St	E 14th Ave	E 11th Ave	1191	6	12			
	Alderwood Manor Apartments	N Alder St	N Willow St	69 489	10 6	12 12	17	H	$1,379,000
	N Brooklane Ln	N Willow St	Brick Rd	287 88	8 10	12 12			
63	N Brook Ln	1112 N Brooklane St Ellensburg, WA 98926	2220 Brick Rd Ellensburg, WA 98926	2,444 892 32 176 2,960	6 6 10 8 8	8 16 12 12 16	17	H	$2,316,000
64	E 17th Ave	N Brook Ln	1516 N Brook Ct	805	6	8	17	H	$254,000
65	N Brook Ct	E 15th Ave	dead end	221 113	6 2	12 12	17	H	$118,000
66	Brick Rd	E Radio Rd	E Skyline Rd	201 61	10 0	16 16	17	H L	$772,000
	E Skyline Dr	Brick Rd	dead end	1,181 636	10 6	16 12		L L	
70	Chamith Ln	E Radio Rd	919 Chamith Ln	511	6	8	17	H	$279,000
75	S Willow St	E 3rd Ave	E Kittitas Hwy	799 2,599 387	8 12 6	12 16 12	17	H	$1,407,000
77	E Capitol Ave	S Locust St	S Maple St	836 1,177	10 12	12 16	17	H	$741,000
81	E Mountain Ave	S Bull Rd	S Dougal St	298 1,041	10 12	16 16	17	H	$511,000
102	Berry Road	Canyon Rd	end	200 570	2 6	12 12	17	H	$269,000
103	Canyon Rd	Berry Rd	E Umptanum Rd	1,658 380 2,459	8 10 6	12 12 12	17	H	$1,565,000
104	Canyon Rd	Near Dean's Towing And Auto Service		705	6	12	17	H	$245,000
105	Chevron Ellensburg	Canyon Rd	end	184	6	16	17	H	$70,000
106	1614 Canyon Rd UNIT 101, Ellensburg, WA 98926	Canyon Rd	1620 Canyon Rd, Ellensburg, WA 98926	116 130	8 8	12 12	17	H	$87,000
114	Canyon Rd	Umptanum Rd	W Mountain Ave	1,378	6	12	17	H	$480,000
118	Unnamed Parcel	S Industrial Way	Water main identified	687	6	16	17	H	$262,000
119	S Industrial Way	925 S, Industrial Way, Ellensburg, WA 98926	end	936 691	6 6	12 16	17	H	$590,000
120	S Main St	Approximately W	W Manitoba Ave	2,002	6	12	17	H	$697,000
122	S Ruby St	unnamed road	E Mountain Ave	734	10	12	17	H	$534,000
	E Mountain Ave	S Ruby St	S Ruby St	804	10	12			
124	Unnamed road between S Pearl St and S Pine St	E Mountain Ave	Manitoba Ave	1,321	6	12	17	H	$460,000
125	Jackson Ave	Water main identified	S Pearl St	157	6	12	17	H	$249,000
	S Pearl St	Jackson Ave	E Mountain Ave	556	6	12			
130	S Walnut St	E Manitoba Ave	Unnamed alley between E 5th Ave and E 4th Ave	1,132 1,541 260	8 6 6	12 8 12	17	H	$973,000
134	Unnamed alley between E 1st Ave and E Capitol Ave	S Walnut St	S Chestnut St	445	6	8	17	H	$140,000
136	E Capitol Ave	S Walnut St	Unnamed alley	166	6	12	17	H	$996,000
	E 7th Ave	Unnamed alley	N Walnut St	180	8	12			
	Unnamed alley between S Walnut St and S Sampson St	E Capitol Ave	E 7th Ave	2,367 374	6 6	8 12			
137	N Sampson St	E 2nd Ave	E 1st Ave	261	2	12	17	H	$217,000
	E 2nd Ave	Unnamed alley between N Anderson	Unnamed alley between N Sampson St	202 157	6 6	12 12			
138	Unnamed alley between S Sprague St and S Anderson St	E Manitoba Ave	E Capitol Ave	804 404 40	8 6 6	12 12 12	17	H	$434,000
140	Unnamed alley between N Ruby St and N Sprague St	E 1st Ave	E University Way	2,659	6	12	17	H	$1,187,000
	S Ruby St and E Capitol Ave	W 1st Ave	Unnamed alley between S Ruby St and	50 701	6 6	12 12			

Table 9-5

High Priority Annual Water Main Replacement Projects (Sorted by Number)(Continued)

	Location Description			Size			Priority		
CIP No.	In	From	To	Length (ft)	Ex. Diam. (in)	Prop. Diam. (in)	Points	Rank	Estimated Cost
141	Unnamed alley between S Pine St and S Ruby St	E Capitol Ave	E University Way	2,924 112	8 6	12 12	17	H	$1,058,000
142	W 5th Ave Unnamed alley between N Pearl St and N Pine St	Unnamed alley E Capitol Ave	N Pearl St E University Way	118 3,001	8 8	12 12	17	H	$1,087,000
143	E 7th Ave Unnamed alley between N Main St and N Pearl St	Unnamed alley E 7th Ave	Unnamed alley E Capitol Ave	345 2,424 256 313	8 8 10 6	12 12 12 12	17	H	$1,164,000
144	N Water St Unnamed alley between N water St and S Main St N Water St	E 5th Ave W 6th Ave E 5th Ave	E 6th Ave W University Way W Manitoba Ave	673 356 365 2,840 361	8 6 8 8 6	12 12 12 12 12	17	H	$1,599,000
145	Unnamed alley between N Kittitas St and N Water St	W University Way	W Manitoba Ave	2,518 339 1,317	8 8 6	12 16 12	17	H	$1,464,000
147	W 1st Ave	N Railroad Ave	Unnamed alley between N Kittitas St	200 1,193	6 6	12 16	17	H	$524,000
150	N Kittitas St	W 1st Ave	W 3rd Ave	749	6	12	17	H	$260,000
151	W 3rd Ave	Unnamed alley	N Wenas St	935	6	12	17	H	$325,000
154	501 W 4th Ave, Ellensburg, WA 98926	N Wenas St	end	670	8	20	17	H	$302,000
155	W 4th Ave	Water main identified	N Kittitas St	284	8	20	17	H	$128,000
156	W 5th Ave	Unnamed alley	N Wenas St	1,144	8	12	17	H	$403,000
157	Unnamed alley between N Nanum St and N Kittitas St	W University Way	W 5th Ave	1,129	8	12	17	H	$394,000
158	Unnamed alley between N Cle Elum St and Nanum St	W University Way	W 5th Ave	677 407	8 6	12 12	17	H	$378,000
159	Unnamed alley between N Wenas St and N Cle Elum St	W University Way	W 5th Ave	1,113	8	12	17	H	$387,000
160	N Wenas St	W University Way	W 5th Ave	220 1,097	6 8	16 12	17	H	$465,000
163	N Poplar St Unnamed alley between E 8th Ave and E 7th Ave	Unnamed alley N Walnut St	E 8th Ave 901 E 7th Ave #1, Ellensburg, WA 98926	186 1,285 45	6 8 4	12 12 12	17	H	$529,000
165	400 E University Way, Ellensburg, WA 98926	E University Way	end	1,117	6	12	17	H	$390,000
167	N main St Unnamed alley between W 9th Ave and W University Way	Unnamed alley N Main St	W University Way N D St	156 1,400	8 6	12 12	17	H	$542,000
185	W University Way	N Water St	N Cora St	588 105 1,329	6 6 8	12 16 12	17	H	$709,000
186	N Okanogan St Unnamed alley between W 9th Ave and W University Way	Unnamed alley N Cora St	W University Way N Water St	148 1,770 149	6 6 4	12 12 12	17	H	$720,000
190	Unnamed alley between N Cascade St and N Railroad Ave	W 7th Ave	N Railroad Ave	178 140	8 6	12 12	17	H	$111,000
191	N Cascade St	W 7th Ave	W Dolarway Rd	113 386	8 6	12 12	17	H	$174,000
217	N Maple St and Craig Ave	E Cliff Ave	1104 Craig Ave	1,257	6	8	17	H	$397,000

Other Improvements

The additional water main, pressure zone, PRV, and facility improvements were prioritized based on existing deficiencies, safety concerns, maintenance requirements, and capacity requirements. The miscellaneous improvements were prioritized based on regulatory requirements and assessment of the water system needs. The priority order of these improvements is reflected in the schedule of improvements, which is presented in the next section.

SCHEDULE OF IMPROVEMENTS

The improvement prioritization results were used to assist in establishing an implementation schedule that can be used by the City for preparing its 10-year CIP and yearly Water Department budget. The implementation schedule for the proposed improvements is shown in **Table 9-6**. A variable allowance per year has been established for the annual replacement of water mains based on the City's available budget. The City will identify and schedule the replacement of these water

mains during its annual budget process. This provides the City with the flexibility to coordinate these projects with road or other projects within the same area.

Future Project Cost Adjustments

All cost estimates shown in the tables are presented in year 2020 dollars. These cost estimates will need to be adjusted to account for the effects of inflation and changing construction market conditions to determine future costs at the actual time of project implementation. Future costs can be estimated using the Engineering News Record Construction Cost Index for the Seattle area or by applying an estimated rate of inflation that reflects the current and anticipated future market conditions.

Table 9-6
Proposed Improvements Implementation Schedule

No.	Description	Estimated Total Project Cost (2020 $)	20-Year Schedule of Improvements Planned Year of Project and Estimated Cost in 2020 $														
			2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034-2040	2041+
Water Main Improvements																		
WM1	Annual Water Main Replacement Program[1]	$99,740,000		$160K	$41K	$1K	$287K								$465K	$465K	$3,255K	$95,066K
WM2	Bull Road Utility Extension Project [2]	$2,080,000		$1,432K	$648K													
WM3	Airport Well No. 3 and 1824 Zone Connector	$160,000									$160K							
WM4	N Columbia Street Connector	$10,000																$10K
WM5	Greenfield Avenue Connector	$50,000																$50K
Pressure Zone Improvements																		
PZ1	New Craig Hill Pressure Zone (1760 Zone)	$1,560,000			$376K	$1,184K												
PZ2	New 1860 Pressure Zone	$4,340,000								$2,500K	$1,840K							
PZ3	1740/1824 Pressure Zone Conversion	$750,000												$750K				
Facility Improvements																		
F1	Reservoir Corrosion Control Program	$230,000				$230K												
F2	Permanent On-Site Backup Generators for All City Sources of Supply	$5,270,000					$2,635K						$2,635K					
F3	Reservoir Siting Study	$70,000				$70K												
F4	New 4.0 MG 1824 Zone Reservoir	$9,490,000						$4,745K	$4,745K									
F5	City Fire Flow Evaluation	$20,000		$20K														
F6	Vuecrest BPS Capacity Improvement	$1,180,000																$1,180K
F7	Illinois Well Construction	$3,210,000	$2,695K	$515K														
F8	City Well Transmission Main Evaluation	$75,000				$75K												
F9	City Well Transmission Main Rehabilitation	$14,870,000												$744K	$744K	$744K	$5,205K	$7,435K
F10	Craig Hill Reservoir Seismic Vulnerability Study	$50,000				$50K												
F11	Craig Hill Reservoir Seismic Retrofit	$180,000					$180K											
F12	Mt. Stuart Well Rehabilitation	$200,000				$200K												
Miscellaneous Improvements																		
M1	Water Utility Billing Software	$70,000									$70K							
M2	Source of Supply Improvements Study	$50,000					$50K											
M3	Source of Supply Improvements Implementation	$6,800,000									$50K	$2,375K		$438K	$438K	$438K	$3,063K	
M4	Consolidation of the City's Existing Instantaneous Water Rights	$60,000		$60K														
M5	Aquifer Storage and Recovery (ASR) Program [3]	$7,800,000			$400K	$400K						$1,750K	$3,500K	$1,750K				
M6	Water System Plan Update	$400,000												$200K	$200K			
M7	Risk & Resilience Assessment and Emergency Response Plan	$60,000						$30K	$30K									
Total Estimated Costs of City Funded Impr.		**$157,975,000**	**$2,695K**	**$2,187K**	**$1,066K**	**$1,810K**	**$3,152K**	**$4,775K**	**$4,775K**	**$2,500K**	**$2,120K**	**$4,125K**	**$6,135K**	**$3,881K**	**$1,846K**	**$1,646K**	**$11,522K**	**$103,741K**
Developer-Funded Water Main Improvements [4]																		
DF1	Anderson Road and Umptanum Road Loop	$4,460,000				$4,460K												

1 = Annual project cost can be adjusted to meet City budget goals. Remainder of project costs can be shifted to the 2040+ horizon.
2 = Costs associated with this project only includes water utility improvement costs.
3 = The ASR pilot study planned for 2022/2023 is to be grant funded; therefore, it is not included in the Total Estimated Costs of City Funded Improvements.
4 = Developer-funded improvement costs are not included in the Total Estimated Costs of City Funded Improvements.

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Legend

- Capital Improvement Projects
- PRV Station
- Tank
- Pump Station
- Well
- City Limits
- Urban Growth Area
- Water Service Area

2040 Pressure Zones

- 1740 Zone
- 1760 Zone
- 1824 Zone
- 1860 Zone

Proposed 1824 Zone Tank
Location TBD
4.0 MG
Base Elev: 1,793'
Overflow Elev: 1,824'

Proposed 1860 Zone BPS
(4,100 gpm)

Airport Reservoir
1.1 MG
Base Elev: 1,722'
Overflow Elev: 1,824'

Airport Well No. 3
(241 gpm)

Airport Well No. 1
(inactive)

Illinois Well
(2,500 gpm)

Mt. Stuart Well
(649 gpm)

Kiwanis Well
(819 gpm)

Transfer Station

Brooklane Well
(780 gpm)

Vuecrest BPS
(2,000 gpm)

Memorial Well
(700 gpm)

Craig Hill Reservoir
4.0 MG
Base Elev: 1,676.5'
Overflow Elev: 1,740'

Proposed 1760 Zone BPS
(1,500 gpm)

Rodeo Well
(700 gpm)

Proposed 1824/1760 Zone PRV

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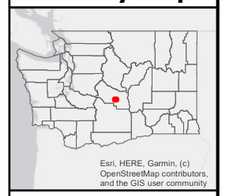
Vicinity Map



Esri, HERE, Garmin, (c) OpenStreetMap contributors, and the GIS user community

Figure 9-1a
Capital Improvement Projects
City of Ellensburg Water System Plan

City of Ellensburg WASHINGTON

1 inch = 900 feet

0 450 900 1,800 Feet

DRAWING IS FULL SCALE WHEN BAR MEASURES 2"

RH2

NORTH

J:\DATA\ELL\219-144\01 WSP\GIS\FIGURE_9-1A_PROPOSED_WATER_SYSTEM_IMPROVEMENTS.MXD BY: ZSCHREMPP PLOT DATE: DEC 28, 2023 COORDINATE SYSTEM: WGS 1984 WEB MERCATOR AUXILIARY SPHERE

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Kiwanis Well
(819 gpm)

Vuecrest BPS
(2,000 gpm)

Craig Hill Reservoir
4.0 MG
Base Elev: 1,676.5'
Overflow Elev: 1,740'

Proposed 1760 Zone BPS
(1,500 gpm)

Rodeo Well
(700 gpm)

Proposed 1824/1760 Zone PRV

Memorial Well
(700 gpm)

Whitney Well
(772 gpm)

Legend

- Capital Improvement Projects
- PRV Station
- Tank
- Pump Station
- Well
- City Limits
- Urban Growth Area
- Water Service Area

2040 Pressure Zones

- 1740 Zone
- 1760 Zone
- 1824 Zone
- 1860 Zone

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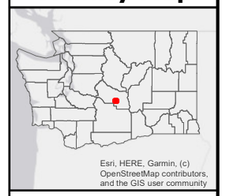
Vicinity Map



Esri, HERE, Garmin, (c) OpenStreetMap contributors, and the GIS user community

Figure 9-1b
Capital Improvement Projects
City of Ellensburg Water System Plan

City of Ellensburg WASHINGTON

1 inch = 900 feet

0 450 900 1,800 Feet

DRAWING IS FULL SCALE WHEN BAR MEASURES 2"

RH2

NORTH

J:\DATA\ELL\219-144\01 WSP\GIS\FIGURE_9-1B_PROPOSED_WATER_SYSTEM_IMPROVEMENTS.MXD BY: ZSCHREMPP PLOT DATE: DEC 28, 2023 COORDINATE SYSTEM: NAD 1983 STATEPLANE WASHINGTON SOUTH FIPS 4602 FEET

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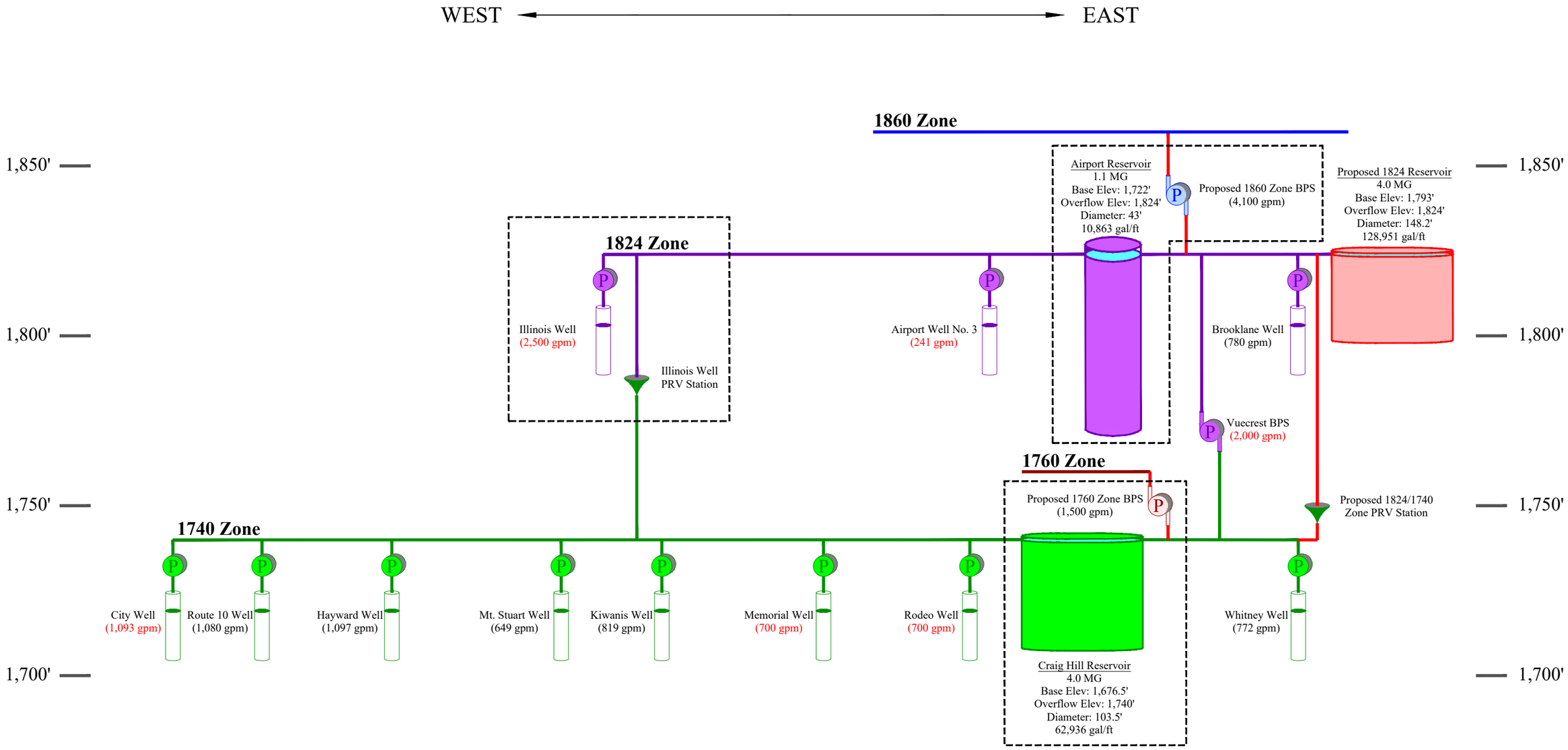

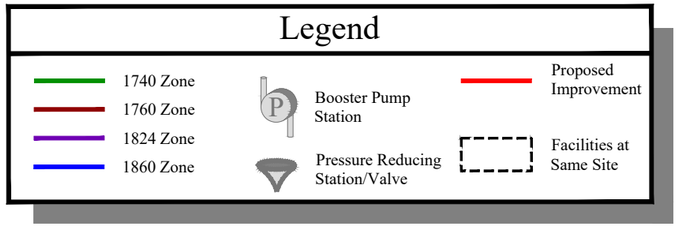

Figure 9-2
Proposed System Hydraulic Profile

City of Ellensburg
Water System Plan

Date: DEC 28, 2023 Filename: J:\DATA\ELL\219-144\01 WSP\CAD\ELLWSP-HPX.DWG

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Legend

- High Priority Water Main Projects
- PRV Station
- Tank
- Pump Station
- Well
- City Limits
- Urban Growth Area
- Water Service Area

2040 Pressure Zones

- 1740 Zone
- 1760 Zone
- 1824 Zone
- 1860 Zone

Proposed 1824 Zone Tank
Location TBD
4.0 MG
Base Elev: 1,793'
Overflow Elev: 1,824'

Airport Reservoir
1.1 MG
Base Elev: 1,722'
Overflow Elev: 1,824'

Proposed 1860 Zone BPS
(4,100 gpm)

Airport Well No. 3
(241 gpm)

Airport Well No. 1
(inactive)

Illinois Well
(2,500 gpm)

Transfer Station

Brooklane Well
(780 gpm)

Vuecrest BPS
(2,000 gpm)

Proposed 1760 Zone BPS
(1,500 gpm)

Mt. Stuart Well
(649 gpm)

Kiwanis Well
(819 gpm)

Proposed 1824/1740 Zone PRV

Craig Hill Reservoir
4.0 MG
Base Elev: 1,676.5'
Overflow Elev: 1,740'

Rodeo Well
(700 gpm)

Memorial Well
(700 gpm)

Whitney Well
(772 gpm)

Northwest Wells

1" = 3,500'

NORTH

City Well (1,093 gpm)
Route 10 Well (1,080 gpm)

Hayward Well
(1,097 gpm)

J:\DATA\ELL\219-144\01 WSP\GIS\FIGURE_9-3_PROPOSED_WATER_SYSTEM_IMPROVEMENTS.MXD BY: ZSCHREMPP PLOT DATE: DEC 28, 2023 COORDINATE SYSTEM: NAD 1983 STATEPLANE WASHINGTON SOUTH FIPS 4602 FEET

RH2

NORTH

1 inch = 1,200 feet

0 600 1,200 2,400 Feet

DRAWING IS FULL SCALE WHEN BAR MEASURES 2"

City of Ellensburg WASHINGTON

Figure 9-3
High Priority Water Main Projects
City of Ellensburg
Water System Plan

Vicinity Map

Esri, HERE, Garmin, (c) OpenStreetMap contributors, and the GIS user community

This map is a graphic representation derived from the City of Ellensburg Geographic Information System. It was designed and intended for City of Ellensburg staff use only; it is not guaranteed to survey accuracy. This map is based on the best information available on the date shown on this map.

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10 | FINANCIAL PROGRAM

INTRODUCTION

The purpose of the financial program is to provide reasonable assurance that the City of Ellensburg (City) has and will have the financial ability to maintain and operate the utility on an ongoing basis and has the capacity to obtain sufficient funds to construct the water system improvements as identified in **Chapter 9**.

The financial program can only provide this qualified assurance if it considers the total system costs of providing water service, including operating and capital costs. To meet these objectives, the financial plan includes the following elements.

- Past Financial Performance
    - Past Income and Expenses (2014 through 2019)
- Funding Sources
- Capital Financing Plan
    - Capital Improvement Plan (CIP) Financing Plan (2019 through 2033)
- Projected Financial Performance
    - Revenue Requirement Summary (2019 through 2033)
- Rate Structure

PAST FINANCIAL PERFORMANCE

The City's goal is to provide potable water and fire flow services to City customers at the lowest reasonable price, while ensuring reliability of source, storage, and distribution.

The summary of past income and expenses for the water system presented in **Table 10-1** shows the City's financial viability and the ability of the City to continue providing a high level of service. **Equations 10-1** and **10-2** provide sample calculations for determining Total Expenses and Net Income, respectively.

Table 10-1

Summary of Past Income and Expenses (2014 through 2019)

Income and Expense	Year					
	2014	2015	2016	2017	2018	2019
Total Revenues						
Rate Revenue	$3,961,370	$4,449,084	$4,541,653	$4,548,461	$4,266,366	$5,007,615
Income from Other Sources	$582,111	$380,858	$547,739	$575,770	$595,346	$780,741
Total Income	**$4,543,481**	**$4,829,942**	**$5,089,392**	**$5,124,231**	**$4,861,712**	**$5,788,356**
Total Administration and Operating Taxes						
Total Reimbursable Charges	$3,226	$564	$1,423	$4,081	$0	$40,638
Total Administration Salaries	$58,570	$72,005	$71,555	$72,663	$130,735	$144,017
Total Undistributed Indirect Labor	$76,172	$67,730	$83,918	$76,763	$89,057	$91,189
Total Administration	$323,135	$264,142	$270,797	$290,176	$344,395	$401,232
Total Interfund Charges	$884,821	$956,953	$954,707	$929,710	$987,436	$1,025,119
Total Regulatory Commission/Operating Assessments	$11,983	$11,682	$11,486	$11,638	$23,298	$21,281
Total Operating Taxes	$575,731	$665,561	$754,472	$692,004	$753,042	$796,989
Total Administration and Operating Taxes	**$1,933,637**	**$2,038,637**	**$2,148,358**	**$2,077,035**	**$2,327,962**	**$2,520,465**
Total Training						
Total Training	**$8,683**	**$15,945**	**$13,444**	**$12,739**	**$16,128**	**$18,095**
Total Maintenance						
Total Building/Structure Maintenance	$37,219	$48,174	$71,626	$51,806	$53,102	$44,238
Total Source of Supply Maintenance	$41,550	$36,204	$38,258	$34,952	$55,381	$62,881
Total Transmission Main Maintenance	$9,338	$17,910	$9,638	$26,913	$14,309	$15,398
Total Distribution Main Maintenance	$65,325	$104,056	$105,050	$178,787	$142,424	$131,848
Total Services - Maintenance	$155,002	$150,733	$152,576	$166,836	$136,328	$152,578
Total Meter Maintenance	$50,039	$8,739	$21,113	$30,714	$32,144	$35,663
Total Hydrant Maintenance	$14,026	$9,187	$12,389	$10,011	$18,700	$14,298
Total Maintenance of Other Plant	$6,587	$9,199	$14,571	$9,867	$5,730	$9,842
Total Maintenance	**$379,087**	**$384,202**	**$425,221**	**$509,886**	**$458,118**	**$466,746**
Total Operations						
Total Source of Supply - Operations	$410,379	$366,544	$476,174	$425,287	$466,772	$435,512
Total Treatment Expense	$64,097	$62,353	$57,249	$80,312	$65,449	$76,321
Total Cross Connection	$39,941	$43,885	$53,590	$48,263	$50,834	$55,407
Total Operations	**$514,417**	**$472,782**	**$587,013**	**$553,862**	**$583,055**	**$567,240**
Total Debt Service						
Total Debt Service	**$234,789**	**$738,405**	**$258,481**	**$722,819**	**$722,019**	**$720,057**
Total Capital Outlay						
Total Capital Outlay	**$146,166**	**$334,495**	**$522,882**	**$380,788**	**$213,069**	**$148,180**
Transfers Out - Water Fund/Water Construction						
Total Transfer Out	**$286,119**	**$902,622**	**$247,493**	**$202,084**	**$40,940**	**$1,107,034**
Total Expenses						
Total Expenses	**$3,502,897**	**$4,887,088**	**$4,202,892**	**$4,459,213**	**$4,361,291**	**$5,547,817**
Net Income						
Net Income	**$1,040,583**	**($57,146)**	**$886,500**	**$665,018**	**$500,422**	**$240,539**

Equation 10-1 shows the sample calculation of Total Expenses, as follows:

$$\text{Total Expenses} = \text{Total Administration and Operating Taxes} + \text{Total Training} + \text{Total Maintenance} + \text{Total Operations} + \text{Total Debt Service} + \text{Total Capital Outlay} + \text{Transfers Out} \quad \textbf{(10-1)}$$

Equation 10-2 shows the sample calculation of Net Income, as follows:

$$\text{Net Income} = \text{Total Revenues} - \text{Total Expenses} \quad \textbf{(10-2)}$$

Existing Long-Term Debt

The water utility's existing debt consists of four revenue bonds issued in 2010, 2013, and 2016. Debt service for the bonds totals $0.7 million in 2019. Three of the four revenue bonds are scheduled to reach maturity by 2023, reducing annual debt to $0.4 million in 2023.

FUNDING SOURCES

The City may fund the water capital improvement program from a variety of sources. In general, these sources can be summarized as: 1) government grant and loan programs; 2) publicly issued debt (tax exempt or taxable); 3) cash resources; and 4) capital facilities charges. Each source is described in the sections that follow.

Government Grant and Loan Programs

Historically, federal and state grant programs were available to local utilities for capital funding assistance. However, these assistance programs have been mostly eliminated, substantially reduced in scope and amount, or replaced by loan programs. Remaining grant programs are generally underfunded and extremely competitive. Nonetheless, the benefit of the very low interest loans makes the effort of applying worthwhile. State programs identified as potential funding sources for the utility improvements set forth in this Water System Plan (WSP) are as follows.

Public Works Trust Fund – The Public Works Trust Fund (PWTF) is a commonly used, low-cost revolving loan fund established by the 1985 State Legislature to provide financial assistance to local governments for public works projects. Eligible projects must improve public health and safety, respond to environmental issues, promote economic development, or upgrade system performance.

PWTF loans are available at low interest rates. The useful life of the project determines the loan term, for up to a maximum of 20 years for non-distressed communities. The applicant must be a local government, such as a city, county, or special purpose utility district, and have an approved long-term plan for financing its public works needs. Local governments must compete for PWTF dollars since more funds are requested each year than are available. The Public Works Board evaluates each application and transmits a prioritized list of projects to the legislature. The legislature then indicates its approval by passing an appropriation from the Public Works Assistance Account to cover the cost of the approved loans. Once the Governor has signed the appropriations

bill into law, the local governments receiving the loans are offered a formal loan agreement with the appropriate interest rate and term, as determined by the Public Works Board. Normally, these loan agreements are executed, but the proceeds are drawn down as expenditures are made and then reported to the state.

Community Economic Revitalization Board – Managed by the Department of Commerce, this program provides grants and loans to fund public facilities that support specific private-sector business growth and expansion. Eligible projects include water, sewer, and other public improvements.

Department of Ecology – The Department of Ecology's Water Quality Financial Assistance Program sponsors three grant and loan programs: 1) the Centennial Clean Water Fund; 2) the Federal 319 program; and 3) the State Revolving Fund Loan program. While some of these funding sources go to wastewater programs, projects such as the development and implementation of groundwater, and wellhead protection programs, also are included.

Department of Health – The U.S. Congress has authorized a limited amount of money for the Drinking Water State Revolving Fund (DWSRF) loan specifically for programs to improve water quality. The Grants and Loans Unit at the Washington State Department of Health Office of Drinking Water administers the DWSRF loan program. Priority is given to projects that address severe public health threats and compliance issues.

Of these programs, the PWTF is the most attractive loan program for the City. However, given the level of competition for these funds, the PWTF should not be relied on as a source of funding for all qualified projects in a conservative rate-making forecast. It is recommended that the City pursue PWTF loans as needed.

Publicly Issued Debt

Revenue Bonds – Revenue bonds are used commonly to fund utility capital improvements. The debt is secured by the revenue of the issuing utility, and the debt obligation does not extend to the City's other revenue sources. With this limited commitment, revenue bonds typically require security conditions related to the maintenance of dedicated reserves (i.e., a bond reserve) and financial performance (e.g., added bond debt service coverage). The City agrees to satisfy these requirements by ordinance as a condition of the bond sale.

Revenue bonds can be issued in Washington without a public vote. There is no bonding limit, except perhaps the practical limit of the utility's ability to generate sufficient revenue to repay the debt and provide coverage. In some cases, poor credit might make issuing bonds problematic. In the case of the City, strong historical financial performance bodes well for this form of financing. For the most part, tax-exempt bonds may be issued by a governmental agency for its capital projects, with the exception of funding needs that serve private sector or non-governmental interests, such as mutual water companies and homeowners associations (which are classified as 501(c) corporations). Generally speaking, if more than 10 percent of a capital project provides direct benefit and service to the private sector (e.g., a business or mutual water company receiving wholesale water), the associated revenue bonds likely will be taxable. It is important that each

agency perform due diligence in this regard when there is a question of private versus public benefit.

Cash Resources

The City has water reserves that include an operating reserve and a capital reserve. The operating reserve target is 150 days of operating expenses. The operating reserve target in 2019 was estimated at $1.5 million, increasing to $1.6 million by 2024. The capital reserve target is 2.00 percent of the original cost of assets or approximately $0.5 million in 2019.

Capital Facilities Charges

Capital Facilities Charges (CFCs) are legal sources of funding provided through development and growth in customers, typically used by utilities to support capital needs. CFCs are a form of connection charge as authorized in Revised Code of Washington (RCW) 35.92.025. CFCs are imposed on new customers as a condition of service, in addition to any other costs incurred to connect the customer, such as meter installation charges. Typically, the basis for the CFC is the total original capital cost the utility will or has incurred to provide the water system. The underlying premise of the CFC is that growth (i.e., future customers) will pay upfront for growth-related costs that would not have been necessary absent the increase in customer base.

The purpose of the CFC is two-fold: 1) to provide funding sources for capital financing; and 2) to recover an equitable level of investment in the system from new customers. In the absence of such a charge, growth-related costs would be borne, in large part, by existing customers. In addition, the current customers' net investment in the utility would be diluted by the addition of new customers absent a CFC. This dilution, if allowed, would in effect be a subsidy to new connections.

A brief description of the components that can be included in the CFC is provided as follows.

- Existing Cost Basis – Legal interpretations of state statutes have provided guidelines for CFCs. CFCs should reflect the actual original cost of the utility system and can include interest on that cost at the rate of interest applicable at the time of construction for up to a 10-year period, not to exceed 100 percent of the construction costs. This cost is net of donated facilities and non-utility cash payments, whether from grants or developers, or through Local Improvement District assessments. Although not required by state law, outstanding debt principal (net of existing cash balances) is then subtracted from this cost basis to avoid double charging, in recognition that debt service is repaid through rates.
- Future Cost Basis – Legal interpretations also suggest that future facilities needed to serve growth, as well as regulatory system improvements, can be included in the connection charge. The future cost basis can include utility capital projects planned for construction and identified in an approved comprehensive system planning document. Projects directly funded by developers, grants, or special property assessments are not included in the calculation. Replacement projects are most often excluded from the calculation unless needed to increase the size of the system. The original cost of the replacement project is already included in the existing cost basis. Further, replacement costs typically are recovered through user rates.

- Customer Base/System Capacity – The sum of the existing cost basis and future cost basis is then divided by the total customer base to determine the maximum allowable connection charge. The customer base represents the equivalent residential units (ERUs) that can be supported by the planned system capacity.

The City's CFCs (plant investment fees) for 2020 are defined in Ellensburg Municipal Code 9.92.400 and are presented in **Table 10-2**. The City charges a fixed fee based on the meter size.

Table 10-2

2020 Plant Investment Fees

Meter Size (inches)	Plant Investment Fee
3/4 or smaller	$3,600
1	$6,012
1-1/2	$11,988
2	$19,188
3	$36,000
4	$60,012
6	$119,988
8	$191,988

CAPITAL FINANCING PLAN

The 2019 *Electric, Water, and Sewer Cost of Service Study*, completed by FCS GROUP, assumed that the water utility would expend approximately $12.9 million in capital costs from 2019 through 2024, and approximately $27.6 million in capital costs from 2019 to 2038. Major projects that were included in these assumed costs include drilling the Illinois Well and the Bull Road/Berry Loop. Since the development of the rate study, additional capital project cost projections have become available through the development of **Chapter 9** of this WSP.

Table 10-3 shows the capital funding summary using the capital costs from **Chapter 9** of this WSP. The capital costs, which are presented in 2020 dollars in **Chapter 9**, have been inflated to future dollars in **Table 10-3**, at a rate of 3 percent per year per guidance in the FCS GROUP rate study (**Equation 10-3**). Total funding sources for years 2019 through 2024 are based on actual estimates determined by the FCS GROUP during the rate study. For years 2025 through 2033, connection charges are assumed to be the average of 2019 to 2024, and funding from cash balances and interest are adjusted as necessary to balance the capital costs and funding sources. It is anticipated that the City will begin the Aquifer Storage and Recovery (ASR) Program in 2029, as shown in **Table 9-6**. In order to fund the ASR program, it is assumed that the City will require a $7 million loan as shown in **Table 10-3**.

Table 10-3

Capital Funding Summary

Capital Improvement Program	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033
Total Capital Costs															
Total Capital Costs	**$1,951,850**	**$2,694,686**	**$2,186,930**	**$1,066,252**	**$1,810,034**	**$3,152,797**	**$5,535,534**	**$5,701,600**	**$3,074,685**	**$2,685,553**	**$5,382,189**	**$8,244,927**	**$5,215,739**	**$2,480,870**	**$2,212,086**
Funding Sources															
Cash Balances and Interest	$1,331,850	$2,319,686	$2,023,144	$900,828	$1,642,956	$2,984,048	$3,302,194	$3,468,260	$2,841,345	$2,452,213	$3,714,279	$3,714,279	$3,714,279	$2,247,530	$1,978,747
Grants/Donations/CIAC	$260,000	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Connection Charges	$360,000	$375,000	$163,786	$165,424	$167,078	$168,749	$233,340	$233,340	$233,340	$233,340	$233,340	$233,340	$233,340	$233,340	$233,340
Loans	-	-	-	-	-	-	$2,000,000	$2,000,000	-	-	$7,000,000	-	-	-	-
Total Funding Sources	**$1,951,850**	**$2,694,686**	**$2,186,930**	**$1,066,252**	**$1,810,034**	**$3,152,797**	**$5,535,534**	**$5,701,600**	**$3,074,685**	**$2,685,553**	**$10,947,619**	**$3,947,619**	**$3,947,619**	**$2,480,870**	**$2,212,086**

CIAC = Contributions in aid of construction

Equation 10-3 shows the sample calculation of Total Capital Costs for Year n as follows.

$$\textbf{Total Capital Costs for Year n} = \textbf{Capital Cost for Year n} * \textbf{1.03}^{(n-2020)} \qquad \textbf{(10-3)}$$

PROJECTED FINANCIAL PERFORMANCE

Basis for Revenue Requirements

The revenue requirement analysis determines the amount of rate revenue needed in a given year to meet that year's expected financial obligations.

The cash flow test identifies cash requirements for the utility in the year addressed. These requirements can include cash operating and maintenance expenses, debt service, directly funded capital outlays, capital transfers, and any projected additions to reserves. The total cash needs were then compared to projected utility revenues. Any projected shortfalls were identified, and the level of rate increase necessary to make up the shortfall in addition to loans was estimated.

The 2019 rate study made a number of assumptions to develop the revenue requirements for the City's water utility. The following items include assumptions from the rate study and additional assumptions made by RH2 Engineering, Inc., to determine the water utility's revenue requirements through 2033.

Operating Revenues

- **Rate Revenue**. Based on actual customer billing data from 2017. As shown in **Table 10-4**, between the years 2019 and 2024 water utility rates are to increase by 7 percent per year per the Rate Study completed by FCS GROUP. For projected years 2025 through 2033, it was assumed that water utility rates would increase at 2 percent per year. Additionally, rate revenues were increased based on the rate that the population of the water system is expected to grow as described in **Chapter 3** of this WSP.
- **Non-Rate Revenue**. Consists primarily of plant investment fees, meter connection fees, interfund jobbing income, and interest earnings. Non-rate revenues were assumed to increase at the same rate as the population, which is 2 percent per year.

Operating and Maintenance Expenses

- **Construction Cost Inflation**. Construction cost inflation is assumed to be 3.00 percent per year, which is generally based on 2013 to 2017 history of the Engineering News Record construction cost index for a 20 city average.

Debt Service

- **Existing Debt**. The water utility's existing debt consists of four revenue bonds issued in 2010, 2013, and 2016. Debt service for the bonds totals $0.7 million in 2019. Three of the four revenue bonds are scheduled to reach maturity by 2023, reducing annual debt service to $0.4 million in 2023. For years 2025 through 2033, it was assumed that the existing debt service would decrease by the average rate that existing debt service decreased between the years of 2019 through 2024.
- **New Debt**. No new debt issues were assumed during the years 2019 through 2024. New debt totaling approximately $11 million to fund CIP projects was assumed between the years 2025 and 2033.

The CIP program in **Chapter 9** identifies a large reservoir installation project (CIP F4) during the years 2025 and 2026. In order to fund this project, it has been assumed that the City will be able to obtain loan/grant funding of approximately $4 million as shown in **Table 10-3**. The CIP also identifies the implementation of an Aquifer Storage and Recovery project that will begin in 2029 as shown in **Chapter 9**. In order to fund this project, it has been assumed that the City will be able to obtain a further $7 million in loan/grant funding as shown in **Table 10-3**.

The forecast of new debt assumes a PWTF Fund loan interest rate of 0.5 percent with a 20-year term.

Table 10-4 summarizes the projected financial performance and rate requirements for 2019 through 2033. **Equations 10-4**, **10-5**, and **10-6** provide sample calculations for **Table 10-4** values.

Table 10-4

Revenue Requirements Summary (2019 through 2033)

Revenue Requirements Summary	Year 2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033
							Revenues								
Rate Revenues [1]	$5,007,615	$5,458,300	$5,949,547	$6,485,007	$7,068,657	$7,704,836	$8,013,030	$8,333,551	$8,666,893	$9,013,569	$9,374,112	$9,749,076	$10,139,039	$10,544,601	$10,966,385
Non-rate Revenues [1]	$780,741	$796,356	$812,283	$828,529	$845,099	$862,001	$879,241	$896,826	$914,763	$933,058	$951,719	$970,753	$990,168	$1,009,972	$1,030,171
Loan Income	-	-	-	-	-	-	$2,000,000	$2,000,000	$0	$0	$7,000,000	$0	$0	$0	$0
Total Revenues	**$5,788,356**	**$6,254,656**	**$6,761,830**	**$7,313,535**	**$7,913,756**	**$8,566,838**	**$10,892,271**	**$11,230,377**	**$9,581,656**	**$9,946,627**	**$17,325,830**	**$10,719,829**	**$11,129,207**	**$11,554,572**	**$11,996,556**
							Expenses								
Cash Operating Expenses [1, 2]	$2,651,768	$3,716,769	$3,790,163	$3,887,984	$3,961,268	$4,046,875	$3,675,805	$3,730,011	$3,785,017	$3,840,834	$3,897,474	$3,954,950	$4,013,273	$4,072,456	$4,132,512
Existing Debt Service [1, 2]	$720,057	$641,945	$629,621	$635,783	$391,285	$378,961	$326,583	$281,444	$242,544	$209,021	$180,131	$155,234	$133,778	$115,288	$99,353
New Debt Service	$0	$0	$0	$0	$0	$0	$220,000	$219,000	$218,000	$217,000	$601,000	$598,250	$595,500	$592,750	$590,000
Rate-funded System Reinvestment [3]	$224,142	$825,374	$923,085	$1,045,335	$1,075,924	$1,149,318	$1,249,394	$1,358,184	$1,476,447	$1,605,007	$1,744,762	$1,896,686	$2,061,838	$2,241,372	$2,436,537
Total Capital Costs	$1,951,850	$2,694,686	$2,186,930	$1,066,252	$1,810,034	$3,152,797	$5,535,534	$5,701,600	$3,074,685	$2,685,553	$5,382,189	$8,244,927	$5,215,739	$2,480,870	$2,212,086
Total Expenses	**$5,547,817**	**$7,878,775**	**$7,529,800**	**$6,635,354**	**$7,238,511**	**$8,727,951**	**$11,007,315**	**$11,290,239**	**$8,796,692**	**$8,557,414**	**$11,805,556**	**$14,850,046**	**$12,020,129**	**$9,502,735**	**$9,470,489**
Net Annual Surplus (Deficiency)	**$240,539**	**($1,624,119)**	**($767,969)**	**$678,181**	**$675,245**	**($161,114)**	**($115,044)**	**($59,862)**	**$784,963**	**$1,389,212**	**$5,520,274**	**($4,130,217)**	**($890,921)**	**$2,051,838**	**$2,526,067**

1 = Actual records for 2019 were used to develop values used.

2 = Values for years 2020 through 2024 were taken from the June 2019 Rate Study completed by the FCS Group.

3 = Values for years 2019 through 2024 were taken from the June 2019 Rate Study completed by the FCS Group.

Equation 10-4 shows the sample calculation for Total Revenue, as follows:

Total Revenue = Rate Revenue + Non-Rate Revenue + Loan Income **(10-4)**

Where:

Rate Revenues from 2019 through 2024 are assumed to increase by 9 percent per annum: 7 percent utility rate increase per the Rate Study completed by FCS GROUP plus 2 percent per population growth. Rate revenues from 2025 through 2033 were assumed to increase by 4 percent per annum: 2 percent utility rate increase plus 2 percent per population growth.

Non-Rate Revenues were assumed to increase by 2 percent per annum per population growth.

Loan Income per the required loans is as shown in **Table 10-3**.

Equation 10-5 shows the sample calculation for Total Expenses, which is given by:

$$\text{Total Expenses} = \text{Cash Operating Expenses} + \text{Existing Debt Service} + \text{New Debt Service} + \text{Rate-Funded System Reinvestment} + \text{Total Capital Costs} \quad (10\text{-}5)$$

Where:

Cash Operating Expenses from 2019 through 2024 were taken from the FCS GROUP Rate Study. 2025 cash operating expenses were assumed to be the average of 2019 through 2024 cash operating expenses. Cash operating expenses beyond 2025 were assumed to increase by 1.5 percent per annum.

Existing Debt Service from 2019 through 2024 was taken from the FCS GROUP Rate Study. Existing debt service beyond 2025 was assumed to decrease by 13.8 percent per annum.

New Debt Service was determined by summing new debt payments plus interest for a given year assuming an interest rate of 0.5 percent with a 20-year-term.

Rate-Funded System Reinvestment from 2019 through 2024 was taken from the FCS GROUP Rate Study. Rate-funded system reinvestment beyond 2025 was assumed to increase by 8.7 percent per annum.

Equation 10-6 shows the sample calculation for Net Annual Surplus (Deficiency) as follows.

$$\text{Net Annual Surplus (Deficiency)} = \text{Total Revenue} - \text{Total Expenses} \quad (10\text{-}6)$$

RATE STRUCTURE

Existing Retail Rates

The City's existing (2020) water rates for single-family residential customers are comprised of a fixed daily charge per meter size and an inclining block rate water consumption charge to encourage efficient water use, based on greater or lesser than 15,000 gallons of water usage per month. **Table 10-5** presents the existing water rates for the City's customers.

Table 10-5

Existing (2020) Water Utility Rates

Meter Size (in)	Customer Charge ($/day)
5/8	0.85
1	0.87
1 1/4	2.12
1 1/2	4.24
2	6.78
3	12.72
4	21.20
6	42.40
8	67.84
Water Use (gal)	**Demand Charge by Class ($/1,000 gal)**
Residential	
Block 1 (0 - 15,000)	1.92
Block 2 (15,000+)	2.05
Residential Fire Protection	
Block 1 (0 - 15,000)	1.92
Block 2 (15,000+)	2.05
Multi-Family	
All use	1.98
Commercial/Industrial	
Block 1 (0 - 100,000)	2.01
Block 2 (100,001+)	1.67
CWU	
Block 1 (0 - 100,000)	2.01
Block 2 (100,001+)	1.67
Municipal	
Block 1 (0 - 100,000)	2.35
Block 2 (100,001+)	1.94
Irrigation	
Block 1 (0 - 15,000)	2.12
Block 2 (15,000+)	2.26
Private Fire Service	
Dollars/day/inch diameter of connection pipe	0.21

Affordability

An affordability test was conducted based upon a standard threshold of 1.5 percent of the annual median family income. The median household income values for 2010 to 2019 are from the Washington State Office of Financial Management (OFM). The OFM states that the median household income for Kittitas County for 2019 was projected to be $63,377. A 2-percent annual increase in the median household income was projected for 2020 through 2033. Based upon these affordability criteria, the City is well within the threshold for the forecast years of 2020 through 2033. The rates for years 2020 through 2033 are projected rates based upon the need to fund the capital improvements as shown in **Table 9-6** of **Chapter 9**. **Table 10-6** shows the average annual monthly bill based on past and projected rate increases and the maximum annual average monthly bill. With the rate increases projected in **Table 10-6**, the average monthly bill for a single-family residence will be no more than 75.9 percent of the maximum affordable monthly bill for drinking water (**Equations 10-7** and **10-8**).

Table 10-6

Affordability of Residential Rates

Year	Maximum Affordable Monthly Bill	Average Monthly Bill (Single-family Residential)	Effective Rate Increase
2019	$79.22	$47.36	7.00%
2020	$80.81	$50.68	7.00%
2021	$82.42	$54.22	7.00%
2022	$84.07	$58.02	7.00%
2023	$85.75	$62.08	7.00%
2024	$87.47	$66.43	7.00%
2025	$89.22	$67.75	2.00%
2026	$91.00	$69.11	2.00%
2027	$92.82	$70.49	2.00%
2028	$94.68	$71.90	2.00%
2029	$96.57	$73.34	2.00%
2030	$98.50	$74.81	2.00%
2031	$100.47	$76.30	2.00%
2032	$102.48	$77.83	2.00%
2033	$104.53	$79.38	2.00%

Equation 10-7 shows the sample calculation for Maximum Affordable Monthly Bill, as follows:

$$\textbf{Maximum Affordable Monthly Bill} = \frac{\textbf{Mean Annual Kittitas Income} * \textbf{1.5\%}^{a}}{\textbf{12}} \quad \textbf{(10-7)}$$

Where:

1.5% is the assumed standard threshold of annual median family income.

Equation 10-8 shows the sample calculation for Average Monthly Bill (Single-Family Residential) as follows.

Average Monthly Bill (Single-Family Residential) = Base Bill for Residential Customer Class from Demand Charge + Base Bill for Residential Customer Class from Customer Charge

(10-8)

CONCLUSION

The City continues to maintain the water utility in a healthy financial position and is taking steps with this WSP to ensure future stability of the water utility's financial status. The City will continue to conduct periodic rate studies to evaluate the financial status of the water system and further refine the water utility rates.

Appendix A

Water Facilities Inventory (WFI) Form

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WATER FACILITIES INVENTORY (WFI) FORM

Washington State Department of Health
Division of Environmental Health
Office of Drinking Water

ONE FORM PER SYSTEM

Quarter: 1
Updated: 03/27/2019
Printed: 10/31/2019
WFI Printed For: On-Demand
Submission Reason: Source Update

RETURN TO: Central Services - WFI, PO Box 47822, Olympia, WA, 98504-7822

1. SYSTEM ID NO.	2. SYSTEM NAME	3. COUNTY	4. GROUP	5. TYPE
22950 M	ELLENSBURG WATER DEPT	KITTITAS	A	Comm

6. PRIMARY CONTACT NAME & MAILING ADDRESS	7. OWNER NAME & MAILING ADDRESS	8. OWNER NUMBER: 001739
ROD PAUL 501 NORTH ANDERSON ST ELLENSBURG, WA 98926	ELLENSBURG, CITY OF ROD PAUL 501 NORTH ANDERSON ST ELLENSBURG, WA 98926	
STREET ADDRESS IF DIFFERENT FROM ABOVE ATTN ADDRESS CITY STATE ZIP	**STREET ADDRESS IF DIFFERENT FROM ABOVE** ATTN ADDRESS CITY STATE ZIP	

9. 24 HOUR PRIMARY CONTACT INFORMATION		10. OWNER CONTACT INFORMATION	
Primary Contact Daytime Phone: (509) 962-7133		Owner Daytime Phone: (509) 962-7133	
Primary Contact Mobile/Cell Phone: (509) 929-2382		Owner Mobile/Cell Phone: (509) 929-2382	
Primary Contact Evening Phone: (xxx)-xxx-xxxx		Owner Evening Phone: (xxx)-xxx-xxxx	
Fax: (509) 925-8661	E-mail: xxxxxxxxxxxxxxxxxxx	Fax: (509) 925-8661	E-mail: xxxxxxxxxxxxxxxxxxx

11. SATELLITE MANAGEMENT AGENCY - SMA (check only one)

- [x] Not applicable (Skip to #12)
- [ ] Owned and Managed
- [ ] Managed Only
- [ ] Owned Only

SMA NAME: _____ SMA Number:

12. WATER SYSTEM CHARACTERISTICS (mark all that apply)

- [x] Agricultural
- [x] Commercial / Business
- [ ] Day Care
- [x] Food Service/Food Permit
- [x] 1,000 or more person event for 2 or more days per year
- [x] Hospital/Clinic
- [x] Industrial
- [ ] Licensed Residential Facility
- [x] Lodging
- [ ] Recreational / RV Park
- [x] Residential
- [x] School
- [ ] Temporary Farm Worker
- [ ] Other (church, fire station, etc.): _____

13. WATER SYSTEM OWNERSHIP (mark only one)				14. STORAGE CAPACITY (gallons)
☐ Association	☐ County	☐ Investor	☐ Special District	
☒ City / Town	☐ Federal	☐ Private	☐ State	5,000,000

- SEE NEXT PAGE FOR A COMPLETE LIST OF SOURCES -

WATER FACILITIES INVENTORY (WFI) FORM - Continued

1. SYSTEM ID NO.	2. SYSTEM NAME	3. COUNTY	4. GROUP	5. TYPE
22950 M	ELLENSBURG WATER DEPT	KITTITAS	A	Comm

	ACTIVE SERVICE CONNECTIONS	DOH USE ONLY! CALCULATED ACTIVE CONNECTIONS	DOH USE ONLY! APPROVED CONNECTIONS
25. SINGLE FAMILY RESIDENCES (How many of the following do you have?)		9167	Unspecified
A. Full Time Single Family Residences (Occupied 180 days or more per year)	4621		
B. Part Time Single Family Residences (Occupied less than 180 days per year)	0		
26. MULTI-FAMILY RESIDENTIAL BUILDINGS (How many of the following do you have?)			
A. Apartment Buildings, condos, duplexes, barracks, dorms	576		
B. Full Time Residential Units in the Apartments, Condos, Duplexes, Dorms that are occupied more than 180 days/year	4546		
C. Part Time Residential Units in the Apartments, Condos, Duplexes, Dorms that are occupied less than 180 days/year	0		
27. NON-RESIDENTIAL CONNECTIONS (How many of the following do you have?)			
A. Recreational Services and/or Transient Accommodations (Campsites, RV sites, hotel/motel/overnight units)	0	0	
B. Institutional, Commercial/Business, School, Day Care, Industrial Services, etc.	802	802	
28. TOTAL SERVICE CONNECTIONS		9969	

29. FULL-TIME RESIDENTIAL POPULATION

A. How many residents are served by this system 180 or more days per year? 19660

30. PART-TIME RESIDENTIAL POPULATION	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
A. How many part-time residents are present each month?												
B. How many days per month are they present?												

31. TEMPORARY & TRANSIENT USERS	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
A. How many total visitors, attendees, travelers, campers, patients or customers have access to the water system each month?												
B. How many days per month is water accessible to the public?												

32. REGULAR NON-RESIDENTIAL USERS	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
A. If you have schools, daycares, or businesses connected to your water system, how many students daycare children and/or *employees are present each month?*												
B. How many days per month are they present?												

33. ROUTINE COLIFORM SCHEDULE	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
* Requirement is exception from WAC 246-290	20	20	20	20	20	20	20	20	20	20	20	20

34. NITRATE SCHEDULE (One Sample per source by time period)	QUARTERLY	ANNUALLY	ONCE EVERY 3 YEARS

35. Reason for Submitting WFI:

☐ Update - Change ☐ Update - No Change ☐ Inactivate ☐ Re-Activate ☐ Name Change ☐ New System ☐ Other _____

36. I certify that the information stated on this WFI form is correct to the best of my knowledge.

SIGNATURE: _____ **DATE:** _____

PRINT NAME: _____ **TITLE:** _____

WATER FACILITIES INVENTORY (WFI) FORM - Continued

1. SYSTEM ID NO.	2. SYSTEM NAME	3. COUNTY	4. GROUP	5. TYPE
22950 M	ELLENSBURG WATER DEPT	KITTITAS	A	Comm

15	16	17	18										19			20	21						22	23	24			
	SOURCE NAME	INTERTIE	SOURCE CATEGORY										USE				TREATMENT								SOURCE LOCATION			
Source Number	LIST UTILITY'S NAME FOR SOURCE AND WELL TAG ID NUMBER. Example: WELL #1 XYZ456 IF SOURCE IS PURCHASED OR INTERTIED, LIST SELLER'S NAME Example: SEATTLE	INTERTIE SYSTEM ID NUMBER	WELL	WELL FIELD	WELL IN A WELL FIELD	SPRING	SPRING FIELD	SPRING IN SPRINGFIELD	SEA WATER	SURFACE WATER	RANNEY / INF. GALLERY	OTHER	PERMANENT	SEASONAL	EMERGENCY	SOURCE METERED	NONE	CHLORINATION	FILTRATION	FLUORIDATION	IRRADIATION (UV)	OTHER	DEPTH TO FIRST OPEN INTERVAL IN FEET	CAPACITY (GALLONS PER MINUTE)	1/4, 1/4 SECTION	SECTION NUMBER	TOWNSHIP	RANGE
S01	CITY WELLS - AFL853										X			X		Y		X		X				2450	SE SE	12	18N	18E
S02	RODEO		X										X			Y		X		X			232	840	NE NW	01	17N	18E
S03	MEMORIAL		X										X			Y		X		X			81	450	NW NW	01	17N	18E
S04	MT. STUART		X										X			Y		X		X			485	800	SW NW	35	18N	18E
S05	KIWANIS PARK WELL - ABR092		X										X			Y		X		X			410	870	NW SE	35	18N	18E
S06	WHITNEY PARK - AFK916		X										X			Y		X		X			488	790	SW NE	01	17N	18E
S07	BROOKLANE		X											X		Y		X					600	1140	NW NE	36	18N	18E
S08	InAct 03/27/2019 AIRPORT WELL		X										X			Y		X		X			580	600	NW NE	25	18N	18E
S09	ROUTE 10 WELL - AAS152		X										X			Y		X		X			160	1190	SE SE	12	18N	17E
S10	HAYWARD WELL - AAS252		X										X			Y		X		X			165	1800	NW SW	17	18N	18
S11	AIRPORT WELL 3 - BCF685		X										X			Y		X		X			730	600	NE NW	25	18N	18E

Washington State Department of Health
Division of Environmental Health
Office of Drinking Water

WATER FACILITIES INVENTORY (WFI) FORM

ONE FORM PER SYSTEM

Quarter: 1
Updated: 09/20/2021

Printed: 8/19/2022
WFI Printed For: On-Demand
Submission Reason: Pop/Connect Update

RETURN TO: Central Services - WFI, PO Box 47822, Olympia, WA, 98504-7822 or email wfi@doh.wa.gov

1. SYSTEM ID NO.	2. SYSTEM NAME	3. COUNTY	4. GROUP	5. TYPE
22950 M	ELLENSBURG WATER DEPT	KITTITAS	A	Comm

6. PRIMARY CONTACT NAME & MAILING ADDRESS	7. OWNER NAME & MAILING ADDRESS
MIKE HELGESON CITY OF ELLENSBURG 501 N ANDERSON ST ELLENSBURG, WA 98926	ELLENSBURG, CITY OF MIKE HELGESON 501 NORTH ANDERSON ST ELLENSBURG, WA 98926
STREET ADDRESS IF DIFFERENT FROM ABOVE	**STREET ADDRESS IF DIFFERENT FROM ABOVE**
ATTN	ATTN
ADDRESS	ADDRESS
CITY STATE ZIP	CITY STATE ZIP

9. 24 HOUR PRIMARY CONTACT INFORMATION		10. OWNER CONTACT INFORMATION	
Primary Contact Daytime Phone: (509) 962-7133		Owner Daytime Phone: (509) 962-7133	
Primary Contact Mobile/Cell Phone: (509) 899-1744		Owner Mobile/Cell Phone: (509) 899-1744	
Primary Contact Evening Phone:		Owner Evening Phone: (xxx)-xxx-xxxx	
Fax:	E-mail: xxxxxxxxxxxxxxxxxxx	Fax: (509) 925-8661	E-mail: xxxxxxxxxxxxxxxxxxx

11. SATELLITE MANAGEMENT AGENCY - SMA (check only one)

- [x] Not applicable (Skip to #12)
- [ ] Owned and Managed
- [ ] Managed Only
- [ ] Owned Only

SMA NAME: _____ SMA Number:

12. WATER SYSTEM CHARACTERISTICS (mark all that apply)

- [x] Agricultural
- [x] Commercial / Business
- [ ] Day Care
- [x] Food Service/Food Permit
- [x] 1,000 or more person event for 2 or more days per year
- [x] Hospital/Clinic
- [x] Industrial
- [ ] Licensed Residential Facility
- [x] Lodging
- [ ] Recreational / RV Park
- [x] Residential
- [x] School
- [ ] Temporary Farm Worker
- [ ] Other (church, fire station, etc.): _____

13. WATER SYSTEM OWNERSHIP (mark only one)				14. STORAGE CAPACITY (gallons)
☐ Association	☐ County	☐ Investor	☐ Special District	
☒ City / Town	☐ Federal	☐ Private	☐ State	5,000,000

- SEE NEXT PAGE FOR A COMPLETE LIST OF SOURCES -

WATER FACILITIES INVENTORY (WFI) FORM - Continued

1. SYSTEM ID NO.	2. SYSTEM NAME	3. COUNTY	4. GROUP	5. TYPE
22950 M	ELLENSBURG WATER DEPT	KITTITAS	A	Comm

15	16	17	18 SOURCE CATEGORY									19 USE			20	21 TREATMENT						22	23	24 SOURCE LOCATION			
Source Number	LIST UTILITY'S NAME FOR SOURCE AND WELL TAG ID NUMBER. Example: WELL #1 XYZ456 IF SOURCE IS PURCHASED OR INTERTIED, LIST SELLER'S NAME Example: SEATTLE	INTERTIE SYSTEM ID NUMBER	WELL	WELL FIELD	WELL IN A WELL FIELD	SPRING	SPRING FIELD	SPRING IN SPRINGFIELD	SEA WATER	SURFACE WATER	RANNEY / INF. GALLERY	OTHER	PERMANENT	SEASONAL	EMERGENCY	SOURCE METERED	NONE	CHLORINATION	FILTRATION	FLUORIDATION	IRRADIATION (UV)	OTHER	DEPTH TO FIRST OPEN INTERVAL IN FEET	CAPACITY (GALLONS PER MINUTE)	1/4, 1/4 SECTION	SECTION NUMBER	TOWNSHIP	RANGE
S01	CITY WELLS - AFL853										X			X		Y		X		X				2450	SE SE	12	18N	18E
S02	RODEO		X										X			Y		X		X			232	840	NE NW	01	17N	18E
S03	MEMORIAL		X										X			Y		X		X			81	450	NW NW	01	17N	18E
S04	MT. STUART		X										X			Y		X		X			485	800	SW NW	35	18N	18E
S05	KIWANIS PARK WELL - ABR092		X										X			Y		X		X			410	870	NW SE	35	18N	18E
S06	WHITNEY PARK - AFK916		X										X			Y		X		X			488	790	SW NE	01	17N	18E
S07	BROOKLANE		X											X		Y		X					600	1140	NW NE	36	18N	18E
S08	InAct 03/27/2019 AIRPORT WELL		X										X			Y		X		X			580	600	NW NE	25	18N	18E
S09	ROUTE 10 WELL - AAS152		X										X			Y		X		X			160	1190	SE SE	12	18N	17E
S10	HAYWARD WELL - AAS252		X										X			Y		X		X			165	1800	NW SW	17	18N	18
S11	AIRPORT WELL 3 - BCF685		X										X			Y		X		X			730	600	NE NW	25	18N	18E
S12	Pre-Active 05/14/2021 Illinois - AAR		X										X			Y		X					400	1700	NW NW	35	18N	18E

WATER FACILITIES INVENTORY (WFI) FORM - Continued

1. SYSTEM ID NO.	2. SYSTEM NAME	3. COUNTY	4. GROUP	5. TYPE
22950 M	ELLENSBURG WATER DEPT	KITTITAS	A	Comm

	ACTIVE SERVICE CONNECTIONS	DOH USE ONLY! CALCULATED ACTIVE CONNECTIONS	DOH USE ONLY! APPROVED CONNECTIONS
25. SINGLE FAMILY RESIDENCES (How many of the following do you have?)		9725	Unspecified
A. Full Time Single Family Residences (Occupied 180 days or more per year)	4578		
B. Part Time Single Family Residences (Occupied less than 180 days per year)	0		
26. MULTI-FAMILY RESIDENTIAL BUILDINGS (How many of the following do you have?)			
A. Apartment Buildings, condos, duplexes, barracks, dorms	562		
B. Full Time Residential Units in the Apartments, Condos, Duplexes, Dorms that are occupied more than 180 days/year	5147		
C. Part Time Residential Units in the Apartments, Condos, Duplexes, Dorms that are occupied less than 180 days/year	0		
27. NON-RESIDENTIAL CONNECTIONS (How many of the following do you have?)			
A. Recreational Services and/or Transient Accommodations (Campsites, RV sites, hotel/motel/overnight units)	0	0	
B. Institutional, Commercial/Business, School, Day Care, Industrial Services, etc.	701	701	
28. TOTAL SERVICE CONNECTIONS		10426	

29. FULL-TIME RESIDENTIAL POPULATION

A. How many residents are served by this system 180 or more days per year? 19510

30. PART-TIME RESIDENTIAL POPULATION	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
A. How many part-time residents are present each month?												
B. How many days per month are they present?												

31. TEMPORARY & TRANSIENT USERS	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
A. How many total visitors, attendees, travelers, campers, patients or customers have access to the water system each month?												
B. How many days per month is water accessible to the public?												

32. REGULAR NON-RESIDENTIAL USERS	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
A. If you have schools, daycares, or businesses connected to your water system, how many students, daycare children and/or employees are present each month that are NOT already included in the residential population?												
B. How many days per month are they present?												

33. ROUTINE COLIFORM SCHEDULE	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
	20	20	20	20	20	20	20	20	20	20	20	20

34. NITRATE SCHEDULE	QUARTERLY	ANNUALLY	ONCE EVERY 3 YEARS
(One Sample per source by time period)			

35. Reason for Submitting WFI:

☐ Update - Change ☐ Update - No Change ☐ Inactivate ☐ Re-Activate ☐ Name Change ☐ New System ☐ Other _____

36. I certify that the information stated on this WFI form is correct to the best of my knowledge.

SIGNATURE: _____ **DATE:** _____

PRINT NAME: _____ **TITLE:** _____

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WS ID	WS Name
22950	ELLENSBURG WATER DEPT

Total WFI Printed: 1

Washington State Department of Health
Division of Environmental Health
Office of Drinking Water

Water Facilities Inventory (WFI)

Report Create Date:	8/19/2022		
Water System Id(s):	22950M		
Print Data on Distribution Page:	ALL		
Print Copies For:	DOH Copy		
Water System Name:	ALL		
County:	-- Any --		
Region:	ALL		
Group:	ALL		
Type:	ALL		
Permit Renewal Quarter:	ALL		
Water System Is New:	ALL		
Water System Status:	ALL		
Water Status Date From:	ALL	**To**	ALL
Water System Update Date	ALL	**To**	ALL
Owner Number:	ALL		
SMA Number:	ALL		
SMA Name:	ALL		
Active Connection Count From:	ALL	**To:**	ALL
Approved Connection Count	ALL	**To:**	ALL
Full-Time Population From:	ALL	**To:**	ALL
Water System Expanding	ALL		
Source Type:	ALL		
Source Use:	ALL		
WFI Printed For:	On-Demand		

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Appendix B
Water Service Agreements

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ORIGINAL

INTERGOVERNMENTAL COOPERATION AGREEMENT

10-19-98
A-1115

THIS AGREEMENT is between KITTITAS COUNTY, a municipal corporation, hereinafter referred to as "County", and THE CITY OF ELLENSBURG, a municipal corporation of the State of Washington, hereinafter referred to as "City".

WITNESSETH:

WHEREAS, the Interlocal Cooperation Act, as amended, and codified in Chapter 39.34 of the Revised Code of Washington provides for interlocal cooperation between governmental agencies; and

WHEREAS, the City has need to expand its water supply to the north of Ellensburg and develop a utility corridor for the recently annexed area to the north of Ellensburg and the urban growth area.

WHEREAS, the County has a need for water and sewer utilities to serve the County Airport and industrial property; and

WHEREAS, a utility corridor to the Kittitas County Airport would benefit both the County and the City by providing sewer services and improved water delivery within the City limits, within the urban growth area, and to the Airport including its industrial park; and

WHEREAS, the County can provide to the city a water source to the north of Ellensburg; and

WHEREAS, the City and County believe that this agreement to intertie the systems will improve overall system reliability, enhance the manageability of the water system, will provide opportunities for conjunctive use, and may delay or avoid the need to develop new water sources.

NOW, THEREFORE, the City and County agree to work together to provide utilities to the City of Ellensburg and to the Kittitas County Airport as follows:

- Main sewer line along Airport Road from Helena Street to Industrial Road
- Main water line along Airport Road from Helena to Bowers Road, along Bowers Road to a elevated storage tank facility
- Water and sewer lines within the airport industrial complex
- Airport Water right #3510-A and properties deeded to the City of Ellensburg

understand and agree that the airport property in its entirety be eligible for future water from the City of Ellensburg; provided, however, that the parcel requesting water delivery conform to the City's utility extension policy and be located within the Urban Growth Area, or as amended, and all applicable charges have been paid.

8. Fees Collected/Charged. Fees collected or charged shall be as follows:

- The City shall not charge water or sewer "latecomer" fees nor water/sewer hook-up fees to the existing water system users as of July 1, 1999, at the Kittitas County Airport;
- The City may charge "latecomer" fees on its facilities within this project, except as provided above;
- The user rates charged to Airport tenants shall be the same as those for services within the City;
- All airport property within the Ellensburg UGA, or as hereafter amended, shall have the right to hook into the water/sewer system, provided all applicable fees and charges have been paid;
- The City shall pay to the County any "latecomer" collected on Exhibits C & D, as agreed to by both parties.

9. Maintenance. The City shall be responsible for all maintenance of the system including the county-owned industrial park.

10. Easement. The City shall receive from the County an easement to conduct maintenance on the infrastructure within the county-owned industrial park.

11. Ownership and Connection Agreement. The County shall retain ownership of the sewer and water distribution lines (Exhibits C & D) within the airport industrial park for a period of ten (10) years at which time the City agrees to assume ownership or at such time as the airport industrial park is annexed into the City of Ellensburg, whichever occurs first. The City agrees to execute a Connection Agreement with the County, pursuant to Rural Economic Development requirements, for the airport industrial park infrastructure that will connect to the City facilities.

12. Duration of Agreement. This agreement shall remain in force until it is mutually agreed to terminate.

13. Filing. Executed copies of this agreement shall be filed as required by Section 39.34.040 of the Revised Code of Washington prior to this agreement becoming effective.

14. Non-Delegation/Non-Assignment. Neither party may delegate the performance of any contractual obligation, to a third party, unless mutually agreed in writing. Neither party may assign this agreement without the written consent of the other party.

THE CITY OF ELLENSBURG

Perry D Huston
Mayor

Date: 10-19-98

ATTEST:

Clerk

KITTITAS COUNTY
BOARD OF COMMISSIONERS

Chairperson

Vice-Chair

Commissioner

Date: 10/20/98

ATTEST:

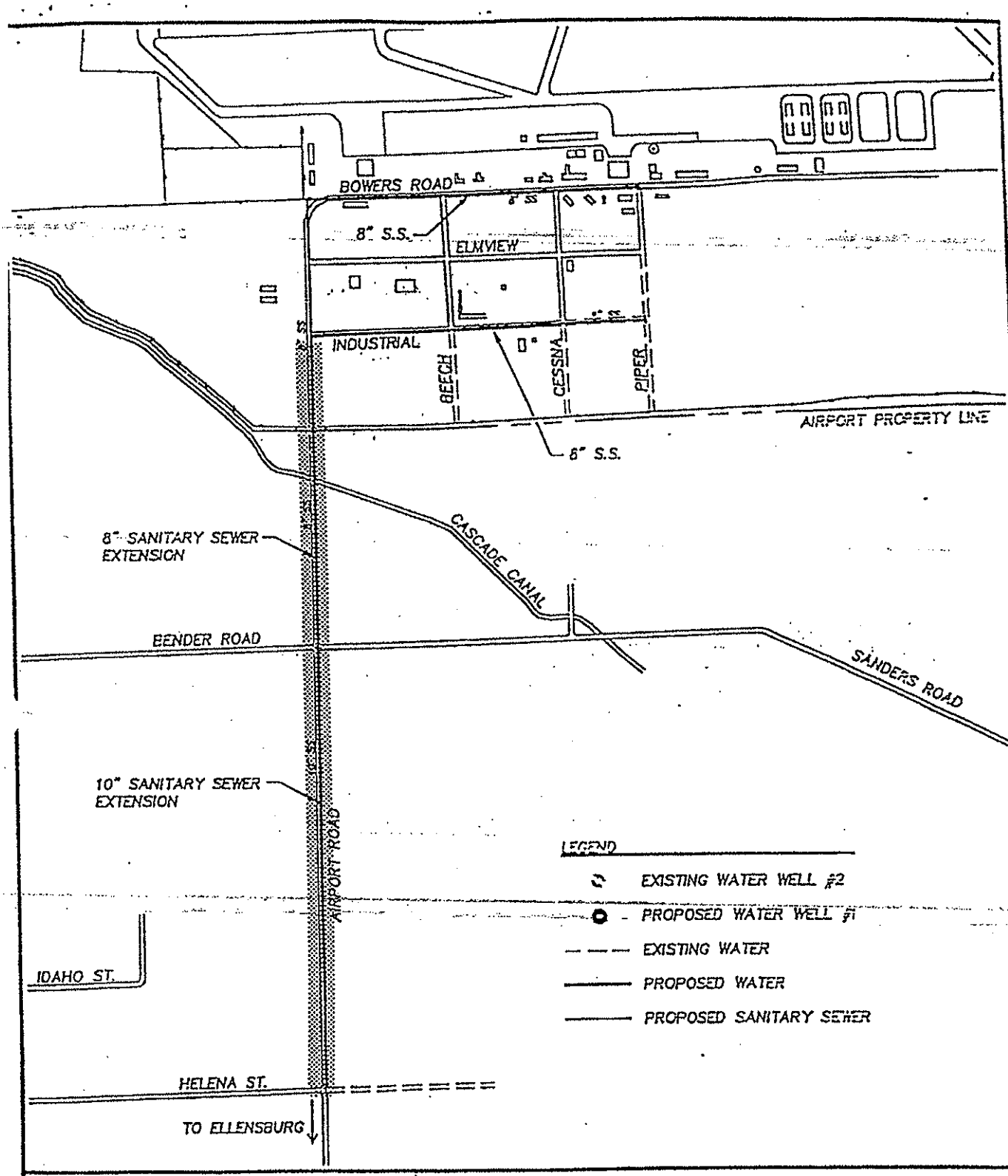
SEAL

Clerk of the Board

Approved as to form:

Prosecuting Attorney
WSBA # 19425

EXHIBIT A



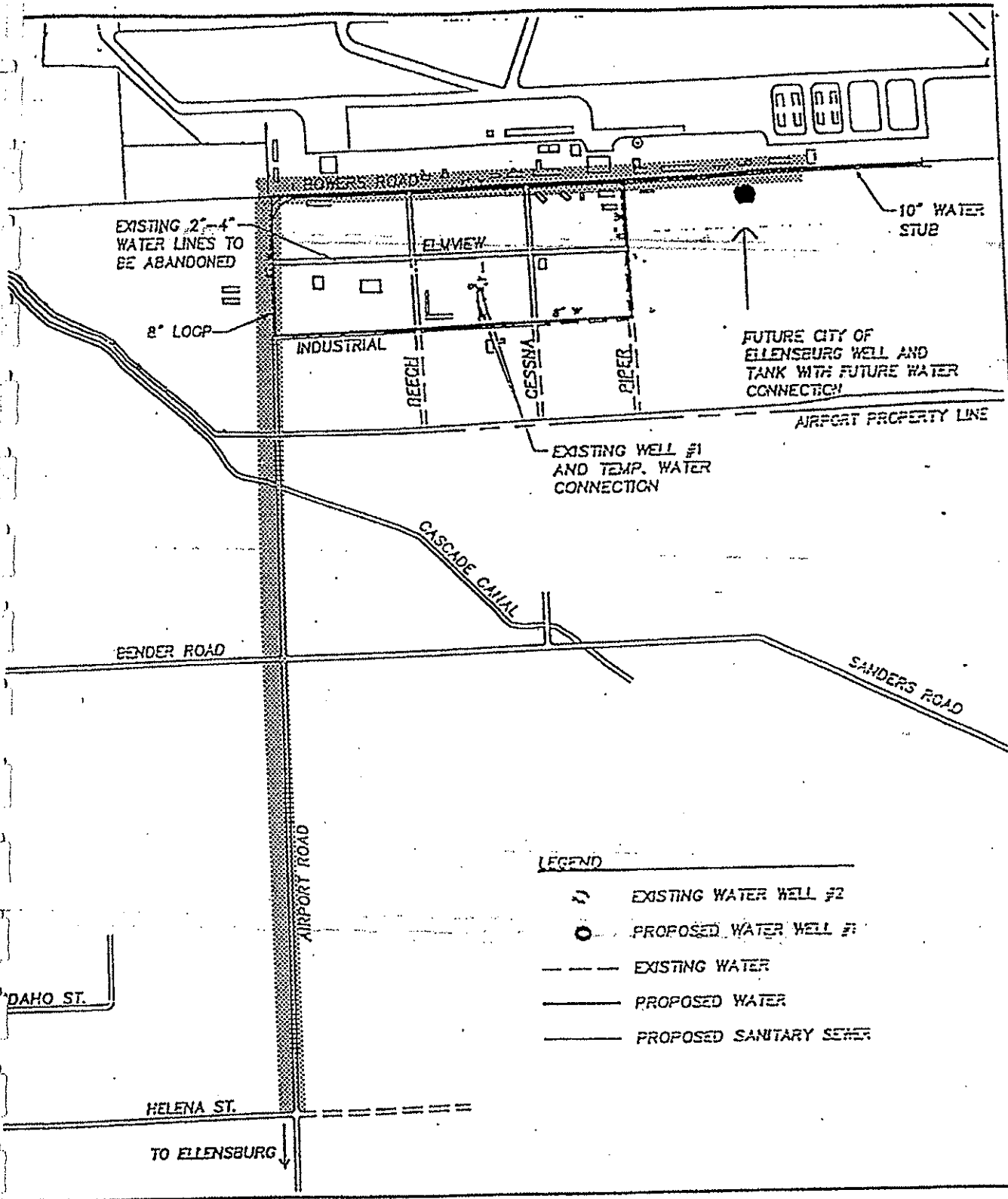
WW PACIFIC

KITTITAS COUNTY
SEWER IMPROVEMENTS

90

SCALE: 1"=800' | 3-1398-0203 | XKITWTSR.DWG | 4/28/97

EXHIBIT B



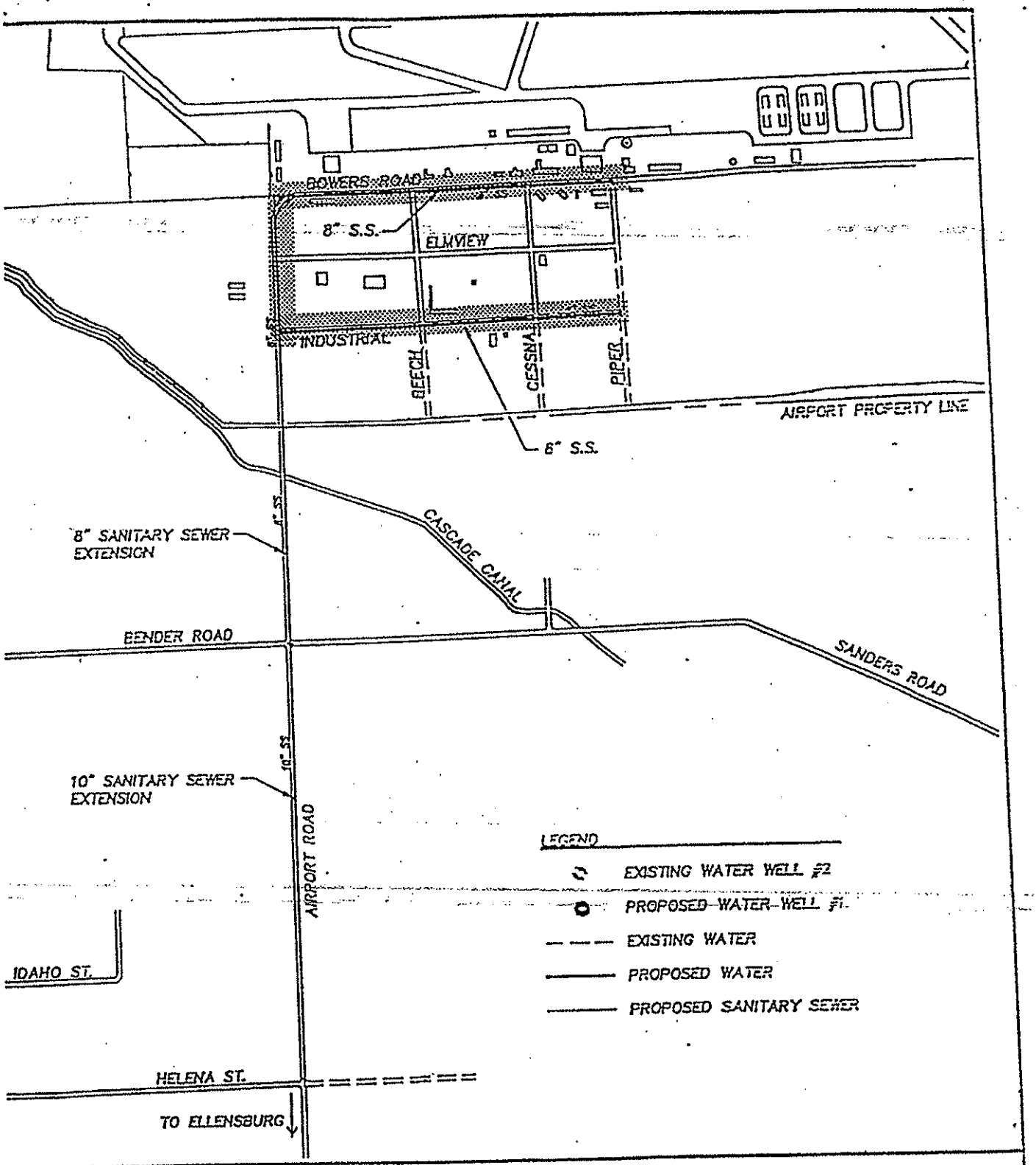
W.H. PACIFIC

KITTITAS COUNTY
WATER IMPROVEMENTS

91

SCALE: 1"=800' | 3-1398-0203 | XKITYWTSR.DWG | 4/28/97

EXHIBIT 'C'

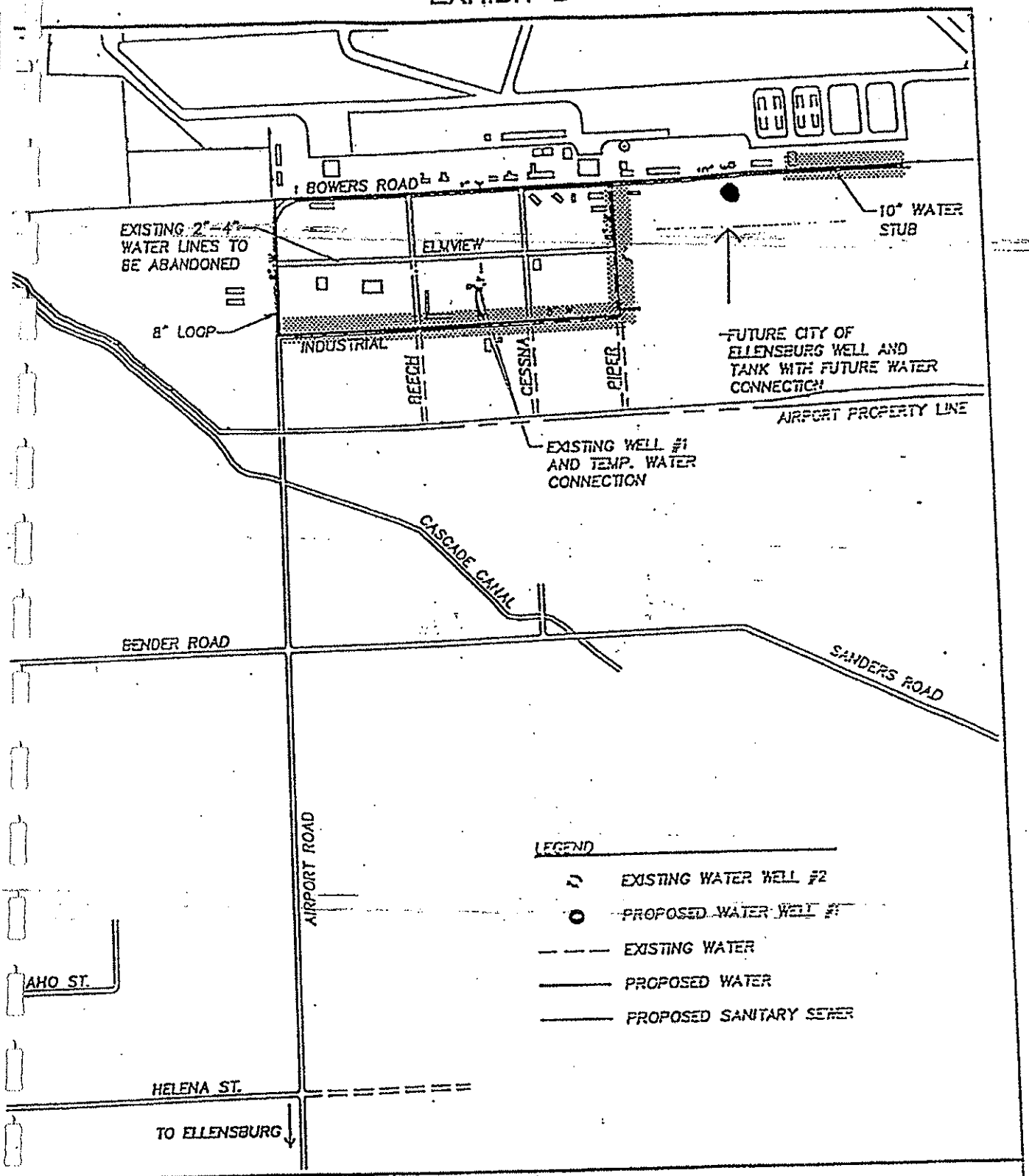


WILLIAMS PACIFIC

KITTITAS COUNTY
SEWER IMPROVEMENTS
92

SCALE: 1"=800' | 3-1398-0203 | XKITWTSR.DWG | 4/28/97

EXHIBIT 'D'



W.H. PACIFIC
Engineering • Surveying
Landscape Architecture • Environmental Services

KITTITAS COUNTY
WATER IMPROVEMENTS

93

SCALE: 1"=800' | 3-1398-0203 | XKITWTSR.DWG | 4/28/97

BOWERS FIELD MASTER PLAN sheet 1 of 5

EXHIBIT F

Kittitas County Prosecuting Attorney

GREGORY L. ZEMPEL

TTITAS COUNTY COURTHOUSE
5 WEST FIFTH, ELLENSBURG, WA 98926-3129
ELEPHONE (509) 962-7520

SUPPORT DIVISION
505 N. Pine, Suite C, Ellensburg, WA 98926
Telephone (509) 962-7521

SCAN 460-7520 • FAX (509) 962-7022

Deputies:
L. Candace Hooper
James E. Hurson
Scott R. Staab
James T. Denison, Jr.
Kurt Kaufold

August 24, 1998

CERTIFICATION OF APPROVAL

CITY OF ELLENSBURG-REVISED ANNEXATION AGREEMENT

The Board of County Commissioners will receive for signature, a Revised Annexation Agreement related to the City of Ellensburg's extension of water and sewer facilities to the Kittitas County Airport. Ed Hoyle has taken the lead in negotiating this agreement with the City of Ellensburg. I have read and approve signature of the attached agreement, in terms of form and content, without passing judgment in any other fashion. I have approved no agreement other than as attached. The revised agreement attached hereto is legally sufficient for the purposes expressed to me by Ed Hoyle, on behalf of Kittitas County.

Signed, this the 24th day of August, 1998.

GREGORY L. ZEMPEL
Prosecuting Attorney

OUTSIDE UTILITY AGREEMENT, ANNEXATION COVENANT.

THIS AGREEMENT is made between the City of Ellensburg (hereinafter "City") and the undersigned Owner(s), which term excludes an occupant who does not own the real property legally described below, (hereinafter collectively "Owner").

WHEREAS, Owner owns the following-described real property located within Kittitas County, Washington, to wit:

and,

WHEREAS, the reference to "City Utilities" in this document means the provision of a domestic water supply, collection and treatment of sewage, provision of electric service either individually or in combination with one another, and;

WHEREAS, Owner has applied to the City for City utility service for the above-described real property;

NOW, THEREFORE, in consideration of the furnishing of such City utilities, Owner for himself and on behalf of his heirs, successors and assigns, does hereby promise and agree as follows:

1. Incorporation of Recitals. The foregoing recitals are incorporated herein by reference.

2. Charges and Fees. Owner shall pay to the City of Ellensburg, when due, all connection charges, plant investment fees, and any and all charges and fees required by law to be paid for the utility service hereby applied for. Cost of extension of utility lines or mains shall be assessed according to the City's policies for utility extension in effect at the time actual construction of utilities occurs.

EXHIBIT F

3. Property Alterations and Improvements. Owner promises and agrees to make all alterations, public improvements, and private improvements on and to such property and the buildings, structures, and other improvements thereon as specified on the attachment hereto marked "EXHIBIT A" and by reference made a part hereof.

4. Annexation Covenant. For the purposes of this Agreement, the term "Owner" shall mean all persons who retain a property ownership right in the above described parcel that is subject to this agreement. The Owner has been informed and understands that the City intends to commence annexation proceedings to annex certain property to the City at such time in the future as it deems such advisable and possible, including but not limited to, the parcel legally described above. In consideration and as a condition of such furnishing of utility service, Owner, for himself\herself, and for his\her heirs, successors and assigns, agrees and covenants with the City, and to the present and future owners or any party affected by the furnishing of City utility service to which this covenant relates, that they shall, whenever so requested by the City, sign any letter, notice, petition, documents or other instruments, furthering or accomplishing the annexation of the above described property to the City of Ellensburg. Owner, for himself\herself and his\her heirs, successors and assigns understands and agrees to annexation of the above described parcel to the City of Ellensburg whether or not annexation involves the assumption by the area to be annexed of existing City indebtedness, and further the application to the area to be annexed the City's Comprehensive Land Use Plan. Such annexation proceedings shall be conducted under the rules and policies in place with both the State of Washington and the City of Ellensburg at the time of the annexation request.

The Owner hereby certifies that He\She has carefully read and considered those provisions contained in the above Section 4 Annexation Covenant. Furthermore, the Owner, by signing this particular section below, acknowledges that She\He fully understands the implications of Section 4 Annexation Covenant requirements and fully agrees to abide by those requirements for the provision of City utilities.

_____

Owner Date

5. Development and Land Use Standards. Owner agrees to develop the above described parcel subject to this agreement as outlined in "Exhibit A" and in conformance with the zoning, subdivision and Comprehensive Plan of Kittitas County, and the utility standards of the City of Ellensburg.

6. Fire Protection Flow Requirements. The City's approval of water service does not guarantee fire protection flow requirements.

7. Litigation; Governing Law. In the event any suit or action is instituted by either party to enforce compliance with or interpret any of the terms, covenants, or conditions of this Agreement, the prevailing party shall be entitled to collect, in addition to necessary court costs, such sums as the court may adjudge as reasonable attorney's fees. The venue for any action to enforce or interpret this Agreement shall lie in the Superior Court of Washington for Kittitas County, Washington. This Agreement shall be governed by the laws of the State of Washington.

8. Enforcement. In the event that any material provision is found unenforceable by a court of competent jurisdiction or the Owner violates or otherwise fails to abide by one of the specific conditions of this Agreement, this Agreement shall be null and void and the City shall have the right to withdraw the utility service provided for under the conditions of this Agreement. Such withdrawal of utility service may be for the whole or a portion of the property covered and provided utility service under this agreement, as to be determined by the City, and the Owner shall make all payments as provided for under the Agreement for services rendered prior to termination of service pursuant to this Agreement.

9. Assignment. This Agreement shall be filed with the Kittitas County Auditor as a covenant running with the land and binding upon and inure to the benefit of the parties hereto and their respective heirs, successors and assigns, and fee simple owners.

DATED this _____ day of _____, 19____.

OWNER

By:_____

By:_____

CITY OF ELLENSBURG

By:_____

Authorization No. _____

STATE OF WASHINGTON)

: ss.

County of Kittitas)

I certify that I know or have satisfactory evidence that _____ acknowledged it to be his/her free and voluntary act for the use and purposes mentioned in the instrument.

DATED this _____ day of _____, 19____.

_____

NOTARY PUBLIC in and for the St. of Washington,
Residing at _____
Commission Expires: _____

EXHIBIT F

98

CENTRAL WASHINGTON UNIVERSITY
Office of Business Services and Contracts

RECEIVED
JAN 12 2000
PUBLIC WORKS

January 10, 2000

Mr. John Akers
Public Works Director
City of Ellensburg
414 North Main Street
Ellensburg, WA 98926

RE: Amendment/Brooklane Well Agreement

Dear Mr. Akers:

Please find enclosed fully executed agreement between the City of Ellensburg and Central Washington University. This copy may be retained for your records.

Should you have any questions or concerns, do not hesitate to give us a call.

Sincerely,

Jackie F. Hart

Jackie F. Hart
Business Services

Enclosures

AMENDMENT TO CWU/CITY BROOKLANE WELL AGREEMENT

Pursuant to Article IV of the original agreement for use of the Brooklane Well, originally executed May 25, 1993, the parties agree to extend the agreement through May 31, 2000. The parties further agree that this agreement will automatically renew annually unless written notice to the contrary is received from either party at least 60 days prior to the expiration date.

The parties also agree to amend Article V of the agreement to reflect payment based on use of 1,368,000 gallons per day for 105 days.

All provisions of the original agreement and amendments thereto remain in full force and effect.

CENTRAL WASHINGTON UNIVERSITY

BY: Richard E Warner

Associate VP for Business and Financial Affairs

DATE: 1/10/00

CITY OF ELLENSBURG

BY: _____

Director of Public Works

DATE: 12-22-99

ATTEST: _____

City Clerk

APPROVED AS TO FORM:

_____

MMA 12-29-99

AMENDMENT TO CWU/CITY BROOKLANE WELL AGREEMENT

Pursuant to Article IV of the original agreement for use of the Brooklane Well, executed May 25, 1993, the parties agree to extend the agreement an additional year through May 31, 1997. All provisions of the original agreement and amendments thereto remain in full force and effect until said agreement shall terminate.

Jan 18/96

CENTRAL WASHINGTON UNIVERSITY

BY: Richard E Corman

Business Manager, Business Affairs

ATTEST: _____

_____
Title

CITY OF ELLENSBURG

BY: Tom Olin

Dir of Public Works
Title

ATTEST: Coreen M. Reno

City Clerk
Title

APPROVED AS TO FORM:

_____

AMENDMENT TO CWU/CITY BROOKLANE WELL AGREEMENT

Pursuant to Article IV of the original agreement for use of the Brooklane Well, executed May 25, 1993, the parties agree to extend the agreement an additional year through May 31, 1995. All provisions of the original agreement, except as amended herein, remain in full force and effect until said agreement shall terminate.

The parties further agree to amend article VII as follows to include language previously truncated in the executed agreement:

ARTICLE VII

The City shall operate and maintain the booster pump and motor as well as chlorinating equipment and piping required specifically for supplying water to the City subject to this agreement and in accordance with manufacturer's instructions. At the termination of this agreement, the booster pump and associated equipment shall be returned to its normal configuration, in normal operating condition, reasonable wear and tear excepted. The City, at its own option, may temporarily replace the existing pump, motor, valves, electrical transformers and all other necessary fittings and apparatus, with equipment of larger capacity with concurrence of the University. At the termination of this Agreement, the City shall remove any equipment installed for the purposes stated herein and reinstall the University's equipment to its normal operating condition.

CENTRAL WASHINGTON UNIVERSITY

BY: _____

Director, Business Services & Contracts
(TITLE)

ATTEST: _____

APPROVED AS TO FORM:

_____

CITY OF ELLENSBURG

BY: _____

Mayor
(TITLE)

ATTEST: _____

City Clerk

APPROVED AS TO FORM:

_____
City Attorney

Central Washington University

Business Services and Contracts

Second Floor, Mitchell Hall
Ellensburg, Washington 98926

(509) 963-2324

RECEIVED
MAY 19 1994
PUBLIC WORKS

May 17, 1994

City of Ellensburg
Attn: Mr. Tom Chini
Department of Public Works
4th and Pearl
Ellensburg, WA 98926

Dear Tom;

Enclosed find two original contract amendments which extend our well agreement an additional year and corrects the language in article VII. If the city agrees to this extension, please have both originals executed and returned to my attention. The University will return a fully executed original to the City when the amendment is finalized.

Please contact me if you have any questions or concerns at 963-2308.

Best Regards,

Mike Hardiman, Director,
Business Services and Contracts

93-027

INITIAL

WELL LEASE AGREEMENT

THIS AGREEMENT, made and entered into this 25th day of MAY, 1993, by and between the State of Washington, Central Washington University, hereinafter referred to as the University, and the City of Ellensburg, Washington, a municipal corporation, hereinafter referred to as the City, in the manner following:

WITNESSETH:

Whereas the City of Ellensburg and Central Washington University have entered into an agreement for fire protection services which includes use of the University's 1,000 foot deep, Brooklane Well as partial compensation; and

WHEREAS, said well is capable of producing in excess of 1,000 gallons of water per minute, and the University holds State of Washington Department of Ecology Permit No. G3-20414P authorizing withdrawal of water; and,

WHEREAS, the City of Ellensburg desires a secondary water source during the irrigation season and as needed thereafter on an emergency basis; and,

NOW THEREFORE, in consideration of the mutual covenants and promises of the parties hereinafter set forth, it is agreed as follows:

ARTICLE I

After appropriate water quality tests have been performed in conformance with Washington State Department of Social and Health Services requirements for potable water systems, said tests to be performed at City expense, the University shall permit the City to connect the Brooklane Well to the City water system.

ARTICLE II

The University shall construct facilities as designed in the document titled "Brooklane Well Plumbing Schematic and Output Analysis", attached as Exhibit "A". The City shall compensate the University $ 8,086.00 for this work, the amount to be applied as credit towards the University Fire Protection obligation along with compensation for water as defined in Article V.

ARTICLE III

The City may pump up to a planned average of 817,920 gallons of water per day (568 Gallons/Minute) from the Brooklane Well, except additional water will be made available to the City in the event that emergency water restrictions have been implemented by the City.

ARTICLE IV

The term of this agreement shall be for one year, commencing June 1, 1993 and terminating on May 31, 1994. The parties understand and agree that the well has been independently tested and should be capable of supplying the City with an average of 568 gallons per minute during the irrigation season. The parties accept the document titled "Brooklane Well Plumbing Schematic and Output Analysis" , attached as Exhibit "A", as the good faith planning document for shared use. Actual output may vary up or down. The City shall meter the actual water received and the parties shall mutually audit the expected outcomes of the joint operation as a basis to determine future viability of continued joint operation.

ARTICLE V

The City shall compensate the University for the use of the well, pump house and related utility lines. The City and the University agree that payment will be based on an expected average availability of 817,892 gallons per day at $.14 per thousand gallons, for 105 days, for a total of $12,023.00, the amount to be applied as credit towards the University Fire Protection obligation. This amount is simply to establish a minimum value of the well. The City agrees that any shortfall of actual delivered water will not result in credit of this amount. The City agrees that the University Well has value as an emergency back up well as defined herein and shall serve as adequate value for any shortfall of anticipated water.

ARTICLE VI

The University shall pay for all power used to pump water from the Brooklane well and associated pumps currently installed in the well house and shall also pay all operating and maintenance expenses on the existing well pump and pump column and appurtenances thereto incurred during the City's use of the pumping system.

ARTICLE VII

The City shall operate and maintain the booster pump and motor as well as chlorinating equipment and piping required specifically for supplying water to the City subject to this agreement and in accordance

existing pump, motor, valves, electrical transformers and all other necessary fittings and apparatus, with equipment of larger capacity with concurrence of the University. At the termination of this Agreement, the City shall remove any equipment installed for the purposes stated herein and reinstall the University's equipment to its normal operating condition.

ARTICLE VIII

Use of the Brooklane Well by the City of Ellensburg as a source of potable water requires approval by the Kittitas County Health Department and the State of Washington Department of Health. Recognizing this requirement, the University shall promptly provide the City with all required information necessary for submittal to the State and County Health departments. In the event the necessary approvals are not obtained, this agreement will be then terminated.

ARTICLE IX

The City shall exercise due care to prevent overload of the University's equipment, including electrical service and transformers. The University shall have the right to observe and inspect the City's operation of the pumping system.

ARTICLE X

The University shall be responsible for the consequences of any act or failure to act on the part of itself, its employees and agents, and the City shall be responsible for the consequences of any act or failure to act on the part of itself, its employees and agents.

ARTICLE XI

The City agrees to indemnify, defend and save harmless the State of Washington, the University, its trustees, officers, agents and employees from any and all claims and losses accruing or resulting to any and all persons, firms or corporations in connection with the City's performance of this contract, including but not limited to claims and losses relating to the quality and potability of water withdrawn by the City from Brooklane Well as well as claims by employees or agents of the City resulting from damages incurred on the premises.

ARTICLE XII

This Agreement may only be terminated per Article VIII, or, by mutual agreement of both parties.

IN WITNESS THEREOF, this Agreement has been executed by and on behalf of the parties hereto the day and year first above written. Operations which are applicable to this agreement are hereby made a part hereof as though fully set forth herein.

CENTRAL WASHINGTON UNIVERSITY

BY: _____

VP
(Title)

ATTEST: _____

APPROVED AS TO FORM:

_____

CITY OF ELLENSBURG

BY: _____

Mayor
(Title)

ATTEST: _____

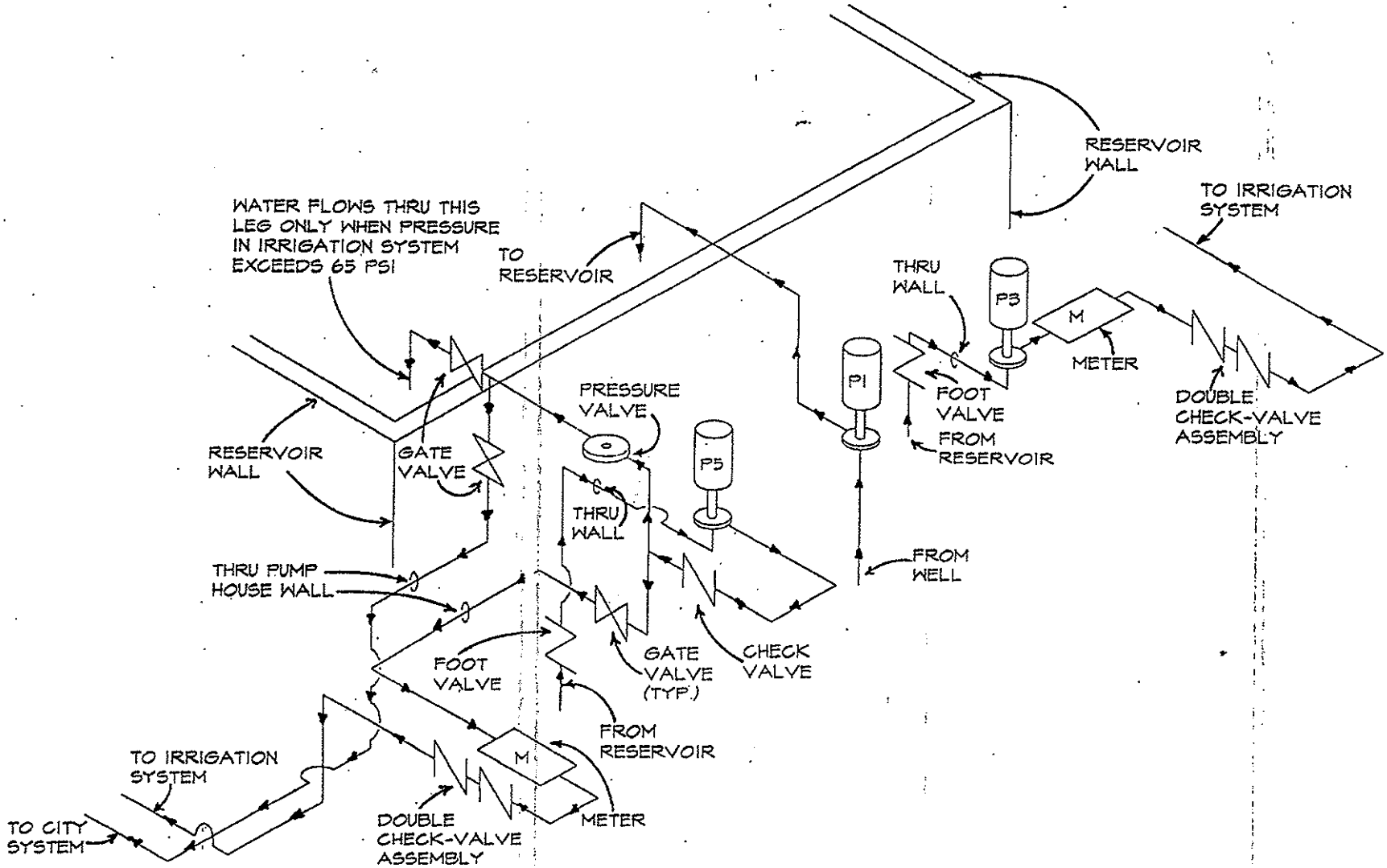
City Clerk

APPROVED AS TO FORM:

_____

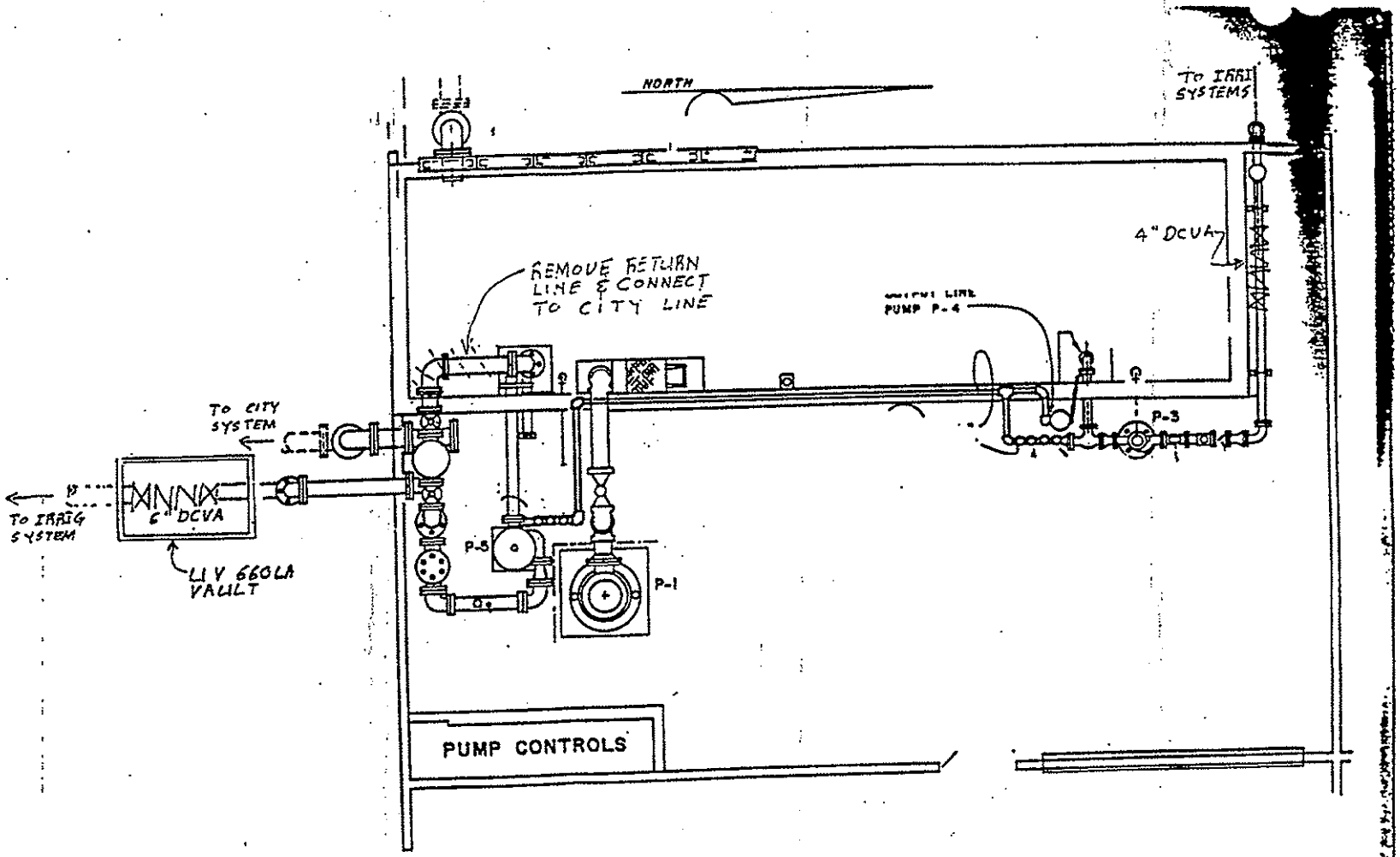
EXHIBIT A

Brooklane Well Plumbing Schematic and Output Analysis

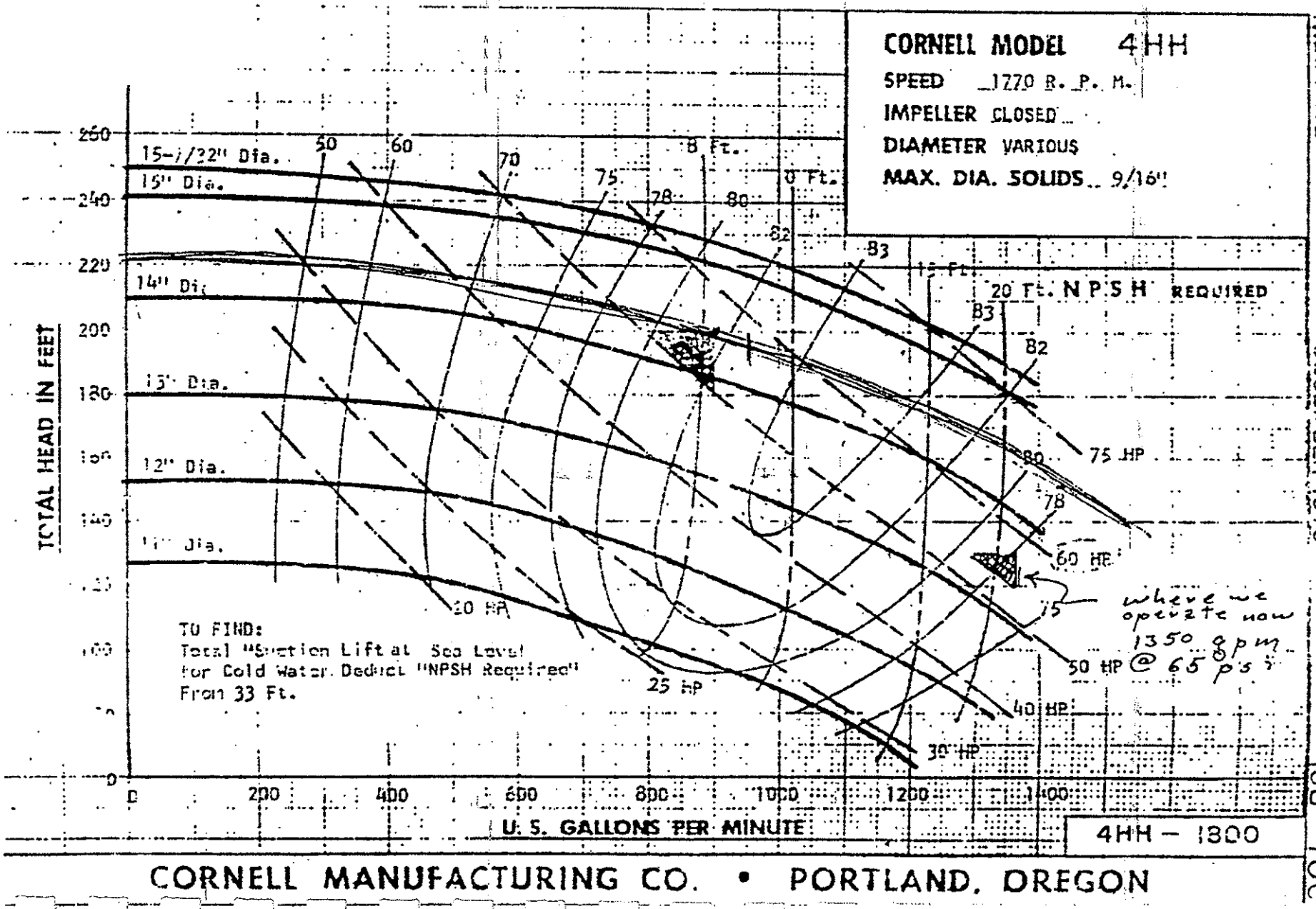


SCHEMATIC FLOW DIAGRAM
BROOKLANE WELLHOUSE (N.T.S.)

RECEIVED
JUL 19 1993
PUBLIC WORKS


NORTH
To IRRI SYSTEMS
4" DCVA
REMOVE RETURN LINE & CONNECT TO CITY LINE
PUMP P-4
To CITY SYSTEM
P-3
To IRRIG SYSTEM
6" DCVA
LIV 660LA VAULT
P-5
P-1
PUMP CONTROLS

C W U PHYSICAL PLANT WORK CONTROL CENTER			TYPE ESTIMATE: o STUDY o PRELIMINARY o FINAL			ESTIMATE WORK SHEET							
W.O. NO	CSI DIV	DESCRIPTION WELL HOUSE MODS			DATE 4-20-93	TAKE OFF SD	CHECKED	SHEET ___ OF ___					
ESTIMATE NO			MANHOURS			TOTAL ESTIMATED COST							
DESCRIPTION	QUANTITY	UNIT	TOTAL	$/MANHR	MATERIAL UNIT COST	LABOR	MATERIAL	EQUIP RENTAL	SUB-CONTR	SUB-TOTAL	CONTNGCY/ SALES TAX	TOTAL	
INSTALL 4" DCVA			12	30		360	1300	—	—	—	100	1400	
2-4" ADAPTOR FLANGES	300												
1-4" DCVA	1100												
PIPE SUPPORTS	100												
INSTALL 6" DCVA			48	30		1440	3000	170	—	—	240	4850	
2-6" ADAPTOR FLANGES	300												
1-6" DCVA	1400												
UV 66LA VAULT	1100												
PIPE SUPPORTS	100												
REROUTE TAILPIECE			32	30		960	500				40	1500	
OF CLAYTON VALVE													
2-6" SPOOLS	300												
1-6x8 REDUCERS	150												
1-8" BLIND FLANGE	50												
									SUBTOTAL			7750	
									CONTINGENCY		10%	775	
									TOTAL			8525	



NEW PAGE

DECEMBER 1975

138 – 70C

CORNELL MANUFACTURING CO. • PORTLAND, OREGON

Brookiane Well (Pump Load-Estimated) 1993

Location /Time	6A	7A	8A	9A	10A	11A	12N	1P	2P	3P	4P	5P	6P	7P	8P	9P	10P	11P	12M	1A	2A	3A	4A	5A	Daily Average
Brookiane	115	115													115	115	115	115	115	115	115	115	115	115	
Sod Farm			120	120	120	120																			
Practice Field																				200	200	200	200	200	
Stadium															135	135	135	135	135	135	135				
Aqua																	50	50	50	50	50	50	50		
PE Addition																40	40	40	40	40	40	40			
Psychology	15																							15	
PARF																		45	45	45	45	45	45	45	
Japanese & R/R																		45	135	135	135	135	135		
Stream	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15	
Athletic Field	600	600	600	600	600	600	600	600	600																
Total GPM	745	730	735	735	735	735	615	615	615	15	15	15	15	15	265	305	355	445	535	735	735	600	560	390	470 GPM

Irrigation Season Apr 15 to Sept 15

Well Capacity	1,130	1,130	1,130	1,130	1,130	1,130	1,130	1,130	1,130	1,130	1,130	1,130	1,130	1,130	1,130	1,130	1,130	1,130	1,130	1,130	1,130	1,130	1,130	1,130	1,130 GPM*
Surplus	385	400	395	395	395	395	515	515	515	1,115	1,115	1,115	1,115	1,115	865	825	775	685	595	395	395	530	570	740	660 GPM
New Ballfield	200	200														200	200	200	200	200	200	200	200	200	92 GPM

Existing deep well pump actual capacity is estimated at 1,500 GPM sustained.

PUMPLOAD
Utilities

Brooklane Well (Pump Load-Estimated) 4/19/93

Location		STA		HEADS		GPM	Begin	End
Brooklane Village	16	STA	14	HEADS	14X8=	115GPM	8P	7A
Sod Farm	8		7		7X8=	60GPM	8A	11A
Practice Field	5		10		10X20=	200GPM	1A	5A
Stadium	6		9		9X15=	135GPM	8P	2A
Aqua	6		10		10X5=	50GPM	10P	4A
PE ADD	7		8		8X5=	40GPM	9P	3A
Psychology	5		12		12X1=	12GPM	5A	6A
PARF	6		9		9X5=	45GPM	11P	5A
Japanese Garden	6		15		15X3=	45GPM	11P	12M
& R/R (Lawn)	5		15		15X9=	135GPM	12M	4A
Stream (Const Flow)						15GPM	24 Hours	
Athletic Field						600GPM	6A	2P
	2	GUNS	125	EACH	250GPM			
		Handline 2			300GPM			
		Man Sys			50GPM			

WRKSHEET
UTILITIES

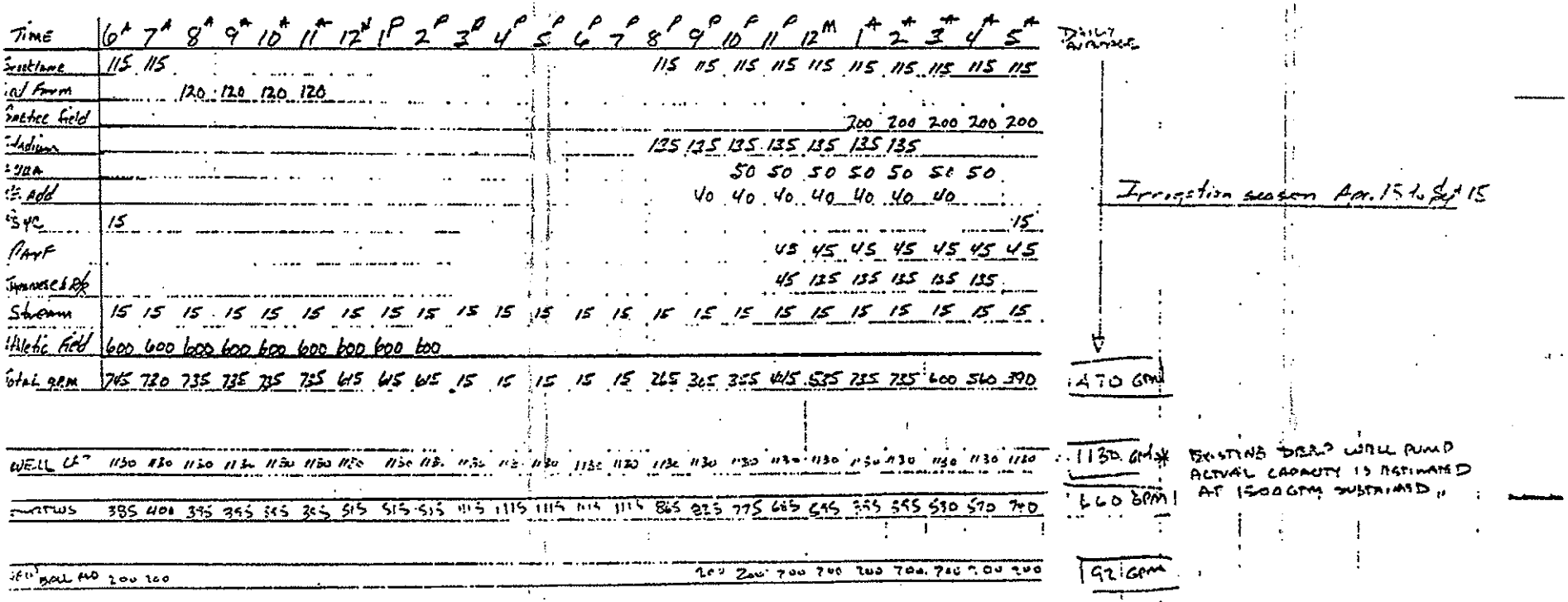
Brookhaven Well Pump Load Estm. 1993

Brookhaven Village – 16 Sta 14 Heads ea. 14 x 8 = 115 gpm 8P-7A
Sod Farm – 8 Sta 7 Heads ea. 7 x 8 = 60 gpm 8A-11M (x 2)
Practice field – 5 Sta 10 Head ea. 10 x 20 = 200 g.p.m 1A-5A
Stadium – 6 Sta 9 Heads ea. 9 x 15 = 135 g.p.m 8P-2A
AGWA – 6 Sta 10 heads ea 10 x 5 = 50 g.p.m 10P-4A
P.E. Add – 7 Sta 8 heads ea 8 x 5 = 40 g.p.m. 9P-5A
FSCI – 5 Sta 12 heads ea 12 x 1 = 12 g.p.m 5A-6
PAFF – 6 Sta 9 Heads ea 9 x 5 = 45 g.p.m 11P-2A
Tyanase & R/R – Garden 6 Sta 15 heads ea 15 x 3 = 45 g.p.m 11P-12M
Lawn 5 Sta 15 head ea 15 x 9 = 135 g.p.m 12M-4A
Storm Outflow 15 g.p.m - 24 hrs
Athletic field – 2 guns 125 ea 250 g.p.m
Hoseline 20 x 15 300 g.p.m
MAN. Sys. 50 g.p.m
Total 600 g.p.m. 6A-2P

Here is something missing as these calculations do not relate to the information below

OVER

11-15-93
J. Phillips


Time
6A 7A 8A 9A 10A 11A 12N 1P 2P 3P 4P 5P 6P 7P 8P 9P 10P 11P 12M 1A 2A 3A 4A 5A
Daily Average
Irrigation season Apr. 15 to Sept 15
115 115 115 115 115 115 115 115 115 115
120 120 120 120
200 200 200 200 200
125 125 135 135 135 135 135
50 50 50 50 50 50 50
40 40 40 40 40 40 40
15
15
45 45 45 45 45 45 45
45 135 135 135 135 135
15 15 15 15 15 15 15 15 15 15 15 15 15 15 15 15 15 15 15 15 15 15 15 15
600 600 600 600 600 600 600 600 600
745 720 735 735 735 735 645 645 645 15 15 15 15 15 265 305 355 445 535 735 735 600 560 390
470 GPM
1130 GPM*
EXISTING DEEP WELL PUMP ACTUAL CAPACITY IS ESTIMATED AT 1500 GPM SUSTAINED
660 GPM
385 405 395 395 385 385 515 515 515 515 1115 1115 1115 1115 865 825 775 685 645 595 595 530 570 740
92 GPM
200 200 200 200 200 200 200 200 200 200

INTERLOCAL COOPERATIVE FIRE PROTECTION AGREEMENT

This agreement is entered into this day of November, 1992, between the City of Ellensburg, hereinafter called "City" and Central Washington University, hereinafter called "University". Pursuant to chapter 39.34 RCW and to other provisions of law, the City and the University hereby agree to cooperative governmental contracting upon the following terms and conditions.

Whereas the Ellensburg Fire Department provides fire protection and emergency services to the University; and

Whereas the University desires to comply with section six and other provisions of Substitute House Bill 2937, passed by the 1992 Washington State Legislature,

Therefore the parties agree as follows:

1. The covenants contained herein represent the entire obligation of the University to compensate the City for providing adequate levels of Fire and Paramedic Services to reasonably protect University property and occupants.

2. The level of fire protection and life safety service shall be substantially the same through the term of this agreement as that provided at the inception of this agreement.

3. The term of this agreement shall be for an initial period of five years, from July 1, 1992 through June 30, 1997, and continue biennially thereafter, unless either party gives written notice to the other at least six months prior to the end of the then effective term that it desires to terminate the agreement.

4. This contract may be terminated in whole or in part by mutual written agreement of the University and the City. Termination under this provision may be immediate. Either party may request reopening the terms of this agreement in the event funding sources are reduced to the point that financial exigency threatens its ability to perform.

5. Cash contribution as used in this contract may be reduced in any year by the value of any equipment purchased or services provided upon mutual agreement of the parties. Likewise, the University may choose to pay cash instead of in-kind services as described herein.

6. Compensation to the City shall be fixed firm for the term of this agreement based on the calculations below and adjustable only as provided in item 6.c. and 6.d. :

A. The base payment is derived from a formula based on property valuation to determine the University's payment required to support Fire Protection. The determination of the amount is summarized as follows:

* City revenues come from direct revenues charged for services provided and from General Fund Support.

* The portion of the Fire Department budget that is supported by the General Fund is 23% of the total General Fund.

* The University's base payment should be 23% of the equivalent property tax assessment.

1	2	3	4	5	6	7
CWU VALUE IN 1,000'S	TAX RATE PER 1,000	CWU PROP'Y TAX (#1 X #2)	GEN FUND CITY FIRE BUDGET	TOTAL CITY GEN FUND BUDGET	TAX % TO SUPPORT FIRE (#4 / #5)	CWU FIRE SUPPORT REQUIRED (#3 X #6)
$222,732	3.6	801,835	900,319	3,899,880	23%	184,422

B. The University property valuation is estimated at replacement valuation of $269,000,000. An 82.8% adjustment has been made to reflect typical undervaluation of taxable properties by the State Department of Revenue and the Kittitas County Assessor, resulting in a 1992 valuation of 222,732,000. This estimate may be further adjusted based on a certified appraisal to be completed within six months from the date of this contract. Thereafter, the certified appraisal shall be used for the term of this agreement.

C. For the second and succeeding years, the adjustment to the Base Payment Amount, as a result of the appraisal, shall not be greater than +- 5% of the previous year base payment amount.

D. Adjustment will be made for any significant construction or destruction of any building, on the following July 1.

7. Compensation to the City for the services described herein shall be as follows:

CWU BUILDING REPLACEMENT VALUE:	$269,000,000
ADJUSTED FOR COMPARABLE UNDER-VALUATION OF CITY PROPERTIES FOR TAX PURPOSES @ 82.8%	$222,732,000
PROPERTY TAX $222,732,000 @ 3.60 per Thousand	$ 801,835
TOTAL UNIVERSITY PAYMENT Amount (23% OF 801,835.00)	$ 184,422

ANNUAL PAYMENT SHALL CONSIST OF THE FOLLOWING:

* CASH	$ 132,813
* LAND & IMPROVEMENTS FOR RECREATION SITES IN ATTACHMENT A:	
LAND VALUE YEARLY RENTAL BASED ON $120,000 VALUE OVER A 30 YEAR PERIOD AT 6%.	$ $8,600
IMPROVEMENTS YEARLY RENTAL BASED ON $180,000 VALUE OVER A 20 YEAR PERIOD AT 6%	$ 15,400
* ANNUAL VALUE OF LEASE OF THE BROOKLANE WATER WELL SUPPLY AS A SAFETY VALVE FOR CITY WATER NEEDS. CITY PAYS ALL MAINTENANCE OR IMPROVEMENTS REQUIRED SOLELY FOR THE BENEFIT OF THE CITY. CWU PAYS ELECTRIC AND MAINTENANCE FOR EQUIPMENT NORMALLY REQUIRED FOR IRRIGATION. AMOUNT BASED ON .14 per THOUSAND GALLONS for 1,368,000 GALLONS PER DAY, FOR 105 DAYS. ACTUAL USE THROUGHOUT THE YEAR IS AT CITY OPTION. UNIVERSITY RESERVES RIGHT TO CONTINUE USE FOR IRRIGATION EXCEPT IN EMERGENCIES.	$ 20,109
* ACKNOWLEDGEMENT FOR SERVICES AVAILABLE TO THE CITY FROM THE UNIVERSITY AT RATES BELOW MARKET VALUE AND NOT AVAILABLE FROM ANY OTHER LOCAL TAXPAYERS, SUCH AS:	$ 7,500

* FINANCIAL: AS PREVIOUSLY OUTLINED AND ADDITIONALLY FOR SERVICES AVAILABLE TO THE CITY AT RATES BELOW MARKET VALUES SUCH AS:

A. ADA AND OTHER ARCHITECTURAL CONSULTING.
B. DEMOGRAPHIC STUDIES SUCH AS SOCIOLOGY SURVEYS AND GIS MAPPING SERVICES.
C. TRAINING PROGRAMS AND TRANSMISSION OF SATELLITE BROADCASTS.
D. COMMUNITY TELEVISION PARTNERSHIPS

THE FOLLOWING CULTURAL AND ACADEMIC BENEFITS ARE ALSO INCLUDED IN THIS CATEGORY:

* ACADEMIC: LIBRARY SERVICES; ADULT AND CONTINUING EDUCATION PROGRAMS; EDUCATED WORKFORCE; ATTRACTION TO BUSINESSES

* CULTURAL: NATIONALLY RECOGNIZED SUMMER STOCK THEATER AND OTHER PERFORMING ARTS; SPURGEON GALLERY; NATIONAL SPEAKERS

TOTAL ANNUAL PAYMENTS	$ 184,422

8. In-Kind services, including but not limited to water well service and the proposed recreation sites, shall be subject to further written agreement. Should the parties be unable to agree to specific terms for in-kind services, this contract shall remain in force and the cash payment amount shall be adjusted accordingly.

9. Notices: All notices and communications shall be in writing and sent prepaid mail to the addresses stated below or at such other addresses as may be designated in writing.

City
City of Ellensburg
420 North Pearl Street
Ellensburg, WA 98926

ATTENTION: Finance Director

University:
Central Washington University
Ellensburg, WA. 98926

ATTENTION: Business Manager

10. Indemnification: The University shall be responsible for the consequences of any act or failure to act on the part of itself, its employees, or its agents, and, the City shall be responsible for the consequences of any act or failure to act on the part of itself, its employees, or agents. Accordingly, each party shall be held responsible for its own sole negligence, and each party shall indemnify, defend, and hold the other party harmless from any loss which results therefrom.

11. Arbitration: In the event that CWU and the City cannot reach an agreement in matters related to the terms of this agreement, once executed, the parties shall submit such disputes to arbitration. The City shall choose one arbitrator, and CWU one, and the two so chosen shall select a third. Each party shall bear the expense of the arbitrator selected by it. The costs and expenses of the third arbitrator shall be shared equally by both parties to the agreement. Arbitration shall be conducted according to arbitration procedures established by the American Arbitration Association or its successor and the arbitration decisions shall be binding by both parties. This clause shall not be construed to mean that terms for in-kind services, as described in paragraph eight, shall be arbitrated in the event that agreement cannot be reached in those matters.

12. This Agreement shall be construed in accordance with the applicable laws of the State of Washington.

In Witness Whereof, the parties hereto have executed this Agreement by their duly authorized officials:

CITY OF ELLENSBURG

11-03-92

By: Stanley Ray
Mayor

Date

CENTRAL WASHINGTON UNIVERSITY

11-30-92

By: Dr. Ivory Nelson
President

DATE

ATTESTED TO:

11-03-92

Ellensburg City Clerk

Date

APPROVED AS TO FORM:

11-12-92

Teresa Kulik, A.A.G.,
State of Washington

Date

APPROVED AS TO FORM:

Martin Muench,
City Attorney

Date

1990

CONTRACTOR

AGREEMENT

THIS AGREEMENT, made and entered into this 6th day of August 1990, by and between the State of Washington, Central Washington University, hereinafter referred to as the University, and the City of Ellensburg, Washington, a municipal corporation, hereinafter referred to as the City, in the manner following:

WITNESSETH:

WHEREAS, the University owns a 1,000 foot deep well located in the northeastern part of the campus near Brooklane Village, hereinafter referred to as the Brooklane Well; and

WHEREAS, said well is capable of producing in excess of 1,000 gallons of water per minute, and the University holds State of Washington Department of Ecology Permit No. G3-20414P authorizing withdrawal of water; and,

WHEREAS, the City of Ellensburg is faced with a water shortage affecting both the City and the University; and,

NOW, THEREFORE, for and in consideration of the mutual covenants and promises of the parties hereinafter set forth, it is agreed as follows:

ARTICLE I

After appropriate water quality tests have been performed in conformance with Washington State Department of Social and Health Services requirements for potable water systems, said tests to be performed at City expense, the University shall permit the City to connect the Brooklane Well to the City water system.

ARTICLE II

The City shall construct at its own expense any facilities required to connect the Brooklane Well to the existing City water main located in 18th Avenue.

ARTICLE III

The City may pump up to 1,368,000 gallons of water per day from the Brooklane Well. The City shall utilize the University's pumping system as presently installed; said pumping system having been designed to produce approximately 950 gallons per minute, or 1,368,000 gallons per day. Should the yield of the Brooklane Well or associated pumping system decline to the point that 950 gallons per minute cannot be withdrawn, this AGREEMENT shall terminate immediately, except that all obligations of the parties hereto incurred or existing under terms of this agreement as of the date of termination shall survive such termination.

ARTICLE IV

During the irrigation season, (April through September), and subject to water use restrictions, the University shall continue to pump the current amount of water required for irrigation of Brooklane Village and other campus grounds normally irrigated by auxiliary pumps currently located in the Brooklane Well House. Water from the Ellensburg Water Company (Town Ditch) canal will be utilized by the University to replace other irrigation normally drawn from the Brooklane pumping system. The City will provide a 40 HP motor to be utilized for delivery of irrigation water from the Town Ditch as noted above. The 40 HP motor shall become the property of the University on December 31, 1990, unless this

AGREEMENT is terminated per Article III. In that event, the University may at its option purchase the 40 HP motor at full invoice during the first month or at a depreciated value of 20% per month from the first month of service until date of termination. The University will require temporary City water service for irrigation of the old railroad right-of-way between "D" Street and Walnut Mall for newly planted grass areas. The City will provide this service during the period of this agreement at no cost to the University.

ARTICLE V

The City shall pay the University for the use of the well, pump house and related utility lines, a fee equal to fourteen (14) cents per thousand gallons of actual metered water taken from the well and used during the period of this agreement.

ARTICLE VI

The University shall pay for all power used to pump water from the Brooklane well and associated pumps in the well house and shall also pay all operating and maintenance expenses on the well pump and pump column and appurtenances thereto incurred during the City's use of the pumping system.

ARTICLE VII

The City shall operate and maintain the booster pump and motor as well as chlorinating equipment and piping required specifically for supplying water to the City subject to this agreement and in accordance with manufacturer's instructions. At the termination of this Agreement, the booster pump and associated equipment shall be returned to its normal configuration, in normal operating

condition, reasonable wear and tear excepted. The City, at its own option, may temporarily replace the existing pump, motor, valves, electrical transformers and all other necessary fittings and apparatus, with equipment of larger capacity with concurrence of the University. At the termination of this Agreement, the City shall remove any equipment installed for the purposes stated herein and reinstall the University's equipment to its normal operating condition. All costs associated with returning the system to its configuration as of July 25, 1990 shall be paid by the City.

ARTICLE VIII

The City shall exercise due care to prevent overload of the University's equipment, including electrical service and transformers. The University shall have the right to observe and inspect the City's operation of the pumping system.

ARTICLE IX

The University shall be responsible for the consequences of any act or failure to act on the part of itself, its employees and agents, and the City shall be responsible for the consequences of any act or failure to act on the part of itself, its employees and agents.

ARTICLE X

The City agrees to indemnify, defend and save harmless the State of Washington, the University, its trustees, officers, agents and employees from any and all claims and losses accruing or resulting to any and all persons, firms or corporations in

connection with the City's performance of this contract, including but not limited to claims and losses relating to the quality and potability of water withdrawn by the City from Brooklane Well.

ARTICLE XI

This Agreement shall terminate December 31, 1990.

IN WITNESS THEREOF, this AGREEMENT has been executed by and on behalf of the parties hereto the day and year first above written. Operations which are applicable to this agreement are hereby made a part hereof as though fully set forth herein.

CENTRAL WASHINGTON UNIVERSITY

By: Richard E Corona

Director, Business Services
(title)

ATTEST: LaVelle I. Clerf

Notary Public, in & for
(title)
the State of Washington,
residing in Ellensburg.
Commission expires: 11/21/91

CITY OF ELLENSBURG

By: Douglas N Williams

City Manager
(title)

ATTEST: Arlene Arnold

City Clerk
(title)

City of Ellensburg
agreement #2
1977

AGREEMENT

THIS AGREEMENT, made and entered into this 26th day of April, 1977, by and between the State of Washington, Central Washington State College, hereinafter referred to as the College, and the City of Ellensburg, Washington, a municipal corporation, hereinafter referred to as the City, in the manner following:

WITNESSETH:

WHEREAS, the College owns a 1,000 foot deep well located in the northeastern part of the campus near Brooklane Village; and

WHEREAS, said well is capable of producing 1,700 gallons of water per minute, and the College holds State of Washington Department of Ecology Permit No. G3-20414P authorizing withdrawal of that quantity of water; and,

WHEREAS, the water of said well has been tested for fourteen different chemical and physical characteristics, and in all samples tested the presence of each characteristic was found to be less than the allowable maximum per United States Public Health Standards; and,

WHEREAS, the Kittitas Valley is faced with a severe water shortage affecting both the City and the College; and,

NOW, THEREFORE, for and in consideration of the mutual covenants and promises of the parties hereinafter set forth, it is agreed as follows:

ARTICLE I

The College shall permit the City to connect the Brooklane Well to the City water system.

ARTICLE II

The City shall construct at its own expense any facilities required to connect the well to the existing City water main located in 18th Avenue.

ARTICLE III

The City may pump up to 2,448,000 gallons of water per day from the well. The City may elect to utilize the College's pump as presently installed; said pump having been designed to produce 950 gallons per minute, or 1,368,000 gallons per day. Should the yield of the well decline to the point that 950 gallons per minute cannot be withdrawn, this AGREEMENT shall terminate immediately, except that all obligations of the parties hereto incurred or existing under terms of this agreement as of the date of termination shall survive such termination.

ARTICLE IV

During the irrigation season, (April 15 to September 15), and subject to water use restrictions, the City shall pump at no cost to the College, the current amount of water required for irrigation of Brooklane Village and other campus grounds normally irrigated by water from the Ellensburg Water Company (Town Ditch) canal and the water necessary for the new Library and Arboretum Landscaping projects which are now under contract. Such irrigation is estimated to total 222,000 gallons per day. The exact amount shall be determined by the installation of meters at locations mutually agreed to by the College and the City. That amount of water will be deducted from any payments due from the City to the College under Article V.

ARTICLE V

The City shall pay to the College for the use of the well, pump house and related utility lines, a fee equal to four cents (4¢) per thousand gallons of actual metered water taken from the well during the period of this Agreement.

ARTICLE VI

The City shall pay for all power used to pump water from the well and shall also pay all operating and maintenance expenses on the well and pump column and appurtenances thereto incurred during the City's use of the well provided that the College shall pay its pro rata share of power costs for water delivered under Article IV.

ARTICLE VII

The City shall operate and maintain the pump and motor and other equipment subject to this agreement according to manufacturer's instructions. The City shall periodically inspect the pump column and if any repairs are reasonably necessary, such repairs shall be made at the City's expense. At the termination of this Agreement, the pump and pump column shall be returned to the College in normal operating condition, reasonable wear and tear excepted. The City, at its own expense, may replace the existing pump, motor, valves, electrical transformers, and all other necessary fittings and apparatus, with equipment of larger capacity. At the termination of this Agreement, the City may remove its pump and motor and reinstall the College's pump and motor to its normal operating condition.

ARTICLE VIII

The City shall exercise due care to prevent overload of the College's equipment, including electrical service and transformers. The College shall have the right to observe and inspect the City's operation of the well.

ARTICLE IX

The College shall be responsible for the consequences of any act or failure to act on the part of itself, its employees, and agents, and the City shall be responsible for the consequences of any act or failure to act on the part of itself, its employees and agents.

ARTICLE X

The City agrees to indemnify, defend and save harmless the State of Washington, the College, its trustees, officers, agents and employees from any and all claims and losses accruing or resulting to any and all persons, firms, or corporations in connection with the City's performance of this contract, including but not limited to claims and losses relating to the quality and potability of water withdrawn by the City from Brooklane Well.

ARTICLE XI

This Agreement shall terminate December 31, 1977.

IN WITNESS WHEREOF, this AGREEMENT has been executed by and on behalf of the parties hereto the day and year first above

written. Operations which are applicable to this agreement are hereby made a part hereof as though fully set forth herein.

CENTRAL WASHINGTON STATE COLLEGE	CITY OF ELLENSBURG
By: _____	By _____
Vice President for Bus. & Fin. Affairs (title)	City Manager (title)
ATTEST: _____	ATTEST: _____
Director, Bus. Svcs. & Contracts (title)	City Clerk (title)
Approved as to Form Only:	Approved as to Form Only:
_____ Owen F. Clarke, Jr. Assistant Attorney General	_____ G. Thomas Dohn Ellensburg City Attorney
Date: 4-26-77	Date: 5-5-77

Appendix C

Consistency Statement Checklists

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Washington State Department of Health
Division of Environmental Health
Office of Drinking Water

Local Government Consistency Determination Form

Water System Name: City of Ellensburg PWS ID: 22950M

Planning/Engineering Document Title: Water System Plan Plan Date: December 2021

Local Government with Jurisdiction Conducting Review: City of Ellensburg

Before the Department of Health (DOH) approves a planning or engineering submittal under Section 100 or Section 110, the local government must review the documentation the municipal water supplier provides to prove the submittal is consistent with **local comprehensive plans, land use plans and development regulations** (WAC 246-290-108). Submittals under Section 105 require a local consistency determination if the municipal water supplier requests a water right place-of-use expansion. The review must address the elements identified below as they relate to water service.

By signing this form, the local government reviewer confirms the document under review is consistent with applicable local plans and regulations. If the local government reviewer identifies an inconsistency, he or she should include the citation from the applicable comprehensive plan or development regulation and explain how to resolve the inconsistency, or confirm that the inconsistency is not applicable by marking N/A. See more instructions on reverse.

	For use by water system	For use by local government
Local Government Consistency Statement	**Identify the page(s) in submittal**	**Yes or Not Applicable**
a) The water system service area is consistent with the adopted land use and zoning within the service area.	Figure 3-1	Yes
b) The growth projection used to forecast water demand is consistent with the adopted city or county's population growth projections. If a different growth projection is used, provide an explanation of the alternative growth projection and methodology.	Table 3-3 and Chart 3-1	Yes
c) For cities and towns that provide water service: All water service area policies of the city or town described in the plan conform to all relevant utility service extension ordinances.	Chapter 5	Yes
d) Service area policies for new service connections conform to the adopted local plans and adopted development regulations of all cities and counties with jurisdiction over the service area.	Pages 3-1 through 3-4	Yes
e) Other relevant elements related to water supply are addressed in the water system plan, if applicable. This may include Coordinated Water System Plans, Regional Wastewater Plans, Reclaimed Water Plans, Groundwater Management Area Plans, and the Capital Facilities Element of local comprehensive plans.	Pages 3-1 through 3-4	Yes

I certify that the above statements are true to the best of my knowledge and that these specific elements are consistent with adopted local plans and development regulations.

Derek Mayo — 3/25/2022

Signature — Date

Derek Mayo, City Engineer, City of Ellensburg

Printed Name, Title, & Jurisdiction

Consistency Review Guidance

For Use by Local Governments and Municipal Water Suppliers

This checklist may be used to meet the requirements of WAC 246-290-108. When using an alternative format, it must describe all of the elements; 1a), b), c), d), and e), when they apply.

For **water system plans (WSP)**, a consistency review is required for the service area and any additional areas where a municipal water supplier wants to expand its water right's place of use.

For **small water system management programs**, a consistency review is only required for areas where a municipal water supplier wants to expand its water right's place-of-use. If no water right place-of-use expansion is requested, a consistency review is not required.

For **engineering documents,** a consistency review is required for areas where a municipal water supplier wants to expand its water right's place-of-use (water system plan amendment is required). For noncommunity water systems, a consistency review is required when requesting a place-of-use expansion. All engineering documents must be submitted with a service area map (WAC 246-290-110(4)(b)(ii)).

A) Documenting Consistency: The planning or engineering document must include the following when applicable.

a) A copy of the adopted **land use/zoning** map corresponding to the service area. The uses provided in the WSP should be consistent with the adopted land use/zoning map. Include any other portions of comprehensive plans or development regulations that relate to water supply planning.

b) A copy of the **growth projections** that correspond to the service area. If the local population growth projections are not used, explain in detail why the chosen projections more accurately describe the expected growth rate. Explain how it is consistent with the adopted land use.

c) Include water service area policies and show that they are consistent with the **utility service extension ordinances** within the city or town boundaries. *This applies to cities and towns only.*

d) All **service area policies** for how new water service will be provided to new customers.

e) **Other relevant elements** the Department of Health determines are related to water supply planning. See Local Government Consistency – Other Relevant Elements, Policy B.07, September 2009.

B) Documenting an Inconsistency: Please document the inconsistency, include the citation from the comprehensive plan or development regulation, and explain how to resolve the inconsistency.

C) Documenting a Lack of Local Review for Consistency: Where the local government with jurisdiction did not provide a consistency review, document efforts made and the amount of time provided to the local government for review. Please include: name of contact, date, and efforts made (letters, phone calls, and emails). To self-certify, please contact the DOH Planner.

The Department of Health is an equal opportunity agency. For persons with disabilities, this document is available on request in other formats. To submit a request, please call 1-800-525-0127 (TTY 1-800-833-6388).

Washington State Department of Health

Local Government Consistency Determination Form

Water System Name: City of Ellensburg PWS ID: 22950M

Planning/Engineering Document Title: Water System Plan Plan Date: December 2021

Local Government with Jurisdiction Conducting Review: Kittitas County

Before the Department of Health (DOH) approves a planning or engineering submittal under Section 100 or Section 110, the local government must review the documentation the municipal water supplier provides to prove the submittal is consistent with **local comprehensive plans, land use plans and development regulations** (WAC 246-290-108). Submittals under Section 105 require a local consistency determination if the municipal water supplier requests a water right place-of-use expansion. The review must address the elements identified below as they relate to water service.

By signing this form, the local government reviewer confirms the document under review is consistent with applicable local plans and regulations. If the local government reviewer identifies an inconsistency, he or she should include the citation from the applicable comprehensive plan or development regulation and explain how to resolve the inconsistency, or confirm that the inconsistency is not applicable by marking N/A. See more instructions on reverse.

Local Government Consistency Statement	For use by water system: Identify the page(s) in submittal	For use by local government: Yes or Not Applicable
a) The water system service area is consistent with the adopted land use and zoning within the service area.	Figure 3-1	Yes
b) The growth projection used to forecast water demand is consistent with the adopted city or county's population growth projections. If a different growth projection is used, provide an explanation of the alternative growth projection and methodology.	Table 3-3 and Chart 3-1	Yes
c) For cities and towns that provide water service: All water service area policies of the city or town described in the plan conform to all relevant utility service extension ordinances.	Chapter 5	Yes
d) Service area policies for new service connections conform to the adopted local plans and adopted development regulations of all cities and counties with jurisdiction over the service area.	Pages 3-1 through 3-4	Yes
e) Other relevant elements related to water supply are addressed in the water system plan, if applicable. This may include Coordinated Water System Plans, Regional Wastewater Plans, Reclaimed Water Plans, Groundwater Management Area Plans, and the Capital Facilities Element of local comprehensive plans.	Pages 3-1 through 3-4	Yes

I certify that the above statements are true to the best of my knowledge and that these specific elements are consistent with adopted local plans and development regulations.

Signature

3/30/22
Date

Jeremy Johnston, Kittitas County Planning Official
Printed Name, Title, & Jurisdiction

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Appendix D
SEPA Checklist

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COMMUNITY DEVELOPMENT DEPARTMENT
501 N. Anderson St., Ellensburg, WA 98926

State Environmental Policy Act (SEPA)
FINAL DETERMINATION OF NON-SIGNIFICANCE (DNS)

Proponent: Derek Mayo, City of Ellensburg

Location: Ellensburg City Limits and the Urban Growth Area

Description: Case # P22-013; This SEPA Checklist is for the proposed update to the City of Ellensburg Water System Comprehensive Plan. This plan will provide a 10-year Capital Improvement Plan, and projects will be implemented based on need and available financing.

Lead Agency: City of Ellensburg **File #:** P22-013

The lead agency for this proposal has determined that the proposed updates will not have a probable significant adverse impact on the environment. An Environmental Impact Statement (EIS) is not required under RCW 43.21C.030(2)(c). This decision was made after review of a completed Environmental Checklist and other information on file with the lead agency. This information is available to the public upon request.

This **Determination of Non-Significance (DNS)** is issued under WAC 197-11-340; There is no further comment period on the DNS. Any action to set aside, enjoin, review, or otherwise challenge this administrative SEPA action on the grounds of noncompliance with the provisions of Chapter 43.21C RCW shall be made to the Hearings Examiner within 14 days of this decision.

Responsible Official: Jamey Ayling
Title: Interim Community Development Director
Address: City of Ellensburg
Community Development Dept.
501 N. Anderson St.
Ellensburg WA 98926
Phone: (509) 925-8653 Fax: (509) 925-8655

Date: 5-1-22 **Signature:** _____

Appeals: Following the issuance of this DNS, is a 14-day appeal period. Pursuant to ECC 15.270.200, appeals must be submitted as required by the City of Ellensburg's administrative appeal procedures for Type II permits per ECC 15.230.040(B), and shall be made to the Hearing Examiner and meet all requirements contained in Chapter 15.230 ECC.

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P22-013
RECEIVED
02/03/2022
COMMUNITY
DEVELOPMENT

SEPA ENVIRONMENTAL CHECKLIST

Purpose of checklist:

Governmental agencies use this checklist to help determine whether the environmental impacts of your proposal are significant. This information is also helpful to determine if available avoidance, minimization or compensatory mitigation measures will address the probable significant impacts or if an environmental impact statement will be prepared to further analyze the proposal.

Instructions for applicants:

This environmental checklist asks you to describe some basic information about your proposal. Please answer each question accurately and carefully, to the best of your knowledge. You may need to consult with an agency specialist or private consultant for some questions. You may use "not applicable" or "does not apply" only when you can explain why it does not apply and not when the answer is unknown. You may also attach or incorporate by reference additional studies reports. Complete and accurate answers to these questions often avoid delays with the SEPA process as well as later in the decision-making process.

The checklist questions apply to all parts of your proposal, even if you plan to do them over a period of time or on different parcels of land. Attach any additional information that will help describe your proposal or its environmental effects. The agency to which you submit this checklist may ask you to explain your answers or provide additional information reasonably related to determining if there may be significant adverse impact.

Instructions for Lead Agencies:

Please adjust the format of this template as needed. Additional information may be necessary to evaluate the existing environment, all interrelated aspects of the proposal and an analysis of adverse impacts. The checklist is considered the first but not necessarily the only source of information needed to make an adequate threshold determination. Once a threshold determination is made, the lead agency is responsible for the completeness and accuracy of the checklist and other supporting documents.

Use of checklist for nonproject proposals:

For nonproject proposals (such as ordinances, regulations, plans and programs), complete the applicable parts of sections A and B plus the SUPPLEMENTAL SHEET FOR NONPROJECT ACTIONS (part D). Please completely answer all questions that apply and note that the words "project," "applicant," and "property or site" should be read as "proposal," "proponent," and "affected geographic area," respectively. The lead agency may exclude (for non-projects) questions in Part B - Environmental Elements –that do not contribute meaningfully to the analysis of the proposal.

A. Background [HELP]

1. Name of proposed project, if applicable:
   City of Ellensburg – Water System Comprehensive Plan (WSP)
   (NON-ACTION PROJECT)
   The complete draft WSP can be found at the following link, for review:

https://g3coe-my.sharepoint.com/:f:/g/personal/mayod_ci_ellensburg_wa_us/ErAOR7wv4VhHtbIYi751GN0BbvWzSGgm_XPpdwKy005TjA?e=1H6Dnf

2. Name of applicant:

City of Ellensburg Public Works and Utilities Dept.

3. Address and phone number of applicant and contact person:

Derek Mayo

501 North Anderson Street

Ellensburg, WA 98926

509-962-7230

4. Date checklist prepared:

Feb. 2022

5. Agency requesting checklist:

City of Ellensburg

6. Proposed timing or schedule (including phasing, if applicable):

The Final Draft of the WSP was completed in Dec. 2021 and submitted to the Washington State Dept. of Health for review and comments. It is anticipated that Final WSP will be completed early/mid 2023 and taken before City Council for acceptance at that time.

7. Do you have any plans for future additions, expansion, or further activity related to or connected with this proposal? If yes, explain.

This plan will provide a 10-year Capital Improvement Plan (CIP). These projects will be implemented based on need and available financing. Individual projects that proceed to construction will be individually permitted will have individual SEPA applications as required.

8. List any environmental information you know about that has been prepared, or will be prepared, directly related to this proposal.

None.

9. Do you know whether applications are pending for governmental approvals of other proposals directly affecting the property covered by your proposal? If yes, explain.

None.

10. List any government approvals or permits that will be needed for your proposal, if known.

This plan will provide a 10-year Capital Improvement Plan (CIP). These projects will be implemented based on need and available financing. Individual projects that proceed to construction will be individually permitted will have individual SEPA applications as required.

11. Give brief, complete description of your proposal, including the proposed uses and the size of the project and site. There are several questions later in this checklist that ask you to describe certain aspects of your proposal. You do not need to repeat those answers on this page. (Lead agencies may modify this form to include additional specific information on project description.)

Potential project for the 10-year Capital Improvement Plan (CIP) are included in chapter 9 of the draft WSP. Please refer to the previously provided link to review chapter 9 (page 9-23).

12. Location of the proposal. Give sufficient information for a person to understand the precise location of your proposed project, including a street address, if any, and section, township, and range, if known. If a proposal would occur over a range of area, provide the range or boundaries of the site(s). Provide a legal description, site plan, vicinity map, and topographic map, if reasonably available. While you should submit any plans required by the agency, you are not required to duplicate maps or detailed plans submitted with any permit applications related to this checklist.

The City of Ellensburg is located in central Kittitas County within T17E and T18E R18E and R19E along I-90 near the foothills of the Cascade Mountains. The City's topography slopes southwest to the Yakima River. Elevations within the service area range from 1,430 ft. to 1,850 ft.

B. Environmental Elements [HELP]

1. *Earth* [help]

a. General description of the site:

(circle one): **Flat**, **rolling**, **hilly**, steep slopes, mountainous, other _____

b. What is the steepest slope on the site (approximate percent slope)?

The City's water service area is located in a gently rolling plain.

c. What general types of soils are found on the site (for example, clay, sand, gravel, peat, muck)? If you know the classification of agricultural soils, specify them and note any agricultural land of long-term commercial significance and whether the proposal results in removing any of these soils.

The United States Department of Agriculture Natural Resources Conservation Services publishes soil surveys for Washington State. The soil survey information is regularly updated, Kittitas County soil survey data was last updated in 2018. The soil survey includes general soil map units that show broad areas that have distinctive soil patterns, relief, and drainage.

Each map unit on the general soil unit map is a unique natural landscape typically consisting of one or more major soils or miscellaneous areas and some minor soils and miscellaneous areas. Ellensburg has two general soil map units: Brickmill-Nanum-Opnish and Kayak-Weirman. Brickmill-Nanum-Opnish is found on younger alluvial fans and terraces and covers most of Ellensburg city limits. This general soil map unit is described as very deep, moderately well drained and somewhat poorly drained soils on level to nearly level alluvial fans. In the Yakima

River floodplain, Ellensburg also has the general soil map unit – Kayak-Weirman. This general soil map unit is described as very deep, somewhat excessively drained, moderately well drained, and somewhat poorly drained soils on level to nearly level floodplains and terraces.

d. Are there surface indications or history of unstable soils in the immediate vicinity? If so, describe.

The City of Ellensburg is located on gently sloping topography and thus has very few slopes that would qualify as steep slopes or landslide hazards.

e. Describe the purpose, type, total area, and approximate quantities and total affected area of any filling, excavation, and grading proposed. Indicate source of fill.

Not applicable. No filling, excavation, or grading is proposed for this non-project action. Project specific proposals are subject to review for consistency with applicable provisions of Ellensburg City Code and separate SEPA review as applicable.

f. Could erosion occur as a result of clearing, construction, or use? If so, generally describe.

Not applicable. No clearing, construction, or specific uses are proposed as part of this proposal. Project specific proposals are subject to review for consistency with applicable provisions of Ellensburg City Code and will undergo separate SEPA review as applicable.

g. About what percent of the site will be covered with impervious surfaces after project construction (for example, asphalt or buildings)?

Not applicable. There is no project construction as part of this non-project action. Project specific proposals are subject to review for consistency with applicable provisions of Ellensburg City Code and will undergo separate SEPA review as applicable.

h. Proposed measures to reduce or control erosion, or other impacts to the earth, if any:

Not applicable. There is no project construction as part of this non-project action. Project specific proposals are subject to review for consistency with applicable provisions of Ellensburg City Code and will undergo separate SEPA review as applicable.

2. Air [help]

a. What types of emissions to the air would result from the proposal during construction, operation, and maintenance when the project is completed? If any, generally describe and give approximate quantities if known.

This is a non-project action and will not have specific air quality impacts. No construction, operation, or maintenance is proposed as part of this non-project proposal. Project specific proposals are subject to review for consistency with applicable provisions of Ellensburg City Code and will undergo separate SEPA review as applicable.

b. Are there any off-site sources of emissions or odor that may affect your proposal? If so, generally describe.

To be determined on a project specific basis.

c. Proposed measures to reduce or control emissions or other impacts to air, if any:

To be determined on a project specific basis.

3. Water [help]

a. Surface Water: [help]

1) Is there any surface water body on or in the immediate vicinity of the site (including year-round and seasonal streams, saltwater, lakes, ponds, wetlands)? If yes, describe type and provide names. If appropriate, state what stream or river it flows into.

There are several streams, irrigation canals and lakes in the Ellensburg vicinity including six perennial streams (Lyle Creek, Wilson Creek, Mercer Creek, Whisky Creek, Currier Creek, and Reecer Creek) found in the Ellensburg city limits. All of these streams flow into Yakima River which borders the western city limits at Irene Rinehart Riverfront Park and is classified by the State of Washington Department of Natural Resources as a Type S stream. There are a couple unnamed ponds near the west freeway interchange and Englehorn Pond is located south of the 14th Avenue and B Street intersection.

2) Will the project require any work over, in, or adjacent to (within 200 feet) the described waters? If yes, please describe and attach available plans.

To be determined on a project specific basis.

3) Estimate the amount of fill and dredge material that would be placed in or removed from surface water or wetlands and indicate the area of the site that would be affected. Indicate the source of fill material.

Not applicable. No fill or dredge material will be placed or removed from surface water or wetlands as part of this non-project proposal. Project specific proposals are subject to review with applicable provisions of Ellensburg City Code and will undergo separate SEPA review as applicable.

4) Will the proposal require surface water withdrawals or diversions? Give general description, purpose, and approximate quantities if known.

Not applicable. No fill or dredge material will be placed or removed from surface water or wetlands as part of this non-project proposal. Project specific proposals are subject to review with applicable provisions of Ellensburg City Code and will undergo separate SEPA review as applicable.

5) Does the proposal lie within a 100-year floodplain? If so, note location on the site plan.

According to NFIP FIRM maps, portions of Ellensburg lie within the 100-year floodplain. There is not a site plan for this non-project proposal. Project specific proposals are subject to review for consistency with applicable provisions of Ellensburg City Code and will undergo separate SEPA review as applicable

6) Does the proposal involve any discharges of waste materials to surface waters? If so, describe the type of waste and anticipated volume of discharge.

To be determined on a project specific basis.

b. Ground Water: [help]

1) Will groundwater be withdrawn from a well for drinking water or other purposes? If so, give a general description of the well, proposed uses and approximate quantities withdrawn from the well. Will water be discharged to groundwater? Give general description, purpose, and approximate quantities if known.

To be determined on a project specific basis.

2) Describe waste material that will be discharged into the ground from septic tanks or other sources, if any (for example: Domestic sewage; industrial, containing the following chemicals. . . ; agricultural; etc.). Describe the general size of the system, the number of such systems, the number of houses to be served (if applicable), or the number of animals or humans the system(s) are expected to serve.

To be determined on a project specific basis.

c. Water runoff (including stormwater):

1) Describe the source of runoff (including storm water) and method of collection and disposal, if any (include quantities, if known). Where will this water flow? Will this water flow into other waters? If so, describe.

To be determined on a project specific basis.

2) Could waste materials enter ground or surface waters? If so, generally describe.

To be determined on a project specific basis.

3) Does the proposal alter or otherwise affect drainage patterns in the vicinity of the site? If so, describe.

To be determined on a project specific basis.

d. Proposed measures to reduce or control surface, ground, and runoff water, and drainage pattern impacts, if any:

To be determined on a project specific basis.

4. Plants [help]

a. Check the types of vegetation found on the site:

____deciduous tree: alder, maple, aspen, other
____evergreen tree: fir, cedar, pine, other
____shrubs
____grass
____pasture
____crop or grain
____ Orchards, vineyards or other permanent crops.
____ wet soil plants: cattail, buttercup, bullrush, skunk cabbage, other
____water plants: water lily, eelgrass, milfoil, other
____other types of vegetation
_X_ **To be determined on a project specific basis.**

b. What kind and amount of vegetation will be removed or altered?

To be determined on a project specific basis.

c. List threatened and endangered species known to be on or near the site.

To be determined on a project specific basis.

d. Proposed landscaping, use of native plants, or other measures to preserve or enhance vegetation on the site, if any:

To be determined on a project specific basis.

e. List all noxious weeds and invasive species known to be on or near the site.

The Kittitas County Noxious Weed Control Board keeps information on noxious weeds in Kittitas County. According to the Weed Control Board, the top ten most common noxious weeds in Ellensburg are: Kochia, Russian Thistle, Canada Thistle, Diffuse Knapweed, Horseweed, Whitetop, Puncturevine, Myrtle Spurge, Houndtongue, and Japanese Knotweed. Project-specific development projects will be reviewed for consistency with applicable provisions of Ellensburg City Code and undergo separate SEPA review as applicable.

5. Animals [help]

a. List any birds and other animals which have been observed on or near the site or are known to be on or near the site.

Examples include:

birds: hawk, heron, eagle, songbirds, other:
mammals: deer, bear, elk, beaver, other:
fish: bass, salmon, trout, herring, shellfish, other _____

X **To be determined on a project specific basis.**

b. List any threatened and endangered species known to be on or near the site.

X **To be determined on a project specific basis.**

c. Is the site part of a migration route? If so, explain.

X **To be determined on a project specific basis.**

d. Proposed measures to preserve or enhance wildlife, if any:

X **To be determined on a project specific basis.**

e. List any invasive animal species known to be on or near the site.

X **To be determined on a project specific basis.**

6. Energy and Natural Resources [help]

a. What kinds of energy (electric, natural gas, oil, wood stove, solar) will be used to meet the completed project's energy needs? Describe whether it will be used for heating, manufacturing, etc.

X **To be determined on a project specific basis.**

b. Would your project affect the potential use of solar energy by adjacent properties? If so, generally describe.

X **To be determined on a project specific basis.**

c. What kinds of energy conservation features are included in the plans of this proposal? List other proposed measures to reduce or control energy impacts, if any:

X **To be determined on a project specific basis.**

7. Environmental Health [help]

a. Are there any environmental health hazards, including exposure to toxic chemicals, risk of fire and explosion, spill, or hazardous waste, that could occur as a result of this proposal? If so, describe.

As a non-project action, the proposal is not expected to cause environmental health hazards. Use of any hazardous materials on a project-by-project basis would be subject to the requirements of local, state, and federal laws.

1) Describe any known or possible contamination at the site from present or past uses.

X **To be determined on a project specific basis.**

2) Describe existing hazardous chemicals/conditions that might affect project development and design. This includes underground hazardous liquid and gas transmission pipelines located within the project area and in the vicinity.

X **To be determined on a project specific basis.**

3) Describe any toxic or hazardous chemicals that might be stored, used, or produced during the project's development or construction, or at any time during the operating life of the project.

X **To be determined on a project specific basis.**

4) Describe special emergency services that might be required.

X **To be determined on a project specific basis.**

5) Proposed measures to reduce or control environmental health hazards, if any:

X **To be determined on a project specific basis.**

b. Noise

1) What types of noise exist in the area which may affect your project (for example: traffic, equipment, operation, other)?

X **To be determined on a project specific basis.**

2) What types and levels of noise would be created by or associated with the project on a short-term or a long-term basis (for example: traffic, construction, operation, other)? Indicate what hours noise would come from the site.

X **To be determined on a project specific basis.**

3) Proposed measures to reduce or control noise impacts, if any:

X **To be determined on a project specific basis.**

8. Land and Shoreline Use [help]

a. What is the current use of the site and adjacent properties? Will the proposal affect current land uses on nearby or adjacent properties? If so, describe.

The City's service area consists mainly of single family residences. There are commercial businesses throughout the City's servce area. Central Washington University is also located in the City.

b. Has the project site been used as working farmlands or working forest lands? If so, describe. How much agricultural or forest land of long-term commercial significance will be converted to other uses as a result of the proposal, if any? If resource lands have not been designated, how many acres in farmland or forest land tax status will be converted to nonfarm or nonforest use?

The City of Ellensburg does not have agricultural or forest land of long term commercial significance in city limits or the city's urban growth area. As a non-project action this proposal will not directly result in the conversion of any agriculture

or forestry land to other uses.

1) Will the proposal affect or be affected by surrounding working farm or forest land normal business operations, such as oversize equipment access, the application of pesticides, tilling, and harvesting? If so, how:

Not applicable. This is a non-project proposal and does not include project action on any specific site. Future project proposals will be evaluated at the project level and will be subject to applicable regulations and standards.

c. Describe any structures on the site.

This is a non-project action that covers the entire City which contains a spectrum of housing types including detached single family homes, townhomes, apartment buildings, and group living quarters.

d. Will any structures be demolished? If so, what?

X **To be determined on a project specific basis.**

e. What is the current zoning classification of the site?

X **To be determined on a project specific basis.**

f. What is the current comprehensive plan designation of the site?

X **To be determined on a project specific basis.**

g. If applicable, what is the current shoreline master program designation of the site?

The city has two shoreline master plan designations within its Urban Growth Area, these are Urban Conservancy (located adjacent to the Yakima River and surrounding Lake Mattoon) and Aquatic.

h. Has any part of the site been classified as a critical area by the city or county? If so, specify.

Plan covers the entire City including designation critical areas, however this is a non-project proposal and does not include project action on a specific site. The City's critical areas regulations outlines definitions, designations, and regulations for critical areas in order to:

- **Protect members of the public and public resources and facilities from injury, loss of life, or property damage due to landslides and steep slope failures, erosion, seismic events, and flooding;**
- **Maintain healthy, functioning ecosystems through the protection of unique, fragile, and valuable elements of the environment, including ground and surface waters, wetlands, and fish and wildlife and their habitats, and to conserve the biodiversity of plant and animal species; and**
- **Prevent cumulative adverse environmental impacts to water quality, wetlands, fish and wildlife habitat, and the overall net loss of wetlands, frequently flooded areas, and habitat conservation areas.**

i. Approximately how many people would reside or work in the completed project?

The current population in the City of Ellensburg is 19,510 (Office of Financial Management, 2021). The population projection for the City of Ellensburg as determined by the Kittitas County Conference of Governments for the year 2037 is 32,540, with an additional 6,998 jobs expected to be added by 2037.

j. Approximately how many people would the completed project displace?

X **To be determined on a project specific basis.**

k. Proposed measures to avoid or reduce displacement impacts, if any:

X **To be determined on a project specific basis.**

L. Proposed measures to ensure the proposal is compatible with existing and projected land uses and plans, if any:

X **To be determined on a project specific basis.**

m. Proposed measures to reduce or control impacts to agricultural and forest lands of long-term commercial significance, if any:

X **To be determined on a project specific basis.**

9. Housing [help]

a. Approximately how many units would be provided, if any? Indicate whether high, middle, or low-income housing.

X **To be determined on a project specific basis.**

b. Approximately how many units, if any, would be eliminated? Indicate whether high, middle, or low-income housing.

X **To be determined on a project specific basis.**

c. Proposed measures to reduce or control housing impacts, if any:

X **To be determined on a project specific basis.**

10. Aesthetics [help]

a. What is the tallest height of any proposed structure(s), not including antennas; what is the principal exterior building material(s) proposed?

X **To be determined on a project specific basis.**

b. What views in the immediate vicinity would be altered or obstructed?

X **To be determined on a project specific basis.**

‘c. Proposed measures to reduce or control aesthetic impacts, if any:

X **To be determined on a project specific basis.**

11. Light and Glare [help]

a. What type of light or glare will the proposal produce? What time of day would it mainly occur?

X **To be determined on a project specific basis.**

b. Could light or glare from the finished project be a safety hazard or interfere with views?

X **To be determined on a project specific basis.**

c. What existing off-site sources of light or glare may affect your proposal?

X **To be determined on a project specific basis.**

d. Proposed measures to reduce or control light and glare impacts, if any:

X **To be determined on a project specific basis.**

12. Recreation [help]

a. What designated and informal recreational opportunities are in the immediate vicinity?

The City of Ellensburg maintains a park and recreation system that includes a wide variety of facilities and activities for Ellensburg and Kittitas County residents. The City has 8 pocket parks, 6 neighborhood parks, 2 community parks, and 2 regional parks. In addition, the City Parks and Recreation Department operates four year-round facilities including an adult senior center, municipal pool/fitness center, youth center, and racquet and recreation center.

b. Would the proposed project displace any existing recreational uses? If so, describe.

No existing recreational uses will be displaced.

c. Proposed measures to reduce or control impacts on recreation, including recreation opportunities to be provided by the project or applicant, if any:

Not applicable. This non-project action will not impact any recreational uses.

13. Historic and cultural preservation [help]

a. Are there any buildings, structures, or sites, located on or near the site that are over 45 years old listed in or eligible for listing in national, state, or local preservation registers ? If so, specifically describe.

The City of Ellensburg has a well-established historic preservation program including the Downtown Historic District (established 1980), Residential Historic District (established 1984), Ellensburg Landmarks Register (established 2000), and attainment of Certified Local Government status in 2001. Many of Ellensburg's historic structures are located within a 16-block area of the Downtown Historic District. There are also historic structures located on the Central Washington University campus, the industrial area along the railroad, and in residential neighborhoods in and surrounding the downtown area. No changes are proposed to the existing historic preservation program, regulations, or listings.

b. Are there any landmarks, features, or other evidence of Indian or historic use or occupation? This may include human burials or old cemeteries. Are there any material evidence, artifacts, or areas of cultural importance on or near the site? Please list any professional studies conducted at the site to identify such resources.

Not applicable. As necessary , future project proposals will be reviewed for consistency with applicable standards and regulations.

c. Describe the methods used to assess the potential impacts to cultural and historic resources on or near the project site. Examples include consultation with tribes and the department of archeology and historic preservation, archaeological surveys, historic maps, GIS data, etc.

Not applicable. This non-project action does not address or propose any impacts to historic resources. Future project proposals will be reviewed for consistency with applicable standards and regulations and will be reviewed by the City's Landmark and Design Commission as applicable.

d. Proposed measures to avoid, minimize, or compensate for loss, changes to, and disturbance to resources. Please include plans for the above and any permits that may be required.

This non-project action does not address or propose any impacts to historic resources.

14. Transportation [help]

a. Identify public streets and highways serving the site or affected geographic area and describe proposed access to the existing street system. Show on site plans, if any.

This is a non-project proposal that applies to the entire City.

b. Is the site or affected geographic area currently served by public transit? If so, generally describe. If not, what is the approximate distance to the nearest transit stop?

X **To be determined on a project specific basis.**

c. How many additional parking spaces would the completed project or non-project proposal have? How many would the project or proposal eliminate?

X **To be determined on a project specific basis.**

d. Will the proposal require any new or improvements to existing roads, streets, pedestrian, bicycle or state transportation facilities, not including driveways? If so, generally describe (indicate whether public or private).

X **To be determined on a project specific basis.**

e. Will the project or proposal use (or occur in the immediate vicinity of) water, rail, or air transportation? If so, generally describe.

X **To be determined on a project specific basis.**

f. How many vehicular trips per day would be generated by the completed project or proposal? If known, indicate when peak volumes would occur and what percentage of the volume would

be trucks (such as commercial and nonpassenger vehicles). What data or transportation models were used to make these estimates?

X **To be determined on a project specific basis.**

g. Will the proposal interfere with, affect or be affected by the movement of agricultural and forest products on roads or streets in the area? If so, generally describe.

X **To be determined on a project specific basis.**

h. Proposed measures to reduce or control transportation impacts, if any:

X **To be determined on a project specific basis.**

15. Public Services [help]

a. Would the project result in an increased need for public services (for example: fire protection, police protection, public transit, health care, schools, other)? If so, generally describe.

X **To be determined on a project specific basis.**

b. Proposed measures to reduce or control direct impacts on public services, if any.

X **To be determined on a project specific basis.**

16. Utilities [help]

a. Circle utilities currently available at the site:
electricity, natural gas, water, refuse service, telephone, sanitary sewer, septic system, other _____

X **To be determined on a project specific basis.**

b. Describe the utilities that are proposed for the project, the utility providing the service, and the general construction activities on the site or in the immediate vicinity which might be needed.

X **To be determined on a project specific basis.**

C. Signature [HELP]

The above answers are true and complete to the best of my knowledge. I understand that the lead agency is relying on them to make its decision.

Signature: _____

Name of signee Derek Mayo, City Engineer

Position and Agency/Organization City Engineer with the City of Ellensburg

Date Submitted: Feb. 2, 2022

D. Supplemental sheet for nonproject actions [HELP]

(**IT IS NOT NECESSARY** to use this sheet for project actions)

Because these questions are very general, it may be helpful to read them in conjunction with the list of the elements of the environment.

When answering these questions, be aware of the extent the proposal, or the types of activities likely to result from the proposal, would affect the item at a greater intensity or at a faster rate than if the proposal were not implemented. Respond briefly and in general terms.

1. How would the proposal be likely to increase discharge to water; emissions to air; production, storage, or release of toxic or hazardous substances; or production of noise?

None known, other than during the construction of facilities and water mains shown in the CIP, which would occur during a short time frame.

Proposed measures to avoid or reduce such increases are:
N/A

2. How would the proposal be likely to affect plants, animals, fish, or marine life?

Other than short disruptions during the construction of the proposed projects, there should be minimal impact.

Proposed measures to protect or conserve plants, animals, fish, or marine life are:
If threatened or endangered plant, animal, fish or marine species are discovered during construction, all work will cease until the Department of Fish and Wildlife or the Department of Natural Resources can be contacted and an expert brought on to the site.

3. How would the proposal be likely to deplete energy or natural resources?

It is unlikely that these projects would deplete energy or natural resources. The projects that may result from this plan would mainly replace existing facilities and expand storage.

Proposed measures to protect or conserve energy and natural resources are:
N/A

4. How would the proposal be likely to use or affect environmentally sensitive areas or areas designated (or eligible or under study) for governmental protection; such as parks, wilderness, wild and scenic rivers, threatened or endangered species habitat, historic or cultural sites, wetlands, floodplains, or prime farmlands?

None known. Any projects from this plan would likely be constructed in existing right of way or propertyowned or leased by the City.

Proposed measures to protect such resources or to avoid or reduce impacts are:
N/A

5. How would the proposal be likely to affect land and shoreline use, including whether it would allow or encourage land or shoreline uses incompatible with existing plans?

The majority of the projects are to replace or to better utilize the City's existing assets.

Proposed measures to avoid or reduce shoreline and land use impacts are:

N/A

6. How would the proposal be likely to increase demands on transportation or public services and utilities?

None known.

Proposed measures to reduce or respond to such demand(s) are:

N/A

7. Identify, if possible, whether the proposal may conflict with local, state, or federal laws or requirements for the protection of the environment.

It is unlikely that any projects resulting from theis water system plan would violate any laws regarding the environment on a local, state, or federal level.

Appendix E

Water Use Efficiency Program

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WATER USE EFFICIENCY PROGRAM

INTRODUCTION

The City of Ellensburg (City) recognizes that water is a valuable and essential natural resource that needs to be used wisely. This Water Use Efficiency (WUE) Program provides an approach to increase water use efficiency within the City's water service area.

BACKGROUND

The Water Use Efficiency Rule

The Municipal Water Supply – Efficiency Requirements Act, also known as the Municipal Water Law, required the state to implement the WUE Rule. The intent of this rule is to help reduce the demand that growing communities, agriculture, and industry have placed on our state's water resources, and to better manage these resources for fish and other wildlife. Municipal water suppliers are obligated under the WUE Rule to enhance the efficient use of water by the system and/or its consumers.

The WUE Rule applies to all municipal water suppliers and requires suppliers to:

- Develop WUE goals through a public process and report annually on their performance;
- Maintain distribution system leakage (DSL) at or below 10 percent of production;
- Meter all existing and new service connections;
- Collect production and consumption data, calculate DSL, and forecast demands;
- Evaluate WUE measures; and
- Implement a WUE program.

Water Use Efficiency Program Requirements

The *Water Use Efficiency Guidebook,* originally published by the Washington State Department of Health (DOH) in July 2007, and last revised in January 2017, identifies the water use reporting, forecasting, and efficiency program requirements for public water systems. A WUE program meeting these requirements is a necessary element of a Water System Plan as required by DOH and is necessary to obtain water right permits from the Washington State Department of Ecology (Ecology). The *Water Use Efficiency Guidebook* defines the necessary components of a WUE program as the following four fundamental elements:

1. Planning requirements that include collecting data, forecasting demand, evaluating WUE measures, calculating DSL, and implementing a WUE program to meet goals.
2. A DSL standard of 10 percent or less based on a 3-year rolling average. For systems with less than 500 connections, the DSL standard may be increased to 20 percent if a request with supporting data is provided to DOH.

3. Goal setting to provide a benchmark for achievement and to help define the success of the WUE program.
4. Annual performance reporting on progress towards meeting WUE goals.

WATER SUPPLY CHARACTERISTICS

Water in the City's system currently is supplied by ten City-owned sources and one Central Washington University (CWU) owned source. City-owned sources include the City Well, the Route 10 Well, the Hayward Well, the Mt. Stuart Well, the Kiwanis Well, the Memorial Well, the Rodeo Well, the Whitney Well, the Illinois Well, and Airport Well No. 3. The City also owns several inactive sources, including Airport Well No. 1, Airport Well No. 2, the Anderson Well, and the Lions Park /Mt. View Park Well. The Brooklane Well is owned by CWU.

Additional information on the City's sources is provided in **Chapter 2** of the City's Water System Plan (WSP). Water rights information for each source may be found in **Chapter 6** of the WSP, and on the certificates, permits, and water rights self-assessment that are included in **Appendix I**.

WATER USE EFFICIENCY PROGRAM

As previously described, the fundamental elements of a WUE program include planning requirements and DSL standards, as well as goal setting and performance reporting. The City's water use data, demand forecasts, and other planning requirements are contained in **Chapter 4** of the WSP. The City is committed to continue collecting water use data beyond that presented in **Chapter 4** for evaluation of its WUE Program and water use patterns, and for forecasting demands for future facilities. The City's WUE Program that follows includes a statement of its goals and objectives, the evaluation and selection of alternative efficiency measures, the schedule and budget, and the method of program monitoring.

Water Use Efficiency Goals and the Public Process

Per Washington Administrative Code (WAC) 246-290-830, WUE goals must be set through a public process and shall be evaluated and re-established as part of a WSP update. The City last updated its WUE Program as part of its 2014 WSP. The City has established new WUE goals for this update. The new WUE goals are as follows:

- Reduce the demand per equivalent residential unit (ERU) by 5 percent over the next 10 years (2020 to 2030). Then maintain the demand per ERU for the rest of the planning period (2030 to 2040). Using a base demand of 396 gallons per day (gpd) per ERU in 2020, this goal would reduce water use to 376 gpd per ERU by 2030.
- Maintain system-wide DSL at 10 percent or less for the duration of the planning period.

The water system population is projected to grow by approximately 59 percent over the course of the 20-year planning period as shown in **Table 1**. Reducing the demand per ERU will help ensure the City's water system remains efficient, even though the total consumption of the water system will grow substantially by 2040.

Table 1

Projected Population

Year	City + UGA Population	Water System Population
2020	23,126	21,708
2021	23,595	22,231
2022	24,074	22,768
2023	24,562	23,317
2024	25,061	23,879
2025	25,569	24,455
2026	26,088	25,045
2027	26,618	25,649
2028	27,158	26,268
2029	27,709	26,901
2030 (+ 10 years)	**28,271**	**27,550**
2031	28,845	28,214
2032	29,430	28,895
2033	30,027	29,592
2034	30,637	30,305
2035	31,258	31,036
2036	31,893	31,785
2037	32,540	32,552
2038	33,200	33,212
2039	33,874	33,886
2040 (+ 20 years)	**34,561**	**34,573**

UGA = Urban Growth Area

As shown in **Table 2**, the system-wide DSL 3-year rolling average was above the state DSL standard of 10 percent for the years 2015 and 2016. The City began aggressively searching for DSL in 2015, and since 2017 the City's system-wide DSL 3-year rolling average has been below the state standard. The City's goal is to maintain the 3-year rolling average below the state standard of 10 percent through 2040.

Table 2

Distribution System Leakage

	Year					
Description	**2013**	**2014**	**2015**	**2016**	**2017**	**2018**
Total Authorized Consumption (MG)	1,295.9	1,364.5	1,471.0	1,388.1	1,356.0	1,432.9
Total Production/Supply (MG)	1,553.5	1,647.9	1,695.2	1,508.3	1,478.5	1,555.2
Total Distribution System Leakage (MG)	257.6	283.4	224.1	120.2	122.4	122.4
Total Distribution System Leakage (%)	16.6%	17.2%	13.2%	8.0%	8.3%	7.9%
Rolling 3-Year Average DSL (%)	---	---	15.7%	12.8%	9.8%	8.0%

MG = Million Gallons

In compliance with the WUE Rule, a public hearing will be held at a City Utility Advisory Committee (UAC) meeting to present and discuss the new goals. The City Council is expected to adopt the new goals at a future meeting.

Evaluation and Selection of Water Use Efficiency Measures

The City's evaluation of WUE measures and selected levels of implementation are presented within this section. The measures fall within three categories of implementation: 1) mandatory measures that must be implemented; 2) measures that must be evaluated; and 3) additional measures selected by the City that must be either evaluated or implemented.

The City served an average of 5,804 water service connections in 2018. Based on the number of connections, at least six WUE supplemental measures must be evaluated or implemented. Measures that are mandatory cannot be credited towards the system's WUE measures. Since the City implements the minimum number of required measures, a cost-effective evaluation is not required.

Mandatory Measures

Source Meters

The volume of water produced by the system's sources must be measured using a source meter or other meter installed upstream of the distribution system. Source meters currently are installed and operating at each of the City's sources. If any new sources are installed in the future, they will be equipped with a source meter.

Service Meters

All public water systems that supply water for municipal purposes must install individual service meters for all water users. Service meters currently are installed and operating at all connections throughout the distribution system. All future connections that are installed or activated will be equipped with a service meter.

Meter Calibration

The City must calibrate and maintain meters based on generally accepted industry standards and manufacturer information. Currently, the City replaces more than 400 meters per year, which will replace all City meters every 14.5 years. This is more frequent than the industry standard of replacing meters every 20 years. Damaged or suspect meters are replaced as soon as they are discovered.

Water Loss Control Action Plan

To control leakage, systems that do not meet the state DSL standard of 10 percent must implement a Water Loss Control Action Plan (WLCAP). The City's rolling 3-year average DSL is currently less than 10 percent, as shown in **Table 2** and **Chapter 4** of the WSP. Therefore, a WLCAP is not required to be implemented.

Customer Education

Annual customer education regarding the importance of using water efficiently is a required element of all WUE programs. The City intends to provide water conservation tips along with the Consumer Confidence Report (CCR), on the City's website, and at City Hall. These materials

include lawn watering and indoor conservation tips. Additional customer education and outreach measures are identified in the **Selected Supplemental Measures** section.

Measures that Must be Evaluated

Rate Structure

A rate structure that encourages WUE and provides economic incentives to conserve water must be evaluated but is not required to be implemented.

Currently, a base water rate is charged for each connection regardless of consumption. The base water rate depends on the meter size, except for Private Fire Service customers that are charged a flat rate based on the diameter of their connection pipe. For Residential, Irrigation, and Residential Fire Protection customer classes, an increasing block rate structure imposes a unit charge for water use that increases as the volume of water consumed increases. For the Multi-Family customer class, a uniform block rate structure imposes a unit charge for water use. For Commercial/Industrial, CWU, and Municipal customer classes, a declining block rate structure imposes a unit charge for water use that declines as the volume of water consumed increases.

Reclamation Opportunities

Revised Code of Washington (RCW) 90.46.010 defines reclaimed water as "water derived in any part from wastewater with a domestic wastewater component that has been adequately and reliably treated, so that it can be used for beneficial purposes." Water systems with 1,000 or more connections must evaluate reclamation opportunities (WAC 246-290-100(4)(f)(vii)), but only actual use of reclaimed water counts as a WUE measure (WAC (246-290-810(4)(d)) or multiple WUE measures if the reclaimed water is used for multiple purposes.

The *Wastewater Treatment Facility Engineering Report* (Gray and Osborne, 2015) provided a water reclamation and reuse evaluation, which concluded that legal issues would prevent the City from reclaiming its wastewater.

Selected Supplemental Measures

The City has chosen to implement three different supplemental WUE measures in addition to those that are mandatory or required to be evaluated. Because several of these WUE measures affect multiple customer classes (detailed as follows), the City's WUE Program counts as 16 WUE measures, which is greater than the requirement of 6 WUE measures based on the number of service connections.

Water Bill Showing Consumption History

The City is committed to including consumption history on all bills to its customers. The City's billing software has the capability to include historic graphs on bills, and the City shows consumption history for all eight of the City's customer classes. This counts as eight supplemental WUE measures.

Notifying Customers about Leaks on Their Property

The City's billing department monitors customers' water bills for abnormally high water reads. When a significantly high read occurs that is outside the range of normal use, the customer is notified of a potential leak on their side of the water meter. The City provides this information to all eight customer classes; therefore, it counts as eight supplemental WUE measures.

Water Use Efficiency Program Schedule and Budget

The WUE measures described previously and selected for implementation by the City are summarized in **Table 3** with their corresponding schedule and budget. The successful implementation of this program is expected to achieve the City's WUE goals.

Table 3

WUE Program Schedule and Budget

Mandatory WUE Measures		
Measure	**Schedule**	**Budget**
Source Meters Installed	Ongoing	O&M Funded
Service Meters Installed	Ongoing	O&M Funded
Meter Calibration Compliance	Ongoing	O&M Funded
Customer Education	Ongoing	O&M Funded
WUE Measures That Must Be Evaluated		
Measure	**Schedule**	**Budget**
Rate Structure	Ongoing	O&M Funded
Reclamation Opportunities	Ongoing	O&M Funded
Selected WUE Measures		
Measure	**Schedule**	**Budget**
Water Bill Showing Consumption History	Ongoing	O&M Funded
Notifying Customers About Leaks	Ongoing	O&M Funded
Irrigation Management	Ongoing	O&M Funded

O&M = Operations and Maintenance

Water Use Efficiency Program Evaluation and Reporting

The City will continue to evaluate overall demand, per capita and per equivalent residential unit water use, peaking factors, and the amount of DSL on an annual basis. The City will evaluate the performance of its WUE Program and implemented measures by analyzing demand data and determining the long-term trend towards reducing water usage and meeting WUE goals. If the program monitoring shows that progress towards meeting the WUE goals is not being accomplished, more rigorous program implementation or additional program items will be considered, along with a cost-effective evaluation of measures.

The City will provide annual WUE performance reports to its consumers in the CCR and will detail the results of water use monitoring and progress towards achieving the system's WUE goals. A copy of the City's current CCR is included in **Appendix L** of the City's WSP.

CITY OF ELLENSBURG **Utility Advisory Committee**

Date of Meeting **March 17, 2022**
Time of Meeting **3:30 PM**
Place of Meeting **Council Conference & remotely via Zoom**

Nancy Goodloe, Chairperson, term expires May 31, 2024
Ed Barry, Vice Chairperson, term expires May 31, 2023
Nancy Lillquist, City Council, term expires May 31, 2022
Shane Scott, CWU, term expires May 31, 2025
Bryan Clark, KITTCOM, term expires May 31, 2023
Jim Goeben, Telecommunications Utility customer, term expires May 31, 2023
Nate Sitton, City Utility Customer, term expires May 31, 2023

1. CALL TO ORDER

Chairperson Goodloe called the meeting to order at 3:30 pm.

2. ROLL CALL

Members present: Nancy Goodloe, Chair; Ed Barry, Vice Chair; Nancy Lillquist, City Council; Nate Sitton, City Utility Customer; Shane Scott, CWU; Jim Goeben, Telecom; Bryan Clark, KITTCOM.

Also present: Ryan Lyyski, Public Works & Utilities Director; Darren Larsen, Assistant Utilities Director; Derek Mayo, Engineering Services Manager; Mike Helgeson, Assistant Public Works Director; Kim Bowie, Operations Analyst; Darin Yusi, Gas Engineer; Buddy Stanavich, Power & Gas Manager; Heidi Behrends Cerniwey, City Manager; Paul Meyer, Electrical Engineer; Jon Morrow, Stormwater Manager; Ben Faubion, IT; Nicole Klauss, Public Information Officer; Brad Case, Parks & Rec.

Others present remotely via Zoom and approximately two members of the public.

3. APPROVAL OF MINUTES

3.A. Approve minutes - February 17th, 2022 regular meeting minutes

Committee member Barry moved to approve the minutes. **Motion approved. 5-0**

4. APPROVAL OF CONSENT AGENDA

4.A. 2021-2023 Biennial Stormwater Capacity Grant

4.B. Bid Award - Cured-In-Place Sewer Line Rehabilitation Bid Call #2022-05

4.C. Bid Call 2021-14 Dolarway Substation Power Transformer

Committee member Barry moved to approve the consent agenda. **Motion approved. 5-0**

5. CORRESPONDENCE AND CITIZEN COMMENTS ON NON-AGENDA ITEMS

No Correspondence.

6. TELECOMMUNICATIONS UTILITY DISCUSSION ITEMS

6.A. Telecommunications Issues and Updates

Ben Faubion gave an update on telecommunications.

Committee member Lillquist requested a future agenda item to discuss requiring developers put fiber conduit in new developments.

Telecommunication members are allowed to vote on telecommunication items only per ECC 1.50.040.

7. ELECTRIC, NATURAL GAS, WATER, WASTEWATER, STORMWATER UTILITY DISCUSSION ITEMS

7.A. Public Forum to Establish Water Use Efficiency Goals

Committee member Lillquist moved the committee recommend the adoption of the new water use efficiency goals to be included in the update of the water system plan. **Motion approved. 5-0**

8. INFORMATIONAL ITEMS

8.A. Carbon Monoxide Detectors

Staff informed the committee carbon monoxide detectors do not qualify for energy conservation rebates.

8.B. Late Payments - Verbal Report

Staff shared current past due account data as of February 28, 2022.

8.C. Sustainable Energy Scope Planning Discussion

City Manager, Heidi Behrends Cerniwey, presented three scope options for future sustainable energy planning.

Meghan Anderson commented that the sustainable energy planning should retire the natural gas utility.

Judy Hendricks commented about potential funding included with the Climate Commitment Act to help mitigate impacts on low-income customers.

Committee member Lillquist moved the committee make a favorable recommendation that the City proceed with an RFP for a consultant to provide a sustainability plan with a focus on meeting state energy requirements. **Motion approved. 5-0**

8.D. Public Works & Utilities Issues and Updates

Staff shared key points on departmental issues and updates.

9. NEXT MEETING

9.A. April 21st, 2022 at 3:30 pm

10. ADJOURNMENT

With no further discussion, the meeting adjourned at 5:06 pm.

Kim Bowie
Recording Secretary
Drafted: 3/21/2022
Approved:

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Appendix F

Cross-Connection Control Program

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CITY OF ELLENSBURG

WATER DIVISION

CROSS CONNECTION CONTROL- POLICY AND PROCEDURES

March 15, 2010

CITY OF ELLENSBURG

WATER DIVISION

CROSS CONNECTION CONTROL- POLICY AND PROCEDURES

January 2009

CONTENTS

(Revised: 1999, 2002 & 2009)

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INSTALLATION, INSPECTION, MAINTENANCE, AND TESTING
OF BACKFLOW ASSEMBLIES AND DEVICES ---------- **SECTION 7**

PERMIT REQUIREMENTS---------- **SECTION 8**

TESTING REQUIREMENTS---------- **SECTION 9**

BACKFLOW ASSEMBLY TESTER (BAT) REQUIREMENTS---------- **SECTION 10**

APPENDIX a) City of Ellensburg Test Report Form

b) Water Use Survey Report Form

c) WA State Dept of Health & L&I - Installation, Testing and Repair Requirements.

d) Additional- Backflow Assembly Installation & Clearance Requirements

CROSS CONNECTION AND BACKFLOW PREVENTION PROGRAM

--- SECTION 1: PURPOSE ---

To protect and maintain the bacteriological, chemical and aesthetic quality of the municipal potable water supply by the elimination and prevention of cross connections between the City of Ellensburg's potable water distribution system and other sources of water, liquids or gases for any purpose whatsoever.

GENERAL:

Except where specifically designated herein, all words used in this procedure shall carry their customary meanings. Words used in the present tense include the future, and plural included the singular: The word "shall" is always mandatory; the word "may" denotes the use of discretion in making a decision.

CROSS CONNECTION ABATEMENT:
The installation or maintenance of a cross-connection that will endanger the water quality of the potable water supply of the City of Ellensburg is prohibited. Any such cross-connection now existing or hereafter installed is hereby declared a nuisance and shall be abated. The control or elimination of cross-connections shall be in accordance with the State of Washington Administrative Code (WAC 246-290-490, WAC 296-24-12005) or subsequent revisions, together with any future manuals of standard practice pertaining to cross-connection control approved by the Director of the State of Washington, Department of Social and Health Services. The water supply shall be discontinued to any premise for failure to comply with the provisions of this section and will not be re-established until the Director approves compliance.

Service from the City of Ellensburg water supply system to any premise upon which a private water supply system is used or operated contrary to the provisions of the rules and regulations of the State Board of Health regarding public water supplies may be discontinued or refused upon order of the Director.

Furnishing of any water service shall be contingent upon the installation of a backflow prevention assembly at the water service entrance or point of use, or both when required.

By-pass arrangements, jumper connections, removable sections, swivel or change-over devices and other temporary or permanent piping through which or because of which "backflow" can or may occur, will be considered cross-connections and will not be allowed.

REFERENCES:

1) City of Ellensburg Cross-Connection Control Ordinance.
2) **2006** Uniform Plumbing Code and all subsequent revisions.
3) Department of Health (DOH) Drinking Water Regulations WAC 246-290-490, WAC 296-24-12005. (And subsequent revisions)
4) Cross-Connection Control Manual - Accepted Procedure and Practice 6th Edition - Pacific Northwest Section - American Water Works Association.
5) Manual of Cross-Connection Control-Ninth Edition, (Tenth Edition when adopted) USC Foundation for Cross-Connection Control and Hydraulic Research.
6) Cross-Connection Control Manual EPA #57019-89-007.
7) Recommended Practice for Backflow Protection and Cross Connection Control M-14 A.W.W.A
8) Washington State DOH list of 'Backflow Prevention Assemblies Approved for Installation…'

--SECTION 2: DEFINITIONS---

Water Purveyor: The entity responsible for the public water supply system from the source to the meter. The purveyor shall ensure that actual and potential cross-connections between the distribution systems in a customer's water system are eliminated or controlled by the installation of an approved backflow assembly or device commensurate with the degree of hazard.

Authority Having Jurisdiction: The local official, board, dept. or agency authorized to administer and enforce the provisions of the Uniform Plumbing Code as adopted under chapter 10.27 RCW. The Community Development Department has conveyed authority to the City's CCS regarding cross-connection control.

Director of Public Works: Shall mean the Director of Public Works, City of Ellensburg, Ellensburg, Washington. His designee may perform any task required or authorized by the "Director of Public Works" on his or her behalf.

Public Health Officer: Shall be the duly appointed Kittitas County Public Health Dept. official
A representative of the Health Department authorized to enforce state and local codes relating to public health.

Cross-Connection Specialist (CCS): Shall be a person(s) who has been trained and is certified by the State of Washington as a CCS, to carryout the City of Ellensburg's cross-connection control program. This includes the creation, implementation and enforcement of the City's Cross-Connection Policy, WAC 246-290-490 and sections of the UPC pertaining to cross connection control. The CCS shall have basic knowledge of state and local plumbing codes. The CCS shall oversee the proper installation, repair, testing and/or inspection of backflow assemblies or devices used to protect the public water supply.

Backflow Assembly Tester (BAT): Shall be a person who has received training, and is certified by the State of Washington to test backflow prevention assemblies. This person also inspects backflow assemblies, devices and air gaps for proper installation. The BAT has also been trained to submit legible, accurate and complete test report forms following each backflow test (one each to the customer and the water purveyor).

Cross-Connection: The term "cross connection" shall mean any actual or potential physical connection between the public water supply and any source of non-potable liquid, solid or gas that could contaminate the potable water supply by backflow.

Public Water Supply: The system of water supply intended or used for human consumption or other domestic use, including source, treatment, storage, transmission and distribution facilities where served by the potable water supply system.

Auxiliary Supply: Shall mean any water supply on or available to the premises other than the public water supply.

Customer: Any person, persons, firm or corporation that is furnished potable water from the public water supply through a legal service connection to the public water supply distribution system.

Water Service Entrance: The customer's water supply piping system, downstream of the City water meter where it enters the property or facility.

Industrial Fluids: Shall mean any fluid or solution, which could be chemically, biologically or otherwise contaminated or polluted in a form or concentration, which might constitute a health or plumbing hazard if introduced into a potable water supply. This may include but is not limited to all types of processed waters originating from the public water supply or auxiliary supply which may deteriorate in sanitary quality; chemicals in fluid form; plating acids and alkalies; circulated cooling waters that are chemically or biologically treated or stabilized with toxic substance; contaminated natural waters such as from wells, springs, streams or ponds.

Liquids: The term liquid shall mean any substance that flows readily but does not expand indefinitely, such as water and industrial fluids.

Air Gap Separation (A.G.): Shall mean the unobstructed vertical distance through the free atmosphere between the lowest opening from any pipe or faucet supplying water to a tank, plumbing fixture or other device and the flood level rim of the receptacle. All air gap seperations shall be at least twice the inside diameter of the supply pipe measured vertically above the flood level rim of the vessel, and will never be less than one (1) inch.

Backflow: Shall mean the undesirable reversal of flow of water or other substances through a cross connection into the public water supply system or customers potable water system.

Backpressure: Shall mean a pressure (caused by a pump, elevated tank or piping, boiler, or other means) on the consumer's side of the service connection that is greater than pressure provided by the public water supply system and which could cause backflow.

Backsiphonage: Shall mean backflow due to a reduction in system pressure in the public distribution system and/or consumers water system.

Approved Backflow Prevention Assembly: Shall mean an RPBA, RPDA, DCVA, DCDA, PVBA or SVBA of make, model and size that is approved by the WA State Dept of Health. Assemblies that appear on the current approved list developed by the University of Southern Cal. for Cross Connection Control and Hydraulic Research or other entity acceptable the department are considered approved by the department.

Atmospheric Vacuum Breaker (AVB): Shall mean a backflow prevention device that is operated by atmospheric pressure in combination with the force of gravity. The unit is so designed to work on a vertical plane only. The moving part consists of a poppet valve that must be carefully sized to slide in a guided chamber and effectively shut off the reverse flow of water when a negative pressure exists in the supply system. (Considered a non- testable *device*)

Pressure Vacuum Breaker Assembly (PVBA): Shall mean an assembly containing an independently operating internally loaded check valve and an independently operating loaded air inlet valve located on the discharge side of the check valve. The assembly is to be equipped with properly located resilient test cocks and tightly closing resilient seated shutoff valves attached to each end of the assembly

Spill-Resistant Vacuum Breaker Assembly (SVBA): Shall mean an assembly containing an independently operating internally loaded check valve and independently operating loaded air inlet valve located on the discharge side of the check valve. The assembly is to be equipped with a properly located resilient seated test cock, a properly located bleed/vent valve, and tightly closing resilient seated shutoff valves attached to each end of the assembly

Double Check Valve Assembly (DCVA): Shall mean an assembly composed of two (2) single, independently acting approved check valves, four (4) properly located test cocks and tightly closing resilient seated approved shutoff valves attached to each end of the assembly

Double Check Detector Assembly (DCDA): Operates and functions exactly like a DCVA with the addition of a factory installed bypass feature. This bypass feature is used to detect the unauthorized use of water.

Reduced Pressure Backflow Assembly (RPBA): Shall mean an assembly containing two independently acting internally loaded check valves, a differential pressure relief valve, four properly located test cocks and two isolation valves.

Reduced Pressure Detector Assembly (RPDA): Operates and functions exactly like a RPBA with the addition of a factory installed bypass feature. This bypass feature is used to detect the unauthorized use of water.

Degree of Hazard: The low or high hazard classification that shall be attached to all actual cross connections.

Health Hazard: Shall mean any condition, device, or practice in a water supply system and/or its operation that creates or may create a danger to the health and well being of a customer.

Plumbing Hazard: Shall mean a cross-connection in a customer's potable water system that may permit backsiphonage in the event of a negative pressure in the supply line.

System Hazard: Shall mean an actual or potential threat of severe damage to the physical properties of the public potable water system or the customer's potable water system or of a pollution or contamination that would have a protracted effect on the quality of the potable water in the system

Temporary Usage Connection: Any vehicle to which a tank or container is affixed for containing water and/or chemicals, materials, or any temporary use of water for construction, testing, cooling or other non-domestic purposes which are capable of imparting contamination or pollution to the public water supply through a cross-connection between such points of usage and the water supply via a fire hydrant or other temporary connection.

Thermal Expansion Water expands when heated. Generally water moves back and forth through the water meter to adjust to the increase and decrease of water volume. If the system becomes closed because a backflow assembly is installed, water heaters and plumbing may be damaged if pressure temperature relief valves malfunction.

Code Authority and Enforcement: The enforcement of this cross-connection program in the area served by the Water Department, City of Ellensburg, will be in accordance with the Uniform Plumbing Code, 2006 edition as amended by the City of Ellensburg "Water Regulations", Official Code of the City of Ellensburg and WAC 248-290-490, WAC 296-24-12005, Rules and Regulations of the State Board of Health relating to public water supplies.

General Policy: It is the intention of this policy to provide for the permanent abatement or control of all cross-connections. Where it is physically and economically unfeasible to locate or to permanently eliminate all cross-connections of the customer' water system, and when it is deemed necessary by the CCS / City personnel, there shall be installed at the service connection and/or point of use, a suitable backflow **assembly** or device commensurate with the degree of hazard to the public water supply.

--- SECTION 3: RESPONSIBILTIES---

1) City of Ellensburg-

a) The City of Ellensburg shall work to protect the health of its customers by ensuring safe and reliable drinking water using both ‘premise isolation’ and ‘in-premise’ protection methods. Our efforts will include on-going surveillance of new and existing water supply systems and facilities in order to meet City and State requirements.

2) Water Customer

a) The water customer shall be responsible for the elimination or control of actual or potential cross connections on their property through the installation, testing and maintenance of approved backflow prevention assemblies and/or devices.

b) The water customer shall be responsible to obtain the required permits and provide information, entry and access for water use surveys and inspections.

c) The water customer is responsible for notifying the CCS of assemblies or devices which the customer believes are no longer required or are inactive.

d) The water customer is responsible for providing signs at all water take-off points downstream of backflow prevention assemblies or devices.

e) The water customer is responsible for all costs associated with installing, testing and maintenance of backflow prevention assemblies and devices.

--- **SECTION 4: SURVEY/ INSPECTION PROGRAM** ---

The City of Ellensburg Water Division is required to protect the water system from contamination due to cross connections (WAC 248-290-490) and a systematic program of 'water use surveys' of all new and existing buildings and grounds is established.

The systematic program of surveys/inspections shall establish priorities on the basis of risk to public health and shall be conducted as outlined in the following section:

<u>New and Proposed Construction</u>:

1) Upon application for a building permit, the City shall require a copy of detailed plans and specifications related to the mechanical drawing(s).

2) The City shall review these plans and specifications to determine the probability of cross-connections, the availability of auxiliary water supply, the handling of substances, which, if introduced into the water supply would constitute a health, plumbing, or system hazard. If upon review it is determined that any of these conditions will exist, the City shall advise the customer of solutions to either eliminate or protect the cross-connection.

3) During the construction phase of any new building, structure, or ground installation, the City will perform an on-site water use survey. Upon completion of the survey, but prior to the establishment of a water service connection, it shall be certified in writing that a cross-connection control survey has been completed and that backflow prevention is or is not required.

4) Upon receipt of an application for a new water service, but prior to occupancy, a cross-connection water use survey shall be completed by the CCS. City officials may require that backflow prevention assemblies and/or devices be installed at the Water Service Entrance or on in-premise equipment etc. Backflow assembly testing must be completed prior to the system being put into use.

Existing Buildings, Structures and Grounds:

1) Water Use Surveys (inspection) will be performed by a City of Ellensburg CCS on facilities served by city water based on the relative hazard. The survey may include other City personnel and/ or it's consultants as deemed necessary by City staff.

2) Water Use Surveys shall proceed according to the following steps:

a) Prior to the initial water use survey the CCS will contact the customer by phone, letter or in person to explain the necessity of a cross-connection program. The CCS will discuss the owners' responsibilities/liabilities and answer questions the owners may have.

b) The CCS will make an appointment for inspection at a time agreeable to both parties involved. This may be done by telephone, mail or in person. The City may request a person knowledgeable with the customer's water system to be present at the time of inspection. The City may also request copies of any/all building, mechanical or 'as built' drawings of the building to assist them in completing the survey.

c) On the scheduled date, the CCS along with the building owner or representative (if one is assigned) will complete a physical survey of the building including the plumbing system, fixtures and equipment.

d) Upon completion of the survey the CCS will complete a Water Use Survey report form.(see appendix) The report shall include, but is not limited to the following information:

1. All required customer information contained in the heading.

2. List of all actual or potential cross-connections located on the premises and corrective actions required or recommended. The survey report may include a list of all on-site water using equipment/fixtures.

3. List all material, chemicals or other contaminating liquids used on site and/ or pumped under pressure, their use, and degree of risk.

4. List of any applicable drawings, sketches, blueprints, photographs, etc. that were used to complete the survey.

5 A summary of findings.

6. Other recommendations. (if any)

SECTION 5: CORRECTIVE ACTION & COMPLIANCE REQUIREMENTS

e) The Director of Public Works or the CCS shall prepare a letter to the customer outlining the findings of the report, the corrective action required and establishing a time frame (normally 30 days) in which corrective action(s) must be completed*. A copy of the letter and report will be sent to the customer and one copy placed in a suspense file noting the date of which the corrective action(s) must to be completed.

*If a severe health hazard exists the CCS will notify the Director of Public Works who may act to terminate the customer's water service immediately at his/her discretion.

f) On the corrective action completion date, the CCS shall take the necessary steps to confirm whether or not the corrections have been completed. (see; non-compliance)

g) Upon completion of the re-inspection, the CCS will provide a copy of the report to the Public Works Director.

h) When all required corrective actions have been completed, a copy of the report shall be placed in the CCS files.

i) Premises may be resurveyed to ensure compliance.

Non-Compliance – If the CCS determines upon completion of the second' follow up' survey that corrective actions have not been completed as required, the following actions will then be taken;

1) The customer will be sent a warning letter giving the c ustomer10 days to respond.

2) If 10 days pass and the correction(s) has not yet been completed, the City's legal department will send another warning letter listing City/ state code requirements, advising the customer that; "Failure to comply with the corrective measure will result in the termination of water service" .The customer shall have 10 days to comply with this letter.

3) If there is no response after 10 days another letter will be hand delivered if possible or delivered by certified mail, giving the customer a date for a hearing and a date for water service termination. The hearing will be held on a Thursday and water shut off will occur on the following Monday.

4) If the customer does not respond, the meter will be turned off and locked on the termination date. The service will remain off until the customer complies.

Moving or relocating backflow prevention assemblies or device:

The CCS shall be notified prior to a customer moving or replacing backflow assemblies or devices. If the customer feels that a backflow assembly or device is no longer required, or would like to place an assembly/device on an in-active status, the customer must submit a written request to do so to the City's CCS for consideration. The CCS may request that the assembly or device be removed and its supply pipes be permanently capped or removed to prohibit use.

--- SECTION 6: BACKFLOW PROTECTION OPTIONS---

The following lists have been prepared to establish a guide to the corrective measures for 'in-premise' protection or 'premise isolation' to correct or isolate actual or potential cross connections.

Code: The following are the terms and abbreviations used herein for backflow assemblies or devices that may be used to prevent or eliminate actual or potential cross connections.

Backflow Assemblies; (testable)

1. Double Check Valve Assembly	D.C.V.A*
2. Double Check Detector Assembly	D.C.D.A.
3. Pressure Vacuum Breaker Assembly	P.V.B.A***
4. Spill Resistant Vacuum Breaker Assembly	S.V.B.A
5. Reduced Pressure Backflow Assembly	R.P.B.A**
6. Reduced Pressure Detector Assembly	R.P.D.A

*D.C.D.A's can be substituted where D.C.V.A's are required.
**R.P.D.A's can be substituted where R.P.B.A's are required
***S.V.B.A's can be substituted where P.V.B.A's are required.

Backflow Devices; (non-testable)

1. Air Gap AG

NOTE: Air Gaps must be appropriately sized and be permanent, non-moveable.

2. Atmospheric Vacuum Breaker AVB

NOTE: All threaded (add on type) A.V.B.'s must be non removable and A.S.S.E certified.

Terms;

(Minimum) Backflow Protection Options B.P.Options
Not Allowed **N.A.**

The following list summarizes various types of actual or potential cross-connections which may be anticipated in various facilities, buildings, equipment etc. and the required corrective measures.

I MORGUES, HOSPITALS, MED.CLINICS, CONVALESCENT AND RETIREMENT HOMES

		B.P.Options
1.	Autopsy, operating rooms and laboratories	
	A. Aspirators	AG or AVB
	B. Flushing floor drains	AG or AVB
	C. Wash-u sinks	AG
	D. Stills	AG or RPBA
	E. Sterilizer	AG or AVB
	F. Toilets or bidets	AG or AVB
	G. Wash-down or flushing hoses	AVB
	H. Pipette washers	AG or AVB
2.	Bed pan washers	AG or AVB
3.	Toilets, urinals or bidets	AG or AVB
4.	Fire sprinkler drains	AG *
5.	Water operated equipment such as elevators, presses or other similar equipment	AG or AVB
6.	Drinking fountains required angle stream with mouth guard	AG
7.	Orthopedic baths	AG or AVB
8.	Colon irrigators or douche attachment	AG or AVB
9.	Water used for heating or cooling agent	AG or PBA
10.	Mop, service or slop sink with hose faucet	AVB
11.	Compound boiler	AG or RPBA
12.	Hose faucets in areas where possible contamination may exist.	AVB
13.	Foot bath	AG
14.	Sits bath	A.G
15.	Bath tub	A.G
16.	Bathtub with hose attachment	AVB
17.	Potable waterline directly connected to sewer	NA

II. INDUSTRIAL OR COMMERCIAL INSTALLATIONS:

1.	Dip tanks or vats	AG or AVB
2.	Water operated presses, elevators, or other similar equipment	AG or AVB
3.	Water used for cooling or heating agent	AG or RPBA
4.	Fire sprinkler drains	AG *
5.	Toilets or urinals	AG or AVB
6a.	Sinks and basins	AG
b.	Sink faucet with hose connection.	AVB
7.	Hose faucets in areas where a hose could possibly be left submerged	AG or AVB
8.	Dual water supply source	AG
9.	Pump primers	AVB
10.	Flushing floor drains	AG or AVB
11.	Potable water line directly connected to sewer	NA
12.	Water operated ejectors	RPBA
13.	Drinking fountains that require angle stream with mouth guard	AG
14.	Foamite stations/quick connection	RPBA
15.	Hose bibs/ water supply outlets located in pits, tanks, trenches or other locations that may become flooded with contaminated liquids etc.	AVB
16.	Compound boilers	AG or RPBA
17.	Commercial car washing installations with cross connection	RPBA
18.	Shampoo basin hose rinse	AVB
19.	Soap and Chemical portioned/injector	AG or RPBA

* No antifreeze permitted in fire sprinkler system.

III **YARD SRINKLER/DRIP IRRIGATION SYSTEMS USING CITY WATER** B.P Options

1. Sprinkler systems* PVBA or DCVA
2. Sprinkler systems supplied with potable water and interconnected with other sources of non- potable water such as ditch water, ponds, lakes or creeks etc. AG or RPBA

3. Sprinkler systems containing fungicides, pesticides, soil conditioners or any other chemicals or additives NA

4. Hose faucet/bibs (installed above grade) AVB
5. Hose faucet/bibs (installed below grade) AVB or DCVA

*Note: All sprinkler and/or drip irrigation systems containing *any* buried or below grade conduits, pipes, hoses, tubes etc. used for carrying water must be protected with one of the following backflow assemblies PVBA or DCVA

IV EDUCATIONAL INSTITUTIONS

1. Sink/Lavatory AG or AVB
2. Sink with threaded faucet AVB
3. Dishwashing machine AG or AVB
4. Garbage disposers AG or AVB

6. Toilets and urinals AG or AVB or PVB.
7a. Drinking fountains require angle stream and mouth guard AG.
b. Drinking fountains with water supply in waste pipe NA
8. Fire sprinkler drains * AG
9. Compound boilers AG or RPBA
10. Hose faucets/bibs AVB

*No antifreeze permitted in fire sprinkler system

V FAMILY RESIDENTIAL FACILITIES B.P Options

1. Toilets and Bidets AG or AVB
2. Sink/Lavatory AG
3. Bathtubs AG
Bathtubs with hose attachments AVB
4. Fire sprinkler drains* AG
5. Compound boilers AG or RPBA
6. Mop service, or slop sink with hose faucets AVB
7. Drinking fountains require angle stream with a mouth guard AG
8. Swimming pool water supply AG or RPBA

VI PLACES OF PUBLIC ASSEMBLY

1. Toilets AG or AVB
2. Lavatory/sinks AG
3. Bathtubs AG
4. Swimming pool water supply AG or RPBA
5. Fire Sprinkler drains * AG
6. Mop, service or slop sinks with hose faucet AVB
7a. Drinking fountains require angle stream with mouth guard AG
b. Drinking fountain with water supply in waste pipe NA

Compound boilers AG or RPBA.

VI continued…

9. Swimming pool water supply ____ AG or RPBA
10. Mop, service, or slop sinks with hose faucets ____ AVB
11. Hose faucet/bibs ____ AVB

VII OFFICE BUILDINGS

1. Toilets or bidets ____ AG or AVB
2. Lavatories ____ AG
3a. Drinking fountains require angle stream with mouth guard ____ AG
b. Drinking fountain with water supply in waste pipe ____ NA
4. Bathtubs ____ AG
5. Fire sprinkler drains ____ AG
6. Compound boilers ____ AG or RPBA.
7a. Mop, service, or slop sinks with hose faucets ____ AVB
b. Threaded connections/ faucets where possible cross connections exist ____ AVB
8. Medical equipment with potable water supply ____ AG or RPBA.
9. Potable water connection to film developing tanks ____ AG or RPBA
10. Water operated presses, elevators, or other similar equipment ____ AG or RPBA
.

VIII FIRE PROTECTION SYSTEMS

1. High Hazard Fire Systems. Foam filled, chemicals, antifreeze or air pressurized ____ AG or RPBA
2. Low Hazard Fire Systems. Standpipe connection ____ DCDA
3. Residential Fire Systems. Potable water with approved water line material only. ____ follow code

Backflow prevention assemblies may be required at the' water service entrance' where, in the opinion of the Director of Public Works and/ or the Community Development Dept. it is determined that the municipal water supply system should be isolated due to an actual or potential cross-connection in the customer's piping system. The following list is a guide to the degree of protection required for a number of commercial and industrial establishments:

The following methods of cross-connection control are considered minimum protection at the service connection: All new commercial buildings or buildings , industrial or multifamily residential facilities as well as existing undergoing major remodeling and/or additions shall have a DCVA installed at the water service entrance. This may include *existing* buildings/facilities that will undergo a 'change of use'

The public water supply to a premise having an auxiliary water supply with no known cross-connections may be required to install an RPBA at the service connection at the City's discretion if a high health hazard is involved

The public water supply to a premises on which is handled a substance that is objectionable (not a health hazard) in a manner constituting a potential cross-connection shall require an DCVA at the water service entrance.

The public water supply to a premises on which there is an auxiliary water supply and having internal cross-connections that are not correctable or intricate plumbing arrangements, which make it impractical to ascertain whether or not cross-connections exist, shall require an RPBA at the water service entrance.

The public water supply to a premise on which material dangerous to health or toxic substances are handled shall have installed an RPBA at the water service entrance.

The public water supply to a premise where entry is restricted so that inspection for cross-connection cannot be made with sufficient frequency or at sufficient short notice to assure that cross-connections do not exist shall have installed an RPBA at the water service entrance.

The public water supply to a premise on which any substance is handled under pressure so as to permit entry into the public water supply, or where a cross-connection could reasonably be expected to occur, shall have installed an RPBA at the water service entrance.

The public water supply to a premise having a repeated history of cross-connections being established or re-established, shall have installed an RPBA at the water service entrance.

Existing facilities/plants requiring premise isolation at the Water Service Entrance (not a complete list)

Plant or Facility	B.P Option's
1. Aircraft and Missile Plants	AG or RPBA
2. Automotive Plants	AG or RPBA
3. Auxiliary Water Systems	
a. Unapproved source	AG or RPBA.
b. Approved but not chlorinated source	DCVA
c. Approved chlorinated source	DCVA
4. Beverage, Bottling Plants and Breweries	
a. With steam boiler	AG or RPBA
b. Without steam boiler	AG or RPBA
5. Buildings or other structures	
a. Health hazard exist	AG or RPBA
b. No health hazard exist	none required
6. Canneries, packing houses and rendering plants	AG or RPBA
7. Chemical Plants	AG or RPBA
8. Chemically Contaminated Water System	AG or RPBA.
9. Dairies and Cold Storage Plants	AG or RPBA
10. Film Laboratories	AG or RPBA
12. Nursing Homes and Convalescent Centers	AG or RPBA
13. Hospitals, Medical Buildings, Sanitariums, Morgues, Mortuaries, Autopsy Facilities	AG or RPBA
14. Premises having irrigation systems using city water and with chemical addition, such as parks, playgrounds, cemeteries, golf courses, schools, estates, ranches, etc.	AG or RPBA
15. Laundries and Dye Works	AG or RPBA
16. Metal Manufacturing, Cleaning, Processing and Fabricating plants	
a. Health hazard exist	AG or RPBA
b. No health hazard	DCVA
17. Oil and Gas Production - Storage or Transmission facilities	AG or RPBA
18. Paper and Paper Products Plants	AG or RPBA
19. Power Generation Plant	AG or RPBA
20. Plating Plants	AG or RPBA
21. Facilities containing radioactive materials or substances	AG or RPBA
22. Restricted, Classified or other Closed facilities	AG or RPBA
23. Sand and Gravel Plants	AG or RPBA
24. Schools and Colleges	DCVA or RPBA
25. Sewage and Storm Drain Facilities	AG or RPBA
26. Waterfront Facilities and Industries	
a. Health hazard exist	AG or RPBA
b. No health hazard	AG or RPBA
27. Recreational vehicle parks	DCVA
28. Recreational vehicle dump sites with city water supply	AG or RPBA
29. Mobile food/beverage carts using city water	DCVA

SECTION 7: Installation, Inspection, Maintenance and Testing of Backflow Prevention Assemblies/Devices

General Installation Requirements:
A. Backflow assemblies or devices must be installed as specified in the latest editions of the Uniform Plumbing Code, AWWA and the City's CCC manual(most restrictive applies) and then inspected and approved by the City's CCS following its installation. The term "approved" shall mean an assembly that has been manufactured in full conformance with the standards established by the American Water Works Association. Each model must have passed the laboratory and field performance specifications of the Foundation for Cross-Connection Control and Hydraulic Research of the University of Southern California. All new or replacement assemblies and devices must be listed in the Washington State Department of Health, Drinking Water Programs approved assemblies list.(latest edition including revisions)

B. Assemblies and devices shall be easily accessible for *in-line* testing, maintenance and repair with threaded or bolt on style unions installed(see sec. 609.5 -2006 UPC)

C. Assemblies and devices shall be protected against freezing, flooding and mechanical damage including harmful, toxic fumes etc.

D. RPBA's shall be located in an area where water spillage is not objectionable. A drain capable of handling the maximum flow from the relief valve shall be provided when the assembly is located within a building.

PVB- SPVB-DCVA-DCDA-RPBA-RPDA: See appendix for installation clearance requirements.

Atmospheric Vacuum Breakers (AVB) Installation Requirements (see below)

Fixtures or Equipment	Installation Requirements
Aspirators and ejectors	C-L at least 6" above flood level of receptacle served.
Dental units	On models without built in vacuum breakers C-L at least 6" above flood rim of bowl.
Dishwashing machines	C-L at least 6" above flood level of machine. Install on both hot and cold water supply lines.
Flushometers (closet & urinal)	C-L at least 6" top of fixture supply.
Garbage can cleaning machine	C-L at least 6" above flood level of machine. Install on both hot and cold water supply lines.
Hose outlets	C-L at least 6" above highest point on hose line.
Laundry machines	C-L at least 6" above flood level of machine. Install on both hot and cold water supply lines.
Lawn sprinklers (existing)	C-L at least 6" above highest all downstream piping.
Steam tables	C-L at least 6" above flood level.
Tanks and vats	C-L at least 6" above flood level rim.
Trough urinals	C-L at least 30" above perforated flush pipe.
Flush tanks	Equipment with approved ball cock where ball cocks touch tank water, equipment with vacuum breaker must be at least 1" above overflow outlets. Where bullock does not touch tank water, install bullock outlet at least 1" above overflow outlet or provide vacuum breaker as specified
Hose bibs (where aspirators or ejectors could be connected)	C-L at least 6" above flood level of receptacle served.

C-L, critical level is defined as the level to which the backflow preventor (vacuum breaker) may be submerged before backflow will occur The bottom of the assembly or device shall be taken as the C-L.

Testing and Maintenance:

a. Since there are a large number of AVB's installed in the City a continuous program of inspection is determined to not be economically feasible. Field inspection shall be monitored or completed by the CCS or a City approved Backflow Assembly Tester (BAT). Visual inspections for proper installation etc. shall be done on a regular basis.

b. When a defective or damaged AVB is reported and/or discovered the owner shall have the device repaired or replaced as soon as possible. Not to exceed 10 days.

SECTION 8: PERMIT REQUIREMENTS

Prior to installing a backflow assembly or device in the City of Ellensburg, you must first obtain a permit. With the exception of assemblies installed on Fire Protection Systems*

all permits for in-premise and premise isolation protection can be obtained from the Public Works Dept. located on the 2nd floor of City hall at: 501 N. Anderson Street. *Fire Protection system backflow assemblies are currently permitted thru the Fire Dept. located at 102 N. Pearl St.

After all permits have been issued, installation work may begin. Please note that all installation or repairs *inside* a building must be performed by the building owner, his/her employee or a licensed/bonded plumber. Backflow assembly/device repairs *inside* a building may also be performed by a BAT who also has a current WA State Backflow Specialty Certificate. After the installation work is complete,

and before its use, the assembly or device must be inspected by City's CCS. After the installation has been approved, the assembly must be tested/passed by a City Approved Backflow Assembly Tester (BAT). Copies of the original completed test report must be forwarded to the City's CCS* and the customer. *The customer is responsible for all cost associated with the installation, testing, and maintenance of backflow assemblies or devices.*

SECTION 9: TESTING REQUIREMENTS

a) All backflow assemblies connected to City water shall be tested/passed at least annually to ensure proper operation. Irrigation system assemblies must be tested by June 30th.

b) Backflow assemblies shall also be tested/passed after being moved relocated or immediately following repairs or a backflow incident. The CCS may require assembly testing following assembly freeze/thaw events.

c) If an assembly fails any part of the test, it will be placed in suspense until all repairs and retesting have been completed.

d) Immediately following a test failure, the assembly must be repaired and retested/passed. If repair parts are unavailable the assembly must be replaced and retested/passed.

Note: The City CCS/BAT reserves the right to be present when a backflow assembly or device is being installed, tested or repaired. The City CCS/ BAT may also choose to test the assembly using City owned test equipment at no additional cost to the customer.

Testing notification for existing installations:

a. The CCS shall notify the customer in writing thirty (30) days in advance of test due dates and requirements when possible.

b. The customer is required to notify the CCS if the address/contact information has changed, or if problems exist that may inhibit compliance.

SECTION 10: BACKFLOW ASSEMBLY TESTER REQUIREMENTS

a. All testing and/or inspection of backflow assemblies or devices connected to or supplied by City water shall be completed by a City Approved BAT.

b. BAT's must be on to the City's Approved Backflow Assembly Tester List *prior* to testing or inspection of backflow assemblies or devices. In order have the business name added to the list, BAT's are required to submit the following, *current* information:

1) BAT certification cards. (all)
2) Test kit calibration report. (all)
3) L&I Registration (including Specialty Certificate, if applicable)

4) City of Ellensburg Business License
5) Certificate of Liability Insurance

Note: The City Approved BAT List is subject to change and therefore the City CCS may have the only current, 'up to date' version of the list on file at any time. Anyone that would like to receive a copy of the list should contact the CCS during regular business hours.

c. BAT's shall receive permission from the customer prior to every test/inspection/repair. After inspections or testing have been completed, the BAT is then required to fill out a test report form. Copies of the original report must then be forwarded to the CCS and the customer. The time period to submit the report form shall not exceed seven (7) days from date of test.

- Test report forms must be *pre approved* by the City of Ellensburg's CCS before use.*

- Test reports must be *neat, legible* and *complete* using all applicable fields.*

*Test reports not meeting the above listed requirements may not be accepted. The CCS shall inform the customer and/or the BAT if the test report is non-compliant.

B.A.T non-compliance-

The City of Ellensburg reserves the right to temporarily suspend or remove **B**ackflow **A**ssembly **T**esters from the City's Approved List, and will not be eligible to test pending an appeal. BAT's may be suspended or permanently removed from the list for failure to conform to either the WA State Dept. of Heath or City requirements. The City's CCS shall maintain a detailed record of serious or repeat infraction(s) and submit copies of these records to the Director of Public Works. The Director shall review the findings and determine if a BAT should be removed or suspended from the list.*

*If a BAT is removed or suspended from the list, he/she will be notified by certified mail. BAT's that are removed or suspended may appeal to the Director for re-instatement. Appeals must be submitted in writing for consideration.

BACKFLOW ASSEMBLY INSTALLATION & CLEARANCE REQUIREMENTS

DCVA & DCDA

a) When installed outside of a building, assemblies shall be installed in a well drained, *below* ground valve box or in an *above* ground valve box that is protected against freezing, flooding, contamination etc.
b) The tie-in connection and valve box(s) shall be installed with a minimum separation distance of at least three (3') feet from the City's water meter/valve box(s)
c) A union shall be installed on each end of the assembly,**(** inside of the valve box, **when applicable).**
d) A minimum clearance of at least three (3) inches shall be maintained from the outside edge of each union, measured from the inside face of the valve box.
e) Additional installation clearances are as follows:

- 12" minimum clearance below the assembly (6" if installed above a 12" deep gravel base.)
- 24" minimum clearance* above the assembly.
- 3" minimum clearance from the back side of the assembly to any surface or obstruction.
- 24" minimum clearance* from the front side of the assembly to the any surface or obstruction.

* Unless assembly is *centered* in large valve box with a removable lid. The distance from top of assembly to the top of valve box and/or finish grade shall not exceed sixteen (16") inches.)

RPBA & RPDA

a) When installed outside of building, assemblies may be installed in a box/vault below grade and shall be 'bore sight' drained. Above and below grade box/vault installations shall include provisions to protect against freezing, flooding, toxic fumes, contamination etc.
b) Same as 'b' listed above.
c) Same as 'c' listed above.
d) Same as 'd ' listed above.
e) Same as 'e' listed above except that a distance of twelve (12") inches shall always be maintained between the lowest portion of relief valve and grade.

PVBA & SVBA

a) Must be installed above ground and the center line a minimum of twelve (12') inches above the highest downstream piping or outlet. The assembly must be protected from freezing, flooding, toxic fumes contamination etc.
b) Same as 'b' listed above.
c) Same as 'c' listed above (without valve box).
d) Additional installation clearance requirements are as follows:

- 24"- minimum clearance above the assembly
- 3" - minimum clearance from the back side of the assembly to any surface or obstruction.
- 24"- minimum clearance from the front side of the assembly to any surface or obstruction.

Note: Different requirements may apply for assemblies that are 2 1/2" and larger.

Recommendations:

- An additional shut off valve should be installed on each side of the assembly to allow for maintenance

and repairs without having to shut down and/or drain the entire system for maintenance.

- Landscape irrigation system assemblies should include a winterization 'blow out(s)'. Note: Never 'blow out' thru any part of a backflow assembly or device as this may damage internal working components causing assembly failure and/ or contamination to enter the water supply.

- Install 'tracer wire' above all buried, customer owned, water lines installed downstream of the meter.

List of Devices Tested
for Period between 01-Jan-2021 and 31-Dec-2021

Facility Name	Facility Address	Device Location	Serial No	Hazard Type	Protection Type	Test Date	Pass/Fail
109 North Pine LLC	109 N Pine St, Ellensburg	NW corner of building /outside next to alley	37094		In-Premises Protection	14-May-21	Pass
		Utility room	199524-3728		Premises Isolation	18-Nov-21	Pass
		Utility room w/water heater	541456-3731		Premises Isolation	18-Nov-21	Pass
1202 Broooklane LLC	1202 Brooklane, Ellensburg	west side of house	644353		In-Premises Protection	27-May-21	Pass
		west side of house	644353		In-Premises Protection	27-May-21	Pass
1883 Coffee Co	507 W University WAY, Ellensburg	north side/inside backroom/north wall	3351997		Premises Isolation	22-Sep-21	Pass
19th Ave Townhouses	1021 E 19th Ave, Ellensburg	S side near meter and mail box/ next to sidewalk	614369		In-Premises Protection	20-May-21	Pass
2278	307 W 13th Ave, Ellensburg	west side of house	A713005		In-Premises Protection	01-Jun-21	Pass
4441 26th Ave W LLC	1003 N Willow St, Ellensburg	NW corner of building	192537	Irrigation w/o Chemicals	In-Premises Protection	19-Apr-21	Pass
	1005 N Willow St, Ellensburg	east side of bldg.	A582598		In-Premises Protection	19-Apr-21	Pass
706 E Hobert Avenue LLC	706 E Hobert Ave, Ellensburg	Center of front yard	A575835		In-Premises Protection	16-Jun-21	Pass
Aaron Montgomery	904 E 2nd Ave, Ellensburg	backyard on east fence	324206	Irrigation w/o Chemicals	In-Premises Protection	12-May-21	Pass
Aaron Murdock	1502 E Spokane Ave, Ellensburg	West side of house	A160351	Irrigation w/o Chemicals	In-Premises Protection	10-May-21	Pass
Aaron Oleary	807 E 5th Ave, Ellensburg	NE corner of house	998410		In-Premises Protection	15-Jun-21	Pass
Acree Revocable Trust	613 W 16th Ave, Ellensburg	East side of house	A75121	Irrigation w/o Chemicals	In-Premises Protection	06-May-21	Pass
Adam Alldredge	2214 Abbey Glen Ct, Ellensburg	north side of house in back yard			47058 In-Premises Protection	15-Jun-21	Pass

List of Devices Tested
for Period between 01-Jan-2021 and 31-Dec-2021

Facility Name	Facility Address	Device Location	Serial No	Hazard Type	Protection Type	Test Date	Pass/Fail
Adam Parker	1705 E Plumridge Ave, Ellensburg	front of house/south side	3066343		In-Premises Protection	10-May-21	Pass
Adam Schneider	2503 N Lilac Wy, Ellensburg	SW corner front yard	1HA84429		In-Premises Protection	10-Jun-21	Pass
Adam Torem	1100 S Rosewood Dr, Ellensburg	SE Corner of House	C13612525		In-Premises Protection	17-May-21	Pass
Adschatz LLC	1007 Chamith Ln., Ellensburg	SE corner of front yard	09853		In-Premises Protection	22-May-21	Pass
Airport Safe Storage	700 E Falcon, Ellensburg	near water meter on Falcon Rd 75' east of hydrant	A92747		Premises Isolation	08-Jul-21	Pass
Al Stone	1202 E Washington Ave, Ellensburg	east side of house/inside gate	398540		In-Premises Protection	27-Apr-21	Pass
Alan Anderson	1103 E 4th Ave, Ellensburg	NW corner of house	CB611817	Irrigation w/o Chemicals	In-Premises Protection	15-Apr-21	Pass
Alan Crankovich	1314 Radio Rd, Ellensburg	north side/near front porch	19216	Irrigation w/o Chemicals	In-Premises Protection	23-Apr-21	Pass
Alan Erfle	1101 E Umptanum, Ellensburg	East side of house under lavender in rocks	A279625		In-Premises Protection	06-May-21	Pass
Alan T. Brown	312 W 9th Ave #2, Ellensburg	East back yard of unit #2	409930	Irrigation w/o Chemicals	In-Premises Protection	27-May-21	Pass
Alana Guinn	1108 Franklin St, Ellensburg	front yard by meter	33456	Irrigation w/o Chemicals	In-Premises Protection	04-May-21	Pass
Alana Savoian	1007 N B St, Ellensburg	in alley by water meter	24152	Irrigation w/o Chemicals	In-Premises Protection	01-Jun-21	Pass
Albert Miller	715 E 4th AV, Ellensburg	Crawl space at north of house	12879		In-Premises Protection	26-May-21	Pass
Alder Terrace Apartments	1900 N Alder St #1, Ellensburg	Between units 39 & 40	4798531	Irrigation w/o Chemicals	In-Premises Protection	08-Jun-21	Pass
Alexandra Morgenstern	2412 N Delphine St, Ellensburg	south side of house/back yard walkway	HB13727		In-Premises Protection	03-Aug-21	Pass
Alexandrea Tonzi	305 W Indiana DR, Ellensburg	Southwest corner of property	A913126-3702		In-Premises Protection	19-May-21	Pass

List of Devices Tested
for Period between 01-Jan-2021 and 31-Dec-2021

Facility Name	Facility Address	Device Location	Serial No	Hazard Type	Protection Type	Test Date	Pass/Fail
Alexis Leduc	605 E 1st Ave, Ellensburg	North side back porch	51950		In-Premises Protection	26-May-21	Pass
Alfredo Cordero	608 N Kittitas St, Ellensburg	South side next to house	A772446	Irrigation w/o Chemicals	In-Premises Protection	19-May-21	Pass
Alicia Miller	1106 E 3rd Ave, Ellensburg	backyard by fence	525595	Irrigation w/o Chemicals	In-Premises Protection	05-Jun-21	Pass
Alison Alwin	207 N Sampson St, Ellensburg	east side of back yard	23219	Irrigation w/o Chemicals	In-Premises Protection	17-Aug-21	Pass
Allan Engdahl	1100 S Rosewood Dr, Ellensburg	Southwest side yard	T28184		In-Premises Protection	04-May-21	Pass
Allen Faltus	1016 Craig Ave, Ellensburg	NE side of lawn/near stop sign	T399765	Irrigation w/o Chemicals	In-Premises Protection	15-Jul-21	Pass
Allison Orejudos	1704 E Plumridge Ave, Ellensburg	North side of house/east of stairs			A063598 In-Premises Protection	10-May-21 Pass	
Amy Giamberandini	1100 S Rosewood Dr, Ellensburg	front yard	995315	Irrigation w/o Chemicals	In-Premises Protection	01-Jul-21	Fail/Pass
Amy Hoover	1604 Bluegrass Ln, Ellensburg	NW corner behind fence/gate	716999	Irrigation w/o Chemicals	In-Premises Protection	02-Jun-21	Pass
Amy Libenow	805 White Birch Ave, Ellensburg		SW corner of lot		252001 In-Premises Protection	08-Jun-21 Pass	
Premises	806 White Birch Ave, Ellensburg 08-Jun-21		NW side by meter		AK9926 Irrigation w/o Chemicals Protection	In- Pass	
Anderson Building	116 W 3rd Ave, Ellensburg	Fire riser room enter from alley	SK0462-3668		Dedicated Fire Line	07-Feb-21	Pass
		Fire riser room enter from alley	54243-3668B		Dedicated Fire Line	07-Feb-21	Pass
		South wall of basement	055445-3660		Premises Isolation	07-Feb-21	Pass
		South wall of basement	10015-3659		Premises Isolation	07-Feb-21	Pass
Andrea Lynn Bannister	2211 N Abbey Glen Ct, Ellensburg	north outside wall/back yard	G047648		In-Premises Protection	02-Jun-21	Pass

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Facility Name	Facility Address	Device Location	Serial No	Hazard Type	Protection Type	Test Date	Pass/Fail
Andreas Bohman	1008 Craig Ave, Ellensburg	NE corner of back yard	HB555223	Irrigation w/o Chemicals	In-Premises Protection	05-May-21	Pass
Andreis Dimbirs	801 E 3rd Ave, Ellensburg	W side of house/backyard	125391	Irrigation w/o Chemicals	In-Premises Protection	05-May-21	Pass
		W side of house/backyard	125391	Irrigation w/o Chemicals	In-Premises Protection	05-May-21	Pass
Andrew Caveness	1611 E Hobert Ave, Ellensburg	east side/ next to house	A050160		In-Premises Protection	05-Jun-21	Pass
Andrew Clarke	408 S Anderson St, Ellensburg	east side of house/ near back door	23227		In-Premises Protection	11-Jun-21	Pass
Andrew Dimera	1024 E Capitol AV, Ellensburg	60' southwest of house	A917471		In-Premises Protection	20-Jul-21	Pass
Andrew Hall	1509 Bluegrass Ln, Ellensburg	N side of house	708296	Irrigation w/o Chemicals	In-Premises Protection	03-Jun-21	Pass
Andrew Hatlestad	305 E 3rd Ave, Ellensburg	basement	282207	Irrigation w/o Chemicals	In-Premises Protection	27-Apr-21	Pass
	610 N Pine, Ellensburg	610 N Pine in basement	26501	Irrigation w/o Chemicals	In-Premises Protection	27-Apr-21	Pass
Andrew Hattlestad	601 E 3rd Ave, Ellensburg	east side of house	35158	Irrigation w/o Chemicals	In-Premises Protection	27-Apr-21	Pass
Andrew Larson Pass	1701 E Spokane AV, Ellensburg		12' north of SW corner of house		A640653	In-Premises Protection	10-May-21
Andy Arnold	2213 N Spar Ln, Ellensburg	front yard/near meter	293180		In-Premises Protection	26-Aug-21	Pass
Ang Properties LLC	401 S Anderson St, Ellensburg	back yard /south side behind garage	233906-0240		In-Premises Protection	29-Jun-21	Pass
Angela Thomassen Pass	1608 E Spokane AV, Ellensburg		10'south of northwest corner 3510		A640456-Protection	In-Premises	04-Aug-21
Ann Marie Bergstrom	1603 Bonnie Ln, Ellensburg	front flower bed/ SE corner of house	127981	Irrigation w/o Chemicals	In-Premises Protection	11-Jun-21	Pass
Ann Phillips	414 W 9th Ave, Ellensburg	in front of house/south side by meter	45824		In-Premises Protection	01-Jun-21	Pass

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Facility Name	Facility Address	Device Location	Serial No	Hazard Type	Protection Type	Test Date	Pass/Fail
Ann Phillips	603 E 6th Ave, Ellensburg	South side under house	37246		In-Premises Protection	25-May-21	Pass
Ann Young	908 E 1st Ave, Ellensburg	S side of house	39117	Irrigation w/o Chemicals	In-Premises Protection	15-Apr-21	Pass
Anna Kuwada Premises	600 W Ridgeview Ln, Ellensburg 04-Jun-21	Pass	E side of house /backyard		1HA15047 Chemicals	Irrigation w/o Protection	In-
Anna Parr	1108 E 1st Ave, Ellensburg	back yard/south side/ near alley	101128	Irrigation w/o Chemicals	In-Premises Protection	02-Jul-21	Pass
Anne Egger	108 N Sampson St, Ellensburg	east side backyard/close to alley	12884		In-Premises Protection	15-Jul-21	Pass
Anne Miller	1120 E Hobert Ave, Ellensburg	front yard/in bushes	729635	Irrigation w/o Chemicals	In-Premises Protection	19-May-21	Pass
Anthony Alires	1205 Vuecrest Ave, Ellensburg	NE corner	8088121		In-Premises Protection	19-Jul-21	Pass
Anthony Auffray	100 Courtney Ct, Ellensburg	NW corner of proeprty	W197742		In-Premises Protection	08-Sep-21	Pass
Anthony Clayton	105 W 10th Ave, Ellensburg	NW corner/backyard	A877726	Irrigation w/o Chemicals	In-Premises Protection	26-May-21	Fail/Pass
Anthony Cook	1713 Ohio St, Ellensburg	East side of back yard	33426	Irrigation w/o Chemicals	In-Premises Protection	14-May-21	Pass
Antonio Padilla	2307 N Ellington St, Ellensburg	front yard S of deck	211718	Irrigation w/o Chemicals	In-Premises Protection	25-May-21	Pass
Anytime Fitness	2305 W Dolarway Rd, Ellensburg	SE mech room /above hot water tank	2895891		Premises Isolation	07-Dec-21	Pass
		W side middle of building	3782896		In-Premises Protection	17-May-21	Pass
App D Legg	1108 E Hobert Ave, Ellensburg	front yard	592472	Irrigation w/o Chemicals	In-Premises Protection	19-Apr-21	Pass
Arby's Restaurant	1404 S Canyon Rd, Ellensburg	next to drive up window/ beverage machine	121644	Beverage Dispenser with CO2	In-Premises Protection	24-Jun-21	Pass
		south of driveway entrance/near meter/base of shrubs	024260	Irrigation w/o Chemicals	Premises Isolation	24-Jun-21	Pass

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Facility Name	Facility Address	Device Location	Serial No	Hazard Type	Protection Type	Test Date	Pass/Fail
Arby's Restaurant	1404 S Canyon Rd, Ellensburg	Southwest lawn	T11599		In-Premises Protection	24-Jun-21	Pass
Aric Moss Premises	804 White Birch Ave, Ellensburg 07-Apr-21	Pass	NW corner of front yard by meter	Irrigation w/o Chemicals	158817 In-Premises Protection		
Arlo Evasick Pass	1601 E Spokane AV, Ellensburg		20'south of northeast corner of house		A652709-3519 In-Premises Protection		20-Aug-21
Arnold Rohde	1110 E 1st Ave, Ellensburg	south side of house/near sidewalk	35395		In-Premises Protection	12-Jul-21	Pass
Arthur & Joan Davenport	1508 N Bluegrass Ln, Ellensburg	NW corner /garage	688794	Irrigation w/o Chemicals	In-Premises Protection	02-Jun-21	Pass
Aspen Grove	1201 S Chestnut St, City of Ellensburg	Beside front door	T192703		In-Premises Protection	06-Jul-21	Pass
		Crawl space acces box wall. Center of north yard	A282941		In-Premises Protection	06-Jul-21	Pass
		East side of house	CB874420		In-Premises Protection	06-Jul-21	Pass
	1201 S Chestnut St, Ellensburg	east side of house /near crawl space access	537785		In-Premises Protection	06-Jul-21	Pass
		east side of house by crawl space access	CB874429		In-Premises Protection	06-Jul-21	Pass
Aspen Grove /Landscape Fail/Pass		between 300 and 311 /center of park by mail boxes			682614 In-Premises Protection	06-Jul-21	
Aspen Grove/Office Pass		South side of house through gate			097979 In-Premises Protection	06-Jul-21	
Astro Express Mart	1703 S Canyon Rd, Ellensburg	Maintenance room under wash sink, east wall	016554		Premises Isolation	11-Jan-21	Pass
		Under sink east side of building	46872		In-Premises Protection	11-Jan-21	Pass
AT&T-Direct TV	1306 W Dolarway Rd, Ellensburg	North side of property/ inside fence/ in gravel area by meter	329865		In-Premises Protection	24-Jun-21	Pass
		south side pump room /north wall	243499		In-Premises Protection	24-Jun-21	Pass

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Facility Name	Facility Address	Device Location	Serial No	Hazard Type	Protection Type	Test Date	Pass/Fail
AT&T-Direct TV	1306 W Dolarway Rd, Ellensburg	south side pump room/ north wall	243511		In-Premises Protection	24-Jun-21	Pass
		storage/fire suppression room north wall	W96663	Fire Dept. Connection	Dedicated Fire Line	24-Jun-21	Pass
		storage/fire suppression room north wall	W95757	Fire Dept. Connection	Dedicated Fire Line	24-Jun-21	Pass
Auto Spa	210 S Main St, Ellensburg	SW mechanical room /SW wall	298129		Premises Isolation	17-May-21	Fail/Pass
	311 S Water St, Ellensburg	NW corner of mech room	023870	Irrigation w/o Chemicals	In-Premises Protection	17-May-21	Pass
		NW corner of mech room	283683	Make up water	In-Premises Protection	17-May-21	Pass
		NW corner of mech room	155240	Premises Isolation	Premises Isolation	17-May-21	Pass
Auto Zone	502 S Main St, Ellensburg	NE corner of building above janitors sink	A29786		Premises Isolation	23-Feb-21	Pass
Avanta Dental	306 S Main St Suite #1, Ellensburg	mechanical room/SE corner of suite	314973	Dental Equipment/Cuspidors	Premises Isolation	17-Feb-21	Pass
Awake Health	201 S Main St, Ellensburg	East wall of mech room in NW corner of bldg	76711-3579		Premises Isolation	07-May-21	Pass
Azam Seysan	2608 N Ellington St, Ellensburg	SW corner of property/near sidewalk	2007532		In-Premises Protection	04-Jun-21	Pass
Barbara Joy	204 Mt Baker Ct, Ellensburg	Front yard by meter	A559074		In-Premises Protection	24-Aug-21	Pass
Barbara Owen	1101 E 4th Ave, Ellensburg	west side flower bed-10' from west curb	517873	Irrigation w/o Chemicals	In-Premises Protection	20-Apr-21	Pass
Barbara Pickett	807 E 3rd Ave, Ellensburg	Near meter in alley by NE corner of storage bldg	CB128281		In-Premises Protection	04-May-21	Pass
Barillio Gonzales	806 S Douglas St, Ellensburg	west side of front yard	A81783		In-Premises Protection	07-Jun-21	Pass
Barney Erickson	908 E Spokane Ave, Ellensburg	front yard by meter	688915	Irrigation w/o Chemicals	In-Premises Protection	16-May-21	Pass

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Facility Name	Facility Address	Device Location	Serial No	Hazard Type	Protection Type	Test Date	Pass/Fail
Barry Donahue/ Old YMCA Building	301 W 4th Ave, Ellensburg	Basement/ SW corner/west of swimming pool on wall	W140832	Premise Isolation	Premises Isolation	01-Dec-21	Pass
		Basement/NW corner mechanical room/north of pool/north wall	A87455	Boiler Feed Lines	In-Premises Protection	01-Dec-21	Pass
Barry Johnson	1101 E Umptanum RD, Ellensburg	South of driveway by meter	A571399		In-Premises Protection	07-May-21	Pass
Becky Franklin	1707 E Canterbury Dr, Ellensburg	S>E corner of house /back yard	1HA20867		In-Premises Protection	24-May-21	Pass
Ben Martin	713 E Tacoma Ave, Ellensburg	SE corner of house in ground box	A286248		In-Premises Protection	17-May-21	Pass
	802 E Seattle Ave, City of Ellensburg	South Side Backyard	27022		In-Premises Protection	13-May-21	Pass
Bennitt Living Trust	408 N Anderson St, Ellensburg	East side of house	583182		In-Premises Protection	25-Jun-21	Pass
Berle Figgins	811 S Magnolia St, Ellensburg	front yard/east side in rocks	A596573		In-Premises Protection	11-May-21	Pass
Bernard Meyers	1701 Gala Way, Ellensburg	front yard under window	194686	Irrigation w/o Chemicals	In-Premises Protection	24-May-21	Pass
Best Western Lincoln Inn	211 Umptanum RD, Ellensburg	Boiler room / south wall	91911	Premise Isolation	Premises Isolation	15-Oct-21	Pass
		Just north of main entry (on east side of building) on east wall in small alcove inside of acess panel door	01613		Dedicated Fire Line	27-Sep-21	Pass
		Mech room/ NE corner	124330202	Fire Dept. Connection	Dedicated Fire Line	27-Sep-21	Pass
		Near road/between hydrant and Pass sign/south side		21604 Chemicals	Irrigation w/o In-Premises Protection	27-Sep-21	
		Pool room/east wall	185160	Pool/Spa	In-Premises Protection	27-Sep-21	Pass
Betty Fronabarger	1101 Brooklane, Ellensburg	front yard/eastside	354061	Irrigation w/o Chemicals	In-Premises Protection	14-Jun-21	Pass

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Facility Name	*Facility Address*	*Device Location*	*Serial No*	*Hazard Type*	*Protection Type*	*Test Date*	*Pass/Fail*
Beverly German	1100 S Rosewood Dr, Ellensburg	front yard	A552095	Irrigation w/o Chemicals	In-Premises Protection	19-May-21	Pass
Beverly Vifian	601 W 11th Ave, Ellensburg	North side of house through gate	A534801		In-Premises Protection	01-Jun-21	Pass
Bill Baker Premises	401 W Ridgeview Ln, Ellensburg 15-Apr-21	Pass	front yard by meter	Irrigation w/o Chemicals	169647 In-Premises Protection		
Bill Baldazare Pass	1101 E Umptanum RD, Ellensburg	16' south of southeast corner of house by meter	3637		A816755- Protection	In-Premises	06-May-21
Bill Barber	108 E 10th Ave, Ellensburg	Toward the back of the back yard / centered E-W	3082631		In-Premises Protection	17-Jun-21	Pass
Bill Divers	407 E 2nd AV, Ellensburg	North wall of basement	A656536		In-Premises Protection	06-Apr-21	Pass
Bill Erickson	406 W 15th Ave, Ellensburg	backyard by house	387844-1518	Irrigation w/o Chemicals	In-Premises Protection	24-May-21	Pass
Bill Gerrits	200 E 9th Ave, Ellensburg	in basement/ceiling	185764	Irrigation w/o Chemicals	In-Premises Protection	02-Jun-21	Pass
Bill Golden	1101 E Umptanum Rd, Ellensburg	NW side of house/front yard near trees	2690255		In-Premises Protection	07-May-21	Pass
Bill Grose	500 S Anderson St, Ellensburg	SE/front lawn	190732	Irrigation w/o Chemicals	In-Premises Protection	15-Jul-21	Pass
Bi-Mart Fire	608 E Mtn View Ave, Ellensburg 19-Jul-21	Pass fire riser	East stock room/east wall/on		AFL1544Fire Dept. Connection Line		Dedicated
Blake Hale Pass	1103 N Pfenning RD, Ellensburg		Southeast corner of house 3729		A6965591- Protection	In-Premises	11-Jun-21
Blake Walker	210 Mt Baker Ct., Ellensburg	NE corner of front yard/near meter	648356		In-Premises Protection	07-Jun-21	Pass
Bluestone Academy	201 N Pine ST, Ellensburg	West end of utility room	104793		Premises Isolation	07-Dec-21	Pass
Bob Malde Premises	1900 Trails Edge Dr., Ellensburg 13-May-21	Pass	Back yard N side of house	Irrigation w/o Chemicals	42131 In-Premises Protection		
Bob Shaw	402 N Pacific St, Ellensburg	south side of house/ near parking area	2997396		In-Premises Protection	02-Jun-21	Pass

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Facility Name	Facility Address	Device Location	Serial No	Hazard Type	Protection Type	Test Date	Pass/Fail
Bob Shaw	404 N Pacific St, Ellensburg	North side of house	29973389		In-Premises Protection	02-Jun-21	Pass
Bob Tosch	1220 N Thayer Ave, Ellensburg	behind garden shed/east side yard	673956	Irrigation w/o Chemicals	In-Premises Protection	27-May-21	Pass
Boe Investments	1509 Brook Ct, Ellensburg	north side of bldg #3	2279145		In-Premises Protection	27-May-21	Pass
Boe Investments LLC	1505 Brook Ct, Ellensburg	south side of unit #2	2170026		In-Premises Protection	27-May-21	Pass
Brad Johnson	209 W Greenfield Ave, Ellensburg	SE corner of yard /near mail box	2808444		In-Premises Protection	19-Jun-21	Pass
Bradley Eyestone	904 E Seattle Ave, Ellensburg	north side of house/front yard	26249	Irrigation w/o Chemicals	In-Premises Protection	21-Aug-21	Pass
Bradley Gagawski	403 S Pine St, Ellensburg	basement near washer/west wall		79738 Chemicals	Irrigation w/o In-Premises Protection	17-Aug-21 Pass	
Bradley Melanson	1410 E Hobert Ave, Ellensburg	Front yard/next to divewaynear front porch	A174424		In-Premises Protection	11-May-21	Pass
Bramstedt Instrument	703 N Kittitas St, Ellensburg	west side of building in box	2975269		In-Premises Protection	25-May-21	Pass
Brandon Dobson	315 W 14th Ave, Ellensburg	front yard	21614	Irrigation w/o Chemicals	In-Premises Protection	04-Aug-21	Pass
Brandon Little	1707 E Sparrow Knoll AV, Ellensburg	East side 10' from fence	A586296-3164		In-Premises Protection	20-May-21	Pass
Brandon Rinta	1500 Bonnie Ln, Ellensburg	Northeast portion of propery/ near arborvitae trees	431792		In-Premises Protection	05-Jun-21	Pass
Brant Daggerhart	1705 Gala Way, Ellensburg	E side of house	H85017	Irrigation w/o Chemicals	In-Premises Protection	24-May-21	Pass
Braulio Gonzales	803 S Douglas St, Ellensburg	back yard/west side	998791	Irrigation w/o Chemicals	In-Premises Protection	07-Jun-21	Pass
Brennan Radich	1702 E Sparrow Knoll AV, Ellensburg	East side 12' from NE corner	A584228-3161		In-Premises Protection	20-Aug-21	Pass
Brent Scherzinger	1704 E Hobert Ave, Ellensburg	north side of lot/near sidewalk & meter	A614442-2105		In-Premises Protection	07-May-21	Pass

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Brent Severson	2213 N Cobblefield, Ellensburg	SE corner of house	46725		In-Premises Protection	13-Jul-21	Pass
Bret Smith	2522 N Spar Ln, Ellensburg	NW corner of lot 12' E of meter	A591126		In-Premises Protection	19-Jun-21	Pass
Brett Clark	805 E 3rd Ave, Ellensburg	North side of house by fence	13316	Irrigation w/o Chemicals	In-Premises Protection	17-Aug-21	Pass
Brett Wachsmith	1504 Skyline Dr, Ellensburg	West side of house	127355	Irrigation w/o Chemicals	In-Premises Protection	26-May-21	Pass
Brian Barr	2515 N Columbia St, Ellensburg	NW corner of yard/near meter			404211 In-Premises Protection	24-May-21	Pass
Brian Cullinane	1124 E Hobert Ave, Ellensburg	NW side of house/near driveway	709304		In-Premises Protection	05-Jun-21	Pass
Brian Kelly	606 W Bridgewood Ln, Ellensburg	SE side of house/thru gate	A75132	Irrigation w/o Chemicals	In-Premises Protection	19-Aug-21	Pass
Brian McElroy	1611 E Seattle AV, Ellensburg	East gate west of house	599349		In-Premises Protection	10-May-21	Pass
Briarwood Commons Apartments	1001 S Chestnut St, Ellensburg	100' E of Bi-Mart's NE corner	371865	Irrigation w/o Chemicals	In-Premises Protection	09-Aug-21	Pass
		SE Corner of Parking Lot by Bld 8	3807061		In-Premises Protection	09-Aug-21	Fail/Pass
		SW corner/ next to garage # 24 /SW corner of lot	506859	Irrigation w/o Chemicals	In-Premises Protection	09-Aug-21	Pass
Bright Beginnings For Kittitas County	220 E Helena Ave, Ellensburg	west side of building inside fire riser room/south wall	289578		Premises Isolation	23-Sep-21	Pass
		west side of building/west wall	U30983		Dedicated Fire Line	23-Sep-21	Pass
Brody Kasting	403 S Spraque St, Ellensburg	West backyard Alley	T357817		In-Premises Protection	17-May-21	Pass
Brooklane Properties LLC	1303 E 15th Ave, Ellensburg	South front yard next to fence	T183089		In-Premises Protection	27-May-21	Pass
Brooklyn's Pizzeria	716 E University Way, Ellensburg	under cash register	24297	Beverage Dispenser with CO2	In-Premises Protection	15-Dec-21	Pass

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Facility Name	Facility Address	Device Location	Serial No	Hazard Type	Protection Type	Test Date	Pass/Fail
Brooks & Tiffany Murrell	708 S Magnolia St, Ellensburg	front yard next to water meter	A1211862		In-Premises Protection	10-May-21	Pass
Brookside Mortuary	500 E Mtn View AV, Ellensburg	3' north of building	A909387		In-Premises Protection	15-Oct-21	Pass
		West wall of mech room	164915-3701		Premises Isolation	15-Oct-21	Pass
Brookwood Apartments	606 E Manitoba, Ellensburg	by meter	689988		In-Premises Protection	06-Apr-21	Pass
Bruce Greetan	1100 S Rosewood Dr., Ellensburg	NE corner of lot/near meter	389480	Irrigation w/o Chemicals	In-Premises Protection	07-May-21	Pass
Bruce Harris	1518 Skyline Dr, Ellensburg	North side of house/next to sidewalk/north of front door	434333		In-Premises Protection	27-May-21	Pass
Bruce Herman	110 E 10th AV, Ellensburg	Left of gate into back yard from alley	A338429-2722		In-Premises Protection	11-Jun-21	Pass
Bruce Stuart III	2405 N Lilac Wy, Ellensburg	north side of house/ in back yard			HA20445 In-Premises Protection	16-Mar-21 Pass	
Bryan Baker	1020 E 19th Ave, Ellensburg	NE side next to driveway/street	A86074		In-Premises Protection	08-Jun-21	Pass
Bryan Osborn	1105 E 2nd Ave, Ellensburg	behind house/north west corner	992706	Irrigation w/o Chemicals	In-Premises Protection	09-Apr-21	Pass
Bryan Van Brenk	1909 E 14th Ave, Ellensburg	West side of house	43246	Irrigation w/o Chemicals	In-Premises Protection	24-May-21	Pass
Bryant Feveryear	1109 E Hobert Ave, Ellensburg	front yard	48310	Irrigation w/o Chemicals	In-Premises Protection	15-Apr-21	Pass
Burger King Restaurant	1410 S Canyon Rd, Ellensburg	by hot water tank/back storage room	54303	Beverage Dispenser with CO2	In-Premises Protection	28-May-21	Pass
		next to parking lot below sign	424427		In-Premises Protection	28-May-21	Pass
Buzz Inn Steak House	2202 S Canyon Rd, Ellensburg	Below pop machine/ main dining area/north wall	122846	Beverage Dispenser with CO2	In-Premises Protection	18-May-21	Pass
		South side of buildng west of bar door	3882828	Irrigation w/o Chemicals	In-Premises Protection	18-May-21	Pass

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Facility Name	Facility Address	Device Location	Serial No	Hazard Type	Protection Type	Test Date	Pass/Fail
Buzz Inn Steak House	2202 S Canyon Rd, Ellensburg	Under sink in sports bar/south side	M185182	Beverage Dispenser with CO2	In-Premises Protection	18-May-21	Pass
		Upstairs/SW corner/south wall/near furnace	315064	Compressor	In-Premises Protection	18-May-21	Pass
C.H. Tucker	1100 S Rosewood DR, Ellensburg	East yard by water meter	A778710-3625		In-Premises Protection	17-May-21	Pass
Café C5	213 W 4th Ave, Ellensburg	SE corner of storage room off kitchen	265699		In-Premises Protection	06-Apr-21	Pass
Calah Kulm Pass	1610 E Spokane AV, Ellensburg		10' south of northwest corner of		A635178-	In-Premises	10-May-21
		house	3514		Protection		
Calaway Trading	2009 W Dolarway Rd, Ellensburg	in janitors closet/near water heater /below stairs	A71798		Premises Isolation	16-Nov-21	Pass
		north side of building /near base of stairs/in box	HB62714	Irrigation w/o Chemicals	In-Premises Protection	05-May-21	Pass
Calvary Baptist Church	111 E 5th Ave, Ellensburg	Basement west mechanical room/west wall	U24003		Dedicated Fire Line	02-Jul-21	Pass
		westside lobby area/west side of janitors closet	3325199		Premises Isolation	02-Jul-21	Pass
Camden Townhouses	711 E 18th Ave, Ellensburg	NW corner/ front of laundry room/office	13196	Irrigation w/o Chemicals	In-Premises Protection	18-Jun-21	Pass
		SE corner of bldg. 'H'	13198		Premises Isolation	18-Jun-21	Pass
	901 E 18th Ave, Ellensburg	center area by dumpster and mower storage area	502649		In-Premises Protection	18-Jun-21	Pass
		eastside of center building	21368		In-Premises Protection	18-Jun-21	Pass
Campus Courts	500 E 7th Ave, Ellensburg	basement of center complex/south wall	A018199		In-Premises Protection	27-Apr-21	Pass
Campus U-Tote-Um	810 E University Way, Ellensburg	North wall/behind cup stand	27551	Beverage Dispenser with CO2	In-Premises Protection	30-Dec-21	Pass
Campus Village Apartments	925 E 18th Ave, Ellensburg	Northeast corner of courtyard	A534833-1348		In-Premises Protection	18-Jun-21	Pass

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Facility Name	Facility Address	Device Location	Serial No	Hazard Type	Protection Type	Test Date	Pass/Fail
Campus Village Apartments	925 E 18th Ave, Ellensburg	West side of courtyard in middle of bldg	A518556		In-Premises Protection	18-Jun-21	Pass
Candi Allred	1509 E Seattle Ave, Ellensburg	west side of driveway/near sidewalk and meter	A110249		In-Premises Protection	13-Jul-21	Pass
Canopy Country RV	2502 W Dolarway Rd, Ellensburg	North side/just inside entry gate on west side/near meter	A534827		In-Premises Protection	14-May-21	Pass
Care Net	111 E 4th AV, Ellensburg	Behind mini fridge in break room	4145497		Premises Isolation	17-Mar-21	Pass
Carie Rodriguez	1000 E 3rd Ave, Ellensburg	SW side of Maple St/near gate	228361	Irrigation w/o Chemicals	In-Premises Protection	11-Jun-21	Pass
Carla Ball	1012 E 4th Ave, Ellensburg	South side of house/ off deck	19261	Irrigation w/o Chemicals	In-Premises Protection	05-May-21	Pass
Carla Bergman	1010 E 3rd Ave, Ellensburg	back yard/east side of driveway	3060531		In-Premises Protection	11-May-21	Pass
Carla Burrill	1119 E Spokane Ave, Ellensburg	front yard	68800	Irrigation w/o Chemicals	In-Premises Protection	16-Apr-21	Pass
Carla Kaatz	1115 1/2 E 3rd Ave, Ellensburg	NW backyard /near alley	672756		In-Premises Protection	04-May-21	Pass
	309 N Poplar St, Ellensburg	W side of house	68054	Irrigation w/o Chemicals	In-Premises Protection	04-May-21	Fail/Pass
Carlos Arguello	1806 E 14th Ave, Ellensburg	front yard/ west side	37258	Irrigation w/o Chemicals	In-Premises Protection	23-Jun-21	Pass
	204 W Hailey Ct., Ellensburg	NW corner of yard/south of meter	A030712		In-Premises Protection	23-Jun-21	Pass
Carl's Jr.	1303 S Opportunity St., Ellensburg	South end/ inside south wall /west of electrical panel	393319		In-Premises Protection	17-May-21	Pass
		South end/inside south wall/west of electrical panel	151720		Premises Isolation	17-May-21	Pass
		SW corner of building/in planter strip/ near curb	A134001		In-Premises Protection	17-May-21	Pass
Carol L Forest	1100 S Rosewood Dr, Ellensburg	front yard	AJ3190	Irrigation w/o Chemicals	In-Premises Protection	21-May-21	Pass

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Facility Name	Facility Address	Device Location	Serial No	Hazard Type	Protection Type	Test Date	Pass/Fail
Carol Poulsen	701 S Alder St, Ellensburg	front yard	648316	Irrigation w/o Chemicals	In-Premises Protection	15-Apr-21	Pass
Carol Shannon	1112 E Hobert Ave, Ellensburg	front yard/NE	672800	Irrigation w/o Chemicals	In-Premises Protection	23-Apr-21	Pass
Carolee Moesch	1604 E Sparrow Knoll AV, Ellensburg	West side near fence	A537982		In-Premises Protection	28-Apr-21	Pass
Caroline Onstot	1403 Vista Rd, Ellensburg	South end of house/ in valve box	47161		In-Premises Protection	27-May-21	Pass
Caroline Young	208 Mt Baker Ct, Ellensburg	NE corner of lot/near meter	HD06783		In-Premises Protection	23-Jun-21	Pass
Carolyn McClenahan	1001 E 19th Ave, Ellensburg	front yard	614369		In-Premises Protection	17-Mar-21	Pass
Carolyn Summerfield	1700 E Plumridge Ave, Ellensburg	NE corner of house	3209356		In-Premises Protection	20-Jun-21	Pass
Carriage House Apts.	209 E 14th Ave, Ellensburg	Fire Riser Room- laudry room /south west corner	07679		Dedicated Fire Line	24-Aug-21	Pass
		Inside box in front /center of apt. bldg	3773685-1346		In-Premises Protection	03-Jun-21	Pass
Carrie Witzel	1100 S Rosewood Dr, Ellensburg	front yard/NE corner	531030	Irrigation w/o Chemicals	In-Premises Protection	08-May-21	Pass
Cascade Manor	101 S Pearl St, Ellensburg	NW corner of bldg	4105191	Irrigation w/o Chemicals	In-Premises Protection	14-May-21	Pass
Cascade Mobile Home Park LLC	1207 W University Way, Ellensburg	SE corner of lot/near meter/behind fence	3255639		Premises Isolation	02-Jun-21	Pass
Cascade Truck Wash	1608 Hwy 97, Ellensburg	Center of building/east side of center deviding wall /near door	3064805		Premises Isolation	26-Oct-21	Pass
		Center of building/east side of divider wall/near door	2943407		In-Premises Protection	26-Oct-21	Pass
Cascade View Business Park	2060 Vantage Hwy, Ellensburg	east of entrance/near meter	H14493		Premises Isolation	31-Aug-21	Pass
		west of entrance/near meter	H30747		Premises Isolation	31-Aug-21	Pass

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Facility Name	Facility Address	Device Location	Serial No	Hazard Type	Protection Type	Test Date	Pass/Fail
Casey Riddell	206 W Maci Ct., Ellensburg	NW corner of front yard/near meter	A92398		In-Premises Protection	02-Aug-21	Pass
Casey Shaw Premises	1007 N Columbia St, Ellensburg 03-Jun-21	Pass	N side of house by meter		233807	Irrigation w/o Chemicals	In-Protection
	108 S Pearl St, Ellensburg	back yard/south east side	23067-1654	Irrigation w/o Chemicals	In-Premises Protection	15-Jun-21	Fail/Pass
	1903 Yew St, City of Ellensburg	Sw corner	39108		In-Premises Protection	03-Jun-21	Pass
Cashmere Valley Bank	101 W University Way, Ellensburg	E side of bldg/right of entrance	CB 109203	Irrigation w/o Chemicals	In-Premises Protection	17-Jun-21	Pass
Catholic Campus Ministry	706 N Sprague St, Ellensburg	east side of house/right side of porch	A47374	Irrigation w/o Chemicals	In-Premises Protection	27-Apr-21	Pass
Cathy Busha	1605 N Bluegrass Ln, Ellensburg	South side of house	7079971	Irrigation w/o Chemicals	In-Premises Protection	20-May-21	Pass
Caywood VanMeter	901 E 3rd Ave, Ellensburg	back of garage/SE corner	T281932	Irrigation w/o Chemicals	In-Premises Protection	15-Apr-21	Pass
CED Building	412 S Railroad AV, Ellensburg	upstairs/ SW corner	99979	Premises Isolation	Premises Isolation	12-Jan-21	Pass
Cedar Mtn Woodwrights LLC	309 S Railroad AV, Ellensburg	in shop bathroom to the right of the W outer door	3073402		Premises Isolation	19-Jul-21	Pass
Central Market	201 E University WAY, Ellensburg	Low on north wall in northwesr room	A544353		Premises Isolation	19-Mar-21	Pass
Central Park Apartments	1201 E Helena AV, Ellensburg	Building 10 fire riser room	F0925-3611	Fire Sprinkler w/o Chemical Addition	Dedicated Fire Line	02-Nov-21	Pass
		Building 11 fire riser room	F0113-3622	Fire Sprinkler w/o Chemical Addition	Dedicated Fire Line	02-Nov-21	Pass
		Building 12 fire riser room	F0693-3633	Fire Sprinkler w/o Chemical Addition	Dedicated Fire Line	02-Nov-21	Pass
		Building 13 fire riser room	F1020-3666	Fire Sprinkler w/o Chemical Addition	Dedicated Fire Line	02-Nov-21	Pass
		Building 14 fire riser room	E3077-3695	Fire Sprinkler w/o Chemical Addition	Dedicated Fire Line	02-Nov-21	Pass

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Central Park Apartments	1201 E Helena AV, Ellensburg	Building 16 fire riser room	E3862-3667	Fire Sprinkler w/o Chemical Addition	Dedicated Fire Line	02-Nov-21	Pass
		Building 17 fire riser room	D00203-3665	Fire Sprinkler w/o Chemical Addition	Dedicated Fire Line	02-Nov-21	Pass
		Building 18 fire riser room	F1171-3696	Fire Sprinkler w/o Chemical Addition	Dedicated Fire Line	02-Nov-21	Pass
		Building 19 fire riser room	1023-3674	Fire Sprinkler w/o Chemical Addition	Dedicated Fire Line	02-Nov-21	Pass
		Bullding 15 fire riser room	1007-3669	Fire Sprinkler w/o Chemical Addition	Dedicated Fire Line	02-Nov-21	Pass
		West of Helena driveway in large vault	14347-3630	Premises Isolation	Premises Isolation	02-Nov-21	Pass
Central Paving	1410 W Dolarway RD, Ellensburg	Northeast corner of lot by meter	A713001		Premises Isolation	22-Sep-21	Pass
		Northest corner of lot by meter	A213030		Premises Isolation	22-Sep-21	Pass
Central Skies LLC	608 W 16th Ave, Ellensburg	back yard W side	H24713	Irrigation w/o Chemicals	In-Premises Protection	03-Jun-21	Pass
	715 E 7th Ave, Ellensburg	North side if building/NE of backporch/near sidewalk	A052569		In-Premises Protection	25-May-21	Pass
Central Storage	1109 Industrial Way, Ellensburg	East side of bldg under window	A303682		In-Premises Protection	14-May-21	Pass
	1111 Industrial Way, Ellensburg	under sink in mech/wash room	A508096		Premises Isolation	13-May-21	Pass
	301 W Umptanum Rd, Ellensburg	East of Umptanum Rd entrance/ near east meter	A26265		In-Premises Protection	13-May-21	Pass
		West end of bldg #10/ mechanical room/south wall	2616953		Premises Isolation	13-May-21	Pass
Central Valley Bank	100 N Main St, Ellensburg	east side of building by alley near meter	A59322	Irrigation w/o Chemicals	In-Premises Protection	18-Mar-21	Pass
Cesar Garcia Munoz	1126 E Spokane Ave, Ellensburg	front yard	157330	Irrigation w/o Chemicals	In-Premises Protection	16-Apr-21	Pass

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Facility Name	Facility Address	Device Location	Serial No	Hazard Type	Protection Type	Test Date	Pass/Fail
Charles & Patricia Clark	107 N Sampson St, Ellensburg	SE corner of house	188912	Irrigation w/o Chemicals	In-Premises Protection	16-Apr-21	Pass
Charles Hiatt	1701 N Bluegrass Ln, Ellensburg	North side of house	995397		In-Premises Protection	02-Jun-21	Pass
	1706 N Bluegrass Ln, Ellensburg	W side of yard /near house	00	Irrigation w/o Chemicals	In-Premises Protection	02-Jun-21	Pass
	415 W 11th Ave, Ellensburg	N side of house	386291		In-Premises Protection	01-Jun-21	Pass
Charles Hubbard	1717 Bluegrass Ln, Ellensburg	west side of house/inside gate	HA08977	Irrigation w/o Chemicals	In-Premises Protection	21-Apr-21	Pass
Charles McGehee	2406 N Lilac Wy, Ellensburg	north side of house /back yard	HA60895		In-Premises Protection	04-Jun-21	Pass
Charles Reasons	1608 N Stonebridge St, Ellensburg	behind house	H58070-1667	Irrigation w/o Chemicals	Premises Isolation	04-Jun-21	Fail/Pass
Charles Sivak	1519 Skyline Dr, Ellensburg	east side walkway / storage in crawl space	667506	Irrigation w/o Chemicals	In-Premises Protection	03-May-21	Pass
	305 S Sprague, Ellensburg	Mountes on center of back of house	329006		In-Premises Protection	03-May-21	Pass
	607 S Ruby ST, Ellensburg	Under stairway at Eend of bldg	317676		In-Premises Protection	03-May-21	Pass
Charlotte Coles	1908 E 14th Ave, Ellensburg	backyard ./west side of house/behind fence	42159	Irrigation w/o Chemicals	In-Premises Protection	18-Jun-21	Pass
Charre Burnum	1711 Ohio St, Ellensburg	South side yard/ near porch	A921328	Irrigation w/o Chemicals	In-Premises Protection	15-Jul-21	Fail/Pass
Charter Communications	1105 E University Way, Ellensburg	SE corner /by water meter/irrigation	189328	Irrigation w/o Chemicals	In-Premises Protection	14-Jun-21	Pass
Chelsey Woods	106 W 26th Ave, Ellensburg	west side of house in backyard	HE48521		In-Premises Protection	28-May-21	Pass
Cheri Bednarik	1700 Brooklane, Ellensburg	SW corner of house	A596574-3595	Irrigation w/o Chemicals	In-Premises Protection	19-Aug-21	Pass
Cheryl Lym	1302 E Radio Rd, Ellensburg	SW side of house/near driveway	T087894		In-Premises Protection	05-Jun-21	Pass

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Chestnut St. Baptist Church	609 N Chestnut St, Ellensburg	Crawl space below mech. room #105 (access panel in center of room)	113972-3293		Premises Isolation	21-Apr-21	Pass
		main floor/ mech room next to elevator	U11343-3292		Dedicated Fire Line	21-Apr-21	Pass
		NW side/ next to building	H616491		In-Premises Protection	21-Apr-21	Pass
		SE corner next to side walk/power pole	HB67427		In-Premises Protection	21-Apr-21	Pass
Chevron	1710 S Canyon Rd, Ellensburg	North wall of back room	A415559		Premises Isolation	09-Aug-21	Pass
		under beverage dispenser	20004	Beverage Dispenser with CO2	In-Premises Protection	09-Aug-21	Pass
China Inn	1003 W University Way, Ellensburg	beverage/waitress station below sink	W345020	Beverage Dispenser w/o CO2	In-Premises Protection	16-Nov-21	Pass
		east wall in kitchen/ above water tank	A01871		In-Premises Protection	16-Nov-21	Pass
		SE corner of building/in planter strip in box	2579750		In-Premises Protection	11-May-21	Pass
		south banquet room /inside closet /east wall	A21497		Premises Isolation	16-Nov-21	Pass
		SW corner dining room/ in closet	Q03706		Dedicated Fire Line	16-Nov-21	Pass
Chris Berkshire	1705 N Stonebridge St, Ellensburg	east side of backyard	H58036	Irrigation w/o Chemicals	In-Premises Protection	26-Jun-21	Pass
Chris Bliss	608 W 10th Ave, Ellensburg	NW corner of front yard	2400404		In-Premises Protection	01-Jun-21	Pass
Chris Ewald	1401 N Vista Rd, Ellensburg	back yard next to house	39460	Irrigation w/o Chemicals	In-Premises Protection	21-Jul-21	Pass
Chris Herion Premises	1712 Bridgewood Ln, Ellensburg 03-Jun-21	Pass	front yard in flower bed by house		HA09027	Irrigation w/o Chemicals	In-Protection
Chris McPherson	1904 N Parklane Ave, Ellensburg	back yard/NW side	19401	Irrigation w/o Chemicals	In-Premises Protection	03-Jun-21	Pass

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Christian Barrett	1110 Franklin St, Ellensburg	NW corner of house	CB177406	Irrigation w/o Chemicals	In-Premises Protection	04-May-21	Pass
Christian Schneider	1505 Brick Rd, Ellensburg	west side of house in crawl space	12896		In-Premises Protection	16-Jun-21	Pass
Christina Brown	1604 N Cora St, Ellensburg	North side of house in yard	A302489	Irrigation w/o Chemicals	In-Premises Protection	24-Jun-21	Pass
Christine Hunter	1702 College Pl, Ellensburg	in crawl space	3422690		In-Premises Protection	19-Jun-21	Pass
Christine Storey	1004 Chamith Ln, Ellensburg	front yard	40330	Irrigation w/o Chemicals	In-Premises Protection	12-May-21	Pass
Christine Tufts	2002 Trails Edge Dr, Ellensburg	NW corner of front yard	A87958		In-Premises Protection	03-Jun-21	Pass
Christine Zbinden	808 Acacia Ln, Ellensburg	front yard/west of driveway	886883	Irrigation w/o Chemicals	In-Premises Protection	16-Mar-21	Pass
Christopher & Tiffanee Wade	1600 E Seattle Ave, Ellensburg	east side of yard	A131467		In-Premises Protection	24-May-21	Pass
Christopher David Gough	309 W 5th Ave, Ellensburg	east side of backyard/next to house	615044		In-Premises Protection	25-May-21	Pass
		in basement/ furnace room	A554892	Boiler Feed Lines	In-Premises Protection	25-May-21	Pass
		in basement/ furnace room	A554892	Boiler Feed Lines	In-Premises Protection	25-May-21	Pass
Christopher Hagen	711 Tamarack Ln, Ellensburg	Northeast corner of property near water meter in meter box	489857		In-Premises Protection	23-Jun-21	Pass
Christopher Hamer	1708 E Canterbury Dr, Ellensburg	W side of house	AA10193	Irrigation w/o Chemicals	In-Premises Protection	14-Jun-21	Pass
Christopher Horner Pass	1603 E Spokane AV, Ellensburg	20' south of northeast corner of house	3520		A635169-In-Premises Protection	21-Jul-21	
Christopher Johnson	1113 E 1st Ave, Ellensburg	N side of house next to harage / alley access	CB755997		In-Premises Protection	11-Aug-21	Pass
Christopher Kelley	1219 N Delphine St, Ellensburg	East front yard by meter	530104		In-Premises Protection	17-Jun-21	Pass

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Christopher Mattingson	912 E 2nd Ave, Ellensburg	East side of house	147974	Irrigation w/o Chemicals	In-Premises Protection	18-Jun-21	Pass
Christopher Tomulty	707 E 1st Ave, Ellensburg	NW backyard against the fence	3887616		In-Premises Protection	16-Jun-21	Pass
Christopher Zeller	1111 E 3rd Ave, Ellensburg	North east side of house	W635024	Irrigation w/o Chemicals	In-Premises Protection	16-May-21	Pass
Chuck Haberman	611 W 10th Ave, Ellensburg	NW cor of house	33423	Irrigation w/o Chemicals	In-Premises Protection	02-Jul-21	Pass
Chuck Norelius	1704 E Ashford Wy, Ellensburg	east side of house /back yard by gate	1HA76966		In-Premises Protection	24-May-21	Pass
Church of Christ	408 S Maple St, Ellensburg	NW corner of church/north of NW entry door/west of sidewalk	A091324		In-Premises Protection	27-May-21	Pass
Cindy Coe	603 E 4th Ave, Ellensburg	north side/backyard/under east window	B11668		In-Premises Protection	26-May-21	Pass
Cindy Knight	400 W 15th Ave, Ellensburg	north side of house /next to meter	A26277		In-Premises Protection	26-May-21	Pass
	914 E Capitol Ave, Ellensburg	East side/ front side of apartment building	T284602	Irrigation w/o Chemicals	In-Premises Protection	26-May-21	Pass
Circle K	204 S Main St, Ellensburg	Back of store in office	26690		In-Premises Protection	03-May-21	Pass
Circle K Stores Inc	1600 S Canyon Rd, Ellensburg	Bottom assembly on W wall of back room	23065		In-Premises Protection	03-May-21	Pass
		by soda-syrup dispenser/upper unit (mech room)	23806	Beverage Dispenser with CO2	In-Premises Protection	03-May-21	Pass
		West of City sidewalk/ near meter	05546	Irrigation w/o Chemicals	In-Premises Protection	03-May-21	Pass
City of Ellensburg Adult Activity Center	506 S Pine St, Ellensburg	NE corner of property/ next to Ruby St	H82405	Irrigation w/o Chemicals	In-Premises Protection	07-Jul-21	Pass
		NE corner of property/ next to Ruby St	H82405	Irrigation w/o Chemicals	In-Premises Protection	04-Aug-21	Pass
City of Ellensburg Animal Shelter	901 Industrial Way, Ellensburg	1007 Ind. Wy- office SE corner of bldg under desk.		A57776	Premise Isolation	Premises Isolation Pass	03-Mar-21

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City of Ellensburg Business Incubator	1000 N Prospect St, Ellensburg	SE coner of lot/behind sign/	A973058-3756		In-Premises Protection	23-Jul-21	Pass
City of Ellensburg City Hall	501 N Anderson St, Ellensburg	basement mech room/north wall	10825	Premises Isolation	Premises Isolation	27-Dec-21	Pass
		basement mech room/north wall/NW corner	1788741	Fire Dept. Connection	Dedicated Fire Line	27-Dec-21	Pass
		basement mech room/north wall/NW corner	N14909	Fire Dept. Connection	Dedicated Fire Line	27-Dec-21	Pass
		S side of bldg/ W side of driveway/near sidewalk	71658-2053	Irrigation w/o Chemicals	In-Premises Protection	03-Aug-21	Pass
City of Ellensburg Community Garden	100 N Pine St, Ellensburg	70' N of 1st Ave in Pine/Ruby alley	3409978		Premises Isolation	15-Mar-21	Pass
City of Ellensburg Hal Holmes Center	209 N Ruby St, Ellensburg	SW corner of parking lot/near meter and sidewalk	78319	Irrigation w/o Chemicals	In-Premises Protection	07-Jul-21	Pass
City of Ellensburg Hydrant /Temp. Use Assemblies	607 Industrial Way, Ellensburg	city shop/job site	A218605	hydrant contractor use	Premises Isolation	08-Apr-21	Pass
		city shop/job site	H21207	contractor hydt use	Premises Isolation	22-Dec-21	Pass
		city shop/job site	A237563	contractor hydt use	Premises Isolation	20-Dec-21	Pass
		city shop/job site	A237566		Premises Isolation	17-Dec-21	Fail/Pass
		city shop/job site	H16498	hydrant contractor use	Premises Isolation	20-Dec-21	Pass
		city shop/job site	H16500	hydrant contractor use	Premises Isolation	17-Dec-21	Pass
		city shop/job site	H11587	hydrant contractor use	Premises Isolation	21-Dec-21	Pass
		city shop/job site	H10294		Premises Isolation	16-Sep-21	Pass
		city shop/job site	004510049		Premises Isolation	16-Sep-21	Pass

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City of Ellensburg Hydrant /Temp. Use Assemblies	607 Industrial Way, Ellensburg	city shop/job site	H10294		Premises Isolation	20-Dec-21	Pass
		city shop/job site	005171-2577		Premises Isolation	27-Dec-21	Fail/Pass
		city shop/job site	B01635		Premises Isolation	27-Jul-21	Pass
		city shop/job site	B01635		Premises Isolation	16-Sep-21	Pass
		city shop/job site	B01635		Premises Isolation	09-Aug-21	Pass
		city shop/job site	005171-2577		Premises Isolation	05-Apr-21	Fail/Pass
City of Ellensburg Library	209 N Ruby St, Ellensburg	3rd Ave alley Pine/ Ruby NW corner of library	2759581	Irrigation w/o Chemicals	In-Premises Protection	22-Jul-21	Pass
City of Ellensburg Memorial Pool	815 E 6th Ave, Ellensburg	Mech room/E end of building/N side/ above sump	#30	Pool/Spa	In-Premises Protection	03-Mar-21	Pass
		Mech. Room/E end of bldg/N side /above sump	#29	Pool/Spa	In-Premises Protection	03-Mar-21	Pass
		N mech room/W of jaccuzi pump room on N wall	H11038	Hot tub fill	In-Premises Protection	03-Mar-21	Pass
		NE corner of building/ inside fence/near AC unit	H37351		Premises Isolation	07-Jul-21	Pass
City of Ellensburg Parks Department	607 Industrial Way, Ellensburg	3rd and Main/ Public Bathroom W end of shrubs	B06420	Irrigation w/o Chemicals	Premises Isolation	29-Apr-21	Pass
		3rd Ave alley/ Main & Pearl St/NE corner vault	A091306		Premises Isolation	27-Jul-21	Fail/Pass
		3rd Ave alley/ Main & Water St. NE corner	3434657		Premises Isolation	27-Jul-21	Pass
		3rd Ave alley/ Pine & Ruby SW corner vault	A107589		Premises Isolation	25-May-21	Pass
		3rd Ave alley/ Water and Main St. SW by Fairpoint	A164048		Premises Isolation	26-May-21	Pass

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City of Ellensburg Parks Department	607 Industrial Way, Ellensburg	3rd Ave Main/Pearl alley south side in vault	A129303		Premises Isolation	25-May-21	Pass
		3rd Ave Pearl/Pine alley north side vault	AB5121		Premises Isolation	26-Jul-21	Pass
		3rd Ave Pearl/Pine Alley/South Side in Vault	114204		Premises Isolation	25-May-21	Pass
		3rd Ave/ Pine-Ruby St. alley /N side in vault	179921		Premises Isolation	26-Jul-21	Pass
		4th Ave alley/Pine & Ruby/north side vault	2910065		Premises Isolation	22-Jul-21	Pass
		4th Ave Main/Water alley /south side in vault	A0120137		Premises Isolation	27-Jul-21	Pass
		4th Ave Main/Water N side	A366209		Premises Isolation	27-Jul-21	Pass
		4th Ave/ Main/Pearl St alley south side by Fitterers	A167450	Irrigation w/o Chemicals	Premises Isolation	22-Jul-21	Pass
		5th Ave /Pine & Ruby alley /south side in vault	2762670	Irrigation w/o Chemicals	Premises Isolation	22-Apr-21	Pass
		5th Ave alley/ Main & Pearl St/SE corner vault	A164048		Premises Isolation	22-Apr-21	Pass
		5th Ave Pearl/Pine alley south side in vault	R7462	Irrigation w/o Chemicals	Premises Isolation	22-Apr-21	Pass
		5th Ave Pine/Ruby alley/NW corner in vault	A167460	Irrigation w/o Chemicals	Premises Isolation	26-Jul-21	Pass
		5th Ave Water/Main north side by hydrant	A012153	Irrigation w/o Chemicals	Premises Isolation	26-May-21	Pass
		5th Ave/Pearl/Pine alley north side by seating	AK1481	Irrigation w/o Chemicals	Premises Isolation	26-Jul-21	Pass
		6th Ave & Water St SE corner by sidewalk	H32852		Premises Isolation	26-May-21	Pass
		Alder St. Park/near meter /in large vault	138828		Premises Isolation	16-Apr-21	Pass

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Facility Name	Facility Address	Device Location	Serial No	Hazard Type	Protection Type	Test Date	Pass/Fail
City of Ellensburg Parks Department	607 Industrial Way, Ellensburg	Capitol Ave /Water & Main St alley/north side in vault	H01054		Premises Isolation	25-May-21	Pass
		Craig/Maple triangle/east side	3318316	Irrigation w/o Chemicals	Premises Isolation	15-Apr-21	Pass
		J W Trail & Sandars Rd 15' S of hydrant #C-198	A279639	Irrigation w/o Chemicals	Premises Isolation	16-Apr-21	Pass
		J W Trail &1205 E Greenfield by meter	A26494		Premises Isolation	21-Apr-21	Pass
		J W Trail 18th/Helena east side	4285932-3505		Premises Isolation	11-Aug-21	Pass
		J W Trail west side by Greenfield Pass	4297851-3506		Premises Isolation	11-Aug-21	Pass
		Kleinberg Park 3rd @ Wenas/NE corner of park	A84561		Premises Isolation	04-May-21	Pass
		McElroy Park 1800 Brooklane in gravel by flower box	109284	Irrigation w/o Chemicals	Premises Isolation	16-Apr-21	Fail/Pass
		Mtn View Ave N side 30' E of Vueridge	3244435	Irrigation w/o Chemicals	Premises Isolation	09-Apr-21	Pass
		Mtn View Park S side between tennis and soccer	W347699	Irrigation w/o Chemicals	Premises Isolation	21-May-21	Pass
		Mtn View-Pearl/Pine alley/near irrigation clock	00510		Premises Isolation	15-Apr-21	Pass
		Mtn. View Park by power pole near bathrooms	AA2752	Irrigation w/o Chemicals	Premises Isolation	29-Jul-21	Pass
		NW corner of Mt View/Main 30' NE of power pole	DO8651	Irrigation w/o Chemicals	Premises Isolation	23-Jul-21	Pass
		Reed Park/ Craigs Hill- north grass'strip'/near electrical transformer	H01680	Irrigation w/o Chemicals	Premises Isolation	26-May-21	Pass
		Reed Park-Craig Ave/Alder St in park lawn	H01721	Irrigation w/o Chemicals	Premises Isolation	26-May-21	Pass
		Rotary Park 66' SW of Sigler center field gate outside	H01612		Premises Isolation	07-Jul-21	Pass

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Facility Name	Facility Address	Device Location	Serial No	Hazard Type	Protection Type	Test Date	Pass/Fail
City of Ellensburg Parks Department	607 Industrial Way, Ellensburg	Rotary park dog park between meter and fountain	A530122		Premises Isolation	09-Aug-21	Pass
		Rotary Park little league fld 25' inside gate on left	H28969	Irrigation w/o Chemicals	Premises Isolation	28-Jul-21	Pass
		Rotary Park Sigler Fld 75' N of right field gate north of sidewalk	H01686		Premises Isolation	09-Aug-21	Pass
		Rotary Park Sigler Fld NW corner outside fence W of gate in box	H00057	Irrigation w/o Chemicals	Premises Isolation	09-Aug-21	Pass
		Rotary Park soccer field N of prk lot E vault	J21459		Premises Isolation	29-Jul-21	Pass
		Rotary Park soccer field N of prk lot mid vlt w/fntn	J21467		Premises Isolation	07-Jul-21	Pass
		Rotary Park soccer field N of prk lot W vlt w/fntn	J21458		Premises Isolation	07-Jul-21	Pass
		Rotary Park/ softball fields / 25' SE ouside of gate	H00055	Irrigation w/o Chemicals	Premises Isolation	28-Jul-21	Pass
		Rotary Park/Sigler Field 90' NW of right fld foul pole	H01681		Premises Isolation	09-Aug-21	Pass
		Rotary Pavilion 4th & Pearl SW corner by meter	137947-0230		Premises Isolation	07-Jul-21	Pass
		Skate Board Park/ 2nd & Pearl/NW corner by alley	A012150	Irrigation w/o Chemicals	Premises Isolation	05-Aug-21	Pass
		Skate Board Park/ 2nd & Pearl/NW corner by alley	A012150	Irrigation w/o Chemicals	Premises Isolation	29-Jul-21	Pass
		South main Park / Mt View NE side of property/south of sidewalk in grass	H11524	Irrigation w/o Chemicals	Premises Isolation	12-Apr-21	Fail/Pass
		Water/Manitoba intersection on west side	1099956		Premises Isolation	26-May-21	Pass
		West E-burg Park /25' NE of bathrooms in box	H15632	Irrigation w/o Chemicals	Premises Isolation	29-Apr-21	Pass

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Facility Name	Facility Address	Device Location	Serial No	Hazard Type	Protection Type	Test Date	Pass/Fail
City of Ellensburg Parks Department	607 Industrial Way, Ellensburg	West Eburg Park 2nd & Lincoln by fountain	H82324	Irrigation w/o Chemicals	Premises Isolation	29-Apr-21	Pass
		Whitfield Triangle 200' W of Franklin/Alder intersection	3244349	Irrigation w/o Chemicals	Premises Isolation	26-May-21	Pass
		Wippel Park 2nd & Railroad/south side next to 4th street	2649104	Irrigation w/o Chemicals	Premises Isolation	03-May-21	Pass
City of Ellensburg Police Station	100 N Pearl St, Ellensburg	Mech room #145	056216		Premises Isolation	08-Jan-21	Pass
		Mech room #145 north wall	X-3739		Dedicated Fire Line	08-Jan-21	Pass
		Mech room #145 north wall	G73762-3739		Dedicated Fire Line	08-Jan-21	Pass
		Northeast corner of lot 3' west of meter	H71633-3725		In-Premises Protection	03-Aug-21	Pass
		SE corner of lot /next to building/edge of lawn	HB22248		In-Premises Protection	03-Aug-21	Pass
City of Ellensburg Shop Yard	607 Industrial Way, Ellensburg	East of warehouse bldg in lawn near air conditioner	358779	Irrigation w/o Chemicals	In-Premises Protection	02-Jul-21	Pass
		Inside south wall of loader bay by wash pad	W315284	Premises Isolation	Premises Isolation	07-Jul-21	Pass
		Shop yard/next to Police impound bldg./SE corner	A159753		In-Premises Protection	07-Jul-21	Pass
		Warehouse/Light Dept. parking bay by steps	DL0281	Hose bib	In-Premises Protection	07-Jul-21	Pass
City of Ellensburg Swales/Storm Water		1716 S. Canyon Rd next to sidewalk by Eburg sign	288329	Irrigation w/o Chemicals	Premises Isolation	13-Apr-21	Pass
		Mt View Av/swale-north side-35' east of Douglas St in box	H63520		Premises Isolation	13-Apr-21	Pass
		Mt View Ave N swale/40' west of Willow St	A94303		Premises Isolation	09-Apr-21	Pass
		Mt View Ave swale/southside in front of #1116	A93446		Premises Isolation	09-Apr-21	Pass

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Facility Name	Facility Address	Device Location	Serial No	Hazard Type	Protection Type	Test Date	Pass/Fail
City of Ellensburg Swales/Storm Water	607 Industrial Way, Ellensburg	Mt View Ave swale/southside across from#1003	A94325		Premises Isolation	09-Apr-21	Pass
		Mt View Ave/south side/NW of 700 E Mt View.east of Bi Mart entry	3033414		Premises Isolation	09-Apr-21	Pass
		Mt View Ave/swale N side 125' east of Whitman St.	H09987		Premises Isolation	13-Apr-21	Pass
		Mt View Ave/swale N side/across from Bi Mart east entry	H04292	Irrigation w/o Chemicals	Premises Isolation	02-Jul-21	Pass
		Mt View Ave/swale-north side-in front of 811 E Mt view in box	H04225		Premises Isolation	13-Apr-21	Pass
		Mt View Ave/swale-north side - near 401 E Mt View in box	H09974		Premises Isolation	13-Apr-21	Fail/Pass
		Rotary Park 300' N of Sigler Fld backstop	3518588		Premises Isolation	14-Apr-21	Pass
		S of Dolarway/SE of 1405 Dolarway/blue H2O sign Assembly removed by Reed Carlson 6-15-2018	A126370		Premises Isolation	14-Apr-21	Pass
City of Ellensburg Water Dept. Faciliites		Airport #3 Well west wall of pump room	A461822-3153		Premises Isolation	29-Sep-21	Pass
		City Wells east side of pump room by 12" valve	W366777	Chemical Feeder	In-Premises Protection	25-Aug-21	Pass
		Craig Hill Reservior/south side/inside security fence	AB8557	Irrigation w/o Chemicals	In-Premises Protection	27-Apr-21	Pass
		Hayward well enter east door-on west wall	005179	Fire Sprinkler w/o Chemical Addition	Dedicated Fire Line	07-Jan-21	Pass
		Hayward well enter east door-on west wall	005179	Fire Sprinkler w/o Chemical Addition	Dedicated Fire Line	27-Sep-21	Pass
		Hayward Well/North door/fluoride room	W394510	Chemical Feeder	In-Premises Protection	27-Sep-21	Pass

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Facility Name	Facility Address	Device Location	Serial No	Hazard Type	Protection Type	Test Date	Pass/Fail
City of Ellensburg Water Dept. Faciliites	607 Industrial Way, Ellensburg	Hayward Well/North door/fluoride room	W394510	Chemical Feeder	In-Premises Protection	07-Jan-21	Pass
		Hwy 10 well house upstairs north side west door	W409410		In-Premises Protection	06-Oct-21	Pass
		Hwy 10 well house upstairs north side west door	W409410		In-Premises Protection	07-Jan-21	Pass
		Kiwanis Well/SW room/east wall	W366774	Chemical Feeder	In-Premises Protection	28-Sep-21	Pass
		Memorial Well north wall of pump room	2889972	Chemical Feeder	In-Premises Protection	28-Sep-21	Pass
		Mt Stuart Well 75' SE of well house/east of drive	H92390	Irrigation w/o Chemicals	In-Premises Protection	02-Jul-21	Pass
		Mt Stuart Well/west room/east wall	W371160	Chemical Feeder	In-Premises Protection	30-Sep-21	Pass
Mar-21		N. Fill Stn@Water St 125' E of John Wayne Trail	F0506241543		fill line for trucks	Premises Isolation Pass	18-
		Rodeo Well/east wall	W371154	Chemical Feeder	In-Premises Protection	06-Oct-21	Pass
Mar-21		South Fill Station/east of 1007 Industrial Way	N1003040649		fill line for trucks	Premises Isolation Pass	17-
		Whitney Well/NW room/north wall	W367367	Chemical Feeder	In-Premises Protection	27-Sep-21	Pass
City of Ellensburg WWTP	2415 S Canyon Rd, Ellensburg	Boiler building inside east wall	41992	seals/processing	In-Premises Protection	28-Dec-21	Pass
		Boiler building inside north wall	347121	Boiler Feed Lines	In-Premises Protection	28-Dec-21	Pass
		Digestor bldg basement NE corner of compressor room	1009307	Sewage Equipment	In-Premises Protection	19-Jan-21	Pass
		Digestor bldg basement NE corner of compressor room	1009307	Sewage Equipment	In-Premises Protection	28-Dec-21	Pass
		Digestor bldg main floor under stairs by east entry	AOO6990	Sewage Equipment	In-Premises Protection	28-Dec-21	Pass

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Facility Name	Facility Address	Device Location	Serial No	Hazard Type	Protection Type	Test Date	Pass/Fail
City of Ellensburg WWTP	2415 S Canyon Rd, Ellensburg	Digestor bldg. polymer tank NW corner	77-AG	Chemical Feeder	In-Premises Protection	29-Dec-21	Pass
		Digestor Bldg./GBT Room/basement / SW corner	H00537	Sewage Equipment	In-Premises Protection	29-Dec-21	Pass
		Digestor Bldg./GBT Room/basement / SW corner	H00537	Sewage Equipment	In-Premises Protection	19-Jan-21	Pass
		Digestor bldg./polymer tank NW corner	44-AG	Chemical Feeder	In-Premises Protection	29-Dec-21	Pass
		Grit room /east wall	873285	Sewage Equipment	In-Premises Protection	28-Dec-21	Pass
		Raw sewage bldg cold lab water S wall of generator room	407614	Lab/cold water	In-Premises Protection	28-Dec-21	Pass
		Raw sewage bldg lab hot water S wall of generator room	409320	Lab/hot water	In-Premises Protection	28-Dec-21	Pass
		Raw Sewage bldg. /NE corner of generator room	55-AG	seals/processing	In-Premises Protection	29-Dec-21	Pass
		Raw Sewage bldg. N wall of generator room	AA8620	sewage hose bib	In-Premises Protection	28-Dec-21	Pass
		Raw Sewage bldg./ north wall of generator room	H17074	Premises Isolation	Premises Isolation	29-Dec-21	Pass
		Raw Sewage bldg./ north wall of generator room/lower unit.	H28444	Premises Isolation	Premises Isolation	28-Dec-21	Pass
		Recirc Bldg./basement /east wall	H05686	seals/processing	In-Premises Protection	19-Jan-21	Pass
		Recirc Bldg./basement /east wall	H05686	seals/processing	In-Premises Protection	29-Dec-21	Pass
		Recirc bldg.SW corner	11-AG	seals/processing	In-Premises Protection	29-Dec-21	Pass
		Recirc bldg.SW corner	22-AG	seals/processing	In-Premises Protection	29-Dec-21	Pass
		Recirc. Bldg main floor/NE corner by entry door	A264304	Sewage Equipment	In-Premises Protection	28-May-21	Pass

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Facility Name	Facility Address	Device Location	Serial No	Hazard Type	Protection Type	Test Date	Pass/Fail
City of Ellensburg WWTP	2415 S Canyon Rd, Ellensburg	RV Dump NE corner of lower gravel park lot near meter	HB19858	sewage hose bib	In-Premises Protection	21-Jul-21	Pass
		Ultraviolet room./ NW corner west wall by door	BE5014	sewage hose bib	In-Premises Protection	28-Dec-21	Pass
Clarence Alford	1009 E 19th Ave, Ellensburg	front yard	100631		In-Premises Protection	20-May-21	Pass
	1017 E 19th Ave, Ellensburg	front yard	100167		In-Premises Protection	20-May-21	Pass
Clark Martell	1100 N Canterbury Dr, City of Ellensburg	under window right of front door	A067024		In-Premises Protection	24-May-21	Pass
Clay Arango	1004 Gregory PL, Ellensburg	NE corner of lot/near fence/ north of zone valve box-)Note: lid may be buried under gravel)	A94789		In-Premises Protection	19-Jun-21	Pass
Cleona Henson	1100 S Rosewood Dr, Ellensburg	front yard	AJ3183	Irrigation w/o Chemicals	In-Premises Protection	28-Jul-21	Pass
Cletus Kinney	407 W 11th Ave, Ellensburg	front of house	DJ6763	Irrigation w/o Chemicals	In-Premises Protection	17-Jun-21	Pass
Clifford Rushton	1800 Trails Edge Dr, Ellensburg	front flower bed by meter/south side	42032		In-Premises Protection	03-Jun-21	Pass
Clifton & Linda Russell	1919 Green Parks Dr, Ellensburg	front yard/left side of porch	616938	Irrigation w/o Chemicals	In-Premises Protection	18-May-21	Fail/Pass
Clint Swanstrum	1202 E Capitol Ave, Ellensburg	north side of house	04920	Irrigation w/o Chemicals	In-Premises Protection	02-Jul-21	Pass
Club 301	301 N Pearl St, Ellensburg	basement/SW corner	400692		Premises Isolation	09-Dec-21	Pass
		basement/SW corner	U26677		Dedicated Fire Line	09-Dec-21	Pass
		under side of main bar/west end	W370617		In-Premises Protection	09-Dec-21	Pass
Clyde Reed	600 E Tacoma Ave, Ellensburg	south side of yard	A723594		In-Premises Protection	21-Jul-21	Pass
Cody Willet	607 N Sampson St, Ellensburg	back yard by the door/in wooden box	21042		In-Premises Protection	15-Jun-21	Pass

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Facility Name	Facility Address	Device Location	Serial No	Hazard Type	Protection Type	Test Date	Pass/Fail
Cole Gravel	2001 N Parklane Ave, Ellensburg	back yard by northeast corner of house	A374516		In-Premises Protection	24-Jul-21	Pass
Cole Kanyer	1107 E Spokane Ave, Ellensburg	front yard	596491	Irrigation w/o Chemicals	In-Premises Protection	24-Apr-21	Pass
Coleen Sonstegaard	605 W Bridgewood Ln, Ellensburg	E side of house behind fence	H19454	Irrigation w/o Chemicals	In-Premises Protection	03-Jun-21	Pass
Colin Condit	215 E 9th Ave, Ellensburg	North backyard	026957		In-Premises Protection	02-Jun-21	Pass
Colin Ferrin	1100 S Rosewood Dr, Ellensburg	front yard	376243	Irrigation w/o Chemicals	In-Premises Protection	06-May-21	Pass
College Park Apartments	1901 N Walnut St, Ellensburg	East of laundry room in vault/center of complex near pool	H22099	Irrigation w/o Chemicals	In-Premises Protection	01-Jun-21	Pass
Colton Brunson	313 W 12th Ave, Ellensburg	10' west of gate from alley	A571432		In-Premises Protection	11-Jun-21	Pass
Comfort Inn	1722 S Canyon Rd, Ellensburg	front of bldg/SE corner/in gravel	388033	Irrigation w/o Chemicals	In-Premises Protection	17-Jun-21	Pass
		mech room/ main floor/south end/ south wall	35K0475	Fire Dept. Connection	Dedicated Fire Line	17-Jun-21	Pass
		mech room/main floor/south end/south wall	9297403	Premise Isolation	Premises Isolation	17-Jun-21	Pass
		mech room/main floor/south end/south wall	55206	Fire Dept. Connection	Dedicated Fire Line	17-Jun-21	Pass
Community Health Pass	607 E Mtn View Ave, Ellensburg		at east fence by 4" PVC		A368156 Premises Isolation	18-May-21	
		standpipe					
Community Health of Pass	521 E Mtn View Ave, Ellensburg		mechanical room/north side of		3005893 Premises Isolation	11-Jun-21	
Central WA		building					
		west of water meter/ near sidewalk	A758887-3634	Irrigation w/o Chemicals	In-Premises Protection	18-May-21	Pass
Comprehensive Mental Health	220 W 4th Ave, City of Ellensburg	Basement Below Upper End of Staircase	3775986		Premises Isolation	05-Jun-21	Pass
	311 S Pine St, Ellensburg	Center of north exterior wall of garage	A549332		In-Premises Protection	10-May-21	Pass

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Facility Name	Facility Address	Device Location	Serial No	Hazard Type	Protection Type	Test Date	Pass/Fail
Comprehensive Mental Health	600 N Nanum St, Ellensburg	SE corner of house/next to water meter	190744	Irrigation w/o Chemicals	In-Premises Protection	10-May-21	Pass
	601 N Sprague ST, Ellensburg	Northwest corner of building	A534775		In-Premises Protection	05-Jun-21	Pass
	707 N Pearl St, Ellensburg	North side of building	11055		In-Premises Protection	10-May-21	Pass
Concepcion Dimas	1700 E Hobert Ave, Ellensburg	north side/near meter	A064913		In-Premises Protection	19-Aug-21	Pass
Connie Anglea	1101 E Umptanum Rd, Ellensburg	10" east of meter by driveway	A520736		In-Premises Protection	07-May-21	Pass
Connie Glenn	1100 S Rosewood Dr, Ellensburg	front yard/SE corner	AK9855	Irrigation w/o Chemicals	In-Premises Protection	06-May-21	Pass
Connie Linn	1604 N Stonebridge St, Ellensburg	south side of home	27998	Irrigation w/o Chemicals	In-Premises Protection	03-Jun-21	Pass
Connie Roberts	1014 Craig Ave, Ellensburg	in alley/south west corner of driveway	79157	Irrigation w/o Chemicals	In-Premises Protection	05-May-21	Pass
Connie Thompson	2 Brick Rd, Ellensburg	next to junipers in front yard	688093		In-Premises Protection	27-May-21	Pass
Cook Family Trust	1901 E 14th Ave, Ellensburg	west side of house/back yard	A07801	Irrigation w/o Chemicals	In-Premises Protection	15-Jun-21	Pass
Corey & Jillian Debritz	1708 N Bridgewood Ln., Ellensburg	north side of house	H99351	Irrigation w/o Chemicals	In-Premises Protection	03-Jun-21	Pass
Corey Ebbin	2100 N Chestnut St, Ellensburg	NE corner of lot/next to trees	A130005	Irrigation w/o Chemicals	In-Premises Protection	08-Jun-21	Pass
	702 E Capitol Ave, Ellensburg	Basement/east side /below stairs	3176874		Premises Isolation	15-Dec-21	Pass
		Basement/east side /below stairs	3176872		Premises Isolation	15-Dec-21	Pass
		East side /next to house	1314491-1991		In-Premises Protection	17-May-21	Pass
Corey Rogers	1407 N Canterbury Dr, Ellensburg	south side of house	HA21930		In-Premises Protection	11-Jun-21	Pass

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Facility Name	Facility Address	Device Location	Serial No	Hazard Type	Protection Type	Test Date	Pass/Fail
Cornerstone Pie	307 E 5th Ave, City of Ellensburg	30' West of West Door	7632662		Premises Isolation	26-May-21	Pass
		Outside, Right of West Door in Box	3704919		In-Premises Protection	02-Jul-21	Pass
Corrine Mehal	606 W Ravenswood Ln, Ellensburg	West side of house	H24704	Irrigation w/o Chemicals	In-Premises Protection	03-Jun-21	Pass
Corwin King	914 E 3rd Ave, Ellensburg	NE side of house between tree and hedge	T480499	Irrigation w/o Chemicals	In-Premises Protection	22-Jun-21	Fail/Pass
Cory & Elizabeth Henry	703 S Magnolia St, Ellensburg	SE side of house	A125224		In-Premises Protection	11-May-21	Pass
Cory Schneider	1007 N Willow St, Ellensburg	SE corner of house	3390777	Irrigation w/o Chemicals	In-Premises Protection	14-Jun-21	Pass
Courtney Lynne Nasset	1511 N Ravenswood Ln, Ellensburg	Right side of house	1HA58698	Irrigation w/o Chemicals	In-Premises Protection	21-Apr-21	Pass
Craig Pigeon	111 E 9th Ave, Ellensburg	East side of house	4685494	Irrigation w/o Chemicals	In-Premises Protection	14-Jul-21	Fail/Pass
Cramers Home Furnishing Pass		108 S Main St, Ellensburg gravel area	South side of parking lot in		A87449 In-Premises Protection	14-May-21	
Creative Kids Learning Center	102 N Ruby St, Ellensburg	East side of building/south of ramp/ in large valve box	385899		Premises Isolation	13-Jul-21	Pass
		SE corner of yard/inside fence/near house	H12253		In-Premises Protection	13-Jul-21	Pass
Creekside Dental	2601 Triple L Lp, Ellensburg	North side of building/near sidewalk and meter	387952		In-Premises Protection	04-May-21	Pass
		Northwest corner mechanical room/north wall	B30150	Dental Equipment/Cuspidors	In-Premises Protection	19-Feb-21	Pass
		Northwest corner mechanical room/south wall	A42104	Dental Equipment/Cuspidors	Premises Isolation	19-Feb-21	Pass
Crestview Terrace	2000 N Alder St, Ellensburg	center of complex/south of playground /near meter	3006327		Premises Isolation	08-Jun-21	Pass
		center of complex/south of playground/near meter	3006331		Premises Isolation	08-Jun-21	Pass

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Facility Name	*Facility Address*	*Device Location*	*Serial No*	*Hazard Type*	*Protection Type*	*Test Date*	*Pass/Fail*
Crestview Terrace	2000 N Alder St, Ellensburg	middle of housing units/ SE of playground /near meter	A40279		In-Premises Protection	08-Jun-21	Pass
Crestview Terrace Manor Apts	2101 N Alder St, Ellensburg	NW corner of property/ in shed behind /apt #42	3564906	Irrigation w/o Chemicals	In-Premises Protection	08-Jun-21	Pass
Critter Care Veterinary Clinic	1442 W University Way, Ellensburg	NW side of building/west wall of mens bathroon	3537797	Premise Isolation	Premises Isolation	16-Nov-21	Pass
Crystal Glahn Premises	2604 N Columbia St, Ellensburg 23-Jun-21	Pass	NW corner of house	Chemicals	440893 Protection	Irrigation w/o	In-
	2609 N Columbia St, Ellensburg Pass		NE corner of house/below window		A631609 Protection	In-Premises	23-Jun-21
Crystal Wertz	1303 Vuecrest Ave, Ellensburg	Under stairs in west back yard	A777717		In-Premises Protection	04-Jun-21	Fail/Pass
Curt Dyk	501 W 9th Ave, Ellensburg	NW side of house/westside of garage	459029	Irrigation w/o Chemicals	In-Premises Protection	22-Jun-21	Pass
Curtis Crimp	111 W 10th Ave, Ellensburg	NW corner of garage	T145465	Irrigation w/o Chemicals	In-Premises Protection	11-Jun-21	Pass
Cutberto Nambo Pass	1607 E Spokane AV, Ellensburg		5' north of SW corner of house		A642551 Protection	In-Premises	15-Jun-21
CWU	1005 E 11th Ave, Ellensburg	East side of house	008394	Irrigation w/o Chemicals	In-Premises Protection	22-Apr-21	Pass
CWU Anderson	400 E University Way, Ellensburg	custodian closet/north entry	#2	Soap chemical dispenser	In-Premises Protection	02-Sep-21	Pass
		mech room/north entry/west wall	P6547	Boiler Feed Lines	In-Premises Protection	09-Sep-21	Pass
CWU Aquatics		Downstairs mech	126816	Fire Dept. Connection	Dedicated Fire Line	22-Feb-21	Pass
		downstairs mech/north wall	D411E12	Fire Dept. Connection	Dedicated Fire Line	22-Feb-21	Pass
		lower mech room/ SE wall	AH1091	hose for wash down	In-Premises Protection	03-Dec-21	Pass
		upper mech room	00314	Waste heat recirculation	In-Premises Protection	07-Dec-21	Pass

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Facility Name	Facility Address	Device Location	Serial No	Hazard Type	Protection Type	Test Date	Pass/Fail
CWU Aquatics	400 E University Way, Ellensburg	upper mech room/north wall	3655	Boiler Feed Lines	In-Premises Protection	07-Dec-21	Pass
CWU Archives		mech room/north wall	BD6076	humidifier	In-Premises Protection	02-Mar-21	Pass
		mech room/west wall	BD5945	Boiler Feed Lines	In-Premises Protection	02-Mar-21	Pass
		South side vault/in parking lot	812660	Fire Dept. Connection	Dedicated Fire Line	22-Feb-21	Pass
		South side vault/in parking lot	11222	Fire Dept. Connection	Dedicated Fire Line	01-Feb-21	Fail/Pass
CWU Barge		East stair well/next to air handler	318106	Boiler Feed Lines	In-Premises Protection	10-Sep-21	Pass
		lower mech room #110	11371	Premise Isolation	Premises Isolation	10-May-21	Pass
		lower mech room #110/south wall	3398	Fire Dept. Connection	Dedicated Fire Line	24-Feb-21	Pass
		lower mech room #110/south wall	PB-0680	Fire Dept. Connection	Dedicated Fire Line	24-Feb-21	Pass
CWU Barto Hall		First floor/north side/ Room #1004/north wall	ME0632		Dedicated Fire Line	23-Feb-21	Pass
		First floor/north side/Rm # 1004/south wall	354548		In-Premises Protection	10-Jun-21	Pass
		NW side of bldg. #2/ inside large vault	J38048		Premises Isolation	09-Jun-21	Pass
		NW side of bldg. #2/ inside large vault	J37718		Premises Isolation	09-Jun-21	Pass
		Resident Life Bldg./Main floor/north side exterior mech. Room	MC2593		Dedicated Fire Line	23-Feb-21	Pass
CWU Beck Hall	400 E University Way., Ellensburg	mech room/north entry/north wall	P6559	Boiler Feed Lines	In-Premises Protection	18-Aug-21	Pass
CWU Black	400 E University Way, Ellensburg	domestic water heater NE penthouse	J019529		In-Premises Protection	10-Nov-21	Pass

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Facility Name	Facility Address	Device Location	Serial No	Hazard Type	Protection Type	Test Date	Pass/Fail
CWU Black	400 E University Way, Ellensburg	hot water supply/in upper attic area/north side of air handler	405591	Lab/hot water	In-Premises Protection	10-Nov-21	Pass
		Room 131	495	Fire Dept. Connection	Dedicated Fire Line	22-Feb-21	Pass
		Room 131	3FM1748	Fire Dept. Connection	Dedicated Fire Line	22-Feb-21	Pass
		Room 151	566315	Boiler Feed Lines	In-Premises Protection	10-Nov-21	Pass
CWU Bouillon		East entry/room #136/upstairs south wall	Y2226	Boiler Feed Lines	In-Premises Protection	11-Oct-21	Pass
		Mech room E end along wall next to ladder ground level	11437	Premises Isolation	Premises Isolation	08-Apr-21	Pass
CWU Brooklane Day Care		boiler room/north entry/south wall	218806	Boiler Feed Lines	In-Premises Protection	07-Sep-21	Pass
CWU Bud Barn/Food Warehouse	415 N Railroad Ave, Ellensburg	East of of bldg . @ 415 N Railroad Ave	963631	Irrigation w/o Chemicals	In-Premises Protection	22-Apr-21	Fail/Pass
CWU Computer Center	400 E University Way, Ellensburg	mech room/north entry/west wall	669793	Boiler Feed Lines	In-Premises Protection	11-May-21	Pass
CWU Davies		1st Floor cust closet	7	Soap chemical dispenser	In-Premises Protection	07-Oct-21	Pass
		mechanical room/east entry/south wall	P6577	Boiler Feed Lines	In-Premises Protection	07-Oct-21	Fail/Pass
CWU Dean Hall		1st floor /room #141/ west side of building/north wall	2871611		Premises Isolation	03-Dec-21	Pass
		1st floor/Riser Room #141/west door	U10142		Dedicated Fire Line	24-Feb-21	Pass
		1st floor/room #141/ west side of building/north wall	2844918		Premises Isolation	03-Dec-21	Pass
		2nd floor/room #210/ west hallway/south wall	2856971		In-Premises Protection	03-Dec-21	Pass
		Rooftop mech room/west wall /north of hot water tanks	2856985		In-Premises Protection	03-Dec-21	Pass

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Facility Name	Facility Address	Device Location	Serial No	Hazard Type	Protection Type	Test Date	Pass/Fail
CWU Dean Hall	400 E University Way, Ellensburg	Rooftop mech room/west wall/north of hot water tanks	M7165		In-Premises Protection	03-Dec-21	Pass
CWU Dugmore Hall		Attic fan room #A502	161237-3646	boiler/chiller	In-Premises Protection	07-Jul-21	Pass
		Attic fan room #A503	162763-3645		In-Premises Protection	07-Jul-21	Pass
		Lower mech room west side	F5637-3615		Dedicated Fire Line	25-Feb-21	Pass
		Lower mech room west wall	161111-3616	Boiler Feed Lines	In-Premises Protection	07-Jul-21	Pass
		Lower mech room west wall lower	TA0654-3613	boiler/chiller	Premises Isolation	07-Jul-21	Pass
		Lower mech room west wall upper	SK2088-3614		boiler/chillerPremises Isolation	07-Jul-21 Pass	
		Room 103	215974-3655		In-Premises Protection	13-Jul-21	Pass
		Room 103 west wall	218777-3654		In-Premises Protection	13-Jul-21	Pass
		Room 103 west wall	215982-3653		In-Premises Protection	13-Jul-21	Pass
		Room 103 west wall	215973-3649		In-Premises Protection	12-Jul-21	Pass
		Room 103 west wall	218873-3651		In-Premises Protection	12-Jul-21	Pass
		Room 103 west wall	216072-3650		In-Premises Protection	12-Jul-21	Pass
		Room 103 west wall	215877-3652		In-Premises Protection	13-Jul-21	Pass
		Room 112	TB2444-3648		Premises Isolation	08-Jul-21	Pass
CWU Farrell		Lower mech room /mens bathroom	2134254	Premise Isolation	Premises Isolation	07-May-21	Pass

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Facility Name	Facility Address	Device Location	Serial No	Hazard Type	Protection Type	Test Date	Pass/Fail
CWU Flight Tech	807 E Elmview, Ellensburg	East of parking lot/ near water meter	3066506	Premises Isolation	Premises Isolation	06-Apr-21	Pass
CWU Green Deli	400 E University Way, Ellensburg	kitchen	231003	Ice Machine	In-Premises Protection	11-May-21	Pass
		Room 101 W Freezer	238433	Beverage Dispenser with CO2	In-Premises Protection	12-May-21	Pass
CWU Green Hall		1st floor laundry room	04131R4U0489		In-Premises Protection	01-Apr-21	Pass
CWU Health Center		East side of building/soiled laundry room/east wall	186889	Premise Isolation	Premises Isolation	07-Jun-21	Pass
		fan room/west wall	023964		In-Premises Protection	07-Jun-21	Pass
		soiled linen closet	X2179	Premise By Pass	In-Premises Protection	07-Jun-21	Pass
CWU Health Sciences		North mechancal room 1st floor	N2006261139-3743		Premises Isolation	29-Jul-21	Pass
		North mechanical room 1st floor	N2006261138-3742		Premises Isolation	29-Jul-21	Pass
CWU Hitchcock		east entry/south wall	P6519	Boiler Feed Lines	In-Premises Protection	07-Oct-21	Pass
		east side service entry/west wall	8	Soap chemical dispenser	In-Premises Protection	07-Oct-21	Pass
CWU Hogue Tech		Basement mechanical room/ SE corner/east wall	J10935		Dedicated Fire Line	23-Feb-21	Pass
		Basement/south wall	H02402		In-Premises Protection	07-Dec-21	Pass
		Basement/south wall	H02402		In-Premises Protection	01-Mar-21	Pass
		Basement/south wall	H02390		In-Premises Protection	07-Dec-21	Pass
		Main Floor/ Metallurgy Lab # 127 /west wall	H02414		In-Premises Protection	07-Dec-21	Pass

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Facility Name	Facility Address	Device Location	Serial No	Hazard Type	Protection Type	Test Date	Pass/Fail
CWU Hogue Tech	400 E University Way, Ellensburg	Roof top penthouse mechanical room/east wall	293355		In-Premises Protection	13-Dec-21	Pass
		Southeast corner of basement./east wall/upper assembly	N1107261053		Premises Isolation	13-Dec-21	Pass
		Southeast corner of basement/east wall/lower assembly	N1105090711		Premises Isolation	03-Feb-21	Pass
		Southeast corner of basement/east wall/lower assembly	N1105090711		Premises Isolation	13-Dec-21	Fail/Pass
CWU Irrigation Assemblies		11th & Chestnut south	J08654	Irrigation w/o Chemicals	In-Premises Protection	20-Apr-21	Pass
		Anderson North/NE corner of building	J34530	Irrigation w/o Chemicals	In-Premises Protection	20-Apr-21	Pass
		Archives/ SW corner of property	40446	Irrigation w/o Chemicals	In-Premises Protection	22-Apr-21	Pass
		Barge courtyard for McConnell	10472	Irrigation w/o Chemicals	In-Premises Protection	22-Apr-21	Pass
		Brooklane well house/ inside on south wall	9903261609	Irrigation w/o Chemicals	Premises Isolation	20-Apr-21	Pass
		Brooklane well house/north end of water tank/near sand filter	1476081	Irrigation w/o Chemicals	In-Premises Protection	20-Apr-21	Pass
		Brooklane well house/west side/middle/above water tank	20		In-Premises Protection	20-Apr-21	Pass
		Brooklane well. Inside north end	B17319	Irrigation w/o Chemicals	Premises Isolation	20-Apr-21	Pass
		Brooklane wellhouse/NW corner	21		In-Premises Protection	20-Apr-21	Pass
		Farrel Hall/ NE of biulding in lawn/in vault	H25617	Irrigation w/o Chemicals	In-Premises Protection	20-Apr-21	Pass

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Facility Name	Facility Address	Device Location	Serial No	Hazard Type	Protection Type	Test Date	Pass/Fail
CWU Irrigation Assemblies	400 E University Way, Ellensburg	Flight Tech Bldg/ Bower RD. south side of bldg (approx 75")	2879851		In-Premises Protection	23-Apr-21	Fail/Pass
		Greenhouse/ west of Dean Science Bldg. /NE corner in closet	J077713	Irrigation with Chemicals	In-Premises Protection	22-Apr-21	Fail/Pass
		J.W. Trail 18th/Helena	4285923-3503		Premises Isolation	22-Apr-21	Pass
		Japanese Garden/ in the Pass roadway north of the garden	A1901030525	Irrigation w/o Chemicals	Irrigation w/o In-Premises Protection	20-Apr-21	
		Jongeward fishbowl garden	253977	Irrigation w/o Chemicals	In-Premises Protection	22-Apr-21	Pass
		Jongeward N side near gate	N2005201104-3708	Irrigation w/o Chemicals	In-Premises Protection	04-May-21	Fail/Pass
		Kennedy/ outside north wall	30202	Irrigation w/o Chemicals	In-Premises Protection	21-Apr-21	Pass
		Lang/Lit NE northeast side of building/next to Walnut mall	J34592	Irrigation w/o Chemicals	In-Premises Protection	20-Apr-21	Pass
		Naneum /water heater closet in womens rest room	AE2701	Irrigation w/o Chemicals	In-Premises Protection	21-Apr-21	Pass
		NE outside corner of Jongward/Grounds Dept. Mech. Shop bldg.	25633DC	Irrigation w/o Chemicals	In-Premises Protection	21-Apr-21	Pass
		North side of President's residence	007361		In-Premises Protection	21-Apr-21	Pass
		Psychology 14th & D St South/SE of main entry to building	J64733	Irrigation w/o Chemicals	In-Premises Protection	04-May-21	Fail/Pass
		Short-Getz South B-2	A05450	Irrigation w/o Chemicals	In-Premises Protection	21-Apr-21	Pass
		Student Village /South A	73822	Irrigation w/o Chemicals	In-Premises Protection	27-Apr-21	Fail/Pass
		Student Village /West D	H020570	Irrigation w/o Chemicals	In-Premises Protection	21-Apr-21	Pass

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Facility Name	Facility Address	Device Location	Serial No	Hazard Type	Protection Type	Test Date	Pass/Fail
CWU Irrigation Assemblies	400 E University Way, Ellensburg	Student Village South B	H020603	Irrigation w/o Chemicals	In-Premises Protection	21-Apr-21	Fail/Pass
		Student Village/ North E	AP1407	Irrigation w/o Chemicals	In-Premises Protection	21-Apr-21	Pass
		Student villiage/South/west of Apt B	J34529	Irrigation w/o Chemicals	In-Premises Protection	21-Apr-21	Pass
		Town Ditch & Walnut Mall/ NE of mall bridge	B0829	Irrigation w/o Chemicals	In-Premises Protection	23-Apr-21	Fail/Pass
		Town Ditch and Walnut SW	J19551	Irrigation w/o Chemicals	In-Premises Protection	20-Apr-21	Pass
		Wahle Apartments Univ. Wy/ south of Ap. #9	J34528	Irrigation w/o Chemicals	In-Premises Protection	20-Apr-21	Pass
		Wahle Apts Univer. Wy/SE of Apt. #12	J34531	Irrigation w/o Chemicals	In-Premises Protection	20-Apr-21	Pass
		West side of airport hanger	13429-3738		In-Premises Protection	23-Apr-21	Pass
CWU Jongeward		In vault/ north maint. Shop/west of hydrant B-8	19242	Irrigation w/o Chemicals	Dedicated Fire Line	24-Feb-21	Pass
		In vault/ north of maint shop/west of hydrant B-8	KE-1667	Fire Dept. Connection	Dedicated Fire Line	24-Feb-21	Pass
		mech room/downstairs	X2191	Boiler Feed Lines	In-Premises Protection	02-Jul-21	Pass
		Sheet metal shop/spot welder	66553B		In-Premises Protection	03-Feb-21	Pass
		Weld shop by sink	HB23847	Welder cooling	In-Premises Protection	02-Sep-21	Pass
CWU Kamola		Kamola sprinkler room 137	02650		Dedicated Fire Line	23-Feb-21	Pass
		mech room	07226	Premise Isolation	Premises Isolation	17-Sep-21	Pass
		mech room	07384	Premise Isolation	Premises Isolation	17-Sep-21	Pass

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Facility Name	Facility Address	Device Location	Serial No	Hazard Type	Protection Type	Test Date	Pass/Fail
CWU Kamola	400 E University Way, Ellensburg	mech room	115450	Boiler Feed Lines	In-Premises Protection	17-Sep-21	Pass
		Sprinkler room 137	F020520	Fire Dept. Connection	Dedicated Fire Line	23-Feb-21	Pass
CWU Kennedy		2nd fllor custodial closet	16		In-Premises Protection	04-Mar-21	Pass
		2nd floor Cust closet	17	Soap chemical dispenser	In-Premises Protection	01-Apr-21	Pass
CWU Language/Literature		1st floor mech/fire riser room	G23091-3618		Dedicated Fire Line	25-Feb-21	Pass
		Lower Mech room	X2077	Boiler Feed Lines	In-Premises Protection	02-Jun-21	Pass
CWU Library /14th & E St.		North side vault	01246	Fire Dept. Connection	Premises Isolation	22-Feb-21	Pass
		North side vault	F030421	Fire Dept. Connection	Dedicated Fire Line	22-Feb-21	Fail/Pass
CWU Lind		North side entrance opposite tank	U47943		Premises Isolation	05-Nov-21	Pass
CWU Mail and Duplicating		mechanical room/east entry	1374434	Laundry	In-Premises Protection	11-Oct-21	Pass
		mechanical room/east entry	195159	Premise Isolation	Premises Isolation	13-Sep-21	Pass
CWU McConnell		Basement mechanical room/east wall	20697	Fire Dept. Connection	Dedicated Fire Line	23-Feb-21	Pass
		Basement mehanical room/east wall	KL0726	Fire Dept. Connection	Dedicated Fire Line	23-Feb-21	Pass
CWU Meisner		1st floor custodian closet	9	Soap chemical dispenser	In-Premises Protection	07-Oct-21	Pass
		south entry/south wall	P6554	Boiler Feed Lines	In-Premises Protection	07-Oct-21	Pass
CWU Mitchell		indoor mech room/southeast corner	P5852	Boiler Feed Lines	In-Premises Protection	01-Jun-21	Pass

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Facility Name	Facility Address	Device Location	Serial No	Hazard Type	Protection Type	Test Date	Pass/Fail
CWU Montgomery	400 E University Way, Ellensburg	1st floor custodial closet/next to kitchen	16349R6U4049	Soap chemical dispenser	In-Premises Protection	18-Aug-21	Pass
CWU Moore		custodial closet/north entry	3	Soap chemical dispenser	In-Premises Protection	02-Sep-21	Pass
		mech room/north entry/west wall	P6560	Boiler Feed Lines	In-Premises Protection	17-Aug-21	Pass
CWU Munson		Large vault on east side of bldg./near sidewalk	39283		Premises Isolation	08-Jun-21	Pass
		Large vault on west side of bldg./next to sidewalk	990623133		Dedicated Fire Line	05-Nov-21	Pass
CWU Music Building		mech room	133793	Fire Dept. Connection	Dedicated Fire Line	23-Feb-21	Fail/Pass
		mech room	116538	Premise Isolation	Premises Isolation	07-Sep-21	Fail/Pass
		mech room/west entry/south wall	1695896	Premise Isolation	Premises Isolation	07-Sep-21	Pass
		mech room/west entry/west wall	539936	Non potable water	In-Premises Protection	07-Sep-21	Pass
CWU Nanum		south side laundry room/west wall	F0307251127		Dedicated Fire Line	25-Feb-21	Pass
		south side mech room/west wall	H001422		Dedicated Fire Line	25-Feb-21	Pass
CWU New Heating Plant		boiler room/main floor/east end	A15050661205	boiler/chiller	Premises Isolation	17-May-21	Pass
		boiler room/main floor/east end	N1412050912		boiler/chiller	In-Premises	17-May-21 Pass
					Protection		
		boiler room/main floor/east end	1619	Premises Isolation	Premises Isolation	17-May-21	Pass
CWU Nicholson		East wall over sink in concesssions room east of gym door	369267-3539		In-Premises Protection	12-Oct-21	Pass
		lower mech room/north east entry/north wall	X2155	Boiler Feed Lines	In-Premises Protection	13-Sep-21	Pass

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Facility Name	Facility Address	Device Location	Serial No	Hazard Type	Protection Type	Test Date	Pass/Fail
CWU North Commons/Dugmore	400 E University Way, Ellensburg	Fire riser room by bathrooms	F5128		Dedicated Fire Line	25-Feb-21	Pass
		mech room	P6536	Boiler Feed Lines	In-Premises Protection	10-May-21	Pass
CWU Paint Shop		carpet shop	122416	Fire Dept. Connection	Dedicated Fire Line	25-Feb-21	Pass
		North mech room/NW corner	25933	Premise Isolation	In-Premises Protection	07-Sep-21	Pass
CWU Physical Ed		Lower mech room/north entry/south wall	A0262	Premise Isolation	Premises Isolation	10-Sep-21	Pass
		upper mech room/north entry/north wall/top of stairs	5695	Boiler Feed Lines	In-Premises Protection	10-Sep-21	Pass
CWU Psychology		Lower mech room	22133A	Fire Dept. Connection	Dedicated Fire Line	22-Feb-21	Pass
		Room 369	BA6170		In-Premises Protection	02-Jun-21	Pass
		upper mech room/at top of stairs	AK1739	Boiler Feed Lines	In-Premises Protection	02-Jun-21	Pass
CWU Quigley		Cust. Closet/north maint.entrance	10	Soap chemical dispenser	In-Premises Protection	08-Oct-21	Pass
		north entry/north wall	P6516	Boiler Feed Lines	In-Premises Protection	07-Oct-21	Pass
CWU Randall		Air handler room/ 1st floor/ east wall	H05254	Boiler Feed Lines	In-Premises Protection	03-Feb-21	Pass
		Mech room/ North wall/ lower	H00571	Photo lab	In-Premises Protection	04-Feb-21	Pass
		Mech room/ North wall/upper	H00581	Photo lab	Premises Isolation	04-Feb-21	Pass
		Mech room/ SE corner/ lower	F030807-1322	Premise Isolation	Premises Isolation	04-Jan-21	Pass
		Mech room/ SE corner/upper	F0308071553-1321	Premise Isolation	Premises Isolation	10-Jun-21	Pass

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Facility Name	Facility Address	Device Location	Serial No	Hazard Type	Protection Type	Test Date	Pass/Fail
CWU Randall	400 E University Way, Ellensburg	Mech room/south wall	X1660	Boiler Feed Lines	In-Premises Protection	04-Feb-21	Pass
		Room 209/dark room/north wall	A003019	Photo lab	In-Premises Protection	04-Feb-21	Pass
		Room 209/dark room/north wall	A003018	Photo lab	In-Premises Protection	04-Feb-21	Pass
		Room 223/dark room/south wall	A003024-0782	Photo lab	In-Premises Protection	04-Feb-21	Pass
		Room 223/dark room/south wall	A010689-0781	Photo lab	In-Premises Protection	04-Feb-21	Pass
CWU Samuelson		Inside closet door near loading dock	QH1819		Dedicated Fire Line	24-Feb-21	Pass
		Riser room north side of bldg	004903		Premises Isolation	04-May-21	Pass
		South wall of riser room northside of bldg	015352-3558		Premises Isolation	03-Dec-21	Pass
CWU Science 1		1st floor Room # 117	91016	Ice Machine	In-Premises Protection	19-Oct-21	Pass
		2nd floor/ room # 220	90014	Ice Machine	In-Premises Protection	19-Nov-21	Pass
		3rd Floor /room # 303 (hallway)	79269	Ice Machine	In-Premises Protection	19-Oct-21	Pass
		3rd Floor room #317	89617	Ice Machine	In-Premises Protection	19-Oct-21	Pass
		Basement mech /west side	432100	humidifier	In-Premises Protection	14-Oct-21	Pass
		Basement mechanical room/north side/north wall	189323	Lab/cold water	In-Premises Protection	14-Oct-21	Pass
		Basement/ NE corner	B01326	Domestic	In-Premises Protection	05-Mar-21	Pass
		Lower mechanical room	167590	Chiller	In-Premises Protection	03-Feb-21	Pass

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Facility Name	Facility Address	Device Location	Serial No	Hazard Type	Protection Type	Test Date	Pass/Fail
CWU Science 1	400 E University Way, Ellensburg	North penthouse	76480	make up water for flat plat	In-Premises Protection	05-Mar-21	Pass
		NW corner sidewalk/in vault/near Hydrant B70	9607081353	Fire Dept. Connection	Dedicated Fire Line	22-Feb-21	Pass
		NW corner.sidewalk/in vault/near Hydrant B70	A013478	Fire Dept. Connection	Dedicated Fire Line	22-Feb-21	Fail/Pass
		Parking lot vault north of New Science	960709136	Domestic	Premises Isolation	06-Jul-21	Pass
		Penthouse NE wall	A024167	Water cooler	In-Premises Protection	13-Oct-21	Pass
		Penthouse SE wall	A027711	Water cooler	In-Premises Protection	13-Oct-21	Pass
		South Penthouse	459057	humidifier	In-Premises Protection	13-Oct-21	Pass
CWU Science 2		1st floor mech room lower assembly	31784-2783		In-Premises Protection	03-Feb-21	Pass
		1st floor mech room lower assembly	32004		Premises Isolation	03-Feb-21	Pass
		1st floor mech room NE corner	43639		Dedicated Fire Line	25-Feb-21	Pass
		1st floor mech room NE corner	583466		Dedicated Fire Line	25-Feb-21	Pass
		1st floor mech room upper assembly	31906-2781		Premises Isolation	03-Feb-21	Pass
		1st floor mech room upper assembly	31766		In-Premises Protection	03-Feb-21	Pass
		4th floor furnace room betwee hot water tanks	32001-2784		In-Premises Protection	03-Feb-21	Pass
CWU Shaw Smyser		lower mech room/west wall	AK8327	Boiler Feed Lines	In-Premises Protection	07-Jun-21	Pass
		N. Side Vault	31157	Fire Dept. Connection	Dedicated Fire Line	05-Nov-21	Pass

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Facility Name	Facility Address	Device Location	Serial No	Hazard Type	Protection Type	Test Date	Pass/Fail
CWU Short-Getz	400 E University Way, Ellensburg	center building/mech room/north entry/south wall	P6479	Boiler Feed Lines	In-Premises Protection	08-Sep-21	Pass
CWU Soccer Concession		Mech room between men's & ladies room	0466100-3602		In-Premises Protection	12-Oct-21	Pass
		Soccer concession stand behind ice machine	160964-3603		In-Premises Protection	12-Oct-21	Pass
CWU Sparks		cust closet/north entry/south wall	11	Soap chemical dispenser	In-Premises Protection	08-Oct-21	Pass
		Mech Room N entry N wall	1502145		In-Premises Protection	07-Oct-21	Pass
CWU Stephen-Whitney		Mech room ' H' court /east entry/mech room/west wall	P6528	Boiler Feed Lines	In-Premises Protection	17-Aug-21	Pass
		Mech room in the northwest corner of courtyard	N2003270916-3712		Premises Isolation	19-Nov-21	Pass
		SW corner of NW basement mech room	00156-3764		Premises Isolation	03-Dec-21	Pass
		West custodial closet/west enrty	4	Soap chemical dispenser	In-Premises Protection	02-Sep-21	Pass
CWU Student Village		Almonty Bldg. mech room	AJ1391	Boiler Feed Lines	In-Premises Protection	02-Jun-21	Pass
CWU Sub Rec		3rd floor/south fan room	296324		In-Premises Protection	05-Feb-21	Pass
		3rd flr. fan room./rec bldg.	269731		In-Premises Protection	05-Feb-21	Pass
		3rd flr./ North fan room.	269695		In-Premises Protection	05-Feb-21	Pass
		basement mech room/north west area/near boiler	155043	Boiler Feed Lines	Premises Isolation	09-Feb-21	Pass
		basement mech. room	1014440105		Premises Isolation	09-Feb-21	Pass
		basement mech. room	A05068		Premises Isolation	09-Feb-21	Pass

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Facility Name	Facility Address	Device Location	Serial No	Hazard Type	Protection Type	Test Date	Pass/Fail
CWU Sub Rec	400 E University Way, Ellensburg	basement mech. Room/SW side	114458-0205		Dedicated Fire Line	24-Feb-21	Pass
		behind soda machine/Room #114-A/next to ice cream booth	304219		In-Premises Protection	11-Feb-21	Pass
		Holmes Dining /south wall under pop dispenser	304236		In-Premises Protection	11-Feb-21	Pass
		Holmes Dining/ west wall under pop dispenser	W03621		In-Premises Protection	11-Feb-21	Pass
		Holmes Dining/ west wall under pop dispenser	W03621		In-Premises Protection	17-May-21	Pass
		Kitchen N of room #115K E side of hallway in cabinets.	37621	water wash ventilator	In-Premises Protection	09-Feb-21	Pass
		kitchen/nortth of room #115K/eastside of hallway/in cabinets	214688	water wash ventilator	In-Premises Protection	11-Feb-21	Fail/Pass
CWU Sue Lombard		1st floor cust closet	1	Soap chemical dispenser	In-Premises Protection	05-Nov-21	Pass
		basement mech room/south wall	1-38267-1004		Fire Dept. Connection	Dedicated Fire Line	23-Feb-21 Pass
		Rm #001 mech room/north entry basement/south wall	J08366	Premise Isolation	Premises Isolation	02-Feb-21	Pass
		Rm #001 mech room/north entry basement/south wall	J08366	Premise Isolation	Premises Isolation	08-Nov-21	Pass
		Rm #001 north enrty/basement/south wall	182683	Boiler Feed Lines	In-Premises Protection	08-Nov-21	Pass
		Rm #003 mech room/south entry/basement/south wall	282865	Reclaimed Water	In-Premises Protection	02-Feb-21	Pass
		Rm #003 mech room/south entry/basement/south wall	282865	Reclaimed Water	In-Premises Protection	08-Nov-21	Fail/Pass
		Rm# 001 mech room/north entry/ basement/south wall	J17473	Premise Isolation	Premises Isolation	08-Nov-21	Pass
		southside basement mech room/south wall	63348	Fire Dept. Connection	Dedicated Fire Line	23-Feb-21	Pass

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Facility Name	Facility Address	Device Location	Serial No	Hazard Type	Protection Type	Test Date	Pass/Fail
CWU Tomlinson	400 E University WAY, Ellensburg	Thru south door of bldg S of main gate	109072-3597		Premises Isolation	17-Aug-21	Pass
CWU Tunstall Commons		Coffee Stand	B00003		In-Premises Protection	09-Jun-21	Pass
		Coffee Stand	B00004		In-Premises Protection	09-Jun-21	Pass
		Dish machine room	A023856	Dishwasher w/o Chemicals	In-Premises Protection	03-May-21	Pass
		Dish machine room	02118		In-Premises Protection	03-May-21	Pass
		Sue Lombard/dining room	W189801	Beverage Dispenser with CO2	In-Premises Protection	03-May-21	Pass
		TC dining room/pop machine	238372		In-Premises Protection	03-May-21	Pass
CWU Van # 68		Van # 68	380284	carpet extractor	Premises Isolation	21-Oct-21	Pass
CWU Wahle Apartment		boiler room #1	P6478	Boiler Feed Lines	In-Premises Protection	01-Jun-21	Pass
CWU Wendell Hill Hall/Mech Bldg. A	905 Nicholson Blvd., Ellensburg	1st floor/west end /room #122/east wall	136953		Premises Isolation	12-Jan-21	Pass
		1st floor/west end /room #122/west wall	15185		Dedicated Fire Line	23-Feb-21	Pass
		1st floor/west end/ room #122/east wall	136971		Premises Isolation	12-Jan-21	Pass
		1st floor/west end/room #122/west wall	JA0942		Dedicated Fire Line	23-Feb-21	Pass
		4th floor/north wing/room #428/north wall	B20795		In-Premises Protection	12-Jan-21	Pass
		4th floor/south wing/room #419/NE wall	B20901		In-Premises Protection	12-Jan-21	Pass
CWU Wendell Hill Hall/Mech Bldg. B	1401 N Alder St, Ellensburg	1st floor /south side/Rm. #B-122/east wall	06892		In-Premises Protection	01-Mar-21	Pass

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Facility Name	Facility Address	Device Location	Serial No	Hazard Type	Protection Type	Test Date	Pass/Fail
CWU Wendell Hill Hall/Mech Bldg. B	1401 N Alder St, Ellensburg	1st floor/SW corner/Room #131 /north wall	136951		Premises Isolation	08-Jan-21	Pass
		1st floor/SW corner/Room #131/north wall	136956		Premises Isolation	08-Jan-21	Pass
		1st floor/SW corner/room #131/south wall	JD0059		Dedicated Fire Line	23-Feb-21	Pass
		1st floor/SW corner/room #131/south wall	14985		Dedicated Fire Line	23-Feb-21	Pass
		4th floor/east wing/Room #442/east wall	B20810		In-Premises Protection	05-Jan-21	Pass
		4th floor/north wing/Room #421/north wall	B20823		In-Premises Protection	05-Jan-21	Pass
CWU Wendell Hill/Mech Bldg.C	903 Nicholson Blvd, Ellensburg	north wall/center	136978		Premises Isolation	04-Jan-21	Pass
		north wall/center	136955		Premises Isolation	04-Feb-21	Pass
		north wall/center/lower assembly			A57881	In-Premises	04-Jan-21
		Pass				Protection	
CWU Wilson	400 E University Way, Ellensburg	Basement custodial closet	08081R4U5597		In-Premises Protection	02-Apr-21	Pass
		mech room	P6550	Boiler Feed Lines	In-Premises Protection	09-Apr-21	Pass
Cynthia Glahn & Wayne Barney	404 W 7th Ave, Ellensburg	6' southeast of northeast corner of 404 W 7th	A497465		In-Premises Protection	02-Jun-21	Pass
Cynthia Leach	305 E 1st Ave, Ellensburg	Next to house/SW /north of side entrrance	B11673		In-Premises Protection	14-May-21	Pass
Cynthia Loveland	2409 N Delphine St, Ellensburg	south side of yard /next to house /near gate	HB47168		In-Premises Protection	10-Jun-21	Pass
D&M Roastery and Public House	304 W Washington AV, Ellensburg	N wall of employee rest room in NW corner of bldg	A534766		Premises Isolation	02-Mar-21	Pass
Daily Bread and Mechantile	306 S Main St Suite #2, Ellensburg	South end mechanical room/south wall	3495328		Premises Isolation	13-Jan-21	Pass

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Facility Name	Facility Address	Device Location	Serial No	Hazard Type	Protection Type	Test Date	Pass/Fail
Dairy Queen	1601 Currier St, Ellensburg	1101 E University Way/under pop machine	27915	Beverage Dispenser with CO2	In-Premises Protection	28-Jul-21	Pass
		Currier St/ under pop machine/front counter	27565	Beverage Dispenser with CO2	In-Premises Protection	29-Jul-21	Pass
		Currier St/under drive thru pop dispenser	223266	Beverage Dispenser with CO2	In-Premises Protection	03-Aug-21	Fail/Pass
		Currier St/under drive thru pop dispenser	223266	Beverage Dispenser with CO2	In-Premises Protection	26-Jul-21	Pass
Dakota Café	417 N Pearl St, Ellensburg	next to ice machine in cabinet	242714	Beverage Dispenser with CO2	In-Premises Protection	05-Aug-21	Pass
Dale Meador	510 S Willow ST, Ellensburg	By water meter at street	A773175-3645		In-Premises Protection	11-Jun-21	Pass
Dale Rusho	1100 S Rosewood Dr, Ellensburg	front yard/NW corner	685352	Irrigation w/o Chemicals	In-Premises Protection	18-May-21	Pass
Dan Arnold	1609 E Hobert Ave, Ellensburg	front yard next to meter	291958		In-Premises Protection	10-May-21	Pass
Dan Bramstedt	804 Viewridge Ct, Ellensburg	eastside backyard	1424773	Irrigation w/o Chemicals	In-Premises Protection	11-May-21	Pass
Dan Munguia	1700 E Canterbury Dr, Ellensburg	E side of house	HA21433	Irrigation w/o Chemicals	In-Premises Protection	24-May-21	Pass
Dan Thompson	2602 N Columbia St, City of Ellensburg	SW side of house	3741188		In-Premises Protection	22-May-21	Pass
Dan Timmons Premises	516 W Ridgeview Ln, Ellensburg	back yard /west side of house			10628	Irrigation w/o	In-
	10-Jun-21	Pass					
				Chemicals	Protection		
Dane Williams	203 E 9th AV, Ellensburg	Between house & garage by gas meter	3850771		In-Premises Protection	02-Jun-21	Pass
Daniel Amos	209 Mt Adams Ct., Ellensburg	SW corner /front lawn	A723504-1360	Irrigation w/o Chemicals	In-Premises Protection	01-May-21	Pass
Daniel Bush	605 S Tamarack LN, Ellensburg	South of driveway near meter	A359099-3724		In-Premises Protection	19-Aug-21	Pass
Daniel Carlson	1602 E Sparrow Knoll AV, Ellensburg	10' north of northwest corner of house	A537964		In-Premises Protection	20-May-21	Pass

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Facility Name	Facility Address	Device Location	Serial No	Hazard Type	Protection Type	Test Date	Pass/Fail
Daniel Carlson	1602 E Sparrow Knoll AV, Ellensburg	10' north of northwest corner of house	A537964		In-Premises Protection	20-May-21	Pass
Daniel Espinoza	1208 E Mtn View Ave, Ellensburg	6' East of garage door	3082486		In-Premises Protection	19-Jul-21	Pass
Daniel Hansberry	1212 N Thayer Ave, Ellensburg	back yard/near gate	W660377	Irrigation w/o Chemicals	In-Premises Protection	11-Jun-21	Pass
Daniel Lipori	1715 N Bridgewood Ln, Ellensburg	south side/ behind fence	A828187	Irrigation w/o Chemicals	In-Premises Protection	03-Jun-21	Pass
Daniel Rathbone	306 S Pearl St, Ellensburg	SE corner of back yard	993347-1787	Irrigation w/o Chemicals	In-Premises Protection	28-Jun-21	Pass
Daniel Redwine	1209 N Tanglewood CRT, Ellensburg	5' south of NW corner of house	A723301-3604		In-Premises Protection	13-Jul-21	Pass
Daniel Smith	506 E Kristen Ave, City of Ellensburg	West of driveway 10 feet from curb	A253564		In-Premises Protection	10-Jun-21	Pass
Daniel Todd	902 E Manitoba, Ellensburg	backyard/ east side of garage/on wall	056412	Irrigation w/o Chemicals	In-Premises Protection	21-Aug-21	Pass
Daniel Whitaker	1604 Brook Ct, Ellensburg	west side	33418		In-Premises Protection	27-May-21	Pass
	709 E Manitoba, Ellensburg	North side/near gate	12360	Irrigation w/o Chemicals	In-Premises Protection	17-May-21	Pass
Danielle Morrison	1400 N Vista Rd, Ellensburg	NW side/near driveway	700806	Irrigation w/o Chemicals	In-Premises Protection	04-Aug-21	Pass
Danielle Nguyen	1708 N Ohio St, Ellensburg	North side of house	210763	Irrigation w/o Chemicals	In-Premises Protection	28-May-21	Pass
Darius & Kimberly Williams	1600 Bluegrass Ln, Ellensburg	N side of house by gate	7005690	Irrigation w/o Chemicals	In-Premises Protection	28-Jun-21	Pass
Darla Joy Walton	1222 N Thayer Ave, Ellensburg	Southwest corner of lot/east of shrubs	40909		In-Premises Protection	27-May-21	Pass
Darlene Carlton	1100 S Rosewood Dr, Ellensburg	backyard by driveway	672781	Irrigation w/o Chemicals	In-Premises Protection	11-Jun-21	Fail/Pass
Darrell Hazelwood	1204 N Canterbury Dr., Ellensburg	North side of garage	3434722		In-Premises Protection	14-May-21	Pass

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Facility Name	*Facility Address*	*Device Location*	*Serial No*	*Hazard Type*	*Protection Type*	*Test Date*	*Pass/Fail*
Darren Larsen	1004 N B St, Ellensburg	South of house by meter	A530107		In-Premises Protection	01-Jun-21	Pass
Darren Reid	1001 N Columbia ST, Ellensburg	Right side of front porch	A878045		In-Premises Protection	11-Jun-21	Pass
Darrin Walter	505 N Willow St, Ellensburg	Near center of house in back yard	A495997		In-Premises Protection	01-Sep-21	Pass
Daryl Basler	1009 E 1st AV, Ellensburg	East wall of basement near window	A614453-3173		In-Premises Protection	14-Jun-21	Pass
Dave & Debbie Howell	1606 N Bluegrass Ln, Ellensburg	N side in yard	A07808	Irrigation w/o Chemicals	In-Premises Protection	02-Jun-21	Pass
David & Janet Crane	1201 Vista Rd, Ellensburg	S side on middle of yard	A327576	Irrigation w/o Chemicals	In-Premises Protection	28-May-21	Pass
David Bieloh	2603 N Columbia St, Ellensburg	East side of house/next to front sidewalk	HC 10766		In-Premises Protection	01-May-21	Pass
David Breece	1711 E Ashford Wy, Ellensburg	West of house inside gate	A380581		In-Premises Protection	24-May-21	Pass
David Christopherson	1709 Gala Way, Ellensburg	East side of house	A712999	Irrigation w/o Chemicals	In-Premises Protection	14-Jun-21	Pass
David Cross	103 W 9th Ave, Ellensburg	On B St side of house/brick wall	233765	Irrigation w/o Chemicals	In-Premises Protection	23-Jun-21	Fail/Pass
David Diefenbach	905 E Seattle Ave, Ellensburg	in alley by fence under box	138635	Irrigation w/o Chemicals	In-Premises Protection	11-May-21	Pass
David Fevergeon	1201 N Tanglewood CRT, Ellensburg	West side of house by AC unit	A668339-3587		In-Premises Protection	24-May-21	Pass
David Fiske	915 E 2nd Ave, Ellensburg	E side of house in a vault	566828	Irrigation w/o Chemicals	In-Premises Protection	24-Jun-21	Pass
		East yard in rocks	A356835-1504		In-Premises Protection	24-Jun-21	Pass
David Johnson	1704 Bridgewood Ln, Ellensburg	S side	64956	Irrigation w/o Chemicals	In-Premises Protection	26-Aug-21	Pass
David Kaufman	101 W 10th Ave, Ellensburg	NW side of backyard	91460	Irrigation w/o Chemicals	In-Premises Protection	01-Jun-21	Pass

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Facility Name	Facility Address	Device Location	Serial No	Hazard Type	Protection Type	Test Date	Pass/Fail
David Kuhn	1101 E Umptanum, Ellensburg	North side near gate	A497402		In-Premises Protection	18-May-21	Pass
David Lygre	805 N B St, Ellensburg	closet in basement for furnace	A6500	Boiler Feed Lines	In-Premises Protection	18-Nov-21	Pass
		closet in basement for furnace	A6500	Boiler Feed Lines	In-Premises Protection	09-Sep-21	Pass
David Malcom	1210 N Main St, Ellensburg	N side of driveway	16021	Irrigation w/o Chemicals	In-Premises Protection	13-Apr-21	Pass
David McReynolds	605 S Maple St, Ellensburg	S side of house in yard	177255	Irrigation w/o Chemicals	In-Premises Protection	02-Jul-21	Pass
David Miller	1011 E 2nd Ave, Ellensburg	North side of house	592518	Irrigation w/o Chemicals	In-Premises Protection	11-Jun-21	Fail/Pass
		North side of house	592518	Irrigation w/o Chemicals	In-Premises Protection	11-Jun-21	Fail/Pass
David Parker	1007 E 2nd Ave, Ellensburg	NW corner of back yard	3862474		In-Premises Protection	11-May-21	Pass
David Richards	2408 N Lilac Wy, Ellensburg	SW corner of house/backyard behind fence	2649148		In-Premises Protection	10-Jun-21	Pass
David Roumonada	1011 E 3rd Ave, Ellensburg	NW corner of lot / inside fence	T142978	Irrigation w/o Chemicals	In-Premises Protection	04-May-21	Pass
		NW corner of lot / inside fence	T142978	Irrigation w/o Chemicals	In-Premises Protection	04-May-21	Pass
David Sarino	1801 E 14th Ave, Ellensburg	SE side of property/NE corner of driveway concrete slab in box	46173		In-Premises Protection	24-May-21	Pass
David True	306 S Maple St, Ellensburg	SE corner of house/in basement	A4018		In-Premises Protection	17-May-21	Pass
David Ware	1508 Brook Ct, Ellensburg	east of water meter in valve box	2804215		Premises Isolation	27-May-21	Pass
		SW corner of building/next to stairs/ in gravel.	2804296		In-Premises Protection	27-May-21	Pass
Davis Oltman LLC	2205 W Dolarway Rd, Ellensburg	North side of building	A66880		In-Premises Protection	17-May-21	Pass

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Facility Name	Facility Address	Device Location	Serial No	Hazard Type	Protection Type	Test Date	Pass/Fail
Davis Oltman LLC	2205 W Dolarway Rd, Ellensburg	NW corner room under cabinet	2864254		Premises Isolation	08-Dec-21	Pass
DaVita's Dialysis	2101 W Dolarway Rd, Ellensburg	Fire Riser room SE corner of building	U13895	Fire Sprinkler w/o Chemical Addition	Dedicated Fire Line	12-Mar-21	Pass
		North side/ centered on building/ in valve box	HB26502	Irrigation w/o Chemicals	In-Premises Protection	12-Mar-21	Pass
		R.O room/Northwest side of building/east wall	A99586	Lab/hot water	In-Premises Protection	12-Mar-21	Pass
		SE corner of building/above mop sink	A144393		Premises Isolation	12-Mar-21	Pass
Dawn Adams	1605 E Sparrow Knoll AV, Ellensburg	West side 15' from fence	A592092-3171		In-Premises Protection	20-Jul-21	Pass
Days Inn	901 Berry Rd, Ellensburg	40' east of basketball court near driveway in hot box	3543210		Premises Isolation	12-Apr-21	Pass
		mech room thru employee center door	2LL0545	Fire Dept. Connection	Dedicated Fire Line	12-Apr-21	Pass
		south side of entrance in lawn	461701	Irrigation w/o Chemicals	In-Premises Protection	12-Apr-21	Pass
Dean Allen	1400 E Hobert Ave, City of Ellensburg	W Side of house	A312883		In-Premises Protection	04-Jun-21	Pass
Dean Maccucio	2011 N Water St, Ellensburg	SE corner of basement (entrance to basement thru laundry room floor hatch)	HB262625		In-Premises Protection	28-Jun-21	Pass
Dean Masuccio	1401 N Thayer Ave, Ellensburg	front yard/ near house by window/behind bushes	T305697	Irrigation w/o Chemicals	In-Premises Protection	11-Jun-21	Pass
Debbie Haitt	417 W 15th Ave, Ellensburg	North of house in back yard	887654		In-Premises Protection	02-Jun-21	Pass
Debbie Lee	1505 E Spokane Ave, Ellensburg	Front yard/east of meter	A134228	Irrigation w/o Chemicals	In-Premises Protection	10-May-21	Pass
Deborah Camuso	1816 N Cora St, Ellensburg	N side in yard	A493861	Irrigation w/o Chemicals	In-Premises Protection	20-May-21	Pass
Deborah Carrier	1706 E Sparrow Knoll AV, Ellensburg	East side near NE corner	A587290-3163		In-Premises Protection	10-May-21	Pass

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Facility Name	Facility Address	Device Location	Serial No	Hazard Type	Protection Type	Test Date	Pass/Fail
Deborah Cheney	902 N Columbia ST, Ellensburg	Northwest lawn	A426213		In-Premises Protection	02-Jun-21	Pass
Deborah Gellatly	1100 S Rosewood Dr, Ellensburg	front yard in rocks	29606	Irrigation w/o Chemicals	In-Premises Protection	13-Apr-21	Pass
Debra Douglas	900 E 4th Ave, Ellensburg	east side of house	2032981		In-Premises Protection	08-Apr-21	Pass
		east side of house	2032981		In-Premises Protection	14-May-21	Pass
Debra Scheib	1008 Gregory PL, Ellensburg	NW corner of property by meter	A07788	Irrigation w/o Chemicals	In-Premises Protection	05-Jun-21	Pass
Deeann Karageorges	1127 E Capitol Ave, Ellensburg	Back yard near center of house	A432998	Irrigation w/o Chemicals	In-Premises Protection	12-May-21	Pass
Delbert H. Barrett	1305 Radio Rd, Ellensburg	SW side of house	DH8688	Irrigation w/o Chemicals	In-Premises Protection	27-May-21	Pass
Delores Axthelm	1100 S Rosewood Dr, Ellensburg	SW corner	A046546		In-Premises Protection	06-May-21	Pass
Denise Schaake		front yard	359363	Irrigation w/o Chemicals	In-Premises Protection	05-May-21	Pass
Dennis Robinson	211 W Mt Hood Ct, Ellensburg	south side of driveway	46718		In-Premises Protection	17-Jun-21	Pass
Denny Clark	1702 Gala Way, Ellensburg	West side of house	1H89928	Irrigation w/o Chemicals	In-Premises Protection	24-May-21	Pass
Dept Children Youth & Families	1210 W University WAY, Ellensburg	40' east of NE corner of bldg	A707507		In-Premises Protection	11-May-21	Pass
		Mop room by bathrooms	114739		Premises Isolation	31-Aug-21	Pass
Dept of Fish & Wildlife	1130 W University WAY, Ellensburg	East of bldg under windows	A745396		In-Premises Protection	11-May-21	Pass
		West of kitchen in mech room	098453		Premises Isolation	31-Aug-21	Pass
Derald Martin	1101 E Umptanum Rd,	Northwest corner of house near			A481265	In-Premises	07-May-21
Pass	Ellensburg	meter			Protection		

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Facility Name	Facility Address	Device Location	Serial No	Hazard Type	Protection Type	Test Date	Pass/Fail
Derek Holmes	910 E Manitoba, Ellensburg	South side/bachyard/north of garage	434308		In-Premises Protection	07-May-21	Pass
Devin Micallef	403 S Chestnut St, Ellensburg	South side of house/ behind fence	A713023-1451	Irrigation w/o Chemicals	In-Premises Protection	18-May-21	Pass
Dian Aversano	400 W 14th Ave, Ellensburg	25' North of house/2' west of sidewalk	3440674	Irrigation w/o Chemicals	In-Premises Protection	10-Aug-21	Pass
Diana Schneider	1101 E Umptanum Rd, Ellensburg	front yard N end next to house	39501	Irrigation w/o Chemicals	In-Premises Protection	24-Jun-21	Pass
Diana Wilson	514 W 13th Ave, Ellensburg	W side of house	207416	Irrigation w/o Chemicals	In-Premises Protection	21-Jul-21	Pass
Diane Estes	600 S Pine St, City of Ellensburg	SE Corner Backyard	190442		In-Premises Protection	14-May-21	Pass
Diane Pariso	707 S Shumard St, City of Ellensburg	Front yard under window	A281446		In-Premises Protection	25-May-21	Pass
Diane Rossow	1121 E Mtn View Ave, Ellensburg	South side/west of front steps	3032024		In-Premises Protection	11-May-21	Pass
Dina Yook	1011 N Cora St, Ellensburg	south side of yard /next to fence	46212		In-Premises Protection	01-Jun-21	Pass
Dirks Pizza	408 N Main St, Ellensburg	NE corner of bldg/east wall/near electrical panel	2689879	Premises Isolation	Premises Isolation	16-Nov-21	Pass
Dirt Road Properties LLC	604 W 7th Ave, Ellensburg	south east corner of house/ in vault	A253019		In-Premises Protection	30-Aug-21	Pass
DJ&K Property Rentals	1300 Brooklane, Ellensburg	Straight east on driveway to #1308	A596536	Irrigation w/o Chemicals	In-Premises Protection	22-May-21	Pass
DNR	713 Bowers Rd, Ellensburg	NW corner of property/north of shop	028130	fill line for trucks	In-Premises Protection	19-May-21	Pass
		NW corner of trailer NE side of property	013231	Irrigation w/o Chemicals	In-Premises Protection	17-May-21	Pass
		NW side of bldg in yard	336209-1366	Irrigation w/o Chemicals	In-Premises Protection	19-May-21	Pass
		Right of service entrance gate	044808	Irrigation w/o Chemicals	In-Premises Protection	19-May-21	Pass

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Facility Name	Facility Address	Device Location	Serial No	Hazard Type	Protection Type	Test Date	Pass/Fail
DNR	713 Bowers Rd, Ellensburg	SE of main entrance/north of parking lot/ in lawn	636585		In-Premises Protection	19-May-21	Pass
Dolarway Business park	801 N Prospect St, Ellensburg	East wall /center of bldg. suite #1	303540		Dedicated Fire Line	30-Mar-21	Pass
	807 N Prospect St, Ellensburg	807 Prospect Suite #2/ NE corner of bldg	1042359	Fire Dept. Connection	Premises Isolation	29-Mar-21	Pass
		807 Prospect Suite 1/back room/NE corner	N01856	Fire Dept. Connection	Dedicated Fire Line	29-Mar-21	Pass
Dolarway Chevron Premises	1404 N Dolarway Rd, Ellensburg 12-Jan-21	Main retail area/east wall /below pop machine	323564	Beverage Dispenser with CO2	In-Premises Protection	12-Jan-21	Pass
		NE corner mech room/south wall for car wash	3207475	car wash	Premises Isolation	12-Jan-21	Pass
Don & Pam Brown	1116 E 1st Ave, Ellensburg	back yard/south side /near fence		129064 Chemicals	Irrigation w/o Protection	In-Premises	26-Apr-21 Pass
Don Cataline	1100 S Rosewood Dr, Ellensburg	front yard/in trees	AH5068	Irrigation w/o Chemicals	In-Premises Protection	05-May-21	Pass
Don King	1011 E Manitoba, Ellensburg	SE front yard	371464		In-Premises Protection	13-May-21	Pass
Don Pless	1101 E Umptanum, Ellensburg	Southeast corner of garage	A499292		In-Premises Protection	06-May-21	Pass
Don Schilling	801 E 2nd Ave, Ellensburg	North side of property/middle of fence/near alley	B13467		In-Premises Protection	14-May-21	Pass
Don Solberg	106 W 9th Ave, Ellensburg	basement	21612	Irrigation w/o Chemicals	In-Premises Protection	02-Jun-21	Pass
Donald & Carol Cummings	810 E 8th Ave, Ellensburg	South side of lot/inside fence/near alley	440798	Irrigation w/o Chemicals	In-Premises Protection	21-Apr-21	Pass
Donald Bucklin	1005 Craig Ave, Ellensburg	SE corner of house	640249	Irrigation w/o Chemicals	In-Premises Protection	05-May-21	Pass
Donald Finn	2415 N Lilac Wy, Ellensburg	SW corner of house/backyard	HB21679		In-Premises Protection	10-Jun-21	Pass
Donald Ford	804 Acacia Ln, Ellensburg	front yard/east of driveway	886898	Irrigation w/o Chemicals	In-Premises Protection	08-Jun-21	Pass

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Facility Name	Facility Address	Device Location	Serial No	Hazard Type	Protection Type	Test Date	Pass/Fail
Donald Harbeck	1701 E Hobert Ave, Ellensburg	front yard/ near meter	2649143		Premises Isolation	08-Jun-21	Pass
Donald Johnston	200 Mt Adams Ct, Ellensburg	in bushes west of house near sidewalk	415127		In-Premises Protection	13-May-21	Pass
Donald Michaud	1101 E Umptanum Rd, Ellensburg	S side of house by back door	39447	Irrigation w/o Chemicals	In-Premises Protection	07-May-21	Pass
Donald Patterson	905 N Okanogan St, Ellensburg	back yard next to garage	185361	Irrigation w/o Chemicals	In-Premises Protection	11-Jun-21	Pass
Donna McFadden	912 E 1st Ave, Ellensburg	under house/ new addition in back	42035		In-Premises Protection	02-Jun-21	Pass
Dorian Carolus Githens	209 E 18th AV, Ellensburg	Mech room by back door	173337	Boiler Feed Lines	In-Premises Protection	26-Oct-21	Pass
Dorothy Farnsworth	1402 Vuecrest Ave, Ellensburg	SW corner of front yard	A0700389		In-Premises Protection	28-May-21	Pass
Doug Boe	1307 E 15th Ave, Ellensburg	north side of unit #2 above ground	A33131		In-Premises Protection	27-May-21	Pass
Doug Demory	1912 N Parklane Ave, Ellensburg	NE corner of house/backyard thru gate	96110	Irrigation w/o Chemicals	In-Premises Protection	23-Jun-21	Pass
Douglas Coburn	709 S Cypress Ct, Ellensburg	By meter straight est of front door	A356370		In-Premises Protection	13-May-21	Pass
Douglas Fessler	402 N Alder St, Ellensburg	in the basement	28683	Irrigation w/o Chemicals	In-Premises Protection	05-Jun-21	Pass
Douglas Fulp	707 S Cypress Ct, Ellensburg	SE corner of house on south side	A356366		In-Premises Protection	07-Jun-21	Pass
Douglas Jones	1404 E Hobert Ave, City of Ellensburg	Front yard along garage N walk	A308533		In-Premises Protection	13-Jul-21	Pass
Douglas Miles	208 S Maple St, Ellensburg	SW corner of house	06859	Irrigation w/o Chemicals	In-Premises Protection	14-May-21	Pass
Dr. Byron Thomas	1205 E Washington Ave, Ellensburg	SW corner of house	33425	Irrigation w/o Chemicals	In-Premises Protection	28-Apr-21	Pass
Dr. Mark Larson	815 E 1st Ave, Ellensburg	Back yard through gate NW along hedge & fence	3050498		In-Premises Protection	25-May-21	Pass

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Facility Name	Facility Address	Device Location	Serial No	Hazard Type	Protection Type	Test Date	Pass/Fail
Dr. Sullivan	305 E 2nd Ave, Ellensburg	in crawl space/left of crawl access door	A12908		In-Premises Protection	16-Aug-21	Pass
		under Dr. Sullivans office in the basement (305 E 2nd)	78033	Premise Isolation	Premises Isolation	16-Aug-21	Pass
Dr. William Meyer	1010 Craig Ave, Ellensburg	south property line/next to wall	A534824	Irrigation w/o Chemicals	In-Premises Protection	05-May-21	Pass
DSHS	1100 W University WAY, Ellensburg	Mech room east side of center hallway	114735-3609		Premises Isolation	31-Aug-21	Pass
		North of building 12' south of meter	A772766-3725		In-Premises Protection	11-May-21	Pass
Duane Bangs	208 N Sprague St, Ellensburg	back yard by fence	T357336	Irrigation w/o Chemicals	In-Premises Protection	02-Aug-21	Fail/Pass
Duane Davies	1708 Gala Way, Ellensburg	Back yard/near gate	A75144	Irrigation w/o Chemicals	In-Premises Protection	15-Jul-21	Pass
Dustin Hurter	1006 Columbia St, Ellensburg	Crawl space/north side (enter from basement)	96668		In-Premises Protection	04-Jun-21	Pass
Dutch Bros Coffee	1800 S Canyon RD, Ellensburg	Above mop sink in bathroom	238484		Premises Isolation	23-Sep-21	Fail/Pass
Econolodge	1390 N Dolarway Rd, Ellensburg		west side, front lawn, near		A261300	In-Premises	15-Jun-21 Pass
		water meter			Protection		
Ecumenical Church of Ellensburg	400 N Anderson St, Ellensburg	west side of building	42104		In-Premises Protection	26-May-21	Pass
Ed Black	907 E Spokane Ave, Ellensburg	North front yard	A881766		In-Premises Protection	13-May-21	Pass
Ed Doolin	802 E Hobert Ave, Ellensburg	Northwest corner of house	T145477		In-Premises Protection	28-Apr-21	Pass
Ed Smith	109 W 9th Ave, Ellensburg	East side of house	170968	Irrigation w/o Chemicals	In-Premises Protection	02-Jun-21	Pass
Eddy Dutton Trust	2404 N Lilac Wy, Ellensburg	south side of house/back yard	HA20547		In-Premises Protection	28-Jun-21	Pass
Edna Allphin	908 N Vista Rd, Ellensburg	NW side of lot/ near large tree/east of meter	A018330		In-Premises Protection	26-May-21	Pass

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Facility Name	Facility Address	Device Location	Serial No	Hazard Type	Protection Type	Test Date	Pass/Fail
Edward Buntin	1703 E Plumridge, Ellensburg	South front yard	A064927		In-Premises Protection	28-Apr-21	Pass
Edward Cushing	709 E 2nd, Ellensburg	North side of house	A110254		In-Premises Protection	18-May-21	Pass
Edward Fallon	407 N Anderson St, Ellensburg	NW cor of house	T305618	Irrigation w/o Chemicals	In-Premises Protection	25-May-21	Pass
Edward Keegan	209 W Hailey Ct, Ellensburg	SE corner of house	A028462		In-Premises Protection	23-Jun-21	Pass
Edward Slobodian	1101 E Umptanum RD, Ellensburg	Southwest corner of house by meter	A770066-3626	Irrigation w/o Chemicals	In-Premises Protection	05-Apr-21	Pass
Edwin Brower	1509 E Spokane Ave, City of Ellensburg	Front yard next to driveway	A281444		In-Premises Protection	19-Aug-21	Pass
Edwin Patry	2403 N Lilac Wy, Ellensburg	in side yard	60080		In-Premises Protection	28-Jun-21	Pass
	2513 N Columbia St, Ellensburg		SE corner of house/in box		A105686	In-Premises	08-Jun-21
	Pass				Protection		
Eighteenth Street Deli	1801 N Walnut St #1, Ellensburg	north wall / near sink in restaurant area	28347	Beverage Dispenser with CO2	In-Premises Protection	12-Jan-21	Pass
El Caporal Restaurant	201 W University Way, Ellensburg	In kitchen-next to ice machine	27913	Beverage Dispenser with CO2	In-Premises Protection	06-Apr-21	Pass
		NE corner of property between sidewalk and curb in grass planting strip	A86060		In-Premises Protection	06-Apr-21	Pass
Elaine Peterson	1109 Franklin St, Ellensburg	front yard/near driveway	1351658		In-Premises Protection	04-May-21	Pass
Elizabeth Dodge	1512 N Stonebridge St, Ellensburg	N side of house	H89321	Irrigation w/o Chemicals	In-Premises Protection	02-Jun-21	Pass
Elizabeth Ferrero	1211 E 3rd Ave, Ellensburg	east side of house/ near base of chimney	A26202		In-Premises Protection	30-Apr-21	Pass
Elizabeth Haviland	905 E 1st Ave, Ellensburg	Northeast corner of back yard	T367165		In-Premises Protection	10-Jun-21	Fail/Pass
Elizabeth Johnson	205 Mt Adams Ct, Ellensburg	front yard by meter	59988	Irrigation w/o Chemicals	In-Premises Protection	04-May-21	Pass

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Facility Name	Facility Address	Device Location	Serial No	Hazard Type	Protection Type	Test Date	Pass/Fail
Elizabeth McCune	1101 E Umptanum Rd., Ellensburg	back of house/west side of yard	42433		In-Premises Protection	28-Jun-21	Pass
Elizabeth Periman	905 E Capitol Ave, Ellensburg	back of house/N. side of deck in control box	1478904		In-Premises Protection	12-May-21	Pass
Elizabeth Whitaker	500 N Anderson St, Ellensburg	E side of house	35174	Irrigation w/o Chemicals	In-Premises Protection	25-May-21	Pass
Elks Lodge	119 W 5th Ave, Ellensburg	Center of 2nd floor utility hall	07377		Premises Isolation	10-Feb-21	Pass
		Center of 2nd floor utility hall	07368		Premises Isolation	10-Feb-21	Pass
		East wall of restaurant beside soda fountain	W408383		In-Premises Protection	10-Feb-21	Pass
Ellen Avitts	705 S Alder St, Ellensburg	SE side yard	157364	Irrigation w/o Chemicals	In-Premises Protection	15-Apr-21	Pass
Ellensburg Christian School	407 S Anderson St, Ellensburg	Basement/ east side of building	U04604		Dedicated Fire Line	29-Jun-21	Pass
		Basement/crawl space east side of building	2950547		Premises Isolation	29-Jun-21	Pass
		Basement/crawl space/east side of building	3045822		In-Premises Protection	29-Jun-21	Pass
Ellensburg Commercial Property	118 W 5th Ave, Ellensburg	downstairs mech room/ SE corner	05816	Fire Dept. Connection	Dedicated Fire Line	07-Jun-21	Pass
		SE corner of property/near fence	F120062	Irrigation w/o Chemicals	In-Premises Protection	07-Jun-21	Pass
Ellensburg Crossfit	301 W 2nd AV, Ellensburg	East wall of utility closet west of men's room	A522425		Premises Isolation	03-Feb-21	Pass
Ellensburg Four Square Church	906 E Mt View Ave, Ellensburg	front lawn 30' east of sign	30899	Irrigation w/o Chemicals	In-Premises Protection	11-May-21	Pass
		Thirty feet east of front door in gravel bed	A696610		Premises Isolation	11-May-21	Pass
Ellensburg Liquor & Wine	800 S Pearl St, Ellensburg	east side/back wall on fire protection riser	U09404		Dedicated Fire Line	17-Nov-21	Pass

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Facility Name	Facility Address	Device Location	Serial No	Hazard Type	Protection Type	Test Date	Pass/Fail
Ellensburg Liquor & Wine	800 S Pearl St, Ellensburg	east wall/ north of fire stand pipe	A14645		Premises Isolation	17-Nov-21	Pass
		west side/ near water meter between parking lot and sidewalk	A80518	Irrigation w/o Chemicals	In-Premises Protection	06-May-21	Pass
Ellensburg Mobile Estates Pass		600 S Ruby St., Ellensburg	West side of unit #20/east of		2960238 Premises Isolation	07-Feb-21	
		fence and meter/next to Ruby St.					
Ellensburg Pasta Co	600 N Main St, Ellensburg	Bar, under bar tap to right of SE corner	W390934		In-Premises Protection	08-Dec-21	Pass
		kitchen/north wall	02827	Beverage Dispenser with CO2	In-Premises Protection	08-Dec-21	Pass
Ellensburg Power Sports	307 S Main St, Ellensburg	East wall next to bathroom	A499368		Premises Isolation	06-Jan-21	Pass
Ellensburg Rodeo Association	1306 Vantage Hwy., Ellensburg	northeast corner of building/by meter/outside fence	422341		Premises Isolation	28-May-21	Pass
Ellensburg School District	1300 E 3rd Ave, Ellensburg	High School Fire riser room NE corner of bldg	124395-1733		Dedicated Fire Line	25-Aug-21	Pass
		High School mech room/ NE corner of bldg	L12802-1736	Premise Isolation	Premises Isolation	25-Aug-21	Pass
		High School Room # C104/west wall/bi-pass	56230-1734	Fire Dept. Connection	Dedicated Fire Line	25-Aug-21	Pass
		Morgan 3rd floor custodial closet by elevator	417436-3526		Premises Isolation	25-Aug-21	Pass
		Morgan basement mech room	9116-3528		In-Premises Protection	25-Aug-21	Pass
		Morgan by NE side of track	14617-0155	Irrigation w/o Chemicals	In-Premises Protection	25-Aug-21	Pass
		Morgan cust. Room 2nd floor by elevator Rm 143	18951		Premises Isolation	25-Aug-21	Pass
		Morgan custodial office #167	389001-3524		In-Premises Protection	25-Aug-21	Pass

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Facility Name	Facility Address	Device Location	Serial No	Hazard Type	Protection Type	Test Date	Pass/Fail
Ellensburg School District	1300 E 3rd Ave, Ellensburg	Morgan custodial room B161	156998-3523		In-Premises Protection	25-Aug-21	Pass
		Morgan custodial room in kitchen	W419427-3522		Premises Isolation	25-Aug-21	Pass
		Morgan fire riser room north end	000115140F		Dedicated Fire Line	25-Aug-21	Pass
		Morgan north bed by meter	4130221-3538		In-Premises Protection	25-Aug-21	Pass
		Morgan NW mech room 1st floor south wall	173714-3527		Premises Isolation	25-Aug-21	Pass
		North of Mt Stuart Sch 8' north of meter 16' north of A173	28228-3737		Premises Isolation	18-Jan-21	Pass
		North of Mt Stuart School 8' west of meter	27433-3736		Dedicated Fire Line	18-Jan-21	Pass
		Northeast of new Mt Stuart north building	28227-3740		Premises Isolation	18-Jan-21	Pass
		NW of Ida Nason Aronica by Post Indicator Valve	28214-3741		Dedicated Fire Line	18-Jan-21	Pass
		NW of Ida Nason Aronica by Post Indicator Valve	28214-3741		Dedicated Fire Line	16-Nov-21	Pass
		Softball field concession bldg./ SE of District Offices/main floor/SW corner	3344745-2144		Premises Isolation	25-Aug-21	Pass
		Valley View Elem. Boiler room/north wall	A51865-3220	Boiler Feed Lines	In-Premises Protection	25-Aug-21	Pass
		Valley View Elem. Boiler room/north wall	A51865-3220	Boiler Feed Lines	In-Premises Protection	25-Aug-21	Pass
		Valley View vault on N side of bldg	B13438-0601	Fire Dept. Connection	Dedicated Fire Line	25-Aug-21	Pass
		Valley View vault on N side of bldg	B13438-0601	Fire Dept. Connection	Dedicated Fire Line	25-Aug-21	Pass
Ellensburg Square	409 S Main St Ste #1, Ellensburg	SE corner of parking lot /outside Petco near meter	A773239-1203	Irrigation w/o Chemicals	In-Premises Protection	18-May-21	Pass

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Facility Name	Facility Address	Device Location	Serial No	Hazard Type	Protection Type	Test Date	Pass/Fail
Ellensburg Tire Center	400 W University Way, Ellensburg	W side of bldg	169651	Irrigation w/o Chemicals	In-Premises Protection	17-Aug-21	Pass
Enterprise Car Rental	413 W University Way, Ellensburg	north side / next to bldg	178918	Irrigation w/o Chemicals	In-Premises Protection	05-May-21	Pass
Eric Bullock Trust	401 W 14th Ave, Ellensburg	SE front lawn by sidewalk inside fence	580944		In-Premises Protection	24-May-21	Pass
		SE front lawn by sidewalk inside fence	580944		In-Premises Protection	28-Jul-21	Pass
Eric McDougall	1307 N Main St, Ellensburg	west side of house/next to crawl space access	T284667	Irrigation w/o Chemicals	In-Premises Protection	11-Jun-21	Pass
Eric Truhlicka	1505 Skyline Dr, Ellensburg	front yard /west of front door	DK2825	Irrigation w/o Chemicals	In-Premises Protection	02-Jul-21	Pass
Erich Cross	200 E 10th Ave, Ellensburg	Southest corner of house	A385709		In-Premises Protection	11-May-21	Pass
	202 E 10th Ave, Ellensburg	South side of house by door.	A414432		In-Premises Protection	11-May-21	Pass
	209 E 10th Ave, Ellensburg	north side of house/below window/next to gas meter	A0252576		In-Premises Protection	11-May-21	Pass
	500 S Ruby St, City of Ellensburg	W of House Inside Fence Box in Lawn	A250988		In-Premises Protection	11-May-21	Pass
	504 S Ruby St, City of Ellensburg	S Side of House Inside Gate	A260563		In-Premises Protection	11-May-21	Pass
	508 S Ruby St, City of Ellensburg	N of House Inside Gate	A260560		In-Premises Protection	11-May-21	Pass
Erik Berkas	306 N Poplar ST, Ellensburg	East back wall	1306151	Irrigation w/o Chemicals	In-Premises Protection	15-Jun-21	Pass
Erik Davis	316 W Ridgeview Ln, Ellensburg		NE corner of house/backyard		HA13105	In-Premises	21-May-21
Pass					Protection		
Erin Conklin	2503 N Columbia St., Ellensburg	SE corner of lot near road	A108760		In-Premises Protection	01-May-21	Pass
Ernest Moore	2407 N Delphine St, Ellensburg	North side of house /back yard	HA20680	Irrigation w/o Chemicals	In-Premises Protection	10-Jun-21	Pass

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Facility Name	Facility Address	Device Location	Serial No	Hazard Type	Protection Type	Test Date	Pass/Fail
Esther McKein	1101 E Umptanum Rd, Ellensburg	SE corner of house	2155143		In-Premises Protection	07-May-21	Pass
Eugene Knowlton	1509 N Ravenswood Ln, Ellensburg	right side of house	H48213	Irrigation w/o Chemicals	In-Premises Protection	22-Apr-21	Pass
Evans Lester	1813 N Bluegrass Ln, Ellensburg	N side of house	H99533	Irrigation w/o Chemicals	In-Premises Protection	20-May-21	Pass
Evelyn McChesney	606 W 16th Ave, Ellensburg	east side of house in back yard	A432965		In-Premises Protection	15-Jun-21	Pass
Evelyn Mehal	1101 E Umptanum Rd, Ellensburg	North side/next to house	A121697		In-Premises Protection	07-May-21	Pass
Everett Thompson	2600 N Columbia St, Ellensburg	West side /below front window/near steps	A046543		In-Premises Protection	22-May-21	Pass
Faltus & Peterson	607 N Pearl St, Ellensburg	NW side of building/inside roll up door	W5797		Premises Isolation	29-Jul-21	Pass
Faltus Motor Co	303 S Water St, Ellensburg	East side / next to building	T165139		In-Premises Protection	17-May-21	Pass
Family Eye Clinic	301 E 2nd Ave, Ellensburg	West Side of Building	T165270		In-Premises Protection	02-Aug-21	Pass
Fausto Gaytan	609 W Ravenwood Ln, Ellensburg	W side of house	H24655	Irrigation w/o Chemicals	In-Premises Protection	17-May-21	Pass
Fenelle Miller	605 N Anderson St, City of Ellensburg	NE corner	46065		In-Premises Protection	25-May-21	Pass
Fernando Contreras	706 S Magnolia St, Ellensburg	North side of house /NW corner	435870		In-Premises Protection	11-Jun-21	Pass
Fidelina's	410 S Main St, Ellensburg	under floor in dining area bathroom	A60065		Premises Isolation	07-Dec-21	Pass
Fiesta En Jalisco	1315 S Canyon Rd, Ellensburg	Below sink in kitchen	118730	Beverage Dispenser with CO2	In-Premises Protection	22-Oct-21	Pass
Fiona Gibson	503 N Willow St, Ellensburg	front yard/SE side near driveway	672792	Irrigation w/o Chemicals	In-Premises Protection	04-May-21	Pass
First Assembly of God Church	701 E Capitol Ave, Ellensburg	West side of church/near wall	296910	Irrigation w/o Chemicals	In-Premises Protection	17-May-21	Pass

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Facility Name	Facility Address	Device Location	Serial No	Hazard Type	Protection Type	Test Date	Pass/Fail
First Lutheran Church	512 N Ruby St, Ellensburg	Front building west	129112		In-Premises Protection	13-Apr-21	Pass
		south of east parking lot /outside of fence in small grass strip	189343		In-Premises Protection	13-Apr-21	Pass
First Presbyterian Church	1307 E 3rd Ave, Ellensburg	3rd Ave side/south of Bell Tower/near curb	3032070		In-Premises Protection	04-May-21	Pass
		South side of bldg /near wall	02336	Irrigation w/o Chemicals	In-Premises Protection	04-May-21	Pass
Florencio Sanchez	300 W 15th Ave, Ellensburg	NW corner of house	A358734		In-Premises Protection	04-May-21	Pass
Flying 'J' Truck Stop & Saks Restaurant	2300 S Canyon Rd, Ellensburg	drink counter /south wall /under pop machine	24343	Beverage Dispenser with CO2	In-Premises Protection	26-Oct-21	Pass
		drink counter /south wall /under pop machine	24343	Beverage Dispenser with CO2	In-Premises Protection	26-Oct-21	Pass
		In Saks under center portion of waitress station/pop machine	261121	Beverage Dispenser with CO2	In-Premises Protection	26-Oct-21	Pass
Frances Dyk	1101 E Umptanum Rd, City of Ellensburg	TC garage, under back of house	A374935		In-Premises Protection	06-May-21	Pass
Frances Houck	2211 N Water St, Ellensburg	southeast corner of house by fence	733345		In-Premises Protection	01-May-21	Pass
Frances Sparks	1101 E Umptanum Rd, Ellensburg	S side of house in back yard	445859		In-Premises Protection	07-May-21	Pass
Francisco Ramirez	504 W Illinois Ave, Ellensburg	NE corner of house	132657	Irrigation w/o Chemicals	In-Premises Protection	20-Jul-21	Pass
Frank & Jana Manterolla	1304 Skyline Dr, Ellensburg	SE corner of house	153086		In-Premises Protection	26-May-21	Pass
Frank Ackerman	1100 S Rosewood Dr, Ellensburg	W side of house	00	Irrigation w/o Chemicals	In-Premises Protection	06-May-21	Pass
Frank Green	913 E Washington Ave, Ellensburg	Next to alley/near gate	T491513-3747	Irrigation w/o Chemicals	In-Premises Protection	08-Apr-21	Fail/Pass
Frank Mattson	1101 E Umptanum Rd, Ellensburg	SW corner of house by window	A571438		In-Premises Protection	06-May-21	Pass

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Facility Name	Facility Address	Device Location	Serial No	Hazard Type	Protection Type	Test Date	Pass/Fail
Frank Van Liew Pass	2608 N Columbia St, Ellensburg	North west side of house/below front window	A029084		In-Premises Protection	26-May-21	
Fred Burch	1100 S Rosewood Dr, Ellensburg	front yard	3933876	Irrigation w/o Chemicals	In-Premises Protection	05-Apr-21	Pass
Fred Krueger		front yard	769485	Irrigation w/o Chemicals	In-Premises Protection	06-May-21	Pass
Fred Lampley	104 N Ruby St, Ellensburg	south side of house /near deck	296911	Irrigation w/o Chemicals	In-Premises Protection	14-May-21	Pass
Fred Meyer	201 S Water St, Ellensburg	Behind right shelf on north wall of garden area	19727		In-Premises Protection	10-Apr-21	Pass
		Deli prep reel storage 2 by 3 basin sink	397708		In-Premises Protection	23-Mar-21	Pass
		Deli prep storage 2	97145		In-Premises Protection	23-Mar-21	Pass
		Deli storage 1	397698		In-Premises Protection	23-Mar-21	Pass
		In door up ramp W side of bldg/W wall fire riser room	NJ-2154	Premises Isolation	Premises Isolation	23-Mar-21	Pass
		Meat & fish cold cutting room/NW corner	03444	Chemical Feeder	In-Premises Protection	17-May-21	Pass
		Meat/seafood North wall	409479		In-Premises Protection	23-Mar-21	Pass
		Produce case mister	126627		In-Premises Protection	23-Mar-21	Pass
		produce kiosk center of west wall	380220		In-Premises Protection	23-Mar-21	Pass
		SW corner of main parking lot/north of Washington Ave sidewalk	H11439	Irrigation w/o Chemicals	In-Premises Protection	06-Apr-21	Pass
		W back stock room/up ladder/in N compressor room/S wall	1153363	Chemical Feeder	In-Premises Protection	23-Mar-21	Pass

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Facility Name	Facility Address	Device Location	Serial No	Hazard Type	Protection Type	Test Date	Pass/Fail
Fred Meyer	201 S Water St, Ellensburg	West back stock area/janitors closet/east wall	1176673	Chemical Feeder	In-Premises Protection	23-Mar-21	Pass
		West back stock room,/north of janitors closet	125947	Chemical Feeder	In-Premises Protection	23-Mar-21	Pass
		West back stock room/ NW corner /below ladder	1133126	Water Softener	In-Premises Protection	23-Mar-21	Pass
		West back stock room/near floor sink	1133493	Chemical Feeder	In-Premises Protection	23-Mar-21	Pass
		West Fire Riser room/north side /outside access door	12523	Fire Dept. Connection	Dedicated Fire Line	23-Mar-21	Pass
Fred Meyer Fuel	503 S Water St, Ellensburg	E of entrance in box	A414422		In-Premises Protection	06-Apr-21	Pass
		In box E of air/water kiosk	A287701		In-Premises Protection	23-Mar-21	Pass
		South wall of restroom	18631		Premises Isolation	23-Mar-21	Pass
Fred Redmon	806 N B ST, Ellensburg	Back yard by patio	993501-3748		In-Premises Protection	26-Mar-21	Pass
Fred Sparks	1003 E 4th Ave, Ellensburg	East side of house/north of patio/next to house	G284287		In-Premises Protection	05-May-21	Pass
		West side of house/south of front door/near house	3450240XLU		In-Premises Protection	05-May-21	Pass
Fred Stanley	201 E 9th Ave, Ellensburg	basement/ NE corner	30999	Irrigation w/o Chemicals	In-Premises Protection	02-Jun-21	Pass
Fritz Wichterman	502 W Illinois Ave, Ellensburg	east side of garage	42033	Irrigation w/o Chemicals	In-Premises Protection	03-Jun-21	Pass
Front & Center Inc	506 S Main St, Ellensburg	East side of parking lot/ under large steel plate in dumpster area	2584144	Irrigation w/o Chemicals	In-Premises Protection	14-Jul-21	Pass
Frontier Tavern	111 W 4th Ave, Ellensburg	Below bar near sink	W421215	Beverage Dispenser with CO2	In-Premises Protection	12-Jan-21	Pass
G & S Signature Storage	738 W University Way., Ellensburg	inside a storage unit southeast corner of main office	A340697		In-Premises Protection	19-May-21	Pass

List of Devices Tested
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Facility Name	Facility Address	Device Location	Serial No	Hazard Type	Protection Type	Test Date	Pass/Fail
Gabriele Uwe	1808 E 14th Ave, Ellensburg	back yard/ east side	500808	Irrigation w/o Chemicals	In-Premises Protection	21-Jul-21	Pass
Gail Thayer	1100 S Rosewood DR, Ellensburg	6' NE of NE corner of house by meter	A674641-3548		In-Premises Protection	06-Apr-21	Pass
Garland Investments LLC	602 E 4th Ave, Ellensburg	East side/next to house and alley	281343	Irrigation w/o Chemicals	In-Premises Protection	17-Aug-21	Pass
Garrett Harris	1501 E Spokane Ave, Ellensburg	front yard/near meter	A111390		In-Premises Protection	17-May-21	Pass
Garry Huss	1511 E Seattle Ave, Ellensburg	front yard/near meter	A129928		In-Premises Protection	11-May-21	Pass
Gary Coughlen	2302 N Ellington St, Ellensburg	south side of house in valve box	247359	Irrigation w/o Chemicals	In-Premises Protection	09-Jun-21	Pass
Gary Cummisk	1105 E 4th Ave, Ellensburg	Inside courtyard/east side of patio/near Linda lane	A091305		In-Premises Protection	28-Jun-21	Pass
Gary Koch	210 S Pearl St, Ellensburg	back of house	1097767	Irrigation w/o Chemicals	In-Premises Protection	14-May-21	Pass
Gary Margheim	1603 N Bluegrass Ln, Ellensburg	NE side of garage	208297	Irrigation w/o Chemicals	In-Premises Protection	10-May-21	Pass
Gary Peterson	1109 N Cora St, Ellensburg	North side of house	A550422		In-Premises Protection	01-Jun-21	Pass
Gary Ristine	2401 N Delphine St, Ellensburg	east side of house	HA03424	Irrigation w/o Chemicals	In-Premises Protection	10-Jun-21	Pass
Gary Schmid	900 Acacia Ln, Ellensburg	West side/backyard	901844	Irrigation w/o Chemicals	In-Premises Protection	08-Jun-21	Pass
Gary Schormann	1101 E Umptanum, Ellensburg	Northeast corner of property by meter	A326435		In-Premises Protection	07-May-21	Pass
Gary Waters	1101 N Cora St, Ellensburg	front of house/SE corner	A564431	Irrigation w/o Chemicals	In-Premises Protection	11-May-21	Pass
Gay Ott	911 E 3rd Ave, Ellensburg	NW corner/near bushes	17493	Irrigation w/o Chemicals	In-Premises Protection	05-May-21	Pass
Gaylen & Janette Ringer	909 E Seattle Ave, Ellensburg	under house from backyard	31510	Irrigation w/o Chemicals	In-Premises Protection	13-May-21	Pass

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Facility Name	Facility Address	Device Location	Serial No	Hazard Type	Protection Type	Test Date	Pass/Fail
Geannette Straussal	1809 N Regal St, Ellensburg	by front porch	154389		In-Premises Protection	21-Jul-21	Pass
Geddis Building	317 N Pearl St, Ellensburg	Under stairs on W interior wall of boiler room in alley	A02875		Premises Isolation	08-Jun-21	Pass
		Under stairs on W interior wall of boiler room in alley	A04941		Premises Isolation	08-Jun-21	Pass
Gene Dana	808 E 2nd Ave, Ellensburg	basement/east wall	1578026	Irrigation w/o Chemicals	In-Premises Protection	01-Jun-21	Pass
Gene Jump	809 E Seattle Ave, Ellensburg	back yard /N. side of house under bricks in ground box	45937		In-Premises Protection	18-May-21	Pass
Geoffrey Anderson	1809 Abel PL, Ellensburg	E side inside fenced yard	616035	Irrigation w/o Chemicals	In-Premises Protection	24-Jun-21	Pass
George Austin Premises	808 White Birch Ave, Ellensburg 06-Jul-21	Pass	NE corner of front yard		16453	Irrigation w/o Chemicals	In-Protection
George Austin	808 Juniper Ave, Ellensburg	north side of building	A652658	Irrigation w/o Chemicals	In-Premises Protection	27-May-21	Pass
George Bottcher	1800 E 14th Ave, Ellensburg	east side/back yard	37248		In-Premises Protection	20-Aug-21	Pass
	1805 E 14th Ave, Ellensburg	east side of house/in roses	42102		In-Premises Protection	24-May-21	Pass
	711 E 2nd Ave, Ellensburg	North side/ near gate	636719	Irrigation w/o Chemicals	In-Premises Protection	14-May-21	Pass
George Craig	1615 Iowa St, Ellensburg	front yard by garage	013953	Irrigation w/o Chemicals	In-Premises Protection	08-Apr-21	Pass
George Day	106 N Elliot, Ellensburg	west side of sidewalk near road	3014201		In-Premises Protection	04-May-21	Pass
	108 N Elliot, Ellensburg	SW corner of yard near road	2980533		In-Premises Protection	04-May-21	Pass
George Foley	1211 N Tanglewood Ct, Ellensburg	Front yard next to porch	A303572		In-Premises Protection	12-May-21	Pass
George Lambson	1123 Franklin St, Ellensburg	Backyard/ SW corner of garage	A019681		In-Premises Protection	05-May-21	Pass

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Facility Name	Facility Address	Device Location	Serial No	Hazard Type	Protection Type	Test Date	Pass/Fail
George Lambson	309 N Anderson St, Ellensburg	E side of little house	4191908	Irrigation w/o Chemicals	In-Premises Protection	25-May-21	Pass
	411 N Sampson St, Ellensburg	back of house/ SW corner	A106701	Irrigation w/o Chemicals	In-Premises Protection	26-May-21	Pass
	509 E 5th Ave, Ellensburg	east wall of house	CB331883		In-Premises Protection	25-May-21	Pass
	710 E 4th Ave, Ellensburg	West side of house	193470	Irrigation w/o Chemicals	In-Premises Protection	26-May-21	Pass
George Wood	1600 E Sparrow Knoll AV, Ellensburg	S side of house back yard next to patio	A262151		In-Premises Protection	04-May-21	Pass
Gerald Gunn	115 W 10th Ave, Ellensburg	Next to meter under lilacs/alley access	A268276		In-Premises Protection	12-May-21	Pass
	1700 Gala Way, Ellensburg	East side of house	1H64934	Irrigation w/o Chemicals	In-Premises Protection	12-May-21	Pass
Gerald Malella	1405 N Canterbury Dr, Ellensburg	south side of house	1HA21322		In-Premises Protection	11-Jun-21	Pass
Gerard & Judith Vander Schauw	701 E 5th Ave, Ellensburg	NW corner of house	409868	Irrigation w/o Chemicals	In-Premises Protection	05-Aug-21	Pass
	701 N Anderson St, Ellensburg	NW corner of house	459034	Irrigation w/o Chemicals	In-Premises Protection	05-Aug-21	Pass
Gerard A Vander Schauw	613 N Anderson St, City of Ellensburg	Between Sidewalk and Garage, in from Alley		3665598 Irrigation w/o Chemicals	In-Premises Protection	02-Aug-21 Pass	
Gerard Hogan	505 W 11th Ave, Ellensburg	SW corner of yard/near sidewalk and meter	A059682	Irrigation w/o Chemicals	In-Premises Protection	13-Apr-21	Pass
Gerry Alldredge	2217 N Water St, Ellensburg	east side of property/near meter	AJ0852		In-Premises Protection	19-Aug-21	Pass
Gil Belofsky	1400 Skyline Dr, Ellensburg	north side/front of house	399714	Irrigation w/o Chemicals	In-Premises Protection	16-Apr-21	Pass
Glen Holst	309 W Helena Ave, Ellensburg	SE corner of house	3332398		In-Premises Protection	09-Jun-21	Pass
Glen Meide	1100 S Rosewood Dr, Ellensburg	front yard	130055	Irrigation w/o Chemicals	In-Premises Protection	19-Aug-21	Pass

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Facility Name	Facility Address	Device Location	Serial No	Hazard Type	Protection Type	Test Date	Pass/Fail
Glenda Kallas	1507 Bonnie Ln, Ellensburg	west side yard	502275	Irrigation w/o Chemicals	In-Premises Protection	27-May-21	Pass
Golden Acres LLC	2411 N Delphine St, City of Ellensburg	North side yard / next to porch	A262141		In-Premises Protection	10-Jun-21	Pass
	2413 N Delphine St, City of Ellensburg	South side yard / next to porch	A200494		In-Premises Protection	10-Jun-21	Pass
Golden Dragon Restaurant	1302 S Ruby St, Ellensburg	mechanical room/north side of kitchen	AH0047	well on site	In-Premises Protection	24-Feb-21	Pass
Goodwill Industries	400 W Washington Ave,	N of bldg N of donation drive by			A554406	In-Premises	02-Jun-21 Pass
	Ellensburg	meter			Protection		
		NW corner in fire sprinkler room		K00312	Fire Dept. Connection	Dedicated Fire	02-Jun-21 Pass
					Line		
Gordon Branson	1506 N Stonebridge St, Ellensburg	South side of house through North gate	512677		In-Premises Protection	03-Jun-21	Pass
Grace DeFoor	105 N Sampson St, Ellensburg	noth east corner of house	109727	Irrigation w/o Chemicals	In-Premises Protection	16-Apr-21	Pass
Grace Episcopal Church	1201 N B St., Ellensburg	NE side of front door	CB8210667		In-Premises Protection	02-Jun-21	Pass
Graf Investments	107 N Parklane Ave, Ellensburg	North side of house/near meter	A96190		In-Premises Protection	03-Jun-21	Pass
		North side/backyard/near crawl access	A96251		In-Premises Protection	24-Aug-21	Pass
	108 N Parklane Ave, Ellensburg	North side of house/below windows	B06063		In-Premises Protection	03-Jun-21	Pass
		Unit#110/North side of house/below windows	A96236		In-Premises Protection	03-Jun-21	Pass
	1506 Glen Dr, Ellensburg	NW side by garage #4	AO7765	Irrigation w/o Chemicals	In-Premises Protection	03-Jun-21	Pass
	1701 Regal Pl, Ellensburg	Northwest side of house /below windows	A95750		In-Premises Protection	03-Jun-21	Pass
		Northwest side of house/below windows	A94283		In-Premises Protection	03-Jun-21	Pass

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Facility Name	Facility Address	Device Location	Serial No	Hazard Type	Protection Type	Test Date	Pass/Fail
Graf Investments	1713 N Parklane Ave, Ellensburg	North side of house/below window	A94080		In-Premises Protection	03-Jun-21	Pass
		Unit #1715/North side of house/below window	A95742		In-Premises Protection	03-Jun-21	Pass
Graff Investments Inc.	206 E 15th Ave, Ellensburg	north side of building	26446		In-Premises Protection	24-Aug-21	Pass
Grant Allison	2208 N Water ST, Ellensburg	North side of garage	?????		In-Premises Protection	19-Aug-21	Pass
Grebb-Johnson-Reed-Wachsmith	209 E 5th Ave, Ellensburg	east side of building	46077		In-Premises Protection	25-May-21	Pass
Greenbaum Family Limited Partnership	1513 Brook Ct, Ellensburg	Next to parking lot/ SE corner of middle duplex	A88129		In-Premises Protection	02-Aug-21	Pass
		Next to parking lot/ SE corner of middle duplex	A88129		In-Premises Protection	02-Aug-21	Pass
Greg & Sara Singer	811 E Manitoba, Ellensburg	SE corner /next to house	A091330		In-Premises Protection	05-Jun-21	Pass
Greg Baker	1000 E 19th Ave, Ellensburg	next to water meter and parking area	404637		In-Premises Protection	17-Mar-21	Pass
	1010 E 19th Ave, Ellensburg	next to water meter and parking area	100629		In-Premises Protection	17-Mar-21	Pass
	1015 E 19th Ave, Ellensburg	next to water meter & parking area	100624		In-Premises Protection	17-Mar-21	Pass
Greg Rolsma Pass	110 E Queen Pl, City of Ellensburg	In Crawl Space at West of House			A253356 In-Premises Protection	07-Jun-21	
Greg Scrivner	1005 E 1st Ave, Ellensburg	center of backyard/near fence-alley	739618	Irrigation w/o Chemicals	In-Premises Protection	06-May-21	Pass
Greg Singer	1101 N Canterbury Dr., Ellensburg	south of front door	3434693		In-Premises Protection	23-Apr-21	Pass
	1103 N Canterbury Dr, Ellensburg	north side/middle/.next to house	3465563		In-Premises Protection	23-Apr-21	Pass
	1105 N Canterbury Dr, Ellensburg	south side/next to house	A111455		In-Premises Protection	23-Apr-21	Pass

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Facility Name	Facility Address	Device Location	Serial No	Hazard Type	Protection Type	Test Date	Pass/Fail
Greg Singer	1114 E Capitol Ave, Ellensburg	North side/next to house /near front door	A406171		In-Premises Protection	26-Apr-21	Pass
	1116 E Capitol Ave, Ellensburg	North side/next to house/west of door	A764373-2208		In-Premises Protection	26-Apr-21	Pass
	1118 E Capitol Ave, Ellensburg	North side/next to house/east of front door	A064901		In-Premises Protection	26-Apr-21	Pass
	205 S Willow St, Ellensburg	South side/next to house/inside fence	A058478		In-Premises Protection	24-Jun-21	Pass
	2301 N Ridgeview Ln, Ellensburg	NE corner of lot/west of meter	A091303		In-Premises Protection	01-May-21	Pass
Gregory Lovell	411 S Sprague St, Ellensburg	S side yard next to driveway, by meter	018612		In-Premises Protection	08-Jul-21	Pass
Gretchen Hill	609 W 16th Ave, Ellensburg	Backyard west side	1A75125	Irrigation w/o Chemicals	In-Premises Protection	02-Jun-21	Pass
Grocery Outlet	705 N Ruby St, Ellensburg	North side of building/near mop sink	189719		Premises Isolation	20-Apr-21	Pass
		South end of buidling/near loading dock	256956		Dedicated Fire Line	20-Apr-21	Pass
		South end of building/west of bathrooms/souith side of EVAC pump	353489		In-Premises Protection	20-Apr-21	Pass
		South side of buiding/near loading dock	3BJ0447	Fire Dept. Connection	Dedicated Fire Line	20-Apr-21	Pass
Guadalupe Chavez	302 S Willow St, Ellensburg	SW corner of lot / inside fence/ east of meter	4353460		In-Premises Protection	27-Apr-21	Pass
Gunnar Soli	1118 Seattle Ave, Ellensburg	Inside fence, by meter in front yard	559708		In-Premises Protection	16-Jun-21	Pass
Guy Gaspard	2403 N Ellington St, Ellensburg	South side of house/ behind fence	222719	Irrigation w/o Chemicals	In-Premises Protection	19-Jul-21	Pass
Guy Glahn Premises	2606 N Columbia St, Ellensburg 18-Aug-21	Pass	SW corner of house	Irrigation w/o Chemicals	440895 In-Premises Protection		In-
Hampton Court Apts	700 N Cle Elum St, Ellensburg	East side by power vault	A596522		In-Premises Protection	25-May-21	Pass

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Facility Name	Facility Address	Device Location	Serial No	Hazard Type	Protection Type	Test Date	Pass/Fail
Hampton Court Apts	700 N Cle Elum St, Ellensburg	Main floor/west side laundry room/SW corner	3485181		Premises Isolation	16-Jul-21	Pass
Hampton Inn	2705 Triple L Lp, Ellensburg	2nd floor/north of elevator	200763		In-Premises Protection	08-Jun-21	Pass
		3rd floor/north of elevator/behind ice machine	200759		In-Premises Protection	08-Jun-21	Fail/Pass
		East side of building/next to irrigation meter	3046231		In-Premises Protection	08-Jun-21	Pass
		Kitchen next to dining area behind ice machine	200745		In-Premises Protection	08-Jun-21	Pass
		Main flloor/west end/next to guest laundry room	200758		In-Premises Protection	08-Jun-21	Pass
		Main floor/ pool mechanical room / east of hot tub	159894		In-Premises Protection	08-Jun-21	Pass
		Main floor/south east mechanical room	15114		Dedicated Fire Line	08-Jun-21	Pass
		Main floor/south east side mechanical room	07843		Premises Isolation	08-Jun-21	Pass
		Main floor/south east side mechanical room	IK-1661		Dedicated Fire Line	08-Jun-21	Pass
Handita Enterprises	512 W Bridgewood Ln, Ellensburg	SE side of house	H58832	Irrigation w/o Chemicals	In-Premises Protection	07-Jun-21	Pass
Hanna Marchel Salon	500 N Ruby St, Ellensburg	Kiitchen/SW corner/ above hot water tank	3333123		Premises Isolation	07-Dec-21	Pass
Hannah Labovitch	716 E 2nd Ave, Ellensburg	south side /in alley/ near water meter	190457	Irrigation w/o Chemicals	In-Premises Protection	14-May-21	Pass
Happy Feet Academy	1006 S Ruby St, Ellensburg	NW corner of building	A116686	Irrigation w/o Chemicals	In-Premises Protection	18-May-21	Pass
Happy's Market	207 W University Way, Ellensburg	Basement,/NW corner/south wall	2376375	Premise Isolation	Premises Isolation	16-Nov-21	Pass
Harold Faling	217 N Dennis St, Ellensburg	south side/near house	636708	Irrigation w/o Chemicals	In-Premises Protection	23-Jun-21	Pass

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Facility Name	Facility Address	Device Location	Serial No	Hazard Type	Protection Type	Test Date	Pass/Fail
Harper Cambridge LLC	2241 Airport RD, Ellensburg	20' west of NW corner of parking lot	A499793		Premises Isolation	22-Apr-21	Pass
Harry Kukes	2311 N Ellington St, Ellensburg	south side of house	247348		In-Premises Protection	09-Jun-21	Pass
Haseeb Ahmed	1504 Brook Ct, Ellensburg	west side of property/near meter	A99067		Premises Isolation	27-May-21	Pass
		west side of property/near meter	3060538		In-Premises Protection	27-May-21	Pass
Hatlestad Investments	1000 N C St., Ellensburg	front yard/SW corner of house	BO34451		In-Premises Protection	27-Apr-21	Pass
	709 E 5th Ave, Ellensburg	North side of house/ left of basement door	154334	Irrigation w/o Chemicals	In-Premises Protection	27-Apr-21	Pass
Hattlestad Investments	203 E 6th Ave, Ellensburg	front yard/ SE corner of house	998684		In-Premises Protection	27-Apr-21	Pass
Hattlestad/Third Street Apartments	309 E 3rd Ave, Ellensburg	basement/ north wall	47048		In-Premises Protection	24-Feb-21	Pass
		basement/ west wall/near window		413901	Fire Dept. Connection	Dedicated Fire	
		24-Feb-21	Pass				
					Line		
		west wall of basement	120085	Fire Dept. Connection	Dedicated Fire Line	24-Feb-21	Pass
Haven Silver	1705 Indiana Dr, Ellensburg	backyard/north side	923521		In-Premises Protection	22-May-21	Pass
		backyard/north side	923521		In-Premises Protection	13-May-21	Pass
Hayday Bake & Brew	215 W 3rd AV, Ellensburg	Northwest corner of kitchen	109588-3679		Premises Isolation	08-Jan-21	Pass
Hearthstone Cottage Premises	802 E Mtn View Ave, Ellensburg		Main kitchen/ under dish rinse		236086	Chemical Feeder	In-
	15-Jul-21	Pass					
		station/NW corner			Protection		
		Mech room/ new addition/near housekeeping room	21M0512-1094	Fire Dept. Connection	Dedicated Fire Line	15-Jul-21	Pass
		North side of building/on sidewalk/next to building/inside of grey box	A556445-2223		In-Premises Protection	15-Jul-21	Pass

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Facility Name	Facility Address	Device Location	Serial No	Hazard Type	Protection Type	Test Date	Pass/Fail
Hearthstone Cottage Fire	802 E Mtn View Ave, Ellensburg 15-Jul-21	Pass fence/west of kitchen door/in vault	NW corner of building/inside 0284		685818-Fire Dept. Connection Line		Dedicated
		NW corner of building/inside fence/west of kitchen/in vault	400560283-0283	Fire Dept. Connection	Dedicated Fire Line	15-Jul-21	Pass
		NW side of building/north of fence/next to building	A652659		In-Premises Protection	02-Jul-21	Fail/Pass
		SW corner of bldg /approx 50' north of drive thru portigo/near sidewalk	4852013	Irrigation w/o Chemicals	In-Premises Protection	11-May-21	Pass
Heather Riexinger	209 W 9th Ave, Ellensburg	West side of house	CB033527		In-Premises Protection	26-May-21	Pass
Heidi Behrends Cerniwey	405 N Alder St, Ellensburg	E side of house/ near entry sidewalk	A727891	Irrigation w/o Chemicals	In-Premises Protection	15-Jun-21	Pass
Heidi Bogue	1303 Brick Rd, Ellensburg	front of house/north side of front porch	440871	Irrigation w/o Chemicals	In-Premises Protection	28-May-21	Pass
Heidi Lauderdale	1201 S Chestnut St, Ellensburg	back yard next to crawl space	400006		In-Premises Protection	05-Jun-21	Pass
Heidi Wixson	900 E Manitoba, Ellensburg	west side of house/North end	114714		In-Premises Protection	12-May-21	Pass
		West side of house/south end	121583	Irrigation w/o Chemicals	In-Premises Protection	12-May-21	Pass
Helen Hedrick	901 E 5th Ave, Ellensburg	SW corner/north side building/near pump	2233449		In-Premises Protection	05-May-21	Pass
		SW corner/north side building/near pump	2233449		In-Premises Protection	05-May-21	Pass
Helen Waddle	908 E Tacoma Ave, Ellensburg	in alley /south side of house/ near meter	A26264		In-Premises Protection	12-May-21	Pass
Helmi Habib	1112 E 1st Ave, Ellensburg	back yard/middle of flower bed	13330	Irrigation w/o Chemicals	In-Premises Protection	12-May-21	Pass
Heng Eam Chen	1814 N Bluegrass Ln, Ellensburg	west side of house/back yard	H85034	Irrigation w/o Chemicals	In-Premises Protection	02-Jun-21	Pass

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Facility Name	Facility Address	Device Location	Serial No	Hazard Type	Protection Type	Test Date	Pass/Fail
Herman Gentry	1305 N Thayer Ave, Ellensburg	NE corner of house/inside fence	A060158		In-Premises Protection	10-Jun-21	Pass
Herman Mayer	1100 S Rosewood Dr, Ellensburg	front yard	187105	Irrigation w/o Chemicals	In-Premises Protection	17-May-21	Pass
Hildur Johnson	401 W 7th Ave, Ellensburg	NW side of house next to alley	A84196		In-Premises Protection	02-Jun-21	Pass
Hillcrest Mobile Home Park	905 W Cascade Ct, Ellensburg	South of 909 W 15th Ave/south of road and fence/near meter	A138355		Premises Isolation	19-Aug-21	Pass
		South of 909 W 15th Ave/south of road and fence/near meter	A138355		Premises Isolation	26-Aug-21	Pass
Holiday Inn Express	1620 S Canyon Rd, Ellensburg	Main floor SW corner mech room/south wall	Q02525		Premises Isolation	02-Mar-21	Pass
		NW corner of property/near drive thru window/starbucks	45924		In-Premises Protection	16-Apr-21	Pass
		vault by fire dept connection/ near Taco Del Mar	U02614	Fire Dept. Connection	Dedicated Fire Line	02-Mar-21	Pass
Homer Miller	1307 N Canterbury Dr, Ellensburg	SE corner/next to house	404202		In-Premises Protection	24-May-21	Pass
Hopesource	1300 N Cora St, Ellensburg	SW Corner of Unit #1 Building	2879378		In-Premises Protection	01-Jun-21	Pass
	1302 N Cora St, City of Ellensburg	NW Corner of Building #3	3082699		In-Premises Protection	01-Jun-21	Pass
	700 E Mtn View AV, Ellensburg	Southwest corner of Kittitas Valley Urgent Care	A614448		In-Premises Protection	25-May-21	Pass
		Southwest corner of Kittitas Valley Urgent Care	A614448		In-Premises Protection	10-May-21	Pass
Hotel Windrow	502 N Main ST, Ellensburg	4th floor across from room #417	53941	Ice Machine	In-Premises Protection	10-Feb-21	Pass
		4th floor laundry chute	3942	Laundry	In-Premises Protection	10-Feb-21	Pass

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Facility Name	Facility Address	Device Location	Serial No	Hazard Type	Protection Type	Test Date	Pass/Fail
Hotel Windrow	502 N Main ST, Ellensburg	Above ice machine in kitchen	138770		In-Premises Protection	10-Feb-21	Pass
		Basement mech room 010	J61300	Premises Isolation	Premises Isolation	10-Feb-21	Pass
		Basement mech room 010	J61300	Premises Isolation	Premises Isolation	30-Nov-21	Pass
		Fire riser room 20' W of SE corner of bldg	HC27642-3639		Dedicated Fire Line	10-Feb-21	Pass
		Fire riser room 20' W of SE corner of bldg	HC27642-3639		Dedicated Fire Line	30-Nov-21	Pass
		Fire riser room 20' west of SE corner of bldg	15174	Fire Sprinkler w/o Chemical Addition	Dedicated Fire Line	30-Nov-21	Pass
		Fire riser room 20' west of SE corner of bldg	15174	Fire Sprinkler w/o Chemical Addition	Dedicated Fire Line	10-Feb-21	Pass
		Southeast corner of parking lot Pass at 602 N Pearl St	4521135-3730		Premises Isolation	12-May-21	
		Under bar sink	227602-3690	Beverage Dispenser with CO2	In-Premises Protection	10-Feb-21	Pass
		Under coffee station in kitchen	227356-3691	Beverage Dispenser with CO2	In-Premises Protection	10-Feb-21	Pass
Howard Collins	1305 N Canterbury Dr, Ellensburg	NW side of backyard/next to house	A019647		In-Premises Protection	24-May-21	Pass
Howard Rowe	1216 N Thayer Ave, Ellensburg	NW corner of house next to front door/in flower bed	19171	Irrigation w/o Chemicals	In-Premises Protection	05-Jun-21	Pass
Howard Teasley	2000 Trails Edge Dr, Ellensburg	SE corner of back yard	13458	Irrigation w/o Chemicals	In-Premises Protection	03-Jun-21	Pass
Hugh Spall	2310 N Ellington St, Ellensburg	SE corner of house in backyard	238671		In-Premises Protection	09-Jun-21	Pass
Hummingbird Court	707 E 18th Ave, Ellensburg	on 18th W of driveway	29637	Irrigation w/o Chemicals	In-Premises Protection	07-Apr-21	Pass
Hunter Bair	2014 W Dry Creek Rd., Ellensburg	NE corner of lot near meter	W008281		In-Premises Protection	20-May-21	Pass

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Facility Name	Facility Address	Device Location	Serial No	Hazard Type	Protection Type	Test Date	Pass/Fail
Hyun O Lee	603 Lilac Wy, City of Ellensburg	Center of E side of house			A290114	In-Premises	04-Jun-21
Pass					Protection		
Icon Inn LLC	1720 S Canyon Rd., Ellensburg	back of building /near crawl space/ NE side	CB874345		In-Premises Protection	28-Apr-21	Pass
IHOP	2704 Triple L Lp, Ellensburg	East side of building/inside fire riser room/south wall	KF-2361	Fire Sprinkler w/o Chemical Addition	Dedicated Fire Line	09-Jul-21	Pass
		Eastside of building/inside the fire riser room/south wall	186873	Premise Isolation	Premises Isolation	09-Jul-21	Pass
		NW corner of kitchen/west wall	398570	Beverage Dispenser with CO2	In-Premises Protection	09-Jul-21	Pass
		NW corner of kitchen/west wall/upper assembly	291999	Chemical Feeder	In-Premises Protection	11-Aug-21	Fail/Pass
		South side of lot/north of side walk/near meter	3628202	Irrigation w/o Chemicals	In-Premises Protection	09-Jul-21	Pass
Independent Auto	208 W Tacoma Ave, Ellensburg	NE side of building/under sign post	192084	Irrigation w/o Chemicals	In-Premises Protection	14-May-21	Pass
Independent Baptist Church	1104 N Okanogan St, Ellensburg	SW corner of building/in lawn	A727079		In-Premises Protection	14-May-21	Pass
Indigo Yoga	113 W 3rd Ave, Ellensburg	main floor exercise area/inside south closet on east wall	70869		In-Premises Protection	02-Aug-21	Pass
Instant Cash	415 E Mtn View Ave, Ellensburg	S side / 20' E of sign / bushes			A552101	In-Premises	05-May-21
Pass					Protection		
Iris Rominger	113 E Lexus Ln, Ellensburg	backyard /NW corner	224426	Irrigation w/o Chemicals	In-Premises Protection	07-Jun-21	Pass
Iron Horse Brewery	1621 Vantage Hwy., Ellensburg	Center of south wall in main production room.	318710		Premises Isolation	03-Dec-21	Pass
		Center of south wall in main production room.	318710		Premises Isolation	09-Jan-21	Pass
Jack Calvert	608 N Sampson St, Ellensburg	N side of house /next to gate	G070651	Irrigation w/o Chemicals	In-Premises Protection	07-May-21	Pass
Jack in the Box	115 W University Way, Ellensburg	North side of parking lot by fence near dumpster	3530416	Irrigation w/o Chemicals	In-Premises Protection	06-May-21	Pass

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Facility Name	Facility Address	Device Location	Serial No	Hazard Type	Protection Type	Test Date	Pass/Fail
Jack in the Box	115 W University Way, Ellensburg	North side of parking lot by fence near dumpster	3530416	Irrigation w/o Chemicals	In-Premises Protection	06-May-21	Pass
		Wall next to CO2 canisters	W055285	Beverage Dispenser with CO2	In-Premises Protection	06-May-21	Pass
Jacob & Melanie Runkel	409 W 7th Ave, Ellensburg	inside fence by alley	333032	Irrigation w/o Chemicals	In-Premises Protection	17-Aug-21	Pass
Jacob Davis	1701 E Plumridge Ave, Ellensburg	SW corner of property/near meter	39653		In-Premises Protection	17-Jun-21	Pass
Jacob Noland	1402 N Columbia St, Ellensburg	SW corner of house in front yard	A84384		In-Premises Protection	10-May-21	Pass
Jacob Schroeder	803 Viewridge Ct, Ellensburg	E side under window/inside gate	336487	Irrigation w/o Chemicals	In-Premises Protection	19-Apr-21	Pass
Jacqueline Bailey	305 S Pine St, Ellensburg	backyard by gate	393304	Irrigation w/o Chemicals	In-Premises Protection	17-Jun-21	Pass
Jakob Stone	1504 E Spokane Ave, Ellensburg	East side of house/next to porch	A153295		In-Premises Protection	26-May-21	Pass
James Allen	1802 E 14th Ave, Ellensburg	NW corner of house/near yard	A767424	Irrigation w/o Chemicals	In-Premises Protection	21-Aug-21	Pass
James Briggs	1110 E Spokane Ave, Ellensburg	front yard	706602	Irrigation w/o Chemicals	In-Premises Protection	19-Apr-21	Pass
James Canterbury	407 S Ruby St, Ellensburg	alley between apartments/near meter	349909	Irrigation w/o Chemicals	In-Premises Protection	13-May-21	Pass
James Cortese	809 E Manitoba, Ellensburg	SE corner of house/near backdoor	A108559		In-Premises Protection	31-Mar-21	Pass
James D Briggs	1705 Ohio St, Ellensburg	west of house	2553455		In-Premises Protection	24-May-21	Pass
James Dunn	1101 E Umptanum Rd, Ellensburg	Garage	A383832		In-Premises Protection	07-May-21	Pass
James Englehard	1100 S Rosewood Dr, Ellensburg	front yard	AJ2168	Irrigation w/o Chemicals	In-Premises Protection	05-May-21	Pass
James Franklin	1209 N Canterbury Dr, Ellensburg	North side/next to house	A112859		In-Premises Protection	17-May-21	Pass

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Facility Name	Facility Address	Device Location	Serial No	Hazard Type	Protection Type	Test Date	Pass/Fail
James Hougardy	106 S Poplar St, Ellensburg	S side of house	35169	Irrigation w/o Chemicals	In-Premises Protection	27-May-21	Pass
James Hunter	2016 N Green Parks DR, Ellensburg	6' E of SW corner of house	HF04406		In-Premises Protection	07-Jun-21	Pass
James Hutchinson	1514 Skyline Dr, Ellensburg	N side of driveway	153137	Irrigation w/o Chemicals	In-Premises Protection	12-May-21	Pass
James Kilpatrick	1515 N Ravenswood Ln, Ellensburg	S side of house	A596521-1663	Irrigation w/o Chemicals	In-Premises Protection	06-May-21	Pass
James Livingston	109 S Pearl St, Ellensburg	SW side in wooden vault next to building	A050041		In-Premises Protection	16-Jun-21	Pass
James Montgomery	1703 E Spokane AV, Ellensburg		12' south of NE corner of house		A674647	In-Premises Protection	19-Jul-21 Pass
James Munroe	408 S Poplar St, Ellensburg	West side of house/ near gas meter	151910		In-Premises Protection	12-May-21	Pass
James Russell	104 S Maple St, Ellensburg	NW corner/ next to alley/ by meter	233744	Irrigation w/o Chemicals	In-Premises Protection	12-May-21	Pass
James Strickland	1809 E 14th Ave, Ellensburg	E side of backyard	42115	Irrigation w/o Chemicals	In-Premises Protection	17-Mar-21	Pass
James Turn	201 W Hailey Ct, Ellensburg	NW corner of lot/near meter	3351429		In-Premises Protection	22-May-21	Pass
James W Rivard	113 W 10th Ave, Ellensburg	NW corner of house /next to deck in box	A14116		In-Premises Protection	01-Jun-21	Pass
James Woods	707 S Magnolia St, Ellensburg	front yard/south of driveway	A121865		In-Premises Protection	11-May-21	Pass
Jami Lynn Tate	1717 Bridgewood Ln, Ellensburg		N side box in back yard/behind		A72075	Irrigation w/o In-Premises	03-Jun-21 Pass
Jamie Gilbert	701 S Magnolia St, Ellensburg	NE side of house/.near front porch	43541		Premises Isolation	11-May-21	Pass
Jan Egbert	2004 Green Parks Dr, Ellensburg	NW corner of house by meter	A340683	Irrigation w/o Chemicals	In-Premises Protection	07-Jun-21	Pass
Jane Gammie	1702 Indiana Dr, Ellensburg	N side of house	394772	Irrigation w/o Chemicals	In-Premises Protection	13-May-21	Pass

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Facility Name	*Facility Address*	*Device Location*	*Serial No*	*Hazard Type*	*Protection Type*	*Test Date*	*Pass/Fail*
Jane Orleman	101 N Pearl St, Ellensburg	South side of house under controller	A534754		In-Premises Protection	14-May-21	Pass
Jane Travis	1100 S Rosewood Dr, Ellensburg	front yard	A55117		In-Premises Protection	05-May-21	Pass
Janet Backus	700 E 5th Ave, Ellensburg	SE corner of bldg/near alley	37113	Irrigation w/o Chemicals	In-Premises Protection	27-May-21	Pass
Janet Buettner	1101 E Umptanum Rd, Ellensburg	NE corner of front yard/ near road			A700401 Protection	In-Premises	05-Jun-21 Pass
Janet Riggin	615 W 16th Ave, Ellensburg	W side of house	A74703	Irrigation w/o Chemicals	In-Premises Protection	09-Apr-21	Pass
Janet Warford	1120 Franklin St, Ellensburg	West side of house	65994		In-Premises Protection	04-May-21	Pass
Janice Bowen	709 E 4th Ave, Ellensburg	East side of house	3159579		In-Premises Protection	26-May-21	Pass
Janice Callahan	701 N Water St, Ellensburg	NW coner of backyard/near alley			A60069 Protection	In-Premises	25-May-21 Pass
Janice Johnson	1710 N Bluegrass Ln, Ellensburg	east side of house/backyard	543525	Irrigation w/o Chemicals	In-Premises Protection	02-Jun-21	Fail/Pass
Janine Graves	1812 N Bluegrass Ln, Ellensburg	Eastside of house	H84978	Irrigation w/o Chemicals	In-Premises Protection	20-May-21	Pass
	201 Mt Hood Ct., Ellensburg	South side/inside gate/near backdoor	A072553		In-Premises Protection	16-Mar-21	Pass
Jared Horrocks	1101 N Columbia ST, Ellensburg	meter	Centered on south fence by 3601		A723309- Protection	In-Premises	19-Jun-21 Pass
Jarred Caseday	711 S Cypress Ct, Ellensburg	East side/next to house	A1616110		In-Premises Protection	19-Aug-21	Pass
Jason & Carol Dormady	409 S Pine St, Ellensburg	East side/ by patio	T145471	Irrigation w/o Chemicals	Premises Isolation	14-May-21	Pass
Jason Bjorkman	411 S Pearl ST, Ellensburg	North wall of basement	35167		In-Premises Protection	21-May-21	Pass
Jason Brunk	1705 E Spokane AV, Ellensburg		6' north of SW corner of house		A674644 Protection	In-Premises	24-Aug-21 Pass

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Facility Name	Facility Address	Device Location	Serial No	Hazard Type	Protection Type	Test Date	Pass/Fail
Jason Knirck	1609 E Canterbury Dr, Ellensburg	North side of house/backyard	2111901		In-Premises Protection	14-Jun-21	Pass
Jason Nordberg	115 E 9th Ave, Ellensburg	NW corner of lot	998396-0996	Irrigation w/o Chemicals	In-Premises Protection	16-Jun-21	Pass
Jason Pfeiffer	1713 N Bridgewood Ln, Ellensburg	South side of house	H57716	Irrigation w/o Chemicals	In-Premises Protection	23-Jun-21	Pass
Jason Swingle	1509 E Hobert Ave, Ellensburg	SW corner/near meter	2803969		In-Premises Protection	28-Jun-21	Pass
Jason White	106 E 10th Ave, Ellensburg	inside basement door/ right hand side /on wall	95510	Irrigation w/o Chemicals	In-Premises Protection	26-Jun-21	Pass
Jay Thompson	2409 N Lilac Wy, Ellensburg	NE corner of house/thru south gate	HA64163		In-Premises Protection	12-Jun-21	Pass
Jayson Peterson	709 W 11th Ave, Ellensburg	east side of house	36130		In-Premises Protection	01-Jun-21	Pass
Jean Feaver	1714 N Bluegrass Ln, Ellensburg	W side of house across fence	H24626		In-Premises Protection	07-Jun-21	Pass
Jean Karam	1706 E Canterbury Dr, Ellensburg	E side of house	998698	Irrigation w/o Chemicals	In-Premises Protection	14-Jun-21	Pass
Jean Marie Linhart	706 E 2nd Ave, Ellensburg	north side/next to house	A132890	Irrigation w/o Chemicals	In-Premises Protection	14-May-21	Pass
Jean Putnam	805 E Seattle Ave, Ellensburg	back yard/ near fence/SW side	201488	Irrigation w/o Chemicals	In-Premises Protection	21-May-21	Pass
Jean Winstanley	309 N Sampson St, Ellensburg	Sw corner of yard/next to fence/near meter	A041191		In-Premises Protection	28-May-21	Pass
Jean Xu Weng	510 E Helena Ave, City of Ellensburg	E side of bld #510 / S of door in rocks	A290170		In-Premises Protection	07-Jun-21	Pass
Jeanette Pacha	1808 N Abel PL, Ellensburg	SW corner of house/next to air conditioner	81260	Irrigation w/o Chemicals	In-Premises Protection	26-May-21	Pass
Jedadiah McDaniels	1803 E 14th Ave, Ellensburg	W side of house next to gas meter	9118		In-Premises Protection	11-Jun-21	Pass
Jeff St John	511 W Bridgewood Ln., Ellensburg	N side of house	H58716	Irrigation w/o Chemicals	In-Premises Protection	03-Jun-21	Pass

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Facility Name	Facility Address	Device Location	Serial No	Hazard Type	Protection Type	Test Date	Pass/Fail
Jeff Cochran	807 Acacia Ln, Ellensburg	side yard	14009	Irrigation w/o Chemicals	In-Premises Protection	08-Jun-21	Pass
Jeff Duncan	311 W 11th Ave, Ellensburg	311 W 11th Left of front door/under bark	688761	Irrigation w/o Chemicals	In-Premises Protection	10-May-21	Pass
Jeff Holdeman	1112 E Capitol Ave, Ellensburg	backside of fence/east of house	HA22048		In-Premises Protection	12-May-21	Pass
Jeff Houck	305 S Maple ST, Ellensburg	North side of house east of driveway by hose bib	A767405-3628		In-Premises Protection	10-May-21	Pass
Jeff Oakley	812 E Seattle Ave, Ellensburg	Northwest corner of front yard near meter	A495998		In-Premises Protection	13-May-21	Pass
Jeff Winter	604 N Main St, Ellensburg	back porch of house	KJ3224	Fire Sprinkler with Chemical Addition	In-Premises Protection	16-Jun-21	Pass
		N side of bldg near fence	AK9862	Irrigation w/o Chemicals	In-Premises Protection	25-May-21	Pass
Jeffrey Burnham	1706 E Hobert Ave, Ellensburg	NE corner of house in yard	2991330		In-Premises Protection	12-May-21	Pass
Jeffrey Demetrescu	1101 E Umptanum RD, Ellensburg	At northeast corner of house	A630147		Premises Isolation	05-Jun-21	Pass
Jeffrey Frey	1110 N Cora St, irrigation, Ellensburg	In shrubs/near front of house	W655124	Irrigation w/o Chemicals	In-Premises Protection	17-Jun-21	Pass
Jeffrey Gaeto	610 E 3rd Ave, Ellensburg	East side of house by crawlspace window	A546980		In-Premises Protection	26-Apr-21	Pass
Jeffrey Moore	1507 E Seattle Ave, Ellensburg	front yard/below window/east of front porch			A131459 In-Premises Protection	04-Jun-21 Pass	
Jeffrey Treadwell	1101 E 2nd Ave, Ellensburg	in alley /next to fence /near meter	636704		In-Premises Protection	09-Jul-21	Pass
Jehovah's Witnesses' Kingdom Hall	1404 Vantage HWY, Ellensburg	20'N of NE corner of bldg	A39307		In-Premises Protection	26-May-21	Pass
Jenell McGee	1101 E Umptanum RD, Ellensburg	Southeast corner of front yard	A414399		In-Premises Protection	30-Aug-21	Pass
Jenna Kiser	601 Lilac Way, Ellensburg	NW corner/next to house/ under front window	H45468		In-Premises Protection	09-Jun-21	Pass

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Facility Name	Facility Address	Device Location	Serial No	Hazard Type	Protection Type	Test Date	Pass/Fail
Jennifer Crown	607 N Willow St, Ellensburg	SW corner /near house	3082672		In-Premises Protection	04-May-21	Pass
Jennifer Magee Pass	1707 E Spokane AV, Ellensburg	house	Center of east exterier wall of		A674639 In-Premises Protection	28-Apr-21	
Jennifer Solverson	1808 N Bluegrass Ln, Ellensburg	east side next to house/inside gate	H89264	Irrigation w/o Chemicals	In-Premises Protection	02-Jun-21	Pass
Jennifer Yenter	600 S Chestnut St, Ellensburg	NE coner of house	656776	Irrigation w/o Chemicals	In-Premises Protection	13-May-21	Pass
Jeremy & Frances Blanchard	207 S Anderson St, Ellensburg	alley inside fencing/near meter	990985	Irrigation w/o Chemicals	In-Premises Protection	14-May-21	Fail/Pass
Jeremy Haberman	503 W 10th Ave, Ellensburg	in alley north of house	A774104	Irrigation w/o Chemicals	In-Premises Protection	17-Jun-21	Pass
Jeremy Johnson Pass	1602 E Spokane AV, Ellensburg	corner of house	Ten feet south of northeast 3511		A652712- Protection	01-Jul-21 In-Premises	
Jeremy Rosecrans	706 S Cypress Ct, Ellensburg	5' N of NW corner of house	A356610		In-Premises Protection	11-May-21	Pass
Jeremy Winberry	801 E 1st Ave, Ellensburg	backyard in alley by fence	391145	Irrigation w/o Chemicals	In-Premises Protection	09-Jul-21	Pass
Jerrols	111 E University Way, Ellensburg	NE corner of building in box	A556453		In-Premises Protection	02-Jun-21	Pass
Jerry McNall	805 N C St., Ellensburg	SE corner of house	277841		In-Premises Protection	02-Apr-21	Pass
Jerry Plowman	1105 N Willow ST, Ellensburg	North side of house	S0P44-1569		In-Premises Protection	14-Jun-21	Pass
Jerry Shuart	807 E 1st Ave, Ellensburg	back yard E side by fence	319987	Irrigation w/o Chemicals	In-Premises Protection	15-Jun-21	Pass
Jettrel Stetner	916 Gregory Pl, City of Ellensburg	South Front Yard - Driveway South	3704903		In-Premises Protection	11-May-21	Pass
Jill Johnson	2411 N Lilac Wy, Ellensburg	SE corner of house/backyard	HA93252		In-Premises Protection	10-Jun-21	Pass
Jill Rule	2401 N Lilac Wy, Ellensburg	north side of yard/next to house	HA84553		In-Premises Protection	10-Jun-21	Pass

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Facility Name	Facility Address	Device Location	Serial No	Hazard Type	Protection Type	Test Date	Pass/Fail
Jill Schwarz	1805 Bluegrass Ln, Ellensburg	East side/backyard	90666	Irrigation w/o Chemicals	In-Premises Protection	02-Jun-21	Pass
Jill Ungar	508 W 13th Ave, Ellensburg	5' south of sidewlk by water meter	3492330		In-Premises Protection	25-May-21	Pass
Jim Armstrong	1307 N Thayer Ave, Ellensburg	front yard by water meter	554794	Irrigation w/o Chemicals	In-Premises Protection	03-Jun-21	Pass
Jim Bissonette	2406 N Ellington St, Ellensburg	south side of house in backyard	20559		In-Premises Protection	30-Jul-21	Pass
Jim Davis	1302 N Thayer Ave, Ellensburg	back yard by fence	EP1782	Irrigation w/o Chemicals	In-Premises Protection	27-May-21	Pass
Jim Green	801 E Seattle AV, Ellensburg	North side back yard at crawl space	A596526		In-Premises Protection	10-May-21	Pass
Jim Hawley	300 S Poplar St, Ellensburg	S side of house by garage	15966		In-Premises Protection	13-Jul-21	Pass
Jim Libenow	104 E Lexus LN, Ellensburg	West side of house through gate	AJG1720		In-Premises Protection	24-Sep-21	Pass
	107 Annie PL, Ellensburg	Southeast corner of front porch	A647487		In-Premises Protection	03-Aug-21	Pass
	109 W Helena Ave, City of Ellensburg	between garage and front door / near front door	A253563		In-Premises Protection	08-Jun-21	Pass
	117 W Helena Ave, Ellensburg	South side of house in box	2845655		In-Premises Protection	08-Jun-21	Pass
	1902 Yew St, Ellensburg	NW corner of front yard by meter			W228183 In-Premises Protection	08-Jun-21 Pass	
	207 W Helena Ave, Ellensburg	east side of house	12852		In-Premises Protection	08-Jun-21	Pass
	209 W Helena Ave, Ellensburg	west side of house	A60022		In-Premises Protection	24-Jun-21	Pass
	2400 N Water St, Ellensburg	north side of house	HA 57908		In-Premises Protection	08-Jun-21	Pass
	2402 N Water St, Ellensburg	north side of house	HA51828		In-Premises Protection	08-Jun-21	Pass

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Jim Libenow	2600 N Ellington St, Ellensburg	north side of house in ground	A924411		In-Premises Protection	08-Jun-21	Pass
	2602 N Ellington St, Ellensburg	south side of house in ground	2092696		In-Premises Protection	08-Jun-21	Pass
	2604 N Ellington St, Ellensburg	north side of house in gravel	W228168		In-Premises Protection	08-Jun-21	Pass
	2606 N Ellington St, Ellensburg	south side of house in ground	A877716	Irrigation w/o Chemicals	In-Premises Protection	08-Jun-21	Pass
	310 W 14th Ave, Ellensburg	center of front yard	37011		In-Premises Protection	01-Jun-21	Pass
	906 Juniper Ave, Ellensburg	front yard near sidewalk/water meter	4521210		In-Premises Protection	08-Jun-21	Pass
	910 Juniper Ave, Ellensburg	east side of house	160918		In-Premises Protection	08-Jun-21	Pass
Jim Pierce	1100 S Rosewood Dr, Ellensburg	SE corner of front yard/in rocks	AJ3135	Irrigation w/o Chemicals	In-Premises Protection	04-May-21	Pass
Jim Rasmussen	714 S Maple St, Ellensburg	behind house	194694	Irrigation w/o Chemicals	In-Premises Protection	13-May-21	Pass
Jim Smith	1100 S Rosewood Dr, Ellensburg	1100 Rosewood # 104 front yard	178151	Irrigation w/o Chemicals	In-Premises Protection	05-May-21	Pass
Jim Stolte	202 E 17th Ave, Ellensburg	SE side of lot	A596542	Irrigation w/o Chemicals	In-Premises Protection	07-Jun-21	Pass
Jim Wernex	605 N Walnut St, Ellensburg	alley by fence/under stove pipe	169777	Irrigation w/o Chemicals	In-Premises Protection	12-Jul-21	Pass
Jimmy Johns	1307 S Canyon Rd, Ellensburg	Over janitor sink in utility room by iced maker	048723-3556		Premises Isolation	24-Feb-21	Pass
		Under pop machine	B064672		In-Premises Protection	24-Feb-21	Pass
Jimmy Mbiye	1610 E Hobert Ave, Ellensburg	North side/near meter	A064871		In-Premises Protection	28-Apr-21	Pass
JJJ Real Properties	1607 Brook Ct, Ellensburg	east side of yard/west of shrubs	A067968		In-Premises Protection	08-Sep-21	Pass

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JJJ Real Properties LLC	1604 Brooklane, Ellensburg	SW corner of yard/east of shrubs			3317502	In-Premises	08-Sep-21
Pass					Protection		
Joanne Hillemann	509 N Sampson St #1, Ellensburg	West back yard inside fence	A105710	Irrigation w/o Chemicals	In-Premises Protection	25-May-21	Pass
Joe Blazek	1913 Green Parks Dr,	Center of west edge of front lawn			A558332	In-Premises	25-May-21
Pass	Ellensburg				Protection		
Joe France	1308 Vista Rd, Ellensburg	back yard/ next to house	19231	Irrigation w/o Chemicals	In-Premises Protection	27-May-21	Pass
Joe Gehlen	404 W 14th Ave, Ellensburg	West side of house	128298	Irrigation w/o Chemicals	In-Premises Protection	24-Apr-21	Pass
Joe O'Leary	1203 N Tanglewood CRT, Ellensburg	Front yard by window	A499324		In-Premises Protection	12-May-21	Pass
Joe Riggs	1402 N Thayer Ave, Ellensburg	North side of garage/ back yard inside of fence	33916	Auxiliary Water Source	In-Premises Protection	05-Jun-21	Pass
Joe Sheeran	1707 Gala Way, Ellensburg	West side of house/thru gate	H49772	Irrigation w/o Chemicals	In-Premises Protection	18-Jun-21	Pass
Joel Blanchard	405 N Anderson St, Ellensburg	S side of house by deck	T491509	Irrigation w/o Chemicals	In-Premises Protection	02-Aug-21	Fail/Pass
Joel Bodenman	715 E 5th Ave, Ellensburg	north side of property/SE corner of shop/next to fence	400171		In-Premises Protection	23-Aug-21	Pass
Joel Dethlefsen	1804 E 14th Ave, Ellensburg	backyard E side	37243	Irrigation w/o Chemicals	In-Premises Protection	21-Aug-21	Pass
Joel Greear	2407 N Ellington St, Ellensburg	N side/ back yard	238684	Irrigation w/o Chemicals	In-Premises Protection	09-Jun-21	Pass
Joel Thomas	701 S Ruby St, Ellensburg	701 S Ruby front of bldg	29638	Irrigation w/o Chemicals	In-Premises Protection	17-May-21	Pass
John & Katherine Riggs	913 Chamith Ln, Ellensburg	NW/front yard	A631620-3184		In-Premises Protection	13-May-21	Pass
		NW/front yard	A631620-3184		In-Premises Protection	26-May-21	Pass
John Bartlett	1203 Vuecrest Ave, City of Ellensburg	SE corner of front yard	A250952		In-Premises Protection	27-May-21	Pass

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Facility Name	*Facility Address*	*Device Location*	*Serial No*	*Hazard Type*	*Protection Type*	*Test Date*	*Pass/Fail*
John Deleo	1707 E Seattle AV, Ellensburg	East side of house	A675212		In-Premises Protection	10-May-21	Pass
John Gilreath	1109 Richardson Lane, Ellensburg	left side of garage	BA5628	Irrigation w/o Chemicals	In-Premises Protection	04-May-21	Pass
John Haddon	2501 N Delphine St, Ellensburg	north side/next to house	H08826		In-Premises Protection	04-Jun-21	Pass
John Ham	1007 N Okanogan St, Ellensburg	SW corner house	B03306	Irrigation w/o Chemicals	In-Premises Protection	24-Jun-21	Pass
John Hesselgesser	705 S Shumard St, City of Ellensburg	Back yard side gate	A297446		In-Premises Protection	28-Apr-21	Pass
John Horton	107 S Maple St, Ellensburg	S side of house	40614	Irrigation w/o Chemicals	In-Premises Protection	12-May-21	Pass
John Inman	1006 E 19th Ave, Ellensburg	front yard	688796		In-Premises Protection	20-May-21	Pass
John Klein	1601 Bluegrass Ln, Ellensburg	North side/garage	708021	Irrigation w/o Chemicals	In-Premises Protection	03-Jun-21	Pass
John Koch	309 S Sampson St, Ellensburg	west side of yard/center/4' east of fence	A132386		In-Premises Protection	21-Aug-21	Pass
John Lasik	906 E 3rd Ave, Ellensburg	middle of back yard N edge of lawn	3787768		In-Premises Protection	11-May-21	Pass
John Marr	1705 Bridgewood Ln, Ellensburg	south west side of house	64922	Irrigation w/o Chemicals	In-Premises Protection	02-Jul-21	Pass
John Michel	1309 Skyline Dr, Ellensburg	East of front door	172094	Irrigation w/o Chemicals	In-Premises Protection	26-May-21	Pass
John Miles	514 W 11th Ave, City of Ellensburg	Center of backyard near sidewalk	3435591		In-Premises Protection	01-Jun-21	Pass
	612 W 11th Ave, Ellensburg	SW corner of house	1365924	Irrigation w/o Chemicals	In-Premises Protection	01-Jun-21	Pass
John Mitchell	314 W Ridgeview Ln, Ellensburg	NW side of house in backyard	HA1110		In-Premises Protection	21-Jun-21	Pass
	605 E 4th Ave, Ellensburg	front yard /near west fence and gazebo	A481277-1595	Irrigation w/o Chemicals	In-Premises Protection	07-May-21	Pass

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Facility Name	Facility Address	Device Location	Serial No	Hazard Type	Protection Type	Test Date	Pass/Fail
John Mooers	1606 E Seattle AV, Ellensburg	West side yard	696603		In-Premises Protection	24-Jun-21	Pass
John Nixon	1209 N Thayer Ave, Ellensburg	SE corner of house	19176	Irrigation w/o Chemicals	In-Premises Protection	27-May-21	Pass
John Obrian	503 N Kittitas St, Ellensburg	West side of house /backyard /south of deck stairs in box	600360		In-Premises Protection	17-Jun-21	Pass
John Onsager	1208 N Canterbury Dr, Ellensburg	south side/inside gate/near gas meter	B13480		In-Premises Protection	23-Jun-21	Pass
John Purcell	905 N B St, Ellensburg	S side of house/ under tree/ close to house	T347391	Irrigation w/o Chemicals	In-Premises Protection	26-Jun-21	Pass
John Reed	1417 Bonnie Ln, Ellensburg	South side of house	02742	Irrigation w/o Chemicals	In-Premises Protection	02-Apr-21	Pass
John Renkema	1205 N Tanglewood Ct, Ellensburg	southwest corner of lot by meter	A493829		In-Premises Protection	13-Jul-21	Pass
	1207 N Tanglewood Ct, Ellensburg	southeast corner of lot by meter	A499355		In-Premises Protection	13-Jul-21	Pass
John Ronnfeldt Pass	1100 S Rosewood DR, Ellensburg	10' South of northeast corner of house			A635142 In-Premises Protection	06-Apr-21	
John S. Panattoni	703 E Manitoba, Ellensburg	NE corner of back yard	BA5782		In-Premises Protection	14-May-21	Pass
John Scott	2300 N Ellington St, Ellensburg	North side of yard	1904531	Irrigation w/o Chemicals	In-Premises Protection	09-Jun-21	Pass
John Sinclair	1708 E Ashford Wy, Ellensburg	east side of house /next to heat pump/in gravel walkway	1HA74244		In-Premises Protection	09-Jun-21	Pass
John Tollman	501 E 3rd Ave, Ellensburg	W side of house thru gate /20' south along fence	17506	Irrigation w/o Chemicals	In-Premises Protection	28-May-21	Pass
John Van Wagoner	304 E Capitol Ave, Ellensburg	SW coner of lot/near meter	A071702	Irrigation w/o Chemicals	In-Premises Protection	17-Mar-21	Pass
	306 E Capitol Ave, Ellensburg	SW corner of lot/near meter	A071663		In-Premises Protection	17-Mar-21	Pass
Johnson Family Trust	1813 Green Parks Dr, Ellensburg	West wall in front yard	1058585		In-Premises Protection	28-May-21	Pass

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Facility Name	Facility Address	Device Location	Serial No	Hazard Type	Protection Type	Test Date	Pass/Fail
Johnston & Williams Funeral Home	301 E 3rd Ave, Ellensburg	basement/ at bottom of stairs north wall	AD6476	boiler/chiller	In-Premises Protection	26-May-21	Pass
Johnston Apartments	507 N Ruby ST, Ellensburg	Northwest corner of north building	4101213		Premises Isolation	25-May-21	Pass
		Southwest corner of south building	1005220		Premises Isolation	25-May-21	Pass
Jonathan Leonard	1202 N Tanglewood CRT, Ellensburg	West side by water meter	A652708-3728		In-Premises Protection	11-May-21	Pass
Jonathan Miller	110 W 9th Ave, Ellensburg	NE corner of garage	147971		In-Premises Protection	26-May-21	Pass
Jonathan Suttles	1509 W Dry Creek Rd, Ellensburg	South side of yard/north of wind break/middle area	A072533		In-Premises Protection	10-Jun-21	Pass
Jon-Lars Sorenson	1601 E Hobert Ave, Ellensburg	front yard /west of driveway	3046983		In-Premises Protection	15-Apr-21	Pass
Jordan Chang	1709 Bluegrass Ln, Ellensburg	West side of yard	H23859	Irrigation w/o Chemicals	In-Premises Protection	02-Jun-21	Pass
Jordan Miller	1502 E Seattle Ave, Ellensburg	East of drivewa/near front porch	A134766		In-Premises Protection	12-Jun-21	Pass
Jorge Navarro	809 S Maple St, Ellensburg	East side/near meter	A117719		In-Premises Protection	27-May-21	Pass
Jose Rios	112 E Lexus Ln, Ellensburg	Northwest lawn by meter	A582582		In-Premises Protection	04-Jun-21	Pass
Joseph & Shelley Moine	800 Acacia Ln, Ellensburg	front yard/ in box by meter	A668332	Irrigation w/o Chemicals	In-Premises Protection	02-Jul-21	Pass
Joseph Browitt	1306 N Canterbury Dr, Ellensburg	South side of house in box/ inside fence	473043		In-Premises Protection	12-May-21	Pass
Joseph Chang	317 W Indiana Dr, Ellensburg	west corner by meter	40686		In-Premises Protection	25-Aug-21	Pass
	806 E 8th AV, Ellensburg	Southwest corner of house	CB448462-3752		In-Premises Protection	05-Jun-21	Pass
Joseph Epperson	201 N Sampson St, Ellensburg	Near alley / in valve box	490500-2501	Irrigation w/o Chemicals	In-Premises Protection	17-May-21	Pass

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Joseph Harberer	1609 E Seattle AV, Ellensburg	East side of house	675219		In-Premises Protection	10-May-21	Pass
Joseph Rausch	1501 Skyline Dr, Ellensburg	west side of yard	A26188		In-Premises Protection	28-May-21	Pass
Joseph Sedy	1105 E 1st Ave, Ellensburg	backyard/south side next to house	26264	Irrigation w/o Chemicals	In-Premises Protection	12-May-21	Pass
Joseph Smith	708 S Cypress Ct, Ellensburg	By meter straight west of front door	A356373		In-Premises Protection	27-May-21	Pass
Joshua Anglin	2607 N Columbia St, Ellensburg	East side of house/below window	404042		In-Premises Protection	13-Jul-21	Pass
Joshua G Overland	317 N Dennis St, Ellensburg	South side of garage in back yard	A582648		In-Premises Protection	21-Jun-21	Pass
Joshua Hibbard	1107 Franklin St, Ellensburg	West side yard	097829	Irrigation w/o Chemicals	In-Premises Protection	05-May-21	Pass
Joshua Ingraham	1610 E Sparrow Knoll AV, Ellensburg	East side north of fence	A630211		In-Premises Protection	20-Jul-21	Pass
Joshua Jones	2501 N Spar Ln, Ellensburg	east side of front yard	2804228		In-Premises Protection	09-Jun-21	Pass
Joshua L Schilling	706 S Locust St, Ellensburg	NW corner of house N side	A377329		In-Premises Protection	17-Aug-21	Pass
Joshua Welsh	903 E Spokane Ave, Ellensburg	SW corner of front yard by meter	16813551	Irrigation w/o Chemicals	In-Premises Protection	13-May-21	Pass
Josiah Jackson	1902 Trails Edge Dr, Ellensburg	N side of house	565530	Irrigation w/o Chemicals	In-Premises Protection	13-May-21	Pass
Joyce Frederickson	201 Mt Adams Ct, Ellensburg	SW corner of property/ near meter & shrubs	A102759		In-Premises Protection	12-May-21	Pass
Joyce Johnson	1101 E Umptanum Rd, Ellensburg	NW corner of house in box	2774477		In-Premises Protection	07-May-21	Pass
JR's Economart	619 W University Way, Ellensburg	south side/below pop machine/in cabinet	386749	Beverage Dispenser with CO2	In-Premises Protection	04-Nov-21	Pass
		south side/below pop machine/in cabinet	386749	Beverage Dispenser with CO2	In-Premises Protection	05-Apr-21	Fail/Pass

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Facility Name	Facility Address	Device Location	Serial No	Hazard Type	Protection Type	Test Date	Pass/Fail
Juan Magana	1500 N Stonebridge St, Ellensburg	North side of house/inside of gate	A481269	Irrigation w/o Chemicals	In-Premises Protection	14-Jul-21	Pass
Judy Holms	1202 Craig Ave, Ellensburg	west side/right of front door in box behind schrubs	A596539	Irrigation w/o Chemicals	In-Premises Protection	05-May-21	Pass
Judy Locke	1611 N B St, Ellensburg	South, front yard	432935		In-Premises Protection	07-Jun-21	Pass
Judy Vander Shauw	1012 Craig Ave, Ellensburg	SE corner of backyard	180939	Irrigation w/o Chemicals	In-Premises Protection	10-Aug-21	Pass
	901 E 2nd Ave, Ellensburg	north side of house next to alley	84765	Irrigation w/o Chemicals	In-Premises Protection	02-Aug-21	Pass
Julia N. Shaw	1700 College Pl, Ellensburg	side yard in front of holly bush	599491		In-Premises Protection	26-May-21	Pass
Julianne Roberts	2414 N Delphine ST, Ellensburg	East side of back yard	445910		In-Premises Protection	25-May-21	Pass
Julianne Steinmasel	1900 E 14th Ave, Ellensburg	west side/near wall	A596541	Irrigation w/o Chemicals	In-Premises Protection	14-Jun-21	Pass
Julie Peterson	202 N Sprague St, Ellensburg	East side/near alley/next to fence	3209304		In-Premises Protection	02-Aug-21	Pass
Julie Randall	700 N Willow St, Ellensburg	front yard next to driveway under wooden box	2110517-0272	Irrigation w/o Chemicals	In-Premises Protection	22-Jun-21	Pass
Juniper 908 LLC	908 Juniper Ave, Ellensburg	North end of property	A534830		In-Premises Protection	01-May-21	Pass
Juniper Village North	803 Juniper Ave, Ellensburg	803 Juniper front of bldg	A773183	Irrigation w/o Chemicals	In-Premises Protection	20-Sep-21	Pass
		805 Juniper front lawn/south side yard	A596545	Irrigation w/o Chemicals	In-Premises Protection	20-Sep-21	Pass
		807 Juniper south side of house	BA4373	Irrigation w/o Chemicals	In-Premises Protection	20-Sep-21	Pass
		809 Juniper front of bldg	A596535	Irrigation w/o Chemicals	In-Premises Protection	20-Sep-21	Pass
		901 Chestnut St. N front (south) side of bldg	89102	Irrigation w/o Chemicals	In-Premises Protection	20-Sep-21	Pass

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Facility Name	Facility Address	Device Location	Serial No	Hazard Type	Protection Type	Test Date	Pass/Fail
Juniper Village North	803 Juniper Ave, Ellensburg	903 Juniper south side of house	554839	Irrigation w/o Chemicals	In-Premises Protection	20-Sep-21	Pass
Justin Donovon	1709 E Ashford Wy, Ellensburg	East side of house/ inside of fence?	HA20542		In-Premises Protection	19-Jul-21	Pass
Justin Fowler	206 W 26th Ave, Ellensburg	next to water meter in side yard @ mailboxes	A320272		In-Premises Protection	30-Aug-21	Pass
	208 W 26th Ave, Ellensburg	Northeast corner of property near meter	3623660		In-Premises Protection	30-Aug-21	Pass
	2509 N Columbia St, Ellensburg		SE corner of property by meter		A568959	In-Premises	30-Aug-21
	Pass				Protection		
	2511 N Columbia St, Ellensburg		NE corner of property by meter		A538003	In-Premises	30-Aug-21
	Pass				Protection		
Justin Henderson	203 N Lincoln St, Ellensburg	NW side of house	484531	Irrigation w/o Chemicals	In-Premises Protection	01-Jul-21	Pass
Justin Simpson	209 W Maci Ct., Ellensburg	SE corner of front yard /near meter	A0203345		In-Premises Protection	21-May-21	Pass
Kade Nestegard	2219 N Water St, Ellensburg	E side of house	21515	Irrigation w/o Chemicals	In-Premises Protection	21-Jul-21	Pass
Kai Ng	1602 N Bluegrass Ln, Ellensburg	NW corner of house	147969	Irrigation w/o Chemicals	In-Premises Protection	02-Jun-21	Pass
Kara Hunnicutt	913 E Manitoba, Ellensburg	back yard next to north fence	858597	Irrigation w/o Chemicals	In-Premises Protection	12-May-21	Pass
Karen Anderson	1611 E Canterbury Dr, Ellensburg	west side of house in side fence	1HA03444		In-Premises Protection	24-May-21	Pass
Karen Berg	1507 N Ravenswood Ln, Ellensburg	N side of house	A74704	Irrigation w/o Chemicals	In-Premises Protection	03-Jun-21	Pass
Karen Mattocks	915 E 3rd Ave, Ellensburg	north side of house/NE of chimney in valve box by gate	217007		In-Premises Protection	19-Jul-21	Pass
Karen Turcotte	403 W Illinois Ave, Ellensburg	SE corner of house/front yard	2971968		In-Premises Protection	07-Jun-21	Pass
Karin Mooney	1303 Vista Rd, Ellensburg	W side of house by sliding door	224419	Irrigation w/o Chemicals	In-Premises Protection	05-Jun-21	Pass

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Facility Name	Facility Address	Device Location	Serial No	Hazard Type	Protection Type	Test Date	Pass/Fail
Karla Williams	1101 E Umptanum RD, Ellensburg	6' East of SW corner of house by meter	A652697-3540		In-Premises Protection	06-May-21	Pass
Katharine Turnage	2408 N Delphine St, Ellensburg	SE side of house in backyard	H05545		In-Premises Protection	04-Jun-21	Pass
Katherine Patry Pass	2413 N Columbia St, Ellensburg		east side/front yard in box		2808425 Protection	In-Premises	08-Jun-21
Kathleen Barlow	913 E 2nd Ave, Ellensburg	back yard by stairs	62325	Irrigation w/o Chemicals	In-Premises Protection	17-Apr-21	Pass
Kathleen Huppert	1122 E Spokane Ave, Ellensburg	front yard	173604	Irrigation w/o Chemicals	In-Premises Protection	16-Apr-21	Pass
Kathy Honeysett	1512 Skyline Dr, Ellensburg	NE corner of front yard	551778		In-Premises Protection	26-May-21	Pass
Kathy Kasting	1006 Vista Rd, Ellensburg	Front yard/north of driveway/near meter	435407		In-Premises Protection	28-May-21	Pass
Kathy Kettlehut	1101 E Umptanum RD, Ellensburg	NW corner of lot by meter	A630136-3547		In-Premises Protection	07-May-21	Pass
Katlin Panattoni	1703 Gala Way, Ellensburg	West side of house	1HB41799	Irrigation w/o Chemicals	In-Premises Protection	15-Jul-21	Pass
Kayse Bruno	210 W 26th Ave, Ellensburg	SW corner of house	A102780		In-Premises Protection	19-Aug-21	Pass
Keith Bourne	1011 E 1st Ave, Ellensburg	South side/near alley/fence	19462	Irrigation w/o Chemicals	In-Premises Protection	20-Jul-21	Pass
Keith Champagne/Bobby Cummings	402 W Indiana Dr, Ellensburg	NE corner of front yard/by meter	A269196		In-Premises Protection	13-May-21	Pass
Keith Kuckenberg	101 S Chestnut St, Ellensburg	South side by garage	19236	Irrigation w/o Chemicals	In-Premises Protection	02-Jul-21	Pass
Keith Riexinger	200 W Greenfield Ave, Ellensburg	Southeast corner of house	A493374		In-Premises Protection	17-Aug-21	Pass
	204 W Greenfield Ave, Ellensburg	Northwest corner of house	A489838		In-Premises Protection	17-Aug-21	Pass
	206 W Greenfield Ave, Ellensburg	8' East of front door	A414420		In-Premises Protection	17-Aug-21	Pass

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Keith Riexinger	208 W Greenfield Ave, Ellensburg	Between front door & NE corner of house	A414409		In-Premises Protection	17-Aug-21	Pass
	2303 N Water St, Ellensburg	SE corner of house/in yard	B05374		In-Premises Protection	17-Aug-21	Pass
	2304 N Ridgeview Ln, City of Ellensburg	southwest corner of house	441708		In-Premises Protection	17-Aug-21	Pass
	2305 N Water St, Ellensburg	NE corner of house/ in yard	A84558		In-Premises Protection	17-Aug-21	Pass
	2306 N Ridgeview Ln, City of Ellensburg	north side of house	446286		In-Premises Protection	17-Aug-21	Pass
	2308 N Ridgeview Ln, City of Ellensburg	northwest corner of house	445831		In-Premises Protection	17-Aug-21	Pass
	2309 N Water St, Ellensburg	NE corner of house	40015		In-Premises Protection	17-Aug-21	Pass
	2401 N Water St, City of Ellensburg	SE Corner of House	A269242		In-Premises Protection	17-Aug-21	Pass
	2403 N Water St, City of Ellensburg	NE Corner of House	A269193		In-Premises Protection	17-Aug-21	Pass
	2405 N Water St, City of Ellensburg	SE Corner of House	A297504		In-Premises Protection	17-Aug-21	Pass
	301 W Ridgeview Ln, Ellensburg	exterior wall	East side of house /next to		398748 In-Premises Protection	17-Aug-21 Pass	
	303 W Ridgeview Ln, Ellensburg		south side/front yard/near meter		398724 In-Premises Protection	17-Aug-21 Pass	
	305 W Ridgeview Ln, City of Ellensburg	northwest corner	3665504		In-Premises Protection	17-Aug-21	Pass
Kelley Realty	508 N Main St, Ellensburg	NE corner of bldg by alley	A228592		In-Premises Protection	27-Apr-21	Pass
	601 N Main St, Ellensburg	West side of building/near AC unit	648315		In-Premises Protection	07-Jun-21	Pass
Kelly Benson	1603 E Hobert Ave, Ellensburg	front yard next to water meter	2991317		In-Premises Protection	10-May-21	Pass

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Kelly Gerrits	716 E 3rd Ave, Ellensburg	south side of castle building/in box	15632	Irrigation w/o Chemicals	In-Premises Protection	14-May-21	Pass
Kelly Gerritts	305 N Walnut St, City of Ellensburg	SW corner of house by walk	3603805		In-Premises Protection	26-May-21	Pass
Kelsee Shearer Pass	1702 E Spokane AV, Ellensburg	house	10' south of northeast corner of 3516		A639321-Protection	In-Premises	20-May-21
Ken Hasbrouck	1100 S Rosewood Dr, Ellensburg	front yard	448714	Irrigation w/o Chemicals	In-Premises Protection	06-May-21	Pass
Ken Olin	1709 N Water St, Ellensburg	front yard/east side	31756	Irrigation w/o Chemicals	In-Premises Protection	07-Jun-21	Pass
Ken Pless	202 N Maple St, Ellensburg	north side of back yard/inside gate	567759	Irrigation w/o Chemicals	In-Premises Protection	08-Jul-21	Pass
Kenneth Austin	1902 E 14th Ave, Ellensburg	East side of house front yard	42544	Irrigation w/o Chemicals	In-Premises Protection	21-Aug-21	Pass
Kenneth Bauer	210 Mt Hood Ct., Ellensburg	NE of driveway	29618	Irrigation w/o Chemicals	In-Premises Protection	07-Jun-21	Pass
Kenneth Girrard	111 E 10th AV, Ellensburg	4' south of stairs on east side of house	A950558-3753		In-Premises Protection	15-Jul-21	Pass
Kenneth Lindsey	906 E Seattle AV, Ellensburg	Between windows in front of house	A713019-3638		In-Premises Protection	11-Jun-21	Pass
Kennith Tschider	1400 N Thayer Ave, Ellensburg	S side of house/backyard	39461	Irrigation w/o Chemicals	In-Premises Protection	28-May-21	Pass
Ken's Car Wash	100 E Capitol Ave, Ellensburg	mech room/east wall	1183962		Premises Isolation	20-Aug-21	Pass
	1013 E University Way, Ellensburg	Back room	48508	Premise Isolation	Premises Isolation	20-Aug-21	Pass
Kent Sherwood	1604 E Seattle AV, Ellensburg	East side yard past gate	696596		In-Premises Protection	20-May-21	Pass
Kerry Ringer	1113 E 2nd Ave, Ellensburg	backyard SW corner of shop	207226	Irrigation w/o Chemicals	In-Premises Protection	12-May-21	Pass
Kevin Adkisson	1707 E Plumridge Ave, Ellensburg	front yard by fire hydrant	393918		In-Premises Protection	04-Jun-21	Pass

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Kevin McGuirk	101 W Helena Ave, Ellensburg	south side of front yard by meter	200452		In-Premises Protection	17-Jun-21	Pass
Kevin Oja	714 E White Birch AV, Ellensburg	front yard under window	A548965-3530	Irrigation w/o Chemicals	In-Premises Protection	03-Jun-21	Pass
Kevin Sullivan	112 W 9th Ave, Ellensburg	Basement/south wall	45199		In-Premises Protection	16-Aug-21	Pass
Kevin Warren	109 N Sampson St, Ellensburg	NE corner of house	13709	Irrigation w/o Chemicals	In-Premises Protection	05-Jun-21	Pass
	1704 Indiana Dr., Ellensburg	North side of yard	16991	Irrigation w/o Chemicals	In-Premises Protection	07-Jun-21	Pass
Kim Khap Gems	108 N Main St, Ellensburg	in alley by water meter/SE parking lot	125646	Irrigation w/o Chemicals	In-Premises Protection	14-May-21	Pass
Kim Smith	600 N Willow ST, Ellensburg	Southwest corner of lot by meter	26248		In-Premises Protection	04-May-21	Pass
Kim Williams	810 White Birch Ave, Ellensburg		NW corner by fence		5514506	In-Premises	08-Jun-21 Pass
					Protection		
Kimberly Deisher-Allen	111 Courtney Ct, Ellensburg	south side of house/ inside gate	A723529		In-Premises Protection	09-Sep-21	Pass
Kindra Martin	2400 N Ellington St, Ellensburg	back yard/ north of house	236692	Irrigation w/o Chemicals	In-Premises Protection	16-Jun-21	Pass
Kirk Buchholz	802 E Washington Ave,	SW sorner of house in back yard			83190	In-Premises	01-Jun-21 Pass
	Ellensburg				Protection		
Kirk Morningstar	1201 N Canterbury Dr, City of Ellensburg	back yard/north side of house behind fence	A168353		In-Premises Protection	30-Aug-21	Pass
Kirschten Family Trust	2407 N Lilac Wy, Ellensburg	south side of house/back yard	3111936		In-Premises Protection	23-Apr-21	Pass
Kittcom	700 Elmview Rd, Ellensburg	north side/near staff entry	A14443	Irrigation w/o Chemicals	In-Premises Protection	20-Jul-21	Pass
Kittie Jones	1707 Bluegrass Ln, Ellensburg	E side of backyard next to building	H58044	Irrigation w/o Chemicals	In-Premises Protection	01-Jul-21	Pass
Kittitas Co. Chamber & Rodeo Office	609 N Main St, Ellensburg	south side of bldg/under deck	21605	Irrigation w/o Chemicals	In-Premises Protection	07-May-21	Pass

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Kittitas County Conservation District	2211 W Dolarway Rd, Ellensburg	North end of bldg/center in back	A924410		In-Premises Protection	17-May-21	Pass
Kittitas County Court House	205 W 5th Ave Room 10, Ellensburg	Basement boiler room /above stairs /south wall	80215	Irrigation w/o Chemicals	In-Premises Protection	11-Oct-21	Pass
		East side of building/north of basement ramp fence	251308	Irrigation w/o Chemicals	In-Premises Protection	07-Jun-21	Pass
		East side of building/north of entrance/inside retaining wall	04284	Irrigation w/o Chemicals	In-Premises Protection	07-Jun-21	Pass
		Jail basement/mechanical room/west wall	65176	Chiller	In-Premises Protection	07-Jun-21	Pass
		New pod/L- Mod room #119/west wall	361999		In-Premises Protection	07-Jun-21	Pass
		New pod/L-Mod/room #119 /north wall	MD2789		Premises Isolation	07-Jun-21	Pass
		North end of bldg./west of Sally Port drive thru/fire riser room/south wall	3629180	Fire Spinlker-bi-pass	Dedicated Fire Line	07-Jun-21	Pass
		North end of building/west of Sally Port drive thru/fire riser room/south wall	V33383	Fire Dept. Connection	Dedicated Fire Line	07-Jun-21	Pass
		North side of jail building/ next to building/near the center	3271677	Irrigation w/o Chemicals	In-Premises Protection	07-Jun-21	Pass
		South side of basement/west wall/above metal grate	181794	Fire Dept. Connection	Dedicated Fire Line	07-Jun-21	Pass
		South side of bldg 60' west of main door	616948	Irrigation w/o Chemicals	In-Premises Protection	07-Jun-21	Pass
		South side of building/next to concrete retaining wall	041641	Irrigation w/o Chemicals	In-Premises Protection	07-Jun-21	Pass
		West end of basement mechanical room/original jail building	MD0685		Premises Isolation	07-Jun-21	Pass
		West side of building/next to generator/inside fence	G283271		In-Premises Protection	07-Jun-21	Pass

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Facility Name	Facility Address	Device Location	Serial No	Hazard Type	Protection Type	Test Date	Pass/Fail
Kittitas County Housing Authority	107 W 11th AV, Ellensburg	East side by meter	4524998-3751		In-Premises Protection	11-Jun-21	Pass
	2201 Airport RD, Ellensburg	2201 N Airport South side in courtyard	672801	Irrigation w/o Chemicals	In-Premises Protection	09-Jun-21	Pass
		301 Cherry Lane/ middle of lawn strip /south side of fence	551784	Irrigation w/o Chemicals	In-Premises Protection	17-May-21	Pass
		north side of park/near curb@ 716 W Rainier Ave	A12857	Irrigation w/o Chemicals	In-Premises Protection	01-Jun-21	Pass
		W side of apt bldg 107 W 11th	4524998	Irrigation w/o Chemicals	In-Premises Protection	11-Jun-21	Pass
Kittitas County Maintenance Shop	505 W 14th Ave, Ellensburg	Main shop building/SE corner/Lube Room/north wall	H00806	vehicle wash hose bib	In-Premises Protection	10-Aug-21	Pass
		West end of shop building/mounted above pressure washer	#35		In-Premises Protection	10-Aug-21	Pass
Kittitas County Parking Lots	205 W 5th Ave, Ellensburg	505 N Water St SW corner of lot near fence	A60020		Premises Isolation	07-Jun-21	Pass
		601 N Water St west side of lot in middle by alley	406236		Premises Isolation	07-Jun-21	Pass
Kittitas County Public Works Bldg.	411 N Ruby St, Ellensburg	South side of building	3EM0031	Fire Sprinkler w/o Chemical Addition	Dedicated Fire Line	07-Jun-21	Pass
		SW corner of back room	108267		Premises Isolation	11-Oct-21	Pass
Kittitas County Sheriff's Dept.	307 W Umptanum Rd, Ellensburg	East ebd of bldg. #9/mechanical room/south wall	261698		Premises Isolation	07-Jun-21	Pass
		East of umptanum Rd. entrance/next to curb & meter	A26272		Premises Isolation	07-Jun-21	Pass
Kittitas County Solid Waste/Compost	925 Industrial Way, Ellensburg	Compost Facility/north side of property/south west of old 'weigh station booth' near hydrant and meter in large vault	3088795		Premises Isolation	15-Jul-21	Pass
Kittitas County Sorenson Bldg.	507 N Nanum St, Ellensburg	Basement boiler room/west wall	L35370-2197		Dedicated Fire Line	07-Jun-21	Pass

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Facility Name	Facility Address	Device Location	Serial No	Hazard Type	Protection Type	Test Date	Pass/Fail
Kittitas County Sorenson Bldg.	507 N Nanum St, Ellensburg	Basement boiler room/west wall/ below expansion tank	4745383		In-Premises Protection	07-Jun-21	Pass
		East side of building/south of entry	264739		In-Premises Protection	10-Jun-21	Pass
		North side of buiding/near center/next to building	264317		In-Premises Protection	07-Jun-21	Pass
		Outside courtyard eastside/ on west facing wall	258029		In-Premises Protection	07-Jun-21	Pass
Kittitas Medical Supply	709 S Main ST, Ellensburg	Utility room west of rest room	140620-3734		Premises Isolation	06-May-21	Pass
Kittitas Valley Event Center/ Armory Bldg.	901 E 7th Ave Ste1, Ellensburg	boiler room/north side	AG2369	Boiler Feed Lines	In-Premises Protection	10-Jun-21	Pass
		Mech room NW corner of bldg near exterior door	U33993		Dedicated Fire Line	10-Jun-21	Pass
		north of triple sink in kitchen	75973		In-Premises Protection	10-Jun-21	Pass
		north of triple sink in kitchen	65626		In-Premises Protection	10-Jun-21	Pass
		West wall of mech room NW corner of bld.	003218		Premises Isolation	10-Jun-21	Pass
Kittitas Valley Event Center/ Fairgrounds		125' NE of Amory Bldg by fence on gravel	445177	RV parking	Premises Isolation	10-Jun-21	Pass
		125' NE of Amory Bldg by fence on gravel	445177	RV parking	Premises Isolation	07-Jun-21	Pass
		8th Ave/ Bull pen/ approx 75' NW of Western Village inside fence near hose bibs	286156		In-Premises Protection	10-Jun-21	Pass
		Bloom Pavilion northwest corner room	120377-3714		Premises Isolation	10-Jun-21	Pass
		Bloom Pavilion northwest corner room	120377-3714		Premises Isolation	07-Jun-21	Pass
		Bloom Pavillion/ NW corner inside riser room	22248		Dedicated Fire Line	10-Jun-21	Pass

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Facility Name	Facility Address	Device Location	Serial No	Hazard Type	Protection Type	Test Date	Pass/Fail
Kittitas Valley Event Center/ Fairgrounds	901 E 7th Ave Ste1, Ellensburg	Bloom Pavillion/ NW corner inside riser room	22248		Dedicated Fire Line	07-Jun-21	Pass
		Bloom Pavillion/NW corner inside riser room	LD 0384		Dedicated Fire Line	07-Jun-21	Pass
		Bloom Pavillion/NW corner inside riser room	LD 0384		Dedicated Fire Line	10-Jun-21	Pass
		Event Center / SW corner of Event Center office bldg/ mens restroom/ south of gate	265482	Irrigation w/o Chemicals	In-Premises Protection	07-Jun-21	Pass
		Event Center / SW corner of Event Center office bldg/ mens restroom/ south of gate	265482	Irrigation w/o Chemicals	In-Premises Protection	10-Jun-21	Pass
		Event Center / SW corner of Event Center office bldg/ mens restroom/ south of gate	265482	Irrigation w/o Chemicals	In-Premises Protection	07-Jun-21	Pass
		Frontier Village / near outside wall between General Store and School House	263346	Irrigation w/o Chemicals	In-Premises Protection	10-Jun-21	Pass
		Frontier Village/outside of fence/ north of Penny Candy Strore	A00400		In-Premises Protection	07-Jun-21	Fail/Pass
		Frontier Village/outside of fence/ north of Penny Candy Strore	A00400		In-Premises Protection	10-Jun-21	Pass
		Frontier Village/outside of fence/next to road/below sign in wooden box	3273388		In-Premises Protection	07-Jun-21	Pass
		Frontier Village/outside of fence/next to road/below sign in wooden box	3273388		In-Premises Protection	10-Jun-21	Pass
		N grdstnd W end S of Behind Chute NE corner of bathroom #4's supply closet	12948	Urinals	In-Premises Protection	07-Jun-21	Pass

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Facility Name	Facility Address	Device Location	Serial No	Hazard Type	Protection Type	Test Date	Pass/Fail
Kittitas Valley Event Center/ Fairgrounds	901 E 7th Ave Ste1, Ellensburg	N grdstnd W end S of Behind Chute NE corner of bathroom #4's supply closet	12948	Urinals	In-Premises Protection	11-Oct-21	Pass
		NE of armory bldg NE corner of container	3435052		In-Premises Protection	10-Jun-21	Pass
		NE of armory bldg NE corner of container	3435052		In-Premises Protection	07-Jun-21	Pass
		Rodeo cattle pens east of arena/N fence / NE of Gold Buckle Club bldg /near ramp 10-16	4807684-3713	Irrigation w/o Chemicals	In-Premises Protection	10-Jun-21	Pass
		Rodeo RV lot & barns/ northeast side of fair grounds/across the gravel road from Rodeo Arena office/near trees	3271136		In-Premises Protection	07-Jun-21	Pass
		Rodeo RV lot & barns/ northeast side of fair grounds/across the gravel road from Rodeo Arena office/near trees	3271136		In-Premises Protection	10-Jun-21	Pass
		RV parking area north of 9th St dirt alley/near electrical panels	662876	RV parking	Premises Isolation	10-Jun-21	Pass
		RV parking area north of 9th St dirt alley/near electrical panels	662876	RV parking	Premises Isolation	07-Jun-21	Pass
		South Grand Stand/outside of Manastash Room/near ramp 11-sect.1	2951741		In-Premises Protection	10-Jun-21	Pass
		South Grand Stand/outside of Manastash Room/near ramp 11-sect.1	2951741		In-Premises Protection	07-Jun-21	Pass

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Facility Name	Facility Address	Device Location	Serial No	Hazard Type	Protection Type	Test Date	Pass/Fail
Kittitas Valley Event Center/ Fairgrounds	901 E 7th Ave Ste1, Ellensburg	South Grandstands (Heritage Center) breezeway mech room at base of stairs	010313124	Fire Dept. Connection	Dedicated Fire Line	07-Jun-21	Pass
		South Grandstands (Heritage Center) breezeway mech room at base of stairs	010313124	Fire Dept. Connection	Dedicated Fire Line	10-Jun-21	Pass
		South of 8th Aver'Duplex 'in valve box	3203619		In-Premises Protection	10-Jun-21	Pass
		South of 8th Aver'Duplex 'in valve box	3203619		In-Premises Protection	07-Jun-21	Pass
		SW corner grandstand eanaway Hall	808822		In-Premises Protection	10-Jun-21	Pass
		SW corner grandstand eanaway Hall	808822		In-Premises Protection	07-Jun-21	Pass
		Teanaway Bldg./west of breezeway in mech room	0010181230	Fire Dept. Connection	Dedicated Fire Line	10-Jun-21	Pass
		Teanaway Bldg/SW corner/outside of building/near water feature	3273352		In-Premises Protection	07-Jun-21	Pass
		Teanaway Bldg/SW corner/outside of building/near water feature	3273352		In-Premises Protection	10-Jun-21	Pass
		Wash rack/west end/ up in rafters/south end of property	A058476		In-Premises Protection	07-Jun-21	Pass
		Wash rack/west end/ up in rafters/south end of property	A058476		In-Premises Protection	10-Jun-21	Pass
		West of Teanaway building/in grass strip/center of parking lot	228432		Premises Isolation	10-Jun-21	Pass
		West of Teanaway building/in grass strip/center of parking lot	228432		Premises Isolation	07-Jun-21	Pass
		West parkiing lot/SW corner/inside of green fence/near birch tree	3189894		Premises Isolation	07-Jun-21	Pass

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Facility Name	Facility Address	Device Location	Serial No	Hazard Type	Protection Type	Test Date	Pass/Fail
Kittitas Valley Event Center/ Fairgrounds	901 E 7th Ave Ste1, Ellensburg	West parkiing lot/SW corner/inside of green fence/near birch tree	3189894		Premises Isolation	10-Jun-21	Pass
Kittitas Valley Fire and Rescue	2020 Vantage Hwy, Ellensburg	Fire riser room	H24561-3726		Dedicated Fire Line	20-May-21	Pass
		North wall of northeast mech room in new building	G49381-3700		Dedicated Fire Line	20-May-21	Pass
		Northeast corner of lot	4725949		In-Premises Protection	20-May-21	Pass
		SE corner of Fire Station Truck Garage	3759866		Premises Isolation	20-May-21	Pass
		South wall of northeast mech room in new building	10459-3699		Premises Isolation	20-May-21	Pass
		South wall of northeast mech room.in new building	10510-3698		Premises Isolation	20-May-21	Pass
		Southeast corner of truck bay	12467-3727		Premises Isolation	20-May-21	Pass
	400 E Mtn View Ave, Ellensburg		E wall of decant room in SW		B023060	In-Premises	20-May-21
	Pass	corner of bldg			Protection		
		E wall of decant room SW corner of bldg	B023068		In-Premises Protection	20-May-21	Pass
		NE corner of bldg in S large vault			000150	Dedicated Fire	20-May-21
	Pass				Line		
		NE side of lot by fire hydrant	4141492	Irrigation w/o Chemicals	In-Premises Protection	20-May-21	Pass
		Sprinkler riser room. SW corner of classroom B	5217		Premises Isolation	20-May-21	Pass
Kittitas Valley Urgent Care	702 E Mt View Ave, Ellensburg	East of main entrance to Briarwood	H04334	Irrigation w/o Chemicals	In-Premises Protection	18-May-21	Pass
		Mech room west side of building	118130		Premises Isolation	23-Feb-21	Pass
		South wall of mech room in west entry	A584242		Premises Isolation	03-Feb-21	Pass

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Facility Name	Facility Address	Device Location	Serial No	Hazard Type	Protection Type	Test Date	Pass/Fail
Kittitas Valley Urgent Care	702 E Mt View Ave, Ellensburg	Southwest corner of building	4141503		In-Premises Protection	25-May-21	Pass
KJM Holdings East LLC	206 W Hailey Ct., Ellensburg	NW corner of yard/near meter	046541		In-Premises Protection	21-May-21	Pass
	210 W Hailey Ct., Ellensburg	South west side/of backyard/near middle of lawn	A091339		In-Premises Protection	21-May-21	Pass
KLB Properties	605 W Ravenswood Ln, Ellensburg	back yard/NE side	H24338	Irrigation w/o Chemicals	In-Premises Protection	20-May-21	Pass
Klifford Caillier	2402 N Delphine St, Ellensburg	North side of house in yard	HA20561	Irrigation w/o Chemicals	In-Premises Protection	09-Jun-21	Pass
Knudson Lumber Co Pass	1791 Vantage HWY,	50' north of southwest corner of			A651252-	Premises Isolation	09-Sep-21
	Ellensburg	building	3521				
Koch Farm Investments LLC	1500 Glen Dr, Ellensburg	South side of bldg.	656071	Irrigation w/o Chemicals	In-Premises Protection	09-Jun-21	Pass
Kody Keaton	805 Acacia Ln, Ellensburg	East side in backyard	521630	Irrigation w/o Chemicals	In-Premises Protection	19-Jun-21	Pass
Koletty's Bagels & Bakery Pass		1201 S Canyon Rd, Ellensburg	by wall next to slop sink &		031515	Premises Isolation	14-Jun-21
		water heater					
Koletty's Coffee	105 E Umptanum Rd, Ellensburg	East of espresso stand/next to meter	A40653	Irrigation w/o Chemicals	In-Premises Protection	14-Jun-21	Pass
Kory Winegar	419 W 15th Ave, Ellensburg	SE corner by sidewalk	3701911		In-Premises Protection	03-Jun-21	Pass
Krista Bellis	514 W Bridgewood Ln, Ellensburg	North side of house	H49709	Irrigation w/o Chemicals	In-Premises Protection	20-May-21	Pass
Kristen Garland	1701 N Bridgewood Ln, Ellensburg	East side of house/in valve box	H64941	Irrigation w/o Chemicals	In-Premises Protection	03-Jun-21	Pass
Kurt Nelson	1403 N Canterbury Dr, Ellensburg	east side of house	1HA41347		In-Premises Protection	24-May-21	Pass
KVCH/Valley Clinic	716 E Manitoba, Ellensburg	behind bldg on N side/NE corner	024429	Irrigation w/o Chemicals	In-Premises Protection	05-Jun-21	Pass
		NW wall of basement	107979	Premise Isolation	Premises Isolation	24-Aug-21	Pass

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Facility Name	Facility Address	Device Location	Serial No	Hazard Type	Protection Type	Test Date	Pass/Fail
KVH	1506 Radio Rd, Ellensburg	SW side of building in parking lot/near fence in above ground hot box	4303621	Premise Isolation	Premises Isolation	26-May-21	Pass
		vault in west parking lot	4362741	Irrigation w/o Chemicals	In-Premises Protection	26-May-21	Pass
KVH / Rental House	703 S Chestnut St, Ellensburg	At center of houes in back yard	T192502		In-Premises Protection	17-May-21	Pass
	707 E Hobert Ave, Ellensburg	front of house/south side	846918	Irrigation w/o Chemicals	In-Premises Protection	17-May-21	Pass
	711 E Hobert Ave, Ellensburg	east side of yard /next to sidewalk & meter	A007266		In-Premises Protection	17-May-21	Pass
KVH Family Health Care Pass	107 E Mtn View Ave, Ellensburg		crawl space 75 west		155165	In-Premises	24-Aug-21
		crawl space S of entry	961600	X Ray Processor	In-Premises Protection	07-May-21	Pass
		Mech room NW corner of bldg	42035	Premise Isolation	Premises Isolation	07-May-21	Pass
		mech room NW corner of bldg	102781	Fire Dept. Connection	Dedicated Fire Line	07-May-21	Pass
		upper mech room	117570	Boiler Feed Lines	In-Premises Protection	07-May-21	Pass
		West side of bldg by gas meter	A13786	Irrigation w/o Chemicals	In-Premises Protection	07-May-21	Pass
KVH Hospital	603 S Chestnut St, Ellensburg	302 E 2nd / In kitchen cabinet/next to sink	A02506	Premise Isolation	Premises Isolation	24-Aug-21	Pass
		611 S Chestnut /Mediplex Bldg. -STE ' D'/ SW corner mechanical room	W348290		Premises Isolation	24-Aug-21	Pass
		611 S Chestnut Mediplex /Suite #B/ closet @ entrance	126949	Premise Isolation	Premises Isolation	24-Aug-21	Pass
		611 S. Chestnut Suite #A/ furnace room/east wall	23336	Premise Isolation	Premises Isolation	24-Aug-21	Pass

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Facility Name	Facility Address	Device Location	Serial No	Hazard Type	Protection Type	Test Date	Pass/Fail
KVH Hospital	603 S Chestnut St, Ellensburg	611 S. Chestnut Suite #C/ Dr. Wells/ mech room	43240	Premise Isolation	Premises Isolation	24-Aug-21	Pass
		611 S. Chestnut/ mechanical room /Suite "E	409315	Premise Isolation	In-Premises Protection	24-Aug-21	Pass
		Basement electrical room/ north side of courtyard/west wall	W353470		In-Premises Protection	24-Aug-21	Pass
		Basement of new west wing /north end	J01025	Fire Dept. Connection	Dedicated Fire Line	25-May-21	Pass
		Basement of new west wing /north end	J01025	Fire Dept. Connection	Dedicated Fire Line	23-Nov-21	Pass
		basement 'old tunnel' /south end/ west door	293452	Premise Isolation	Premises Isolation	24-Aug-21	Pass
		basement/center/west wing/south end	1028243	Ice Machine	In-Premises Protection	24-Aug-21	Pass
		basement/west wing/center	984180	Lab/hot water	Premises Isolation	24-Aug-21	Pass
		Cafeteria kitchen/ behind steamer	144025	food processing	In-Premises Protection	24-Aug-21	Pass
		Chiller mech room	010700		In-Premises Protection	24-Aug-21	Pass
		E/W basement (tunnel) hallway in new addition		1028214	Ice Machine	In-Premises Protection	24-Aug-21 Pass
		Emergency Room/ below storage room sink/SE corner	73592		In-Premises Protection	24-Aug-21	Pass
		helipad / mech room	W364387		In-Premises Protection	24-Aug-21	Pass
		Kitchen/main floor/ below sink (cold water side)	A05141		In-Premises Protection	24-Aug-21	Pass
		Kitchen/main floor/ below sink (hot water side)	280212		In-Premises Protection	24-Aug-21	Pass
		mechanical room/west roof below/ air handler	1144339	Boiler Feed Lines	In-Premises Protection	24-Aug-21	Pass

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Facility Name	Facility Address	Device Location	Serial No	Hazard Type	Protection Type	Test Date	Pass/Fail
KVH Hospital	603 S Chestnut St, Ellensburg	MRI Unit / SE corner mech. Room	H00749		In-Premises Protection	24-Aug-21	Pass
		New basement /west wing/north end	35568	Premise Isolation	Premises Isolation	24-Aug-21	Pass
		new basement/ west wing/center		1112021	Lab/cold waterPremises Isolation	24-Aug-21	Pass
		'new' tunnel/west wing /north end/bottom	35570	Premise Isolation	Premises Isolation	24-Aug-21	Pass
		SE Laundry Rm./south wall (cold water side)	441471	Washing machine	In-Premises Protection	24-Aug-21	Pass
		SE Laundry Rm/south wall (hot water side)	88784	Washing machine	In-Premises Protection	24-Aug-21	Pass
		Vault /south side of hospital	U03802	Fire Dept. Connection	Dedicated Fire Line	25-May-21	Pass
		West tunnel / off of east wing/surgery	1010515	Access restricted	In-Premises Protection	24-Aug-21	Pass
		West tunnel/east wing/surgery	1010516	Access restricted	In-Premises Protection	24-Aug-21	Pass
		west wing/south end/near old door	13694	Premise Isolation	Premises Isolation	24-Aug-21	Pass
		Westside lawn area /near fire hydrant & storage shed	130455	Irrigation w/o Chemicals	In-Premises Protection	11-Jun-21	Fail/Pass
KVH Hospital -Physical Therapy	301 E Mtn View Ave, Ellensburg	pump room west of swimming pool			A15785 Premises Isolation	24-Aug-21	Pass
		pump room/ west of pool	2856881		In-Premises Protection	24-Aug-21	Pass
		Ruby St./east of meter	A80520	Irrigation w/o Chemicals	In-Premises Protection	02-Apr-21	Pass
KVH Medical Office Bldg.	100 E Jackson Ave, Ellensburg	1st floor /south end mechanical room	182719		Premises Isolation	07-May-21	Pass
		1st floor/south end mechanical room	412734		Dedicated Fire Line	07-May-21	Pass

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Facility Name	Facility Address	Device Location	Serial No	Hazard Type	Protection Type	Test Date	Pass/Fail
KVH Medical Office Bldg.	100 E Jackson Ave, Ellensburg	Moved from 3rd floor to roof for cooling tower	2943391		In-Premises Protection	07-May-21	Pass
		NE corner of bldg in outside valve box	A303567	Irrigation w/o Chemicals	In-Premises Protection	07-May-21	Pass
		NE corner of bldg in outside valve box	A303567	Irrigation w/o Chemicals	In-Premises Protection	22-Sep-21	Pass
KVH/ Ellensburg Clinic	700 E Manitoba, Ellensburg	Inside crawl space/north side /access through NW corner door/closet/ in court yard	15722	Premise Isolation	Premises Isolation	24-Aug-21	Pass
		North side of building/near sidewalk & meter	3536056		In-Premises Protection	17-May-21	Pass
KXLE	1311 Vantage Hwy, Ellensburg	W side of bldg by gate	T076727	Irrigation w/o Chemicals	In-Premises Protection	11-Jun-21	Pass
Kyaw Maung	2209 N Water St, Ellensburg	northeast corner of house	CB202826-3532		In-Premises Protection	04-Jun-21	Pass
Kyle Doolin	2413 N Lilac Wy., Ellensburg	NE side of house/backyard by fence	HA92012		In-Premises Protection	10-Jun-21	Pass
Kyle Peckham	1801 N Bluegrass Ln, Ellensburg	W side in back yard	H89340	Irrigation w/o Chemicals	In-Premises Protection	21-Aug-21	Pass
Kyle Tate	201 S Sampson St, Ellensburg	NW corner of house in shrubs	508125	Irrigation w/o Chemicals	In-Premises Protection	17-May-21	Pass
Kyle West	911 E Seattle Ave, Ellensburg	backyard inside alley fence	173691	Irrigation w/o Chemicals	In-Premises Protection	13-May-21	Pass
Kyle Williams	1300 N Thayer Ave, Ellensburg	East side of house	W05627	Irrigation w/o Chemicals	In-Premises Protection	05-Jun-21	Pass
		East side of house	W05627	Irrigation w/o Chemicals	In-Premises Protection	05-Jun-21	Pass
Lane Roberts	2402 N Ellington St, Ellensburg	south side yard	213623	Irrigation w/o Chemicals	In-Premises Protection	09-Jun-21	Pass
Larry & Cheryl Hill	2500 Lilac Way, Ellensburg	NE corner/next to house	A131498		In-Premises Protection	10-Jun-21	Pass
Larry Bergman	1601 Bonnie Ln, Ellensburg	West side of shop	5410?	Irrigation w/o Chemicals	In-Premises Protection	27-May-21	Pass

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Facility Name	Facility Address	Device Location	Serial No	Hazard Type	Protection Type	Test Date	Pass/Fail
Larry Gookin	1009 N C St, Ellensburg	E curb strip by sidewalk	3782864		In-Premises Protection	01-Jun-21	Pass
Larry Jordan	204 Mt Hood Ct., Ellensburg	front lawn	4149414	Irrigation w/o Chemicals	In-Premises Protection	26-Apr-21	Pass
Larry Lowther	107 W 9th Ave, Ellensburg	north /sideyard	23225	Irrigation w/o Chemicals	In-Premises Protection	02-Jun-21	Pass
Larry Nickel Building	222 E 4th Ave, Ellensburg	In basement /west wall LOCKED OFF	AK5564	Fire Dept. Connection	Premises Isolation	10-Nov-21	Pass
Lars Holdings LLC	901 W Cascade Ct, Ellensburg	west side of house	CB621997		In-Premises Protection	19-Aug-21	Fail/Pass
Laura Fromme	1511 N Brick Rd, Ellensburg	NE corner/between fence and road	352107		In-Premises Protection	14-Jun-21	Pass
Lauren Wittek	1005 E 2nd Ave, Ellensburg	north side/next to house in backyard	G16749		In-Premises Protection	21-May-21	Pass
Layne Boone	211 W Hailey Ct., Ellensburg	NW corner of property/near fence & meter	A071723		In-Premises Protection	09-Sep-21	Pass
LDS Church	1700 Brick Rd, Ellensburg	west side of building near sidewalk /in valve box	1877883	Irrigation w/o Chemicals	In-Premises Protection	01-Jul-21	Pass
	808 S Magnolia St, Ellensburg	mechanical room /north of west entrance	IL-0677		Dedicated Fire Line	18-Jun-21	Pass
		mechanical room/north of west entrance	A53697		Premises Isolation	18-Jun-21	Pass
		outside/ SW corner of building/ near water meter	3191867	Irrigation w/o Chemicals	In-Premises Protection	18-Jun-21	Pass
	907 Wildcat Way, Ellensburg	South side of bldg/ next to parking lot/near meter	3036312	Irrigation w/o Chemicals	In-Premises Protection	01-Jul-21	Pass
Lee Bates	1802 Bluegrass Ln, Ellensburg	front of house under window	H57734	Irrigation w/o Chemicals	In-Premises Protection	02-Jun-21	Pass
Lee Kaspari	1718 Bluegrass Ln, Ellensburg	East side/back yard	H24666	Irrigation w/o Chemicals	In-Premises Protection	20-May-21	Pass
Les Schwab	1206 S Canyon Rd, Ellensburg	lube bldg in pit N wall	J7992	Radiator fill line	Premises Isolation	16-Nov-21	Pass

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Facility Name	Facility Address	Device Location	Serial No	Hazard Type	Protection Type	Test Date	Pass/Fail
Les Schwab	1206 S Canyon Rd, Ellensburg	truck center 1100 S Ruby St, S side of entrance driveway	B12684	Irrigation w/o Chemicals	Premises Isolation	10-May-21	Pass
		truck center on Ruby St in bathroom	58125	Fire Dept. Connection	Premises Isolation	16-Nov-21	Pass
		truck center on Ruby St in bathroom	129467	Fire Dept. Connection	Dedicated Fire Line	16-Nov-21	Pass
		truck center on Ruby St in bathroom	129467	Fire Dept. Connection	Dedicated Fire Line	12-Mar-21	Pass
		truck center on Ruby St in bathroom	58125	Fire Dept. Connection	Premises Isolation	12-Mar-21	Pass
Les Zwick	1704 N Bluegrass Ln, Ellensburg	SE side of house/inside crawl space	397049		In-Premises Protection	02-Jun-21	Pass
Leslie Densmore	2400 N Delphine St, Ellensburg	S side of house	HA20402	Irrigation w/o Chemicals	In-Premises Protection	19-Jun-21	Pass
Leslie Olson	1125 E Hobert Ave, Ellensburg	front yard	157349	Irrigation w/o Chemicals	In-Premises Protection	26-May-21	Pass
		front yard	157349	Irrigation w/o Chemicals	In-Premises Protection	15-Apr-21	Pass
Lewis Clark	914 E 2nd Ave, Ellensburg	E side of house next to fence	001165	Irrigation w/o Chemicals	In-Premises Protection	12-May-21	Pass
Lexi Foley	408 N Sampson ST, Ellensburg	Middle of north sid of house	19457-3641		In-Premises Protection	10-May-21	Pass
Libenow Property Management	111 W Helena AV, Ellensburg	By driveway near meter	A819135		Premises Isolation	08-Jun-21	Pass
		By driveway near meter	A841920		Premises Isolation	08-Jun-21	Pass
		By driveway near meter	A841798		Premises Isolation	08-Jun-21	Pass
		Southeast corner of 111 W Helena	A837430-3710		In-Premises Protection	08-Jun-21	Pass
		Southwest corner of 113 W Helena	A843206-3709		In-Premises Protection	08-Jun-21	Pass

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Facility Name	Facility Address	Device Location	Serial No	Hazard Type	Protection Type	Test Date	Pass/Fail
Libenow Property Management	115 W Helena AV, Ellensburg	7' south of southeast corner of 115 unit #2	A927764-3711		In-Premises Protection	08-Jun-21	Pass
Linda Brennan	1100 S Rosewood Dr, Ellensburg	south side/ backyard	127930	Irrigation w/o Chemicals	In-Premises Protection	05-Jun-21	Pass
Linda Lee Wichers		front yard/NW side	00	Irrigation w/o Chemicals	In-Premises Protection	06-May-21	Pass
Linda Mullin	401 S Chestnut St, Ellensburg	SW corner of house	203223	Irrigation w/o Chemicals	In-Premises Protection	19-May-21	Pass
Linda Roberts	1115 E 4th Ave, Ellensburg	north side/near deck	15975	Irrigation w/o Chemicals	In-Premises Protection	22-Apr-21	Pass
	1603 Glen Dr, Ellensburg	NE corner of house	DH8226	Irrigation w/o Chemicals	In-Premises Protection	21-Apr-21	Pass
Lindsey Allred	606 N Spraque St, Ellensburg	east side of house/backyard in crawl space	A723367		In-Premises Protection	07-Jun-21	Pass
Lindustry LLC	213 W 4th Ave, Ellensburg	NE corner of building/near water heater & furnace	3134283		Premises Isolation	06-Apr-21	Pass
Lisa Porter Pass	1316 E Radio Rd, Ellensburg	Back yard by SE corner of house			47055 Protection	In-Premises	20-Aug-21
Lisa Stowe	609 S Pine St, Ellensburg	backyard next to fence	A723587	Irrigation w/o Chemicals	In-Premises Protection	05-Apr-21	Pass
Lisa Wrenn	701 E 3rd Ave, Ellensburg	north side of house/ against wall	5280513283		In-Premises Protection	19-Aug-21	Fail/Pass
Little Big Kids Pass	1206 N Dolarway Rd, Ellensburg		South east mechanical		151289 Protection	In-Premises	23-Nov-21
		room/south wall					
		South east mechanical room/south wall	168274		Premises Isolation	23-Nov-21	Fail/Pass
Lloyd Moler	112 E 14th Ave, Ellensburg	NE corner of Bldg #100	HA94918		In-Premises Protection	19-Apr-21	Pass
	200 E 14th Ave, Ellensburg	NW corner of bldg # 101	HA84445		In-Premises Protection	19-Apr-21	Pass
Loretta Eckhart	1507 E Hobert Ave, Ellensburg	front yard in box by meter	2647292		In-Premises Protection	21-Aug-21	Pass

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Facility Name	Facility Address	Device Location	Serial No	Hazard Type	Protection Type	Test Date	Pass/Fail
Loretta Ney	811 E Capitol Ave, Ellensburg	west side of house	A018329		In-Premises Protection	15-Jun-21	Pass
Loretta Slavens	1101 E Umptanum, Ellensburg	East side through gate	A353575		In-Premises Protection	07-May-21	Pass
Lori Crossett	1100 S Rosewood Dr., Ellensburg	front yard/NE side	A723521	Irrigation w/o Chemicals	In-Premises Protection	13-Jul-21	Pass
Lorraine Barrick	1005 N Wildcat WAY, Ellensburg	SW corner of house/deck	A404079		In-Premises Protection	22-May-21	Pass
Los Cabos Restaurant	1318 S Canyon Rd, Ellensburg	under pop machine in drink/prep. Room	27567	Beverage Dispenser with CO2	In-Premises Protection	23-Feb-21	Pass
Los Chilangos	310 S Main St, Ellensburg	NW side of building/In attic space/ above pull down stairs in hallway	A99588	Premises Isolation	Premises Isolation	01-Sep-21	Pass
Loves Travel Stops #413	1512 Hwy 97, Ellensburg	east side of main bldg./back storeroom.	45526	Beverage Dispenser with CO2	In-Premises Protection	20-Apr-21	Pass
		east side of main bldg./back storeroom.	45526	Beverage Dispenser with CO2	In-Premises Protection	25-Feb-21	Pass
		Fire riser room inside roll-up door on SW side of tire shop	QL0793-3672		Dedicated Fire Line	20-Apr-21	Pass
		Mech room on SW side of bldg to right og fire riser room	166893-3673		Premises Isolation	20-Apr-21	Pass
		Next to Highway 97/ north end of westside grass island strip	A60019		In-Premises Protection	20-Apr-21	Pass
		Valve room south side	46122-		Dedicated Fire Line	20-Apr-21	Pass
Lowe Properties	317 N Elliot, Ellensburg	NE corner of front yard	A86063		In-Premises Protection	05-Jun-21	Pass
	319 N Elliot, Ellensburg	NE corner of yard	A85878		In-Premises Protection	04-May-21	Pass
Lowe Properties LLC	1002 E 19th Ave, Ellensburg	front yard /NE corner	614367		In-Premises Protection	08-Jun-21	Pass
Luft Trailer Sales	907 N Hibbs Rd, Ellensburg	SW corner of bldg in compressor room	3048080	Premise Isolation	Premises Isolation	03-Aug-21	Pass

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Facility Name	Facility Address	Device Location	Serial No	Hazard Type	Protection Type	Test Date	Pass/Fail
Luis Baldovinos	1408 E Hobert Ave, Ellensburg	25" north of front door	A174438		In-Premises Protection	01-Jul-21	Pass
Lutz Harfst	211 Mt Adams Ct, Ellensburg	back yard next to sidewalk	962967		In-Premises Protection	07-Jun-21	Pass
Lyle Pfeifer	211 Greenfield Ave, Ellensburg	SW corner of lot by hydrant	2647305		In-Premises Protection	08-Jun-21	Pass
Lyle Pheifer	511 W 13th Ave, Ellensburg	E side of house in crawlspace	1554846	Irrigation w/o Chemicals	In-Premises Protection	01-Jun-21	Pass
Lyle Wilber	1210 N Tanglewood CRT, Ellensburg	East side of house	A432958		In-Premises Protection	19-May-21	Pass
Lynn Tucker	903 E Tacoma Ave, irrigation, Ellensburg	N side by house/near alley	263356	Irrigation w/o Chemicals	In-Premises Protection	12-May-21	Pass
M&B Dolarway LLC	2301 W Dolarway Rd, Ellensburg	north side of building	994436		In-Premises Protection	15-Jul-21	Pass
Madelyn Whitaker	409 N Anderson St, Ellensburg	South side of house	A554886	Irrigation w/o Chemicals	In-Premises Protection	25-May-21	Pass
Madison Alivar	1807 E 14th Ave, Ellensburg	West side of house	509354	Irrigation w/o Chemicals	In-Premises Protection	09-Jun-21	Pass
Malbert Stewman	1501 E Hobert Ave, Ellensburg	front yard in box by meter	2381505		In-Premises Protection	13-Jul-21	Pass
Marc Hake	1211 N Thayer Ave, Ellensburg	front yard/ SE corner	188911	Irrigation w/o Chemicals	In-Premises Protection	28-May-21	Pass
Marcia Cloutier	1101 E Umptanum RD, Ellensburg	Front yard by meter	A812344		In-Premises Protection	26-May-21	Pass
Marcus Ayers	510 W 12th AV, Ellensburg	East side of driveway by fence	99121-3749		In-Premises Protection	19-Aug-21	Pass
Mardine Brower	1106 E Spokane Ave, Ellensburg	NE front yard	181135	Irrigation w/o Chemicals	In-Premises Protection	19-Apr-21	Pass
Margaret Campbell	1303 N Canterbury Dr, Ellensburg	South side/next to house	A109933		In-Premises Protection	17-May-21	Pass
Maria Roditeleva-Wibe	1502 Bonnie Ln, Ellensburg	West side/next to house	435409		In-Premises Protection	28-May-21	Pass

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Facility Name	Facility Address	Device Location	Serial No	Hazard Type	Protection Type	Test Date	Pass/Fail
Marilyn Levine	1300 N Canterbury Dr, Ellensburg	NW corner of house/next to entry patio	406261		In-Premises Protection	14-Jun-21	Pass
Marilyn Niemi	1132 Franklin St, Ellensburg	front of house/corner under window	A94658	Irrigation w/o Chemicals	In-Premises Protection	04-May-21	Pass
Marina Syromyatnikova	1707 E Ashford Wy, Ellensburg	West side through gate	A312987		In-Premises Protection	12-May-21	Pass
Marjorie Alumbaugh	1303 N Thayer Ave, Ellensburg	front yard under window	599499	Irrigation w/o Chemicals	In-Premises Protection	09-Sep-21	Pass
Marjorie Morgan	1102 Franklin St, Ellensburg	east side of house	273575		Premises Isolation	04-May-21	Pass
Mark Farrell	806 E 1st AV, Ellensburg	Southwest of house in back yard			T448075	In-Premises	05-Jun-21
Pass					Protection		
Mark Goodenberger	1401 1/2 Brick Rd, Ellensburg	NE corner of yard by fence	J229055	Irrigation w/o Chemicals	In-Premises Protection	27-May-21	Pass
Mark Grapes	1100 S Rosewood Dr, Ellensburg	front yard	178154	Irrigation w/o Chemicals	In-Premises Protection	06-May-21	Pass
Mark Grassel	1005 N Main St, Ellensburg	SW corner of yard	1HA57968		In-Premises Protection	02-Jul-21	Pass
Mark Greenough	1303 N Water St, Ellensburg	front lawn N side	184886	Irrigation w/o Chemicals	In-Premises Protection	01-Jun-21	Pass
	2213 N Water St, Ellensburg	west side of house/near gate	26239	Irrigation w/o Chemicals	In-Premises Protection	09-Jun-21	Pass
Mark Hollandsworth	2403 N Delphine St, Ellensburg	North side of house/back yard	A828206		In-Premises Protection	27-Aug-21	Pass
Mark Holloway	802 E 3rd Ave, Ellensburg	south west corner/next to house	400188		In-Premises Protection	11-May-21	Pass
Mark Kastning	405 S Walnut St, Ellensburg	E side of house by garage	HA19416	Irrigation w/o Chemicals	In-Premises Protection	03-Aug-21	Pass
Mark Larson	813 E 1st Ave, Ellensburg	backyard N side	688791	Irrigation w/o Chemicals	In-Premises Protection	25-May-21	Pass
Mark Lundgren	702 E 2nd Ave, Ellensburg	backyard by gate/SW corner	A772385	Irrigation w/o Chemicals	In-Premises Protection	14-May-21	Pass

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Facility Name	Facility Address	Device Location	Serial No	Hazard Type	Protection Type	Test Date	Pass/Fail
Mark McConnell	404 S Maple St, Ellensburg	west front yard	453762	Irrigation w/o Chemicals	In-Premises Protection	20-Aug-21	Pass
Mark Morrill	103 W 11th Ave, Ellensburg	SW cor of house	840513	Irrigation w/o Chemicals	In-Premises Protection	26-Jun-21	Pass
Mark Samples	1210 N Thayer Ave, Ellensburg	above ground by garage	593985		In-Premises Protection	23-Apr-21	Pass
Marlaina Capes	1106 N Canterbury Dr, City of Ellensburg	front yard under window	2997533		In-Premises Protection	11-Jun-21	Pass
Marlene Travis	305 N Maple St, Ellensburg	South side of house/near backdoor/below deck	H58693		In-Premises Protection	27-May-21	Pass
Martin Kennedy	2306 N Ellington St, Ellensburg	south side of house next to fence/opposite gate	250620	Irrigation w/o Chemicals	In-Premises Protection	25-Jun-21	Pass
Martin Mauney	1215 Brick Rd, Ellensburg	NE corner of yard	13207	Irrigation w/o Chemicals	In-Premises Protection	27-May-21	Pass
Marty Cramer	703 N Water St, Ellensburg	W backyard by alley	45930		In-Premises Protection	25-May-21	Pass
Marvin Borges	304 W Ridgeview Ln., Ellensburg	West side of backyard/ inside gate	404059-2369	Irrigation w/o Chemicals	In-Premises Protection	19-Jun-21	Pass
Mary Holmgren	1100 S Rosewood Dr, Ellensburg	East side yard by crawl space	4143293	Irrigation w/o Chemicals	In-Premises Protection	05-Apr-21	Pass
Mary Jacobs	1101 E Umptanum Rd, Ellensburg	South side of house	T397072		In-Premises Protection	05-Jun-21	Pass
Mary Labovitch	304 E 3rd Ave, Ellensburg	East side of house	A66873		In-Premises Protection	14-May-21	Pass
Mary Meghan Miller	1005 E 3rd Ave, Ellensburg	Side yard west of house	4105120		In-Premises Protection	14-May-21	Pass
Mary Seubert	1300 N Vuecrest, Ellensburg	North end of front yard	3749667		In-Premises Protection	27-May-21	Pass
Mary Wood	903 N Water St, Ellensburg	NW corner backyard	A398580		In-Premises Protection	12-May-21	Pass
Marydawn Buntin	1813 E 14th Ave, Ellensburg	East side of house	01213	Irrigation w/o Chemicals	In-Premises Protection	24-May-21	Pass

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Facility Name	Facility Address	Device Location	Serial No	Hazard Type	Protection Type	Test Date	Pass/Fail
Masey Kalalau	1503 E Hobert Ave, Ellensburg	south side/front yard in box by meter	2538375		In-Premises Protection	28-Apr-21	Pass
Masshall Barnard	1705 N Water St, Ellensburg	front yard/north of meter	32034	Irrigation w/o Chemicals	In-Premises Protection	04-Jun-21	Pass
Matt & Shannon Martin	1601 E Seattle Ave, Ellensburg	front yard/between fire hydrant and water meter	A111391		In-Premises Protection	24-Jun-21	Pass
Matt Izzy Premises	2205 Abbey Glen Ct, Ellensburg 31-Aug-21	Pass	south side of house	Irrigation w/o Chemicals	A84794 In-Premises Protection		
Matt Lundquist	614 W 10th AV, Ellensburg	Northeast corner of front lawn	A836847		In-Premises Protection	13-May-21	Pass
	908 N Cora ST, Ellensburg	South side	998365		In-Premises Protection	13-May-21	Pass
Matthew & Amy Cziske	1510 Brick Rd, Ellensburg	NW coner of front yard/near meter	A99068		In-Premises Protection	23-Apr-21	Pass
Matthew & Angela Johnson	209 E 9th Ave, Ellensburg	20' off alley by fence	696354		In-Premises Protection	02-Jun-21	Pass
Matthew Bostwick Pass	703 S Shumard St, City of Ellensburg	South side of house through gate			A308624 In-Premises Protection	20-May-21	
Matthew Britschgi	1704 Gala Way, Ellensburg	east side of house behind gate	A380680		In-Premises Protection	24-May-21	Pass
Matthew Haller	103 N Sampson St, Ellensburg	niorth side/next to house	16038	Irrigation w/o Chemicals	In-Premises Protection	13-Jul-21	Pass
Matthew Johnson	1203 N Canterbury Dr, Ellensburg	West wall/ inside garage	2951731		In-Premises Protection	14-Jun-21	Pass
	300 N Sprague St, Ellensburg	back yard /east side by alley	197420	Irrigation w/o Chemicals	In-Premises Protection	25-May-21	Pass
	905 N C St, Ellensburg	South side by fence	169914	Irrigation w/o Chemicals	In-Premises Protection	02-Jun-21	Pass
Matthew Oehlerich	802 Acacia Ln, Ellensburg	NW/front yard	689926	Irrigation w/o Chemicals	In-Premises Protection	13-Jul-21	Pass
Matthew Schoos	1505 E Seattle Ave, Ellensburg	west side of yard/next to air conditioner	435388		In-Premises Protection	11-May-21	Pass

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Facility Name	Facility Address	Device Location	Serial No	Hazard Type	Protection Type	Test Date	Pass/Fail
Matthew Stephens	1115 E 2nd Ave, Ellensburg	NW wall/in basement	13433	Irrigation w/o Chemicals	In-Premises Protection	24-Aug-21	Pass
Matthew Wise	800 S Maple St, Ellensburg	West side/next to of house	43222	Irrigation w/o Chemicals	In-Premises Protection	13-May-21	Pass
Maura Zeigler	1605 E Hobert Ave, Ellensburg	front yard/near meter	2649169-2999		In-Premises Protection	10-May-21	Pass
Maureen Wilson	1114 E Spokane Ave, Ellensburg	front yard	180931	Irrigation w/o Chemicals	In-Premises Protection	22-Apr-21	Pass
Mavis Manton	704 W 15th Ave, Ellensburg	North side of lot/near sidewalk	440853		In-Premises Protection	18-May-21	Pass
Max Hendrick	602 S Maple St, Ellensburg	SW corner next to driveway	531013	Irrigation w/o Chemicals	In-Premises Protection	13-May-21	Pass
Maxine Shaw	1308 E Capitol Ave, Ellensburg	front lawn by water meter	193473	Irrigation w/o Chemicals	In-Premises Protection	22-Jun-21	Pass
Maynard Hill	609 E 6th Ave, Ellensburg	East side of house	T350349	Irrigation w/o Chemicals	In-Premises Protection	02-Aug-21	Pass
McDonalds Restaurant	1304 S Canyon Rd, Ellensburg	Center of E wall/ Stock Room	A246754		In-Premises Protection	02-Jun-21	Pass
		East of South Service Entrance on Wall	A202600		Premises Isolation	02-Jun-21	Pass
		In Vault in Parking Lot S of Entrance	35138		Dedicated Fire Line	02-Jun-21	Pass
		In Vault in Parking Lot S of Entrance	3694407		Dedicated Fire Line	02-Jun-21	Pass
		Large Box, in Planter, In Parking Lot South of Buildinng	3764190		In-Premises Protection	02-Jun-21	Pass
McGregor Company	200 S Railroad AV, Ellensburg	Office restroom/east wall	505488	Premise Isolation	Premises Isolation	05-Mar-21	Pass
		Warehouse/tool room/west wall	4839450	Chemical Feeder	Premises Isolation	08-Mar-21	Pass
McKenzie Graf	106 W 11th Ave, Ellensburg	by meter in alley	169919	Irrigation w/o Chemicals	In-Premises Protection	13-May-21	Pass

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Facility Name	Facility Address	Device Location	Serial No	Hazard Type	Protection Type	Test Date	Pass/Fail
Meeting Place LLC	1911 W Dolarway Rd, Ellensburg	SW corner of building/ south of handicap parking/ in valve box	2915910		In-Premises Protection	19-May-21	Pass
		under bthrm sink SW corner of E warehouse	3925558		Premises Isolation	19-May-21	Pass
Megan Matheson	1103 E 1st Ave, Ellensburg	Center of Back of House / Next to Hose Bib	A253386		In-Premises Protection	14-Jun-21	Pass
Melanie Swanson	1106 N Okanogan St, Ellensburg	NE corner of house/near fence	A072552		In-Premises Protection	11-May-21	Pass
Melinda Dunning	303 W 11th Ave, Ellensburg	south side/near sidewalk	385440		In-Premises Protection	01-Jun-21	Pass
Melissa Wolford	2308 N Ellington St, Ellensburg	NW corner/next to house	250626		In-Premises Protection	13-Jul-21	Pass
Melvin VanHouten	804 N B St, Ellensburg	NW corner of basement under house	197401	Irrigation w/o Chemicals	In-Premises Protection	23-Jun-21	Pass
Mercer Creek Church	1407 N B St, Ellensburg	Main Bldg / north end of bldg in mech room	21N1898	Fire Dept. Connection	Dedicated Fire Line	16-Nov-21	Pass
		SE Side of Building - B Street	T128737		In-Premises Protection	09-Jun-21	Pass
		West side of property near Water St./ north of driveway	3621682		In-Premises Protection	09-Jun-21	Pass
		Youth Building/NE corner in mech room	1212		Dedicated Fire Line	16-Nov-21	Pass
		Youth Building/west end of building in restroom/ above toilet /inside wall	2841239		Premises Isolation	16-Nov-21	Pass
Merenda Joy Voiss	1511 E Spokane Ave, City of Ellensburg	Front yard, under window	A614438		In-Premises Protection	20-Jul-21	Pass
Michael Allen	1701 E Canterbury Dr, Ellensburg	east side of house/backyard	1HA21360		In-Premises Protection	14-Jun-21	Pass
Michael Bailey	806 Viewridge Ct, Ellensburg	NW corner of lot/near meter	A019699		In-Premises Protection	11-May-21	Pass
Michael Bello	204 N Spraque St, Ellensburg	SE corner /next to house	2879384		In-Premises Protection	19-Jul-21	Pass

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Facility Name	*Facility Address*	*Device Location*	*Serial No*	*Hazard Type*	*Protection Type*	*Test Date*	*Pass/Fail*
Michael Burnham	1714 Indiana Dr, Ellensburg	South side of house/inside gate	127998	Irrigation w/o Chemicals	In-Premises Protection	11-Jun-21	Pass
Michael Elkins	806 Acacia Ln, Ellensburg	NW corner of front yard	A87450	Irrigation w/o Chemicals	Premises Isolation	25-Jun-21	Pass
Michael Fuss	803 E Capitol Ave, Ellensburg	North side/next to house	T101341	Irrigation w/o Chemicals	In-Premises Protection	05-Jun-21	Pass
Michael Gallagher	704 E 2nd Ave, Ellensburg	in alley/west side	303389	Irrigation w/o Chemicals	In-Premises Protection	14-May-21	Pass
Michael Hammer Pass	304 N Okanogan ST, Ellensburg	Northwest corner of shop in back yard	A596076		In-Premises Protection	26-May-21	
Michael Harrod	812 E 2nd Ave, Ellensburg	North side/alley/near fence	287572	Irrigation w/o Chemicals	In-Premises Protection	12-May-21	Pass
Michael Hawley	903 Acacia Ln, Ellensburg	South side above ground	CB559711	Irrigation w/o Chemicals	In-Premises Protection	18-Jun-21	Pass
Michael Hull	1129 E Hobert Ave, Ellensburg	front yard/ SW side	700566	Irrigation w/o Chemicals	In-Premises Protection	13-May-21	Pass
Michael Kelly Pass	2601 N Columbia ST, Ellensburg	Souith of house	406239		In-Premises Protection	22-Jul-21	
Michael Magnotti	715 E Capitol Ave, Ellensburg	northwest corner of front lawn	A476763		In-Premises Protection	16-Jun-21	Pass
Michael Mowry	802 E 2nd Ave, Ellensburg	10' east of SW corner of back yard	3941200		In-Premises Protection	12-May-21	Pass
Michael Newman Pass	1909 N Parklane AV, Ellensburg	Southeast corner of drivewy	A318735		In-Premises Protection	19-Jun-21	
Michael Ogden	1904 Trails Edge Dr, Ellensburg	south side of house	001697	Irrigation w/o Chemicals	In-Premises Protection	13-May-21	Pass
Michael Skaar	1702 E Hobert Ave, Ellensburg	North side near meter/sidewalk	404619		In-Premises Protection	10-May-21	Pass
Michael Wooldridge	311 S Ruby St, City of Ellensburg	On exterior of foundation / North side near NW corner	A774110		In-Premises Protection	17-May-21	Pass
Micheal Martone	607 N Walnut St, Ellensburg	In fence line/near alley & meter	C236660	Irrigation w/o Chemicals	In-Premises Protection	25-May-21	Pass

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Facility Name	Facility Address	Device Location	Serial No	Hazard Type	Protection Type	Test Date	Pass/Fail
Micheal Sellman	902 Juniper Ave, Ellensburg	SE front yard/near patio door	B09801		In-Premises Protection	08-Jun-21	Pass
Michelle Sexton	909 E Manitoba Ave, Ellensburg	crawl space center of north side of house	3956907		In-Premises Protection	21-Jul-21	Pass
Middle Path Acupuncture	502 N Anderson St, Ellensburg	NE corner of house/west wall of laundry room above hot water tank	811411		Premises Isolation	01-Jun-21	Pass
Midstate Co-op Propane Yard	905 N Prospect St, Ellensburg	NE corner of lot/ south of meter	3059113		In-Premises Protection	05-May-21	Pass
Midstate Fertilizer/Fuel	417 W 3rd Ave, Ellensburg	Corner of restroom in new plant	100171-3706		In-Premises Protection	15-Jun-21	Pass
		East side of gas station	154399	Irrigation w/o Chemicals	In-Premises Protection	04-May-21	Pass
		NE corner of fertilizer shop	190421	Chemical Feeder	Premises Isolation	15-Jun-21	Pass
Midstate Irrigation	911 W University Way, Ellensburg	West side of property	A552124		In-Premises Protection	11-May-21	Pass
Mika Clemons	1307 Vuecrest Ave, Ellensburg	SW corner of yard next to meter	A66886		In-Premises Protection	12-May-21	Pass
Mike Kelly	301 W 15th AV, Ellensburg	Northwest duplex, between front doors	A592105-3177		In-Premises Protection	20-Apr-21	Pass
		Southeast duplex between front doors	A630203-3176		In-Premises Protection	20-Apr-21	Pass
		Southwest duplex between front doors	A640097-3174		In-Premises Protection	20-Apr-21	Pass
Mike Berry	1809 N Chestnut St, Ellensburg	eastside of building /near sidewalk	2133051		In-Premises Protection	17-May-21	Pass
Mike Clerf	1603 N B St, Ellensburg	front yard/ near meter	39469	Irrigation w/o Chemicals	In-Premises Protection	07-Jun-21	Pass
Mike Hougarty	801 E Washington Ave, Ellensburg	E side of house	2007525	Irrigation w/o Chemicals	In-Premises Protection	27-May-21	Pass
Mike Kelly	1112 N B St, Ellensburg	1202 N 'B" west end by garages/carport	A614445	Irrigation w/o Chemicals	In-Premises Protection	19-Apr-21	Pass

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Facility Name	Facility Address	Device Location	Serial No	Hazard Type	Protection Type	Test Date	Pass/Fail
Mike Kelly	1112 N B St, Ellensburg	SW corner/below # 1112	A614426	Irrigation w/o Chemicals	In-Premises Protection	19-Apr-21	Pass
Mike Moon	1512 Bluegrass Ln, Ellensburg	south side of house/ inside gate	717001	Irrigation w/o Chemicals	In-Premises Protection	02-Jun-21	Pass
Mike Stern	308 W 11th Ave, Ellensburg	North front yard near meter	3663190		In-Premises Protection	17-Jun-21	Pass
Mike Wilmoth	1100 S Rosewood Dr, Ellensburg	front yard/south side	AK9879	Irrigation w/o Chemicals	In-Premises Protection	06-May-21	Pass
Mike Zirkle	1100 S Rosewood Dr., Ellensburg	SW side yard on greenway	A552253		In-Premises Protection	11-Jun-21	Pass
Milt Johnston	1706 Iowa St, Ellensburg	South side of drivewy	120797		In-Premises Protection	07-Jun-21	Pass
	311 S Sprague, Ellensburg	West side yard near patio	A359097		In-Premises Protection	17-May-21	Pass
Milton Johnston	112 W 10th Ave, Ellensburg	SE corner/next to house	A596538	Irrigation w/o Chemicals	In-Premises Protection	01-Jun-21	Pass
	506 E Helena Ave, City of Ellensburg	Center of north side of bld	A276646		In-Premises Protection	07-Jun-21	Pass
	508 E Helena Ave, City of Ellensburg	Betweren Duplex front doors	A281436		In-Premises Protection	07-Jun-21	Pass
Milton Johnston Apts	206 E 7th Ave, Ellensburg	North exterior wall 5' east of NW corner of E bldg	1096546	Irrigation w/o Chemicals	In-Premises Protection	25-May-21	Pass
		North exterior wall near electric meter	1096563		In-Premises Protection	25-May-21	Pass
Mitchell Engel	1605 E Seattle AV, Ellensburg	West side of front yard	696584		In-Premises Protection	24-Aug-21	Pass
MKAY LLC	1706 E Ashford Wy, Ellensburg	west side backyard	HA68976		In-Premises Protection	15-Jun-21	Pass
Mobile Fleet Service	1711 US Highway 97, Ellensburg	Planting strip west of building by road	4193411	Irrigation w/o Chemicals	In-Premises Protection	01-Apr-21	Pass
		Planting strip west of building by road	4193411	Irrigation w/o Chemicals	In-Premises Protection	01-Apr-21	Pass

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Facility Name	Facility Address	Device Location	Serial No	Hazard Type	Protection Type	Test Date	Pass/Fail
Mobile Fleet Service	1711 US Highway 97, Ellensburg	SW corner of service bay	763414	Premises Isolation	Premises Isolation	01-Apr-21	Pass
		SW corner of service bay	U49100	Fire Sprinkler w/o Chemical Addition	Dedicated Fire Line	01-Apr-21	Pass
		SW corner of service bay	763414	Premises Isolation	Premises Isolation	01-Apr-21	Pass
		SW corner of service bay	U49100	Fire Sprinkler w/o Chemical Addition	Dedicated Fire Line	01-Apr-21	Pass
Model Cleaners	207 N Pine St, Ellensburg	SW corner of building in boiler room/south wall	3002708		Premises Isolation	07-Dec-21	Pass
Moises Rosas	712 S Cypress Ct, Ellensburg	SE corner of house by patio	A359114		In-Premises Protection	11-May-21	Pass
Molly Hill	2404 N Ellington ST, Ellensburg	South side of house	250635		In-Premises Protection	09-Jun-21	Pass
Monte Sticha	1100 S Rosewood Dr, Ellensburg	front yard /in rocks	2465123	Irrigation w/o Chemicals	In-Premises Protection	06-May-21	Pass
Morgan McDowell	2507 N Columbia St, Ellensburg		NE corner of lot/near meter		A320459	In-Premises	21-May-21
Pass					Protection		
Morris Meabon	815 E Tacoma Ave, Ellensburg	NW corner of house	94083	Irrigation w/o Chemicals	In-Premises Protection	24-Jun-21	Pass
Mt. Stuart Animal Hospital	807 E 8th AV, Ellensburg	Northwest corner of back room below sink	27225330	veterinary clinic	Premises Isolation	13-Dec-21	Pass
Mt. Stuart Manor Apartments	409 W 13th Ave, Ellensburg	south side/ in gravel / front of bldg	194691	Irrigation w/o Chemicals	In-Premises Protection	01-Jun-21	Pass
Mtn View Dental Center	708 E Mtn View Ave, Ellensburg		basement/south wall		W227911	Premise Isolation	Premises
Isolation	15-Dec-21	Pass					
		Sw side of parking lot/near fire hydrant	00844		In-Premises Protection	10-May-21	Pass
Mtn. View Meadows	1008 E Mtn View Ave, Ellensburg	North end of bldg/ in sprinkler room	2KM0336	Fire Dept. Connection	Dedicated Fire Line	18-May-21	Pass
		NW corner of bldg/near mail box	A773247	Irrigation w/o Chemicals	In-Premises Protection	18-May-21	Pass

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Facility Name	*Facility Address*	*Device Location*	*Serial No*	*Hazard Type*	*Protection Type*	*Test Date*	*Pass/Fail*
Muguel Baldavinos	803 Acacia Ln, Ellensburg	West side of house	T211370	Irrigation w/o Chemicals	In-Premises Protection	19-Aug-21	Pass
Nadean Schmidt	1100 S Rosewood Dr, Ellensburg	front yard	A839509-0669	Irrigation w/o Chemicals	In-Premises Protection	17-May-21	Pass
Nancy Carlson	311 N Dennis St, Ellensburg	North Side of House by Porch	992608		In-Premises Protection	19-May-21	Pass
Nancy Gillis	1100 S Rosewood Dr, Ellensburg	front yard	147901	Irrigation w/o Chemicals	In-Premises Protection	07-May-21	Pass
Nancy Jo Marilley Trust	210 E 9th AV, Ellensburg	Back yard	140870		In-Premises Protection	02-Jun-21	Pass
Nancy Lundquist	1101 E Umptanum RD, Ellensburg	Northeast cornter of lot near meter	A745421-3704		In-Premises Protection	05-Jun-21	Pass
Nancy Morrow	2411 N Columbia St, Ellensburg	east side of house/ near sidewalk	2989246		In-Premises Protection	30-Jul-21	Pass
Nancy Moss	1118 Franklin St, Ellensburg	west side/front yard in flower bed	183944	Irrigation w/o Chemicals	In-Premises Protection	04-May-21	Pass
Nancy Page	1406 E Hobert Ave, Ellensburg	Below front window/in rocks	A174420		In-Premises Protection	12-May-21	Pass
Natalie DeVior	802 E Tacoma Ave, Ellensburg	Center /north side of backyard	31069	Irrigation w/o Chemicals	In-Premises Protection	12-May-21	Pass
Natalie Paulson	2001 Green Parks Dr, Ellensburg	NE corner of yard/near bushes	773177	Irrigation w/o Chemicals	In-Premises Protection	20-Aug-21	Pass
Nate Philips	610 W Ridgeview Ln, Ellensburg	SW side of yard /below front window	H08972		In-Premises Protection	10-Jun-21	Pass
Nathalie Kasselis	2303 N Ellington St, Ellensburg	N side	205421	Irrigation w/o Chemicals	In-Premises Protection	09-Jun-21	Pass
Nea Alfaro	603 E Tacoma Ave, Ellensburg	front yard/south side/ in bushes	439554	Irrigation w/o Chemicals	In-Premises Protection	17-May-21	Pass
Neil Grauerholz	1115 E Spokane Ave, Ellensburg	front yard	706669	Irrigation w/o Chemicals	In-Premises Protection	16-Apr-21	Pass
Nicholas Mifflin	1609 E Spokane AV, Ellensburg	5' north of SE corner of house	A642544		In-Premises Protection	17-May-21	Pass

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Facility Name	Facility Address	Device Location	Serial No	Hazard Type	Protection Type	Test Date	Pass/Fail
Nick Burson	1505 Radio RD, Ellensburg	10' west of front door	389914-3578		In-Premises Protection	26-May-21	Pass
Nick James Cook	1511 Bluegrass Ln, Ellensburg	South side/garage	708287	Irrigation w/o Chemicals	In-Premises Protection	23-Jun-21	Pass
Nick Nason	1719 Brooklane, Ellensburg	NE cor of house	240904	Irrigation w/o Chemicals	In-Premises Protection	14-Jun-21	Pass
Nick Zenter	817 E 3rd Ave, Ellensburg	West Side of House in Crawlspace	3749657		In-Premises Protection	04-May-21	Pass
		West Side of House in Crawlspace	3749657		In-Premises Protection	04-May-21	Pass
Nicole Klauss	508 N Pacific St, City of Ellensburg	Between alley and shed next to meter	A269189		In-Premises Protection	20-Apr-21	Pass
Niki Smith	1107 E 4th Ave, Ellensburg	on Linda lane in shrubs by street		358487	Irrigation w/o	In-Premises	04-May-21
Pass				Chemicals	Protection		
Nikolas Caoile	2410 N Lilac Wy, Ellensburg	in side yard	07894		In-Premises Protection	10-Jun-21	Pass
Nina Morningstar	914 Chamith Ln, Ellensburg	South side of house/in front of porch	AH8826	Irrigation w/o Chemicals	In-Premises Protection	11-Jun-21	Pass
Noel Barlament	610 W 11th Ave, Ellensburg	South Alley	T069310		In-Premises Protection	17-Jun-21	Pass
Nona Wallace	1302 N Canterbury Dr., Ellensburg	SE corner of house	2574480		In-Premises Protection	11-Jun-21	Pass
Norma Lou Nelson	1608 N Bluegrass Ln, Ellensburg	SW side of building/ inside of gate	729626	Irrigation w/o Chemicals	In-Premises Protection	15-Jul-21	Pass
Norman Baugh	2401 N Ellington St, Ellensburg	north side of house in back yard	247353		In-Premises Protection	16-Jun-21	Pass
North Ridge Apartments	2207 N Airport RD, Ellensburg	Back side of 4" fire assembly in NE mech room	HC16444-3584		Dedicated Fire Line	09-Jun-21	Pass
		Fire riser room at NW exterier of bldg	11531-3583		Dedicated Fire Line	09-Jun-21	Pass
		North wall of fire riser room @NW corner of bldg	051336-3582		Premises Isolation	09-Jun-21	Pass

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Facility Name	Facility Address	Device Location	Serial No	Hazard Type	Protection Type	Test Date	Pass/Fail
North Ridge Apartments	2207 N Airport RD, Ellensburg	Northeast corner by meter	A668330	Irrigation w/o Chemicals	In-Premises Protection	09-Jun-21	Pass
Northwest Oral Health	1206 N Dolarway RD, Ellensburg	North wall laundry closet through break room	718826-3771		In-Premises Protection	19-Aug-21	Pass
NTJ Enterprises LLC	1008 E 19th Ave, Ellensburg	front yard	502363		In-Premises Protection	17-Mar-21	Pass
	1013 E 19th Ave, Ellensburg	front yard	100107		In-Premises Protection	17-Mar-21	Pass
OB Castle Building/Sleep Country	400 N Main St, Ellensburg	Main floor/ SE corner/east wall	K2-0793	Fire Sprinkler w/o Chemical Addition	Dedicated Fire Line	05-Aug-21	Pass
		Main Floor/east mechanical room /south wall	17843	Premises Isolation	Premises Isolation	05-Aug-21	Pass
		Main floor/east mechanical room/south wall	17277	Premises Isolation	Premises Isolation	05-Aug-21	Pass
Old Mill Country Store	500 W 3rd Ave, Ellensburg	Boiler room/west side of building/main level		Boiler Feed Lines	In-Premises Protection	09-Feb-21	Pass
Oliver Hartman	1610 E Plumridge Ave, Ellensburg	front yard /near meter	A064955		In-Premises Protection	20-May-21	Pass
Ottalee Schiffel	1711 N Bridgewood Ln, Ellensburg	North side of backyard	A596547	Irrigation w/o Chemicals	In-Premises Protection	03-Jun-21	Pass
Oxarc	907 N Prospect St, Ellensburg	NE corner/ near roll up door	U03135		Dedicated Fire Line	31-Aug-21	Pass
		S/E Corner of Lot / Near Meter	A210031		In-Premises Protection	05-May-21	Pass
		South wall inside north bay	A26653		Premises Isolation	31-Aug-21	Pass
Oyama Japanese Steakhouse	506 S Main St, Ellensburg	under soda fountain/south side of bldg/near bathrooms	282007	Beverage Dispenser w/o CO2	In-Premises Protection	16-Feb-21	Pass
P.U.D. # 1	1400 Vantage Hwy., Ellensburg	Next to meter in gravel road shoulder/ north/ lower edge of lawn.	286639		In-Premises Protection	28-May-21	Pass
Pacifica Senior Living Isolation	818 E Mtn View Ave, Ellensburg 25-May-21	Pass building/west wall	Fire Riser romm/west side of		L25346 Premises Isolation		Premises

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Facility Name	Facility Address	Device Location	Serial No	Hazard Type	Protection Type	Test Date	Pass/Fail
Pacifica Senior Living Premises	818 E Mtn View Ave, Ellensburg 12-Oct-21	Kitchen under sink by dishwasher Pass	W217785	Garbage disposal	In-Premises Protection	25-May-21	Pass
		Kitchen under sink by dishwasher	W217785	Garbage disposal	In-Premises Protection	25-May-21	Pass
		Main floor boiler room/west side of building/east wall	W171757	Irrigation w/o Chemicals	In-Premises Protection	25-May-21	Pass
		Main floor kitchen/behind ice maker/west wall	W217752	Ice Machine	In-Premises Protection	25-May-21	Pass
		Main floor Spa Room/ inside north utility closet/east wall	W212152	Hot tub fill	In-Premises Protection	25-May-21	Pass
		Main floor/ Spa Room/inside north utility closet/east wall	W197693	Spa	In-Premises Protection	25-May-21	Pass
		North parking lot/SW corner in vault	2109015	Fire Dept. Connection	Dedicated Fire Line	25-May-21	Pass
		North parking lot/SW corner in vault	V03435	Fire Dept. Connection	Dedicated Fire Line	25-May-21	Pass
Palace Café	323 N Main St, Ellensburg	under beverage machine feeds both dispensers	267823	Beverage Dispenser with CO2	In-Premises Protection	31-Aug-21	Pass
Pamela Marie Aguila	516 W Bridgewood Ln, Ellensburg	West side of house/back yard	40820		In-Premises Protection	03-Jun-21	Pass
Park Vista Manor	712 E 6th Ave, Ellensburg	NE side of building	204109		In-Premises Protection	11-Jun-21	Fail/Pass
Parker Orthodontics	315 N Sprague St, Ellensburg	Near alley on north side in 'hot box'	0405039		Premises Isolation	18-Nov-21	Pass
		Near alley on north side in 'hot box'	0405039		Premises Isolation	02-Mar-21	Pass
		Room by back door	163575	Premise Isolation	Premises Isolation	18-Nov-21	Pass
Pat Law	1605 N Stonebridge St, Ellensburg	S side of house	H51766	Irrigation w/o Chemicals	In-Premises Protection	03-Jun-21	Pass
Pat Walton/Black Night Ranch	4441 W Dry Creek Rd, Ellensburg	SE of house/in lawn near/south of sidewalk	A755391		In-Premises Protection	07-Jun-21	Pass

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Facility Name	Facility Address	Device Location	Serial No	Hazard Type	Protection Type	Test Date	Pass/Fail
Pat Winkler	1101 E Umptanum Rd, Ellensburg	SW corner of yard /near crawl space access	2690293		In-Premises Protection	07-May-21	Pass
Patricia A Boyavich	701 S Shumard St, City of Ellensburg	N side yard	A276638		In-Premises Protection	20-May-21	Pass
Patricia Bradford	1100 S Rosewood Dr, Ellensburg	front yard	309060	Irrigation w/o Chemicals	In-Premises Protection	06-May-21	Pass
Patricia Jackson	515 W Bridgewood LN, Ellensburg	East side of back yard	HA08875		In-Premises Protection	23-Jul-21	Pass
Patricia Peak	903 E 1st Ave, Ellensburg	NE corner of house in backyard	38339		In-Premises Protection	02-Jun-21	Pass
Patricia Place III	407 N Water ST, Ellensburg	Mech room in northwest corner of parking basement	F62471-3720		Dedicated Fire Line	08-Dec-21	Pass
		Mech room in northwest corner of parking basement	062487-3719		Premises Isolation	08-Dec-21	Pass
Patricia Place West	304 W 5th AV, Ellensburg	Fire riser room 10' into car entrance on right	8735		Dedicated Fire Line	18-Mar-21	Pass
		Fire riser room 10' into car entrance on right	HC10007		Dedicated Fire Line	18-Mar-21	Pass
		Fire riser room 10' into car entrance on right	B154792		Premises Isolation	18-Mar-21	Pass
		Sprinkler valve room/midddle door/garage	A664638		In-Premises Protection	18-Mar-21	Pass
Patricia Young	903 Gregory Pl, Ellensburg	Center of house in back yard	B4931		In-Premises Protection	11-May-21	Pass
Patrick Fahey	2402 N Lilac Wy, Ellensburg	North side of house in back yard	2240130		In-Premises Protection	14-May-21	Pass
Patrick Hogan	805 E 7th AV, Ellensburg	North back yard	640258		In-Premises Protection	05-May-21	Pass
Patrick Koelsch	911 E 2nd Ave, Ellensburg	backyard next to deck	070014	Irrigation w/o Chemicals	In-Premises Protection	11-May-21	Pass
Patrick McCutcheon	1003 Craig Ave, Ellensburg	S.side west of steps/SE corner of house	21619	Irrigation w/o Chemicals	In-Premises Protection	05-May-21	Pass

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Facility Name	*Facility Address*	*Device Location*	*Serial No*	*Hazard Type*	*Protection Type*	*Test Date*	*Pass/Fail*
Patrick McLaughlin	202 S Maple St, Ellensburg	Front yard by driveway	42110	Irrigation w/o Chemicals	In-Premises Protection	12-May-21	Pass
Patrick Sutherland	2501 N Columbia St, Ellensburg	North side of front yard near meter	3175		A614450-Protection	In-Premises	08-Jun-21 Pass
Patty Gust	410 S Sprague St, Ellensburg	north side of house	529882	Irrigation w/o Chemicals	In-Premises Protection	13-Jul-21	Pass
Paul Abbott	608 W Ridgeview Ln, Ellensburg	NW corner of yard			2724671 Protection	In-Premises	10-Aug-21 Pass
Paul Copenhaver	1303 E Radio Rd., Ellensburg	south side of property/west driveway /near curb	3428556		In-Premises Protection	13-Apr-21	Pass
Paul Cotta	400 W Ridgeview Ln, Ellensburg	NE corner of house/backyard			HA84446 Protection	In-Premises	25-Jun-21 Pass
Paul Dunn	500 W Illinois Ave, Ellensburg	W side of house/next to heat pump	20480	Irrigation w/o Chemicals	In-Premises Protection	28-May-21	Pass
Paul Larson	403 W 10th Ave, Ellensburg	north side/backyard	995415		In-Premises Protection	16-Jul-21	Pass
Paul Malinski	1504 N Stonebridge St, Ellensburg	N side in back yard	H27984	Irrigation w/o Chemicals	In-Premises Protection	03-Jun-21	Pass
Paul Parkins	807 E Washington Ave, Ellensburg	North side /back yard	131657	Irrigation w/o Chemicals	In-Premises Protection	21-Jul-21	Pass
Paul Rawlings	1705 E Canterbury Dr, Ellensburg	West side of house /inside gate	HA 22202		In-Premises Protection	24-May-21	Pass
Paul Ritzenthaler	904 Bull Rd., Ellensburg	West side front yard	46186		In-Premises Protection	05-Jun-21	Pass
Paul Spitznas	1000 Craig Ave, Ellensburg	SW corner/ under trees/north side of garage	275939	Irrigation w/o Chemicals	In-Premises Protection	11-Jun-21	Pass
Paula Brinkerhoff	101 E Lexus Ln, Ellensburg	In front yard near meter, by driveway	169924	Irrigation w/o Chemicals	In-Premises Protection	11-May-21	Pass
Pautzke Bait Co	800 N Prospect St, Ellensburg	south wall /in process room	100110	Bait processing	Premises Isolation	16-Nov-21	Pass
Pautzke Bait Co/Gov. Bldg.	401 E Mtn View Ave, Ellensburg	south/front side of building next to door			4166B Protection	In-Premises	24-Jun-21 Fail/Pass

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Facility Name	Facility Address	Device Location	Serial No	Hazard Type	Protection Type	Test Date	Pass/Fail
Pautzke Bait Co/Gov. Pass	401 E Mtn View Ave, Ellensburg	south/front side of building next			4166B	In-Premises	27-Jul-21
Bldg.		to door			Protection		
Pearl Apartments	311 S Pearl St, Ellensburg	west wall in basement	A42257		Premises Isolation	13-Jan-21	Pass
Pearl Bar & Grill	402 N Pearl St, Ellensburg	Backroom bar/east side of bldg/ under bar/west end	28348	Beverage Dispenser with CO2	In-Premises Protection	16-Feb-21	Pass
		Main bar/north side of bldg/ below bar/south end	62746	Beverage Dispenser with CO2	In-Premises Protection	16-Feb-21	Pass
		Westside of kitchen/ below sink./south end	B065285	Beverage Dispenser with CO2	In-Premises Protection	16-Feb-21	Pass
Pearl Care Dental	2401 W Dolarway Rd, Ellensburg	mech room/ west wall	41846	X Ray Processor	In-Premises Protection	23-Mar-21	Pass
		mech room/west wall	110149	Premise Isolation	Premises Isolation	23-Mar-21	Pass
		North of road /near power pole	HA15028	Irrigation w/o Chemicals	In-Premises Protection	18-May-21	Pass
Pearl Street Apartments	203 S Pearl St, Ellensburg	West side mech room/below stairs	A43095	Premises Isolation	Premises Isolation	23-Aug-21	Pass
		West side mech room/below stairs	A01052	Fire Sprinkler w/o Chemical Addition	Dedicated Fire Line	23-Aug-21	Pass
		West side/ middle of parking lot/inside curbing strip	A028465		In-Premises Protection	23-Aug-21	Pass
Peggy A Domitz	809 Acacia Ln, Ellensburg	East of front door	265053	Irrigation w/o Chemicals	In-Premises Protection	29-Jul-21	Pass
Peggy Hill	911 E Spokane Ave, Ellensburg	SW corner of house	571455	Irrigation w/o Chemicals	In-Premises Protection	21-Aug-21	Pass
Peggy Pratt	1100 S Rosewood Dr., Ellensburg	NW corner of front yard in bushes	4143287	Irrigation w/o Chemicals	In-Premises Protection	23-Jun-21	Pass
Perkins Restaurant	1504 Hwy 97, Ellensburg	below pop machine	357415	Beverage Dispenser with CO2	In-Premises Protection	29-Jul-21	Pass
		mech room/south end of building	7969	Compressor	In-Premises Protection	29-Jul-21	Pass

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Facility Name	Facility Address	Device Location	Serial No	Hazard Type	Protection Type	Test Date	Pass/Fail
Perteet	2302 W Dolarway Rd, Ellensburg	East exterior wall	A505776		In-Premises Protection	18-May-21	Pass
		East exterior wall	A505776		In-Premises Protection	23-Mar-21	Pass
		East exterior wall	A505776		In-Premises Protection	23-Mar-21	Pass
		East wall of bathroom	A499283		Premises Isolation	11-Mar-21	Pass
Peter Bugni	2304 N Ellington St, Ellensburg	N side	205426	Irrigation w/o Chemicals	In-Premises Protection	25-Jun-21	Pass
Peter Cookson	1705 E Ashford Wy, Ellensburg	SE corner of house /in back yard near gate	H05467		In-Premises Protection	13-Apr-21	Pass
Peter Hogue	1903 N Parklane Ave, Ellensburg	W side of driveway	33602	Irrigation w/o Chemicals	In-Premises Protection	07-Jun-21	Pass
Phil Kelleher	1106 E 4th Ave, Ellensburg	South end of back yard	3636037		In-Premises Protection	04-May-21	Pass
Phil Tolin	1509 E Radio Rd, Ellensburg	front yard	89339	Irrigation w/o Chemicals	In-Premises Protection	26-May-21	Pass
Philip Gustafson	607 Lilac Way, City of Ellensburg	SE corner of house	A031764		In-Premises Protection	24-Jun-21	Pass
Philip Plugge	2400 N Lilac Wy, Ellensburg	east side of house in back yard/next to patio	HA18842		In-Premises Protection	12-Jun-21	Pass
Phillip Erickson Pass	2605 N Columbia St, Ellensburg	NW corner of house	431149		In-Premises Protection	20-Sep-21	Pass
Phylis Sterbez	1101 E Umptanum Rd, Ellensburg	SE corner of house	A471352		In-Premises Protection	07-May-21	Pass
Phyllis Ann Schwisow	1100 S Rosewood Dr., Ellensburg	front yard	A857034	Irrigation w/o Chemicals	In-Premises Protection	17-May-21	Pass
Pierce Dalton Pass	2013 Green Parks Dr., Ellensburg	North side backyard/ behind gate	CB559696	Irrigation w/o Chemicals	In-Premises Protection	07-Jun-21	Pass
Pierre Lawrence	112 W 26th Ave, Ellensburg	eastside of house/ back yard	998384		In-Premises Protection	19-Aug-21	Pass

List of Devices Tested
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Facility Name	*Facility Address*	*Device Location*	*Serial No*	*Hazard Type*	*Protection Type*	*Test Date*	*Pass/Fail*
Pilot Travel Center	1307 N Dolarway RD, Ellensburg	Mech room by kitchen	B307011-3685		In-Premises Protection	01-Nov-21	Pass
		Mech room by kitchen	B286935-3683		In-Premises Protection	01-Nov-21	Pass
		Mech room by kitchen	B296119-3684		In-Premises Protection	01-Nov-21	Pass
		Mech room by kitchen	B286935-3683		In-Premises Protection	01-Nov-21	Pass
		Northwest corner of bldg by ladder to roof	B146364-3680		In-Premises Protection	01-Nov-21	Pass
		Northwest mech room by ladder to roof	B30783-3682		In-Premises Protection	01-Nov-21	Pass
		NW mech room by ladder to roof Fail/Pass	3675		4753761-	Premises Isolation	01-Nov-21
		NW mech room by ladder to roof Pass	3681		B30784- Protection	In-Premises	01-Nov-21
		NW mech room by ladder to roof Pass	3676		4753764-	Premises Isolation	01-Nov-21
		Westend by ice machine	B296088		In-Premises Protection	01-Nov-21	Pass
Pine Capitol Partners LLC Pass		711 N Pine St, Ellensburg	basement	1814959 Chemicals	Irrigation w/o Protection	In-Premises	25-May-21
Ping Fu	2305 N Ellington St, Ellensburg	north/front side of house	206131	Irrigation w/o Chemicals	In-Premises Protection	04-Jun-21	Pass
Pinnacle Healthcare	2309 W Dolarway, Ellensburg	South wall of mech room near center of building	063064		In-Premises Protection	05-May-21	Pass
		South wall of mech room near center of bulding	037836		Premises Isolation	05-May-21	Pass
Pioneer Village	206 E 14th Ave, Ellensburg	NE corner of lot near meter	40754757	Premises Isolation	Premises Isolation	20-Apr-21	Pass
		SE corner fo 600 bldg	3961740	Irrigation w/o Chemicals	In-Premises Protection	20-Apr-21	Pass

List of Devices Tested
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Facility Name	Facility Address	Device Location	Serial No	Hazard Type	Protection Type	Test Date	Pass/Fail
Pita Pit	111 W 3rd Ave, Ellensburg	Basement/SE corner	A50437	Premises Isolation	Premises Isolation	23-Feb-21	Pass
		Main floor/ SE corner/below pop machine	A52126	Beverage Dispenser with CO2	In-Premises Protection	23-Feb-21	Pass
Pizza Hut Restaurant	805 N Main ST, Ellensburg	under pop machine	57603	Beverage Dispenser with CO2	In-Premises Protection	29-Dec-21	Pass
Planned Parenthood	613 N Pine St., Ellensburg	mech room/ inside west entry door/ east wall	3105963		In-Premises Protection	01-Jul-21	Pass
		mech room/inisde west entry door to the right/east wall	3198289		Premises Isolation	01-Jul-21	Fail/Pass
Platt Electric Supply	601 W 5th Ave, Ellensburg	South side of buildnig/near water meter & side walk	3351435	Premises Isolation	Premises Isolation	09-Sep-21	Pass
Premier Paint	610 S Main St, Ellensburg	South side /next to building in gravel	391233	Irrigation w/o Chemicals	In-Premises Protection	14-May-21	Pass
Prestige Post Acure Care	1050 E Mtn View Ave, Ellensburg	closet in dining room	2HL1363	Fire Dept. Connection	Dedicated Fire Line	06-May-21	Pass
		Fire Riser room/south wall/NW corner of building	3273334		Premises Isolation	06-May-21	Pass
		Main laundry room./south wall/behind washing machines	2730247		In-Premises Protection	06-May-21	Fail/Pass
		Main laundry room/south wall/behind washing machines	2947448		In-Premises Protection	06-May-21	Pass
		Soiled Laundry room/north hallway/south wall	W377061		In-Premises Protection	06-May-21	Pass
		SW corner of main building near phys therapy door	390105	Irrigation w/o Chemicals	In-Premises Protection	06-May-21	Pass
Pro Star Collision LLC	303 N Wenas St, City of Ellensburg	On N wall 20' E of roll up door	3921476		Premises Isolation	01-Jul-21	Pass
Protac	214 S Railroad AV, Ellensburg	north side of building/ on top of east tank	#0809		In-Premises Protection	25-Jun-21	Pass
		west side of building	152021		Premises Isolation	25-Jun-21	Pass

List of Devices Tested
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Facility Name	Facility Address	Device Location	Serial No	Hazard Type	Protection Type	Test Date	Pass/Fail
Q-Nails	302 S Main St, Ellensburg	North side of building	185353		In-Premises Protection	11-Jun-21	Pass
R & R Auto Body	641 W University Way, Ellensburg	inside new shop on west wall	1615169		Premises Isolation	06-Oct-21	Pass
Rablt C LLC	806 Juniper Ave, Ellensburg	north side of building	A433000		In-Premises Protection	16-Mar-21	Pass
Rablt E LLC	900 Juniper Ave, Ellensburg	northside of house	BA4117		In-Premises Protection	16-Mar-21	Pass
RABLT LLC	802 Juniper Ave, Ellensburg	north side of yard	A668353		In-Premises Protection	16-Mar-21	Pass
	804 Juniper Ave, Ellensburg	north side of building in yard	A668359	Irrigation w/o Chemicals	In-Premises Protection	16-Mar-21	Pass
Rachel Brunson	801 E Spokane Ave, Ellensburg	north side/front yard	190729	Irrigation w/o Chemicals	In-Premises Protection	13-May-21	Pass
Rachel Drummond	1701 E Sparrow Knoll AV, Ellensburg	West side 8' from SW corner	A598057-3167		In-Premises Protection	13-May-21	Pass
Rafael Gomez	2100 W Creeksedge Way, Ellensburg	SE corner of backyard /inside fence/near meter	3029484		In-Premises Protection	12-Jun-21	Pass
Rainbow Motel	1025 W University Way, Ellensburg	Boiler room/NE corner of building/north wall	306588		In-Premises Protection	16-Nov-21	Pass
Ramon Chavez	709 S Magnolia St, Ellensburg	front yard/ next to water meter	A89934		In-Premises Protection	28-May-21	Pass
Ramona Bryant	1305 Vista Rd, Ellensburg	front yard	98350	Irrigation w/o Chemicals	In-Premises Protection	27-May-21	Pass
Randall Larsen	2211 N Spar Ln, Ellensburg	East side of yard/near meter	3485215		In-Premises Protection	09-Jun-21	Pass
Randall Schroers	400 N Willow St, Ellensburg	front flower bed/east side	129021	Irrigation w/o Chemicals	In-Premises Protection	04-May-21	Pass
Randy Hiner	1100 S Rosewood Dr, Ellensburg	SW corner of front yard	AJ2170	Irrigation w/o Chemicals	In-Premises Protection	07-May-21	Pass
Randy Kaiser	104 W 9th Ave, Ellensburg	South side/ back yard against house	197431		In-Premises Protection	02-Jun-21	Pass

List of Devices Tested
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Facility Name	Facility Address	Device Location	Serial No	Hazard Type	Protection Type	Test Date	Pass/Fail
Randy Langford	1800 N Bluegrass Ln, Ellensburg	W side	64899	Irrigation w/o Chemicals	In-Premises Protection	20-May-21	Pass
Randy Robinette	607 S Alder St, Ellensburg	front yard	147937	Irrigation w/o Chemicals	In-Premises Protection	15-Apr-21	Pass
Raphael Rudd	1602 E Seattle AV, Ellensburg	East side yard	696577		In-Premises Protection	11-May-21	Pass
Ray Cedeno	1506 N Bluegrass Ln, Ellensburg	South side house	700562	Irrigation w/o Chemicals	In-Premises Protection	02-Jun-21	Pass
Raymond Vigoreaux	1304 N Canterbury Dr., Ellensburg	north side of house/inside gate	74172		In-Premises Protection	24-May-21	Pass
Razvan Andonie Premises	514 W Ridgeview Ln, Ellensburg 10-Jun-21	Pass	E side of house		HA10609	Irrigation w/o Chemicals	In-Premises Protection
Rebbeca Kennedy	1719 Bluegrass Ln, Ellensburg	East side of house behind fence	57793	Irrigation w/o Chemicals	In-Premises Protection	12-Jun-21	Pass
Rebecca Huss	2405 N Ellington St, Ellensburg	S side	236690	Irrigation w/o Chemicals	In-Premises Protection	09-Jun-21	Pass
Red Horse Drive Inn	1518 W University Way, Ellensburg	in cabinet under pop machine	144515	Beverage Dispenser with CO2	In-Premises Protection	09-Apr-21	Pass
		In new dining room under counter by pop machine	N398860-3155		In-Premises Protection	09-Apr-21	Pass
Red Lion Hotel	1700 S Canyon Rd, Ellensburg	East boiler room on south wall	H21758	Irrigation w/o Chemicals	In-Premises Protection	23-Mar-21	Pass
		Over ice machine in waitress stn/north wall	W055216	Beverage Dispenser with CO2	In-Premises Protection	23-Mar-21	Pass
		South boiler room high on south wall	A14650		In-Premises Protection	23-Mar-21	Pass
		South boiler room low on south wall	037558		In-Premises Protection	23-Mar-21	Pass
		South boiler room northeast corner	368533		In-Premises Protection	23-Mar-21	Pass
Reecer Creek Excavation	1710 W University Way., Ellensburg	in crawl space/ north end of building	13437		In-Premises Protection	25-Jun-21	Pass

List of Devices Tested
for Period between 01-Jan-2021 and 31-Dec-2021

Facility Name	Facility Address	Device Location	Serial No	Hazard Type	Protection Type	Test Date	Pass/Fail
Reed Carlson	603 S Magnolia St, Ellensburg	North side of house	A187960	Irrigation w/o Chemicals	In-Premises Protection	08-Apr-21	Pass
Regina Larkin	804 E Capitol Ave, Ellensburg	Northwest corner of back yard	581085	Irrigation w/o Chemicals	In-Premises Protection	12-May-21	Pass
Renee Chini	405 W 10th Ave, Ellensburg	northeast corner of property/near meter	1591084	Irrigation w/o Chemicals	In-Premises Protection	17-Jun-21	Pass
Renee Merten	1710 Ohio St, Ellensburg	S side of house	70275	Irrigation w/o Chemicals	In-Premises Protection	03-Jun-21	Pass
Reynold Hinseth	1100 S Rosewood Dr, Ellensburg	front yard/south side	389383	Irrigation w/o Chemicals	In-Premises Protection	06-May-21	Pass
Ricardo Baldovinos	1706 E Plumridge Ave, Ellensburg	NE corner of house	32093350		In-Premises Protection	16-Jun-21	Pass
Rich Searle	713 E 4th Ave, Ellensburg	W side of house	394771	Irrigation w/o Chemicals	In-Premises Protection	26-May-21	Pass
Richard & CelesteTorset	2012 N Green Parks Dr., Ellensburg	SW corner of house	278460		In-Premises Protection	07-Jun-21	Pass
Richard & Yvonne Jones	1101 E Umptanum Rd, Ellensburg	NE corner of house /near garage	1990454		In-Premises Protection	07-May-21	Pass
Richard Farrell	805 Viewridge Ct, Ellensburg	S side of house by gas meter	97982-3727	Irrigation w/o Chemicals	In-Premises Protection	29-Mar-21	Pass
Richard Garcia	1412 E Hobert Ave, Ellensburg	next to house/ west side	A005876		In-Premises Protection	26-Aug-21	Pass
		next to house/ west side	A005876		In-Premises Protection	22-Jul-21	Pass
Richard Jenkins	1904 E 14th Ave, Ellensburg	west side of house	14368	Irrigation w/o Chemicals	In-Premises Protection	15-Jun-21	Pass
Richard Moreno	1302 Vista Rd, Ellensburg	NW corner of front yard	A60059		In-Premises Protection	27-May-21	Pass
Richard Read Trustees	1113 E Hobert Ave, Ellensburg	front yard	179122	Irrigation w/o Chemicals	In-Premises Protection	05-Jun-21	Pass
Richard Wilson	712 S Locust St, Ellensburg	SE corner of house on E side	A377330		In-Premises Protection	08-Sep-21	Pass

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Facility Name	Facility Address	Device Location	Serial No	Hazard Type	Protection Type	Test Date	Pass/Fail
Rick Elstrom	1204 N Vista Rd, Ellensburg	NW corner of property/near meter	AAC339	Irrigation w/o Chemicals	In-Premises Protection	05-Jun-21	Pass
Rick Williams	1711 E Canterbury Dr, Ellensburg	South side of house under E window	1HA20549	Irrigation w/o Chemicals	In-Premises Protection	24-May-21	Pass
Ricky Bodkin	1700 E Seattle AV, Ellensburg	West side of house	A635147		In-Premises Protection	13-Jul-21	Pass
Rita Thomas	1100 S Rosewood Dr, Ellensburg	front yard/ near mailboxes	AJ5384	Irrigation w/o Chemicals	In-Premises Protection	12-May-21	Pass
Rite Aid	700 S Main St, Ellensburg	North side of property/ in vault middle of buidings planter strip	447475	Irrigation w/o Chemicals	In-Premises Protection	18-Aug-21	Pass
		North side of property/ inside vault/near sidewalk	B9245	Fire Dept. Connection	Dedicated Fire Line	18-Aug-21	Pass
		North side of property/inside vault/near sidewalk	AF1732	Fire Dept. Connection	Dedicated Fire Line	18-Aug-21	Pass
RJR Rentals	1504 E Seattle Ave, Ellensburg	west side of house	A157771		In-Premises Protection	25-May-21	Pass
	205 W Maci Ct, Ellensburg	south side of house next to driveway	2805614		In-Premises Protection	25-May-21	Pass
Roadhouse Grill	101 W Umptanum Rd, Ellensburg	Near Industrial way/ north of driveway by hydrant	A552091	Irrigation w/o Chemicals	In-Premises Protection	05-May-21	Pass
Rob Shingledecker	901 Gregory Pl, Ellensburg	North side of house/next to sidewalk/by meter	A0282		In-Premises Protection	26-May-21	Pass
Robert & Ida Malde	1711 N Water St, Ellensburg	front yard/near sidewalk	32093	Irrigation w/o Chemicals	In-Premises Protection	13-May-21	Pass
Robert Beach	607 E Capitol Ave, Ellensburg	Southside/next to house	T068554	Irrigation w/o Chemicals	In-Premises Protection	28-May-21	Pass
Robert Boggs	1007 N Vista Rd., Ellensburg	North of driveway/in yard	2879373		In-Premises Protection	26-May-21	Pass
Robert Burke	1613 E Seattle AV, Ellensburg	West side yard	672842		In-Premises Protection	20-May-21	Pass
Robert Clogston	1116 Franklin St, Ellensburg	by water meter/NW front yard	169900	Irrigation w/o Chemicals	In-Premises Protection	07-Apr-21	Pass

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Facility Name	Facility Address	Device Location	Serial No	Hazard Type	Protection Type	Test Date	Pass/Fail
Robert Conant	1905 Trails Edge Dr, Ellensburg	back of house by patio	368431	Irrigation w/o Chemicals	In-Premises Protection	03-Jun-21	Pass
Robert Dlouhy	1101 E Umptanum Rd, Ellensburg	West of house by window	A584096		In-Premises Protection	05-Jun-21	Pass
Robert Evans	1607 E Seattle AV, Ellensburg	West side of front yard	675214		In-Premises Protection	10-May-21	Pass
Robert Ford	1702 N Bluegrass Ln, Ellensburg	NW corner of house/thru gate around corner	709297	Irrigation w/o Chemicals	In-Premises Protection	17-May-21	Pass
	1713 Iowa St, Ellensburg	NE corner of yard	502179	Irrigation w/o Chemicals	In-Premises Protection	17-May-21	Pass
Robert Gimlin	1611 E Sparrow Knoll AV, Ellensburg	East side 6' from SE corner	A586294-3168		In-Premises Protection	10-May-21	Pass
Robert Hoctor	1100 E Craig Ave, Ellensburg	SW side yard /by water meter	A878088	Irrigation w/o Chemicals	In-Premises Protection	05-May-21	Pass
	1101 E Umptanum Rd, Ellensburg	SE corner of house/ near gas meter	2161207		In-Premises Protection	07-May-21	Pass
	302 W University Way, Ellensburg	West side of house/SW corner	194689	Irrigation w/o Chemicals	In-Premises Protection	25-May-21	Pass
Robert Humphreys	1510 N Bluegrass Ln, Ellensburg	SW side	817100	Irrigation w/o Chemicals	In-Premises Protection	06-May-21	Pass
Robert Knox	1709 Iowa St, Ellensburg	North side of house/right gate	4521135		In-Premises Protection	24-Jun-21	Pass
Robert Litzenberg	1705 Iowa St, Ellensburg	north side of house	887059		In-Premises Protection	23-Jun-21	Fail/Pass
Robert Mckenzie	517 W Bridgewood Ln, Ellensburg	W side/backyard	40794	Irrigation w/o Chemicals	In-Premises Protection	20-May-21	Pass
Robert Mead	707 E 4th Ave, Ellensburg	West side of house just north of gate	4058577		In-Premises Protection	24-May-21	Pass
Robert Misenar	401 W Illinois AV, Ellensburg	West of driveway by meter	A846249-3733		In-Premises Protection	26-Aug-21	Pass
Robert Morelli	1710 E Ashford Wy, Ellensburg	South sidewalk	A582649		In-Premises Protection	24-Jun-21	Pass

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Facility Name	Facility Address	Device Location	Serial No	Hazard Type	Protection Type	Test Date	Pass/Fail
Robert Omans	1920 N Walnut St, Ellensburg	center of front lawn by meter	01690		In-Premises Protection	17-Mar-21	Pass
Robert Sawyer	1102 N Canterbury Dr, Ellensburg	North side/next to house/ inside gate	A153947		In-Premises Protection	27-Apr-21	Pass
Robert Undsderfer	201 S Ruby St, Ellensburg	S side Through Gate	001160		In-Premises Protection	05-Jun-21	Pass
Robert Wagner	1101 E Umptanum RD, Ellensburg	10' North of water meter	A596043		In-Premises Protection	10-May-21	Pass
Robert Weber	1127 E Spokane Ave, Ellensburg	front yard	549166	Irrigation w/o Chemicals	In-Premises Protection	13-May-21	Pass
Roberta Haire	2010 N Parklane Ave, Ellensburg	west side of house	966688	Irrigation w/o Chemicals	In-Premises Protection	07-Jun-21	Pass
Robin J. May	607 W 16th Ave, Ellensburg	North side of house/ near patio	A74692	Irrigation w/o Chemicals	In-Premises Protection	20-May-21	Pass
Rod Goosman	507 N Willow St, Ellensburg	in crawlspace/ near stairs	664053	Irrigation w/o Chemicals	In-Premises Protection	11-Jun-21	Pass
Rodeo City Self Storage	1304 W University Way, Ellensburg	by entrance fire hydrant just W of office	117020	Irrigation w/o Chemicals	In-Premises Protection	26-May-21	Pass
Roger & Margaret Patry	2412 Lilac Wy, Ellensburg	South of house in side yard	A262137		In-Premises Protection	25-Jun-21	Pass
Roger Glaser	815 E 2nd Ave, Ellensburg	west side/ back yard	A12887		In-Premises Protection	12-May-21	Pass
Roger Hudson	1005 S Canyon RD, Ellensburg	West side of lot by meter	467737-3599		Premises Isolation	11-Jun-21	Pass
Roger Weber	2404 N Delphine St, Ellensburg	south side of house in yard	2040148	Irrigation w/o Chemicals	In-Premises Protection	09-Jun-21	Pass
Ron Anderson	1401 Skyline Dr, Ellensburg	south side of front yard	431137		In-Premises Protection	26-May-21	Pass
Ron Munson	910 E 4th Ave, Ellensburg	E side of house	A02397	Irrigation w/o Chemicals	In-Premises Protection	21-May-21	Fail/Pass
Ron Rogers	1307 N Okanogan ST, Ellensburg	8' south of front door	A773204-3640		In-Premises Protection	24-Jun-21	Pass

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Facility Name	Facility Address	Device Location	Serial No	Hazard Type	Protection Type	Test Date	Pass/Fail
Ron Selstead	1100 S Rosewood DR, Ellensburg	Front yard by meter	A683789		In-Premises Protection	15-Apr-21	Pass
Ronald Gregory	709 S Alder St, Ellensburg	front yard north of driveway near meter	157362	Irrigation w/o Chemicals	In-Premises Protection	21-Jul-21	Pass
Rose Downing	1425 Bonnie Ln, Ellensburg	South side/front yard near road	688789	Irrigation w/o Chemicals	In-Premises Protection	27-May-21	Pass
Rosewood Estates Office/Clubhouse	1101 E Umptanum Rd, Ellensburg	NE of Clubhouse approx. 500 ft /N side in walking path between units # 61& 62 (main water line loop for irrigation system protection)	1789384	Irrigation w/o Chemicals	Premises Isolation	16-Apr-21	Pass
Ross Pearson	1100 S Rosewood Dr, Ellensburg	E side Yard by Bushes	T183352		In-Premises Protection	12-May-21	Pass
Rossow's U-Tote-Um	807 W University Way., Ellensburg	Behind milk shake machine & pop machine	77489	Beverage Dispenser with CO2	In-Premises Protection	19-Oct-21	Pass
		West side of picnic shed	13502	Irrigation w/o Chemicals	In-Premises Protection	05-May-21	Pass
Russell Sackett	800 E 2nd Ave, Ellensburg	south side of house/back yard /near fence	A80639		In-Premises Protection	21-May-21	Pass
Russell Tresedder	601 E Manitoba, Ellensburg	NE corner of garage	A064159		In-Premises Protection	11-May-21	Pass
Ryan & Rachel Beachy	602 S Magnolia St, Ellensburg	west side of house/next to fire hydrant	A121892		In-Premises Protection	11-May-21	Pass
Ryan Anderson	1000 E 4th AV, Ellensburg	10' west of southeast corner of house in back yard	A700410-3580		In-Premises Protection	02-Jul-21	Pass
Ryan Frye	501 N Willow St, Ellensburg	SE side of property through gate	37071	Irrigation w/o Chemicals	In-Premises Protection	04-May-21	Pass
Ryan Oliveros	508 W Illinois Ave, Ellensburg	next to fence/north side in yard	16697		In-Premises Protection	13-Jul-21	Pass
Ryan Parthemer	710 S Locust St, Ellensburg	By sidewalk 5' W of electrical box	A377342		In-Premises Protection	20-Jul-21	Pass
Ryan Wales	1019 E 19th Ave, Ellensburg	front yard	465432		In-Premises Protection	08-Jun-21	Pass

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Facility Name	Facility Address	Device Location	Serial No	Hazard Type	Protection Type	Test Date	Pass/Fail
Ryan Wales	1512 Brook Ct, Ellensburg	east of water meter next to road?			A60054	In-Premises	27-May-21
Pass							
					Protection		
	1604 E Spokane AV, Ellensburg		Ten feet south of northwest		A652716-	Irrigation w/o	In-
Premises	11-May-21	Pass					
		corner of house	3510	Chemicals	Protection		
	800 Juniper Ave, Ellensburg	north side of house	A878048		In-Premises Protection	19-Aug-21	Pass
Safeway	400 N Ruby St, Ellensburg	Deli under counter by pan washer	181274		In-Premises Protection	06-May-21	Pass
		Meat prep room	02073		In-Premises Protection	06-May-21	Pass
		SE corner of stockroom	9905281322		Dedicated Fire Line	06-May-21	Pass
		SE side of building in planting strip	A00445		In-Premises Protection	06-May-21	Pass
		Starbucks east wall below ice machine	120586		In-Premises Protection	06-May-21	Pass
Sally Hammond	302 S Poplar St, Ellensburg	South side of house	189326	Irrigation w/o Chemicals	In-Premises Protection	07-Jun-21	Pass
Salvador Ramos	308 W Indiana Dr, Ellensburg	front yard NW corner	59984	Irrigation w/o Chemicals	In-Premises Protection	07-Jun-21	Pass
Sam Ellinger	1811 E 14th Ave, Ellensburg	W side of house/backyard	40628	Irrigation w/o Chemicals	In-Premises Protection	24-Jun-21	Pass
Samuel Henderson	1208 N Thayer Ave, Ellensburg	SW side of house	DA8745	Irrigation w/o Chemicals	In-Premises Protection	20-Aug-21	Pass
Samuel Lohse	608 W Ravenswood Ln, Ellensburg	E side of house	H24711	Irrigation w/o Chemicals	In-Premises Protection	25-Jun-21	Pass
Sandra Bell	708 S Locust St, Ellensburg	30' W of front door by sidewalk	A377350		In-Premises Protection	13-May-21	Pass
Sandra Chavez	1101 E Umptanum RD, Ellensburg	Front lawn by road	A608317		In-Premises Protection	07-May-21	Pass
Sandra Oversby	213 S Willow St, Ellensburg	front of house/east wall	1HA60723	Irrigation w/o Chemicals	In-Premises Protection	14-May-21	Pass

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Facility Name	Facility Address	Device Location	Serial No	Hazard Type	Protection Type	Test Date	Pass/Fail
Sandy Walker	1114 E 1st Ave, Ellensburg	north side/backyard	21633	Irrigation w/o Chemicals	In-Premises Protection	12-May-21	Pass
	500 W 12th Ave, Ellensburg	front yard/northside	38650		In-Premises Protection	01-Jun-21	Pass
Sara Wollfe	1706 Gala Way, Ellensburg	W side of house	449561	Irrigation w/o Chemicals	In-Premises Protection	24-May-21	Pass
Sarah Sillin	1121 E Hobert Ave, Ellensburg	front yard	157980	Irrigation w/o Chemicals	In-Premises Protection	13-May-21	Pass
Sarah Smith	2008 N Parklane, Ellensburg	NW corner of front yard by meter			A374469	In-Premises	24-Aug-21
Pass					Protection		
Scott Carlton	206 S Spraque St, Ellensburg	in alley by meter	40612		In-Premises Protection	17-May-21	Pass
Scott Coil	1703 N Water St, Ellensburg	front yard/near meter	31477	Irrigation w/o Chemicals	In-Premises Protection	04-Jun-21	Pass
Scott Donovan	1600 N Stonebridge St, Ellensburg	back yard by water meter	29483	Irrigation w/o Chemicals	In-Premises Protection	03-Jun-21	Pass
Scott Faulkner	209 N Alder St, Ellensburg	back gate off 3rd St	4618484	Irrigation w/o Chemicals	In-Premises Protection	11-May-21	Pass
Scott Heckly	1500 Brook Ct, Ellensburg	front yard next to sidewalk and parking lot	HB22810		In-Premises Protection	27-May-21	Pass
Scott Mayberry	601 S Pine St, Ellensburg	in basement	178184	Irrigation w/o Chemicals	In-Premises Protection	14-May-21	Pass
Scott Panatoni	404 S Walnut St, Ellensburg	alley near water meter	592521	Irrigation w/o Chemicals	In-Premises Protection	14-May-21	Pass
Scott Storlie	101 E 17th Ave, Ellensburg	South side/ next to house	200272	Irrigation w/o Chemicals	In-Premises Protection	07-Jun-21	Pass
Scott William Lee	108 E 9th AV, Ellensburg	Southwest corner of basement	A674643-3536		In-Premises Protection	21-Jul-21	Pass
Sean Clark	1810 E 14th Ave, Ellensburg	East side back yard	41148	Irrigation w/o Chemicals	In-Premises Protection	24-May-21	Pass
Sean Elliot	207 W Maci Ct., Ellensburg	front yard /near meter	3043301		In-Premises Protection	08-Jun-21	Pass

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Facility Name	Facility Address	Device Location	Serial No	Hazard Type	Protection Type	Test Date	Pass/Fail
Sean Lowe	304 W Indiana Dr, Ellensburg	NW flower bed	408097	Irrigation w/o Chemicals	In-Premises Protection	15-Jun-21	Pass
Seana Blake	114 W 10th Ave, Ellensburg	North side of house	37291	Irrigation w/o Chemicals	In-Premises Protection	01-Jun-21	Pass
Seth King	601 S Magnolia St, Ellensburg	Front yard/below window	A647966	Irrigation w/o Chemicals	In-Premises Protection	21-Aug-21	Pass
Seven Eleven Store #17053	1001 E University Way, Ellensburg	SE corner room/ above sink /west wall	W184165	Beverage Dispenser with CO2	In-Premises Protection	06-Apr-21	Pass
		SE corner room/ above sink /west wall	W184165	Beverage Dispenser with CO2	In-Premises Protection	17-Feb-21	Pass
		SE corner room/above sink/west wall	W199290		In-Premises Protection	17-Feb-21	Pass
		SE corner room/above sink/west wall	W199290		In-Premises Protection	06-Apr-21	Pass
Seven-Eleven #23579	112 W University Way, Ellensburg	in back room above sink	26380	Beverage Dispenser with CO2	In-Premises Protection	16-Feb-21	Fail/Pass
Seventh Day Adventist Church	415 W 14th Ave, Ellensburg	north east side of building/strapped to wall/near faucet	16464		In-Premises Protection	01-Jun-21	Pass
		south side of building/near meter			T4343 In-Premises Protection	01-Jun-21	Pass
Shady Brook Trailer Park	1200 E University Way, Ellensburg	North side of lot/ south of meter	35311717		Premises Isolation	10-Jun-21	Pass
		North side of lot/ south of meter	35311717		Premises Isolation	25-May-21	Pass
Shane Johnson	301 W Helena Ave, Ellensburg	SE corner of yard/ flower bed	232230	Irrigation w/o Chemicals	In-Premises Protection	26-May-21	Pass
Shane Jump	1402 Skyline Dr, Ellensburg	North side/front yard by meter	10625	Irrigation w/o Chemicals	In-Premises Protection	21-Jun-21	Pass
Shannon Dawson	1703 E Sparrow Knoll AV, Ellensburg	East side 15' from SE corner of house	A630217-3166		In-Premises Protection	20-May-21	Pass
Shannon Maitland	1101 E Umptanum RD, Ellensburg	Southwest corner of lot by meter	A819096-3707		In-Premises Protection	23-Jun-21	Pass

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Facility Name	Facility Address	Device Location	Serial No	Hazard Type	Protection Type	Test Date	Pass/Fail
Sharma Simpson Pass	710 S Cypress Ct, Ellensburg	10' east from NE corner of house			A356372 In-Premises Protection	24-Aug-21	
Sharon Charlton	2017 Green Parks Dr, Ellensburg	SE corner of property 20' W of sidewalk by meter	A374496		In-Premises Protection	07-Jun-21	Pass
Sharon Hull	710 E 6th Ave, Ellensburg	Backyard/south of shop	154383	Irrigation w/o Chemicals	In-Premises Protection	21-Jun-21	Pass
Sharon Westling	1011 E 19th Ave, Ellensburg	front yard	100623		In-Premises Protection	20-May-21	Pass
Sharron Allemand	1702 E Plumridge Ave, Ellensburg	west side/next to house	3209319		In-Premises Protection	10-May-21	Pass
Shau Callahan	2502 N Delphine St, Ellensburg	SW corner of house in box	HB40497		In-Premises Protection	07-Apr-21	Pass
Shelley Spencer	302 W 15th Ave, City of Ellensburg	North front yard	44523		In-Premises Protection	12-May-21	Pass
Sherman Baldwin	1606 E Sparrow Knoll AV, Ellensburg	East side near fence	A580312-3157		In-Premises Protection	28-Apr-21	Pass
Sherry Asmus	1505 E Hobert Ave, Ellensburg	front yard by meter	2804314		In-Premises Protection	10-May-21	Pass
Shirley Springer	105 E 9th Ave, Ellensburg	West side of garage/inside gate/south of meter	39467	Irrigation w/o Chemicals	In-Premises Protection	10-May-21	Pass
Shu-Ling Chan	1707 N Water St, Ellensburg	front yard by sidewalk	31753	Irrigation w/o Chemicals	In-Premises Protection	24-Jun-21	Pass
Sidney Marshall	1100 S Rosewood Dr, Ellensburg	front yard/SW corner	129649	Irrigation w/o Chemicals	In-Premises Protection	06-May-21	Pass
Silverio Barrera	211 N Lincoln St, Ellensburg	West side of back yard	A568953		In-Premises Protection	10-Jun-21	Pass
Silverwood Apartments	2109 N Walnut St, Ellensburg	West side/ behind the two story units in ground box	531043		In-Premises Protection	28-May-21	Pass
Silvestre Gonzalez	1600 E Spokane Ave, City of Ellensburg	Front yard next to porch	A308623		In-Premises Protection	21-Jun-21	Pass
Smith Revocable Trust	1004 E 4th Ave, Ellensburg	SE corner of backyard	287603		In-Premises Protection	11-Jun-21	Fail/Pass

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Facility Name	Facility Address	Device Location	Serial No	Hazard Type	Protection Type	Test Date	Pass/Fail
Smitty's Conoco	1503 Hwy 97, Ellensburg	South wall/Below pop machine	W374056	Beverage Dispenser with CO2	In-Premises Protection	15-Jul-21	Pass
Solarity Credit Union	900 S Ruby St, Ellensburg	In boiler room inside the Edward Jones portion of building	336719	Boiler Feed Lines	In-Premises Protection	06-Apr-21	Pass
		SW corner of property/ near stop sign	00405	Irrigation w/o Chemicals	Premises Isolation	06-Apr-21	Pass
Sonic Drive In Pass	1802 S Canyon Rd, Ellensburg	Northeast corner of building over mop sink	B262080-3692		Premises Isolation	02-Mar-21	
		South of soda machine	245871-3694	Premise By Pass	In-Premises Protection	02-Mar-21	Pass
Spurling Court Apartments	1301 N Rainier ST, Ellensburg	1205 Bld #1	036827-3717		Premises Isolation	21-Dec-21	Pass
		1205 Bld #2	063187-3716		Premises Isolation	21-Dec-21	Pass
		1205 Blg #3	036825-3718		Premises Isolation	21-Dec-21	Pass
Squirreling Arrond LLC	606 N Main St, Ellensburg	E side of bldg/patio by door	602909	Irrigation w/o Chemicals	In-Premises Protection	25-May-21	Pass
SRG Bldg.	109 W 3rd Ave, Ellensburg	Kitchen closet	U44771		Dedicated Fire Line	28-Dec-21	Pass
		Main floor /NW corner mechanical room	3200572		Premises Isolation	28-Dec-21	Pass
		Main floor/NW corner mechanical room	3189859		Premises Isolation	28-Dec-21	Pass
		Main floor/NW corner mechanical room	3225805		Premises Isolation	28-Dec-21	Pass
		Main floor/NW corner mechanical/riser room	U24518		Dedicated Fire Line	28-Dec-21	Pass
Stacey Engel	1007 E 19th Ave, Ellensburg	West of driveway next to water meter	47049		In-Premises Protection	20-May-21	Pass
Stalder Holdings LLC	2225 N Airport RD, Ellensburg	20' southwest of building #	4476352-3632	Irrigation w/o Chemicals	Premises Isolation	22-Apr-21	Pass

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Facility Name	Facility Address	Device Location	Serial No	Hazard Type	Protection Type	Test Date	Pass/Fail
Stalder Holdings LLC	2225 N Airport RD, Ellensburg	South of south entrance by meter	4428452-3585		Premises Isolation	22-Apr-21	Pass
	2249 N Airport RD, Ellensburg	Mech room outside east wall	19496-3721		Dedicated Fire Line	22-Apr-21	Pass
		Northeast of building by meter	40235B-3757		In-Premises Protection	30-Jul-21	Pass
Starbucks #2808	1614 S Canyon Rd, Ellensburg	Back room below wash/rinse sink	154402		In-Premises Protection	18-Jun-21	Pass
		kitchen by mop sink	216407	Premise Isolation	Premises Isolation	18-Jun-21	Pass
Starbucks #3227	908 E 10th Ave, Ellensburg	above hand sink in backroom/ next to mop room sink	A05509		Premises Isolation	18-Jun-21	Pass
Stayce Lowe	312 W Indiana Dr, Ellensburg	south side of house/near deck	51162	Irrigation w/o Chemicals	In-Premises Protection	10-Jun-21	Pass
Stefan Piccone	1811 Bluegrass Ln, Ellensburg	West side of house	H64680	Irrigation w/o Chemicals	In-Premises Protection	02-Jun-21	Pass
Stephanie Bala	716 E Capitol Ave, Ellensburg	SE corner of back yard in flower bed	46056		In-Premises Protection	10-Aug-21	Pass
Stephanie Castillo	611 S Alder St, Ellensburg	front yard	154361	Irrigation w/o Chemicals	In-Premises Protection	15-Apr-21	Pass
Stephanie Conley Pass	1704 E Spokane AV, Ellensburg		10'south of northwest corner 3517		A642532-Protection	In-Premises	20-Jul-21
Stephanie Stein	610 N Sampson St, Ellensburg	north side of house	294610	Irrigation w/o Chemicals	In-Premises Protection	25-May-21	Pass
Stephen Carney	1006 Chamith Ln, Ellensburg	front yard	21613	Irrigation w/o Chemicals	In-Premises Protection	05-Jun-21	Pass
Stephen Dupont	206 N Spraque St, Ellensburg	2nd fence/eastside of backyard	09789	Irrigation w/o Chemicals	In-Premises Protection	27-Apr-21	Pass
Stephen McRae	801 Acacia Ln, Ellensburg	E side of house near walkway	629846	Irrigation w/o Chemicals	In-Premises Protection	21-May-21	Pass
Stephen Moore Pass	1101 Umptanum RD, Ellensburg		West of house by meter		A894306 Protection	In-Premises	05-Jun-21

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Facility Name	Facility Address	Device Location	Serial No	Hazard Type	Protection Type	Test Date	Pass/Fail
Stephen Moore & Janet Demorest	712 E 2nd Ave, Ellensburg	south side/near garage	189358	Irrigation w/o Chemicals	In-Premises Protection	14-May-21	Pass
Stephen Sarchet Premises	1709 Bridgewood Ln, Ellensburg 15-Jun-21	Pass	S side in yard next to house		H57717 Irrigation w/o Chemicals		In-Protection
Stephen Willard	608 N Pine St, Ellensburg	SE corner/inside crawl space	20084		In-Premises Protection	07-Jun-21	Pass
Stephen Wood	1101 E Umptanum, Ellensburg	South side near crawlspace entry	3513155		In-Premises Protection	07-May-21	Pass
Steve Betassa	1311 Skyline Dr, Ellensburg	Crawl space/west side/in valve box inside access panel	333056		In-Premises Protection	21-Jun-21	Pass
Steve Hackenberger	109 E 9th Ave, Ellensburg	basement by boiler	A664649	Irrigation w/o Chemicals	In-Premises Protection	02-Jul-21	Pass
Steve Patterson	906 N Okanogan St, City of Ellensburg	Inside South Basement Door to the Right	HD27094		In-Premises Protection	11-Jun-21	Pass
Steve Rhodes	2212 N Cobblefield, Ellensburg	north of driveway	47072		In-Premises Protection	08-Jun-21	Pass
Steve Schepman	1218 N Thayer Ave, Ellensburg	South side of house	H206942	Irrigation w/o Chemicals	In-Premises Protection	23-Apr-21	Pass
Steve Willard	300 E 2nd Ave, Ellensburg	East side of house	460079	Irrigation w/o Chemicals	In-Premises Protection	07-Jun-21	Pass
Steve Wilson	1002 Bull Rd., Ellensburg	front yard	46721		In-Premises Protection	11-May-21	Pass
Steven Fowler	1214 N Thayer Ave, Ellensburg	NW corner of front yard /near driveway	W01908	Irrigation w/o Chemicals	In-Premises Protection	11-Jun-21	Pass
Steven Johnson	1715 Indiana Dr., Ellensburg	North side/next to house	57697	Irrigation w/o Chemicals	In-Premises Protection	15-Jul-21	Pass
Steven Luten Pass	1700 E Spokane AV, Ellensburg	house	10' south of northwest corner of 3515		A642537- In-Premises Protection		20-Aug-21
Steven Olson	113 E 9th Ave, Ellensburg	alley behind fence/ NW corner	6018542	Irrigation w/o Chemicals	In-Premises Protection	14-Jul-21	Pass
Steven Weidenbach	106 W Courtney Ct, Ellensburg	Front yard	1HA39630		In-Premises Protection	03-Jun-21	Pass

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Facility Name	Facility Address	Device Location	Serial No	Hazard Type	Protection Type	Test Date	Pass/Fail
Steven Weidenbach	208 W Maci Ct, Ellensburg	NE corner of lawn/near road	2805599		In-Premises Protection	13-Jul-21	Pass
	210 W Maci Ct, Ellensburg	SW corner of backyard/inside fence	A87963		In-Premises Protection	22-May-21	Pass
Stuart Denman	500 S Pine ST, Ellensburg	North side of house, south of AC unit	A725254-3589		In-Premises Protection	14-May-21	Pass
Subway #11538	1301 S Canyon Rd, Ellensburg	Kitchen/east wall/south of walk-in freezer	A56014	Beverage Dispenser with CO2	In-Premises Protection	18-May-21	Pass
		North side of parking lot/ 8' south of meter	A138474		In-Premises Protection	18-May-21	Pass
		Northwest corner mechanical room/east wall	48430		Premises Isolation	18-May-21	Pass
		NW corner mechanical room/south wall	U29214		Dedicated Fire Line	18-May-21	Pass
Subway #48911	1005 E University Way, Ellensburg	NE corner of property/east of dumpster enclosure	A058489		In-Premises Protection	13-Sep-21	Pass
Sudabeh Behnia	1907 E 14th Ave, Ellensburg	east side/backyard	500687	Irrigation w/o Chemicals	In-Premises Protection	28-Jun-21	Pass
Sue Ellen Lowe	1306 Skyline Dr, Ellensburg	front yard/ north side/next to house/ in wooden box	342270		In-Premises Protection	27-May-21	Pass
Sue Lillquist	1112 E 3rd Ave, Ellensburg	NW corner of backyard /near shed	T494407	Irrigation w/o Chemicals	In-Premises Protection	02-Jun-21	Fail/Pass
Sue Patterson	1104 N Canterbury Dr, Ellensburg	north side/next to house /inside gate	A153939		In-Premises Protection	27-Apr-21	Pass
Sugar Thai Cuisine	306 N Pine ST, Ellensburg	Under hand sink in kitchen	B066316		In-Premises Protection	12-Feb-21	Pass
Sunrise Quick Stop	200 W University Way, Ellensburg	backroom inside north wall/halfway down wall	A23432	Beverage Dispenser with CO2	In-Premises Protection	02-Nov-21	Pass
Super 8 Motel	1500 S Canyon Rd, Ellensburg	1st floor fire riser rm/cntr of bldg by base of exit ramp	Y1258	Fire Dept. Connection	Dedicated Fire Line	28-Jan-21	Pass
		ground floor laundry room /down hallway /opposite room #103 in SE corner closet	189114	Fire Dept. Connection	Dedicated Fire Line	28-Jan-21	Pass

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Facility Name	Facility Address	Device Location	Serial No	Hazard Type	Protection Type	Test Date	Pass/Fail
Super 8 Motel	1500 S Canyon Rd, Ellensburg	ground floor/ fire riser room/center of building/ near base of middle exit ramp	B7196	Fire Dept. Connection	Dedicated Fire Line	28-Jan-21	Pass
		main floor/ mech room north of pool / east wall	B10380	Pool/Spa	In-Premises Protection	28-Jan-21	Pass
		SW corner of building/between shrubs & wall	T096585	Irrigation w/o Chemicals	In-Premises Protection	07-May-21	Pass
Super One Foods Fire	200 E Mtn View Ave, Ellensburg 02-Mar-21	East side produce prep area /SE corner of bldg on riser	DK6088	Fire Dept. Connection	Dedicated Line	Pass	
		In ceiling above sink in employees lunch room/2nd Flooor	A06742	Chiller	In-Premises Protection	02-Mar-21	Pass
		NE side, upstairs compressor room//south end/east wall	143409		In-Premises Protection	02-Mar-21	Pass
		under beverage machine south of Deli dept.	W164285	Beverage Dispenser with CO2	In-Premises Protection	02-Mar-21	Pass
Superior Cleaners	700 E University Way, Ellensburg	Boiler room/south wall	176497	Premise Isolation	In-Premises Protection	07-Dec-21	Pass
Superior Millwork & Finishing	1000 N Prospect St, Ellensburg	East wall/near sink	130249		Premises Isolation	16-Mar-21	Pass
Susan Bonnel	1007 E Capitol Ave, Ellensburg	back yard/near SW corner of garage	094995		In-Premises Protection	28-May-21	Pass
Suzanne Yu	801 E Hobert Ave, Ellensburg	West side of property/ near meter	A040691	Irrigation w/o Chemicals	In-Premises Protection	13-May-21	Pass
SV's Curry Masala	303 N Main ST, Ellensburg	Southwest corner of bathroom	56256-3678		Premises Isolation	24-Dec-21	Pass
Sze Yu Chen	1606 E Spokane AV, Ellensburg	10' south of northwest corner of house	A652722		In-Premises Protection	21-Jun-21	Pass
Taco Bell	1406 S Canyon Rd, Ellensburg	front of entrance /north side	A596529	Irrigation w/o Chemicals	In-Premises Protection	18-May-21	Pass
		In back door to right over mop sink	54572-3629		Premises Isolation	26-Aug-21	Pass

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Facility Name	Facility Address	Device Location	Serial No	Hazard Type	Protection Type	Test Date	Pass/Fail
Taco Del Mar	1614 S Canyon Rd, Ellensburg	South wall/ behind pop dispenser	200449	Beverage Dispenser with CO2	In-Premises Protection	06-Jan-21	Fail/Pass
		South wall/ behind pop dispenser	200449	Beverage Dispenser with CO2	In-Premises Protection	17-Jun-21	Pass
		SW corner by freezer/near hand wash sink	301877	Premise Isolation	Premises Isolation	17-Jun-21	Pass
Tacos Chalito	209 S Main St, Ellensburg	SW side of property /east of meter /next to alley	HB25741	Premises Isolation	Premises Isolation	06-Apr-21	Pass
Tammi Paolilli	1603 E Seattle AV, Ellensburg	West side yard through gate	675215		In-Premises Protection	26-May-21	Pass
Tammy Wilson	711 S Magnolia St, Ellensburg	box in back yard	2753465		In-Premises Protection	11-May-21	Pass
Tarrol Peterson	700 E 4th Ave, Ellensburg	E side of house by dryer vent	375575	Irrigation w/o Chemicals	In-Premises Protection	26-May-21	Pass
Tatiana Gunn	205 E Kristen AV, Ellensburg	SE corner of property 10' north of meter	A713010		In-Premises Protection	12-May-21	Pass
Taylor Lind	506 N Chestnut St, Ellensburg	south end of bulding/near stairs	26128		In-Premises Protection	10-Aug-21	Pass
TC Yakima Holdings LLC	208 W Hailey Ct, Ellensburg	NE corner of yard/near meter	A046548		In-Premises Protection	21-May-21	Pass
Teague Andrew McKamey		1104 Vista Rd, Ellensburg	below the house/access thru		A66946	In-Premises	26-May-21 Pass
		basement..			Protection		
Teague Schwab	1500 E Spokane Ave, Ellensburg	east side of house/near heat pump	435900		In-Premises Protection	11-May-21	Pass
Ted Dempsey	604 N Sampson St, Ellensburg	NE corner of house /backyard	12879		In-Premises Protection	25-May-21	Pass
Tennecia Dacass	405 S Sampson St, Ellensburg	Under house/ south side entrance	20183		In-Premises Protection	21-Jul-21	Pass
Teresa Sloan	1100 S Rosewood Dr, Ellensburg	front yard in trees	A13152		In-Premises Protection	05-May-21	Pass
Teriyaki Wok	1210 S Canyon Rd, Ellensburg	under security light in back parking lot	A552114	Irrigation w/o Chemicals	In-Premises Protection	10-May-21	Pass

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Facility Name	Facility Address	Device Location	Serial No	Hazard Type	Protection Type	Test Date	Pass/Fail
Teriyaki Wok	1210 S Canyon Rd, Ellensburg	under sink / kitchen-prep area/NE wall	20202	Beverage Dispenser with CO2	In-Premises Protection	18-Nov-21	Pass
Terry Alkire	404 S Ruby St, Ellensburg	SE corner of shop/near alley	CB008338	Irrigation w/o Chemicals	In-Premises Protection	17-May-21	Pass
Terry Clem	1100 S Rosewood Dr, Ellensburg	NW corner of front yard	AJ3171	Irrigation w/o Chemicals	In-Premises Protection	06-May-21	Pass
Terry Hawkins	1814 N Parklane Ave, Ellensburg	SW corner of front yard/near meter	2590841		In-Premises Protection	19-Jun-21	Pass
Terry Jones	1701 E Seattle AV, Ellensburg	West gate to east side yard	640414		In-Premises Protection	13-Jul-21	Pass
Terry Weiner	1006 E 4th Ave, Ellensburg	north wall/inside garage	A591129	Irrigation w/o Chemicals	In-Premises Protection	11-Jun-21	Pass
Thai Van Nguyen	1402 E Hobert Ave, Ellensburg	Front yard next to sidewalk & water meter	A308617		In-Premises Protection	11-May-21	Pass
The Ames House LLC	509 N Sprague St, Ellensburg	back yard	179978	Irrigation w/o Chemicals	In-Premises Protection	25-May-21	Pass
The Early Bird Café	412 N Main St, Ellensburg	Basement/south wall	2007424	Premises Isolation	Premises Isolation	07-Feb-21	Pass
The Laundry Center	203 W Washington Ave, Ellensburg	NE corner mechanical room/west wall	3203521		Premises Isolation	19-Aug-21	Pass
		North of pet wash building in vault	A978293-3759		Premises Isolation	09-Dec-21	Pass
The Macy Famile Living Trust	1101 E Umptanum RD, Ellensburg	6' North of southeast corner of house	A630228		In-Premises Protection	07-May-21	Pass
The Meadows Ellensburg	1015 E 18th Ave, Ellensburg	Alder Meadows /east side /front entrance	530414	Irrigation w/o Chemicals	In-Premises Protection	18-May-21	Pass
	1508 N B St, Ellensburg	1508 B St side lawn by managers apt	97241	Irrigation w/o Chemicals	In-Premises Protection	18-May-21	Pass
	1902 N Walnut St, Ellensburg	front entrance	189350	Irrigation w/o Chemicals	In-Premises Protection	18-May-21	Pass
The Porch	608 N Main St, Ellensburg	In kitchen E of doorway for fountain in hallway	46959	Beverage Dispenser with CO2	In-Premises Protection	17-Feb-21	Pass

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The Porch	608 N Main St, Ellensburg	S wall of mech room S of E entrance	3880568	Premises Isolation	Premises Isolation	17-Feb-21	Pass
		SE corner ofMech room S of E entrance	43575	Fire Sprinkler w/o Chemical Addition	Dedicated Fire Line	17-Feb-21	Pass
		W side of bar right of sink	45145	Beverage Dispenser with CO2	In-Premises Protection	17-Feb-21	Pass
The Tav	117 W 4th Ave, Ellensburg	under bar/ south end	21349	Beverage Dispenser with CO2	In-Premises Protection	12-Jan-21	Pass
The Valley Alcohol Council	200 E 3rd Ave, Ellensburg	Northwest lawn	3883427		In-Premises Protection	14-May-21	Pass
The Verge Apartments	2420 N Airport RD, Ellensburg	Bldg 1/ west mech room /east wall	24122		Dedicated Fire Line	28-Dec-21	Pass
		Bldg 1/east mech room/west wall	A22359		Premises Isolation	28-Dec-21	Pass
		Bldg 1/west mech room/east wall	A22331		Premises Isolation	28-Dec-21	Pass
		Bldg 10/east mech room/west wall	A22344		Premises Isolation	28-Dec-21	Pass
		Bldg 10/west mech room/east wall	A22366		Premises Isolation	28-Dec-21	Pass
		Bldg 10/west mech room/east wall	22120		Dedicated Fire Line	28-Dec-21	Pass
		Bldg 11/north mech room/north wall	A22345		Premises Isolation	28-Dec-21	Pass
		Bldg 11/north mech room/north wall	16839		Dedicated Fire Line	28-Dec-21	Pass
		Bldg 2/north mech room/south wall	A22349		Premises Isolation	28-Dec-21	Pass
		Bldg 2/north mech room/south wall	24047		Dedicated Fire Line	28-Dec-21	Pass
		Bldg 2/south mech room/south wall	A22348		Premises Isolation	28-Dec-21	Pass

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Facility Name	Facility Address	Device Location	Serial No	Hazard Type	Protection Type	Test Date	Pass/Fail
The Verge Apartments	2420 N Airport RD, Ellensburg	Bldg 3/'Clubhouse' SE mech room/ south wall	A11486		Premises Isolation	28-Dec-21	Pass
		Bldg 4/north mech room/south wall	A22356		Premises Isolation	28-Dec-21	Pass
		Bldg 4/south mech room/north wall	A22346		Premises Isolation	28-Dec-21	Pass
		Bldg 4/south mech room/north wall	24046		Dedicated Fire Line	28-Dec-21	Pass
		Bldg 5/north mech room/south wall	A22358		Premises Isolation	28-Dec-21	Pass
		Bldg 5/south mech room/north wall	24312		Dedicated Fire Line	28-Dec-21	Pass
		Bldg 5/south mech room/north wall	A22352		Premises Isolation	28-Dec-21	Pass
		Bldg 6/east mech room/west wall	A22350		Premises Isolation	28-Dec-21	Pass
		Bldg 6/north mech room/west wall	16971		Dedicated Fire Line	28-Dec-21	Pass
		Bldg 7/east mech room/east wall	165076		Premises Isolation	28-Dec-21	Pass
		Bldg 7/south mech room/east wall	17105		Dedicated Fire Line	28-Dec-21	Pass
		Bldg 8/north mech room/south wall	A22336		Premises Isolation	28-Dec-21	Pass
		Bldg 8/south mech room/north wall	24119		Dedicated Fire Line	28-Dec-21	Pass
		Bldg 8/south mech room/north wall	A22357		Premises Isolation	28-Dec-21	Pass
		Bldg 9/ north mech room/north wall	A22354		Premises Isolation	28-Dec-21	Pass
		Bldg 9/ north mech room/south wall	17103		Dedicated Fire Line	28-Dec-21	Pass

List of Devices Tested
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Facility Name	Facility Address	Device Location	Serial No	Hazard Type	Protection Type	Test Date	Pass/Fail
The Verge Apartments	2420 N Airport RD, Ellensburg	Bldg. #3/ Clubhouse SE mech room /SE corner/north of pool	A51561		In-Premises Protection	28-Dec-21	Pass
Theo Denner	706 Tamarack Ln, Ellensburg	NE side through covered porch	H90035	Irrigation w/o Chemicals	In-Premises Protection	13-May-21	Pass
Theresa Tollefson	2405 N Delphine St, Ellensburg	south side /in yard /next to house	HA60056		In-Premises Protection	10-Jun-21	Pass
Therese Young	912 E 3rd Ave, Ellensburg	east side of house behind back steps	482816		In-Premises Protection	26-Apr-21	Pass
Thomas & Barbara Stahl	115 W 9th Ave, Ellensburg	North side/next to house in valve box	51958		In-Premises Protection	24-May-21	Pass
Thomas Berry	304 S Pine St, Ellensburg	in center of crawl space/basement	55940	Irrigation w/o Chemicals	In-Premises Protection	14-May-21	Pass
Thomas Breaum	1001 E 3rd Ave, Ellensburg	backyard SE corner of garage in lawn	35166	Irrigation w/o Chemicals	In-Premises Protection	04-May-21	Pass
Thomas Brothers	1704 E Canterbury Dr, Ellensburg	W side of house	HA21142	Irrigation w/o Chemicals	In-Premises Protection	24-May-21	Pass
Thomas Comacho	1903 E 14th Ave, Ellensburg	East side/next to of house/inside fence	42128		In-Premises Protection	09-Jun-21	Pass
Thomas Johnson	1501 E Seattle Ave, Ellensburg	front yard/near meter	A125424		In-Premises Protection	20-May-21	Pass
Thomas Megargle	703 S Park Pl, Ellensburg	NW cor of house in box	26571	Irrigation w/o Chemicals	In-Premises Protection	02-Jul-21	Pass
Thomas Mueller	2109 N Parklane Ave, Ellensburg	East side/next to house	G284187		In-Premises Protection	07-Jun-21	Pass
Tim Redel	302 W Ridgeview Ln, Ellensburg		Northeast side yard		T305677	In-Premises	14-Jun-21
Pass					Protection		
Tim Young	501 W 12th Ave, Ellensburg	East of front door in flower bed	3624307		In-Premises Protection	08-May-21	Pass
Timothy Bartholomew	1711 Indiana Dr, Ellensburg	west side yard	HE66518		In-Premises Protection	23-Jun-21	Pass
Timothy Crocker	1111 E Spokane Ave, Ellensburg	front yard	125601	Irrigation w/o Chemicals	In-Premises Protection	13-May-21	Pass

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Facility Name	Facility Address	Device Location	Serial No	Hazard Type	Protection Type	Test Date	Pass/Fail
Timothy Crocker	204 W Maci Ct., Ellensburg	NW corner of lot next to tree	A129421		In-Premises Protection	15-Jul-21	Pass
	205 W Greenfield Ave, Ellensburg	front yard next to water meter	A374510		In-Premises Protection	08-Jun-21	Pass
	205 W Hailey Ct., Ellensburg	SW corner of property/near meter	2799098		In-Premises Protection	08-Jun-21	Pass
	207 Greenfield Ave, Ellensburg	SW corner of lot /near mail box	A12959		In-Premises Protection	08-Jun-21	Pass
Timothy Lawless	508 N Willow ST, Ellensburg	6'north of meter by yard light post	A732646-3581		In-Premises Protection	15-Jun-21	Pass
Tipton Hudson	1503 E Seattle Ave, Ellensburg	front yard /near meter	A11389		In-Premises Protection	28-Jun-21	Pass
Toby Williams	1130 Franklin St, Ellensburg	NW corner of yard	694659	Irrigation w/o Chemicals	In-Premises Protection	12-Jul-21	Pass
Todd Buchan	1118 E Spokane Ave, Ellensburg	front yard	729630	Irrigation w/o Chemicals	In-Premises Protection	19-Apr-21	Pass
Todd Johnson	2500 N Delphine St, City of Ellensburg	S side of house next to porch	A244943		In-Premises Protection	09-Jun-21	Pass
Todd Veness	605 S Magnolia St, Ellensburg	Front Yard /next to porch	A185410	Irrigation w/o Chemicals	In-Premises Protection	13-Jul-21	Pass
Tom Rogers	1301 N Canterbury Dr, Ellensburg	southside/next to house	A109930		In-Premises Protection	17-May-21	Pass
Tom Watkins	1601 E Sparrow Knoll AV, Ellensburg	W side of house	A308525		In-Premises Protection	20-Aug-21	Pass
Toni Culjak	106 E Lexus Ln, Ellensburg	west side of house	17933		In-Premises Protection	07-Jun-21	Pass
Tony Malella	2219 N Spar Ln, Ellensburg	SE corner of front yard	1963500		In-Premises Protection	13-May-21	Pass
Tonya Gigstead	109 N Anderson St, Ellensburg	west corner/ inside fence	91109	Irrigation w/o Chemicals	In-Premises Protection	04-May-21	Pass
Town House Manor	704 N Water St, Ellensburg	North side of parking lot in diamondplate E of bldg	4083626	Irrigation w/o Chemicals	In-Premises Protection	25-May-21	Pass

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Facility Name	Facility Address	Device Location	Serial No	Hazard Type	Protection Type	Test Date	Pass/Fail
Travis Disbrow Pass	602 W Ridgeview Ln, Ellensburg	West side of house in back yard	HD57619		In-Premises Protection	21-Jul-21	
Travis Gibson	1710 E Canterbury Dr, Ellensburg	North flower bed /below front window	A131496	Irrigation w/o Chemicals	In-Premises Protection	20-Aug-21	Pass
Travis Howey DDS	601 N Main St, Ellensburg	NW corner in crawl space	2925563		Premises Isolation	21-Jul-21	Pass
Travis Yeager	705 S Cypress Ct, Ellensburg	Front yard next to meter	A356594		In-Premises Protection	19-Aug-21	Pass
Trenton & Tania Deboer	1403 Skyline Dr, Ellensburg	back of house/next to patio/ in crawl space	13452	Irrigation w/o Chemicals	In-Premises Protection	11-May-21	Pass
Trevor & Mechelle Moran	1401 N Canterbury Dr, Ellensburg	east side/next to house in box	A614439		In-Premises Protection	13-Jul-21	Pass
Trevor Fyall	909 E 1st AV, Ellensburg	Northwest corner of back yard	36508-3750		In-Premises Protection	05-Jun-21	Pass
Trevor McCracken	1608 E Sparrow Knoll AV, Ellensburg	West side of back yard near fence	A586312		In-Premises Protection	08-Sep-21	Pass
Trina Lanegan	1704 E Sparrow Knoll AV, Ellensburg	West side by fence	A571402-3162		In-Premises Protection	28-May-21	Pass
Triple L Plaza Owners Assoc.	2605 Triple L Lp, Ellensburg	SW side of entry to 2601 Triple L Loop Rd./near meter	13451		In-Premises Protection	10-Jun-21	Pass
Troy Nealey	1705 E Sparrow Knoll AV, Ellensburg	West side 6' from SW corner	A630219-3165		In-Premises Protection	21-Aug-21	Pass
Troy Peterson	1003 E 19th Ave, Ellensburg	front yard	460087		In-Premises Protection	20-May-21	Pass
	1014 E 19th Ave, Ellensburg	Northwest corner of property	465359		In-Premises Protection	20-May-21	Pass
	1016 E 19th Ave, Ellensburg	front yard	465357		In-Premises Protection	20-May-21	Pass
	1018 E 19th Ave, Ellensburg	front yard	465435		In-Premises Protection	20-May-21	Pass
	801 Juniper Ave, Ellensburg	East side/ behind duplex	42967		In-Premises Protection	27-May-21	Pass

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Facility Name	Facility Address	Device Location	Serial No	Hazard Type	Protection Type	Test Date	Pass/Fail
Twin City Foods	501 W 4th Ave, Ellensburg	5th Ave planting strip/south of sidewalk	A107595	Irrigation w/o Chemicals	In-Premises Protection	20-Aug-21	Pass
		5th Ave planting strip/south of sidewalk	A107595	Irrigation w/o Chemicals	In-Premises Protection	14-Jun-21	Pass
		Kittitas St. & 4th Ave. intersection/west of curb	HC89756	Irrigation w/o Chemicals	In-Premises Protection	14-Jun-21	Pass
		Main bldg./ Boiler room/above make up tank	#33		In-Premises Protection	14-Jun-21	Pass
		Main bldg/ inside chemical room/south wall/west of food processing area	BJ38F2	food processing	In-Premises Protection	14-Jun-21	Pass
		Main building/Engine room/NW corner/lower assembly	MI-2769		Premises Isolation	14-Jun-21	Pass
		Main building/Engine room/NW corner/upper Assembly	LA1990		Premises Isolation	14-Jun-21	Pass
		Pautzke Building/northwest area of building/west wall	278475	vehicle wash hose bib	In-Premises Protection	14-Jun-21	Pass
		Pump house #2/north side of freezer on 5th Ave	A00318	Fire Dept. Connection	Premises Isolation	14-Jun-21	Pass
		Pump house #2/north side of freezer on 5th Ave	9706051350	Fire Dept. Connection	Dedicated Fire Line	14-Jun-21	Pass
		Treatment plant (Canyon Rd)) E parking lot by H2O meter	465527		Premises Isolation	14-Jun-21	Pass
		Valve house #3/east side of freezer on Kittitas St.	A1507	Fire Dept. Connection	Dedicated Fire Line	14-Jun-21	Pass
		Valve house #3/east side of freezer on Kittitas St.	B44670B	Fire Dept. Connection	Dedicated Fire Line	14-Jun-21	Pass
TWP Properties LLC	503 N Railroad Ave, Ellensburg	southwest corner of building	A374468		In-Premises Protection	08-Apr-21	Pass
Tyler Glahn	409 N Water St, Ellensburg	NW corner of lot by alley	31487	Irrigation w/o Chemicals	In-Premises Protection	26-Aug-21	Pass

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Facility Name	Facility Address	Device Location	Serial No	Hazard Type	Protection Type	Test Date	Pass/Fail
Tyler Matthews	2301 N Ellington St, Ellensburg	N side of house	205402	Irrigation w/o Chemicals	In-Premises Protection	09-Jun-21	Pass
Tyler McDonald	610 S Pine St, Ellensburg	NW corner of front yard	W01911	Irrigation w/o Chemicals	In-Premises Protection	28-May-21	Pass
Tyler Roberts	207 W Hailey Ct., Ellensburg	South side/near meter	A060156		In-Premises Protection	04-Aug-21	Pass
Tyler Te	2217 Abbey Glen Ct, Ellensburg		southwest corner of property		B11671	In-Premises	16-Mar-21
Pass					Protection		
Unetta Townsend	805 S Magnolia St, Ellensburg	front yard/4 feet south of driveway	2585547		In-Premises Protection	12-Jul-21	Pass
United Methodist Church	210 N Ruby St, Ellensburg	210 N Ruby W side of bldg	998693	Irrigation w/o Chemicals	In-Premises Protection	05-Jun-21	Pass
United Rentals	501 S Main St, Ellensburg	West interior wall	A499370		Premises Isolation	07-Dec-21	Pass
University Auto Center	1817 SR 97, Ellensburg	East wall in auto repair shop	J05759	Fire Dept. Connection	Dedicated Fire Line	25-May-21	Pass
		near lunch room/backroom under stairs	2730238	Premise Isolation	Premises Isolation	25-May-21	Pass
University Court Apartments	2102 N Walnut St, Ellensburg	North entrance to apartment W side of driveway/near hydrant	1553232	Irrigation w/o Chemicals	In-Premises Protection	17-May-21	Pass
University Place Condominiums	209 E 18th Ave, Ellensburg	On 18th just W of entrance/near meter	2637538	Irrigation w/o Chemicals	In-Premises Protection	24-May-21	Pass
US Bank	500 N Pearl St, Ellensburg	East side of building /in flower bed/north of entrance sidewalk	615949	Irrigation w/o Chemicals	In-Premises Protection	12-Jul-21	Pass
Utopia Frozen Yogurt	706 E University Way, Ellensburg	kitchen/ west wall	3254394		Premises Isolation	18-Jun-21	Pass
Valley Heating	902 N Enterprise Way, Ellensburg	Main level/North side in kithen /under sink	A85962		Premises Isolation	07-Dec-21	Pass
Valley Psychological Services	2109 W Dolarway Rd, Ellensburg	East side of west driveway in planter area	A84571		In-Premises Protection	16-Jun-21	Pass
		west end of main hallway/behind desk	3036216		Premises Isolation	16-Jun-21	Pass

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Facility Name	Facility Address	Device Location	Serial No	Hazard Type	Protection Type	Test Date	Pass/Fail
Valley Supply Co	404 Railroad Ave, Ellensburg	Under bathroom sink	A499385		Premises Isolation	20-Jul-21	Pass
Valley Veterinary Hospital	2090 Vantage Hwy, Ellensburg	Mech room down hall on left	26019		Dedicated Fire Line	23-Feb-21	Pass
		Mech room down hall on left	170029		Premises Isolation	23-Feb-21	Pass
		Under window 20" W of front door	393912		In-Premises Protection	15-Apr-21	Pass
Valley Vision	2201 W Dolarway Rd, Ellensburg	Exam room #6 in cabinet under sink	W183763		Premises Isolation	24-Feb-21	Pass
		north side/middle of buiding in valve box	A18103		In-Premises Protection	17-May-21	Pass
Valvoline	101 S Main.St, Ellensburg	NW corner of building	DA3520		In-Premises Protection	25-Aug-21	Pass
		NW corner of building	DA3520		In-Premises Protection	29-Aug-21	Pass
Van Smith	510 W 14th Ave, Ellensburg	east side of house behind gate	396874		In-Premises Protection	10-May-21	Pass
Vania Swanson	1506 E Seattle AV, Ellensburg	Northeast corner of lot	A125355		In-Premises Protection	16-Aug-21	Pass
Verne & Linda Wood	1100 S Rosewood Dr, Ellensburg	front yard	AJ8960	Irrigation w/o Chemicals	In-Premises Protection	04-May-21	Pass
Victoria Callfas	307 W Helena Ave, Ellensburg	E side of house	3333058		In-Premises Protection	07-May-21	Pass
Victoria Perkis	1116 E Hobert Ave, Ellensburg	front yard, under tree	743178	Irrigation w/o Chemicals	In-Premises Protection	19-Apr-21	Pass
Villa Normandy Apartments	1520 Brook Ct, Ellensburg	Main Floor/SW corner mechanical room/west wall	26494		Dedicated Fire Line	08-Jul-21	Pass
Vince Nethery	804 N C St, Ellensburg	804 C St. basement	38357	Irrigation w/o Chemicals	In-Premises Protection	25-Jun-21	Pass
Vogt Wilkison	1100 S Rosewood Dr, Ellensburg	front yard	AK9772	Irrigation w/o Chemicals	In-Premises Protection	17-May-21	Pass

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Facility Name	Facility Address	Device Location	Serial No	Hazard Type	Protection Type	Test Date	Pass/Fail
WA State DOT	749 W University Way, Ellensburg	south wall / west end of building (storage/mech.room)	054346	Pressure washer	Premises Isolation	05-Jun-21	Pass
Wade R. Stacy	2210 N Spar Ln, Ellensburg	front yard /next to meter	A121360	Irrigation w/o Chemicals	In-Premises Protection	04-Jun-21	Pass
Walnut Arms Apts	701 E 6th Ave, Ellensburg	Basement/eastside boiler room/south side of boiler	336731	Boiler Feed Lines	In-Premises Protection	17-Dec-21	Pass
Walter Haberman	1101 E Umptanum RD, Ellensburg	10' southeast of southeast corner of house	A794024-3627		In-Premises Protection	07-May-21	Pass
Walter Nienow	1100 S Rosewood Dr, Ellensburg	NW corner of front yard	700563	Irrigation w/o Chemicals	In-Premises Protection	06-May-21	Pass
Waqar Sheikh	701 N Pine St, Ellensburg	Basement/west end of building/north wall	W375913		In-Premises Protection	10-Jun-21	Pass
		SW corner of bldg	596193	Irrigation w/o Chemicals	In-Premises Protection	10-Jun-21	Pass
Ward Rugh Inc.	710 W 8th Ave, Ellensburg	Bldg #5 /SW corner break room/ inside lower-east kitchen cabinet	3366818	Premises Isolation	Premises Isolation	07-Dec-21	Pass
		In cabinet S bathroom wall in SW corner of bldg #2	3813120	Premises Isolation	Premises Isolation	07-Dec-21	Pass
Wayne Geiger	306 N Sampson St, Ellensburg	NE corner of house/inside gate	A66887	Irrigation w/o Chemicals	In-Premises Protection	28-Jun-21	Pass
Wayne Goding	1904 Yew St, City of Ellensburg	SW corner	36360		In-Premises Protection	19-Jun-21	Pass
Wayne Self Pass	1707 Bridgewood Ln, Ellensburg		side yard though north gate		024148 Protection	In-Premises	11-Jun-21
Wayne Smith	807 S Magnolia St, Ellensburg	5" north of driveway	2585399		In-Premises Protection	28-Apr-21	Pass
Webb Power Sports	2306 W Dolarway, Ellensburg	Gravel area in south parking lot	A506398		In-Premises Protection	18-May-21	Pass
		South wall of parts dept	A465640		Premises Isolation	23-Mar-21	Pass
	2310 W Dolarway, Ellensburg	Center of E wall of center island	A505807		Premises Isolation	23-Mar-21	Pass

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Facility Name	Facility Address	Device Location	Serial No	Hazard Type	Protection Type	Test Date	Pass/Fail
Webb Power Sports	2310 W Dolarway, Ellensburg	Center of south exterier wll	A505786		In-Premises Protection	18-May-21	Pass
Wells Equipment Co	3110 Beech Rd, Ellensburg	NE side of property/near meter /in box	2969106		Premises Isolation	10-May-21	Pass
Wells Fargo Bank	104 E 4th Ave, Ellensburg	basement/boiler room east wall	A41552	Boiler Feed Lines	In-Premises Protection	07-Jun-21	Pass
Wendy Fischer	1101 E Umptanum, Ellensburg	north side of house	A359128		In-Premises Protection	06-Apr-21	Pass
Wendy Mahoney	1103 E Spokane Ave, Ellensburg	front yard	1994365	Irrigation w/o Chemicals	In-Premises Protection	26-Jun-21	Pass
Wendy's	1510 S Canyon Rd, Ellensburg	South wall/kitchebn prep area/below hot water on shelf	122774	Premise Isolation	Premises Isolation	23-Aug-21	Fail/Pass
		West side of building /near meter/between sidewalk and driveway	42505		In-Premises Protection	23-Aug-21	Pass
		West wall/kitchen prep area/outside of cooler/ground level	174726	Beverage Dispenser with CO2	In-Premises Protection	23-Aug-21	Pass
Wesley Townley	1609 E Sparrow Knoll AV, Ellensburg	West side 15' from SW corner	A586314-3169		In-Premises Protection	20-Aug-21	Pass
West Side Pizza	301 S Main St, Ellensburg	North of back door	A508087		Premises Isolation	06-May-21	Pass
		Under counter by pop machine	434160		In-Premises Protection	27-Aug-21	Pass
Western Plaza Building	208 W 9th Ave, Ellensburg	SW corner of bldg/ on Water St	158827	Irrigation w/o Chemicals	In-Premises Protection	25-May-21	Pass
Whipsaw Brewery	704 N Wenas St, Ellensburg	East side of bldg.	147962	Irrigation w/o Chemicals	In-Premises Protection	25-Jun-21	Pass
		NE corner of brew room over sink Pass			A481263	Premises Isolation	16-Mar-21
Wild Goose Casino	1600 Currier St, Ellensburg	NW corner of parking lot in field	222710		In-Premises Protection	25-Jun-21	Pass

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Facility Name	Facility Address	Device Location	Serial No	Hazard Type	Protection Type	Test Date	Pass/Fail
Wild Goose Casino	1600 Currier St, Ellensburg	storage room/east wall	46093	Premise Isolation	Premises Isolation	25-Jun-21	Pass
Wild Huckleberry	105 W 3rd AV, Ellensburg	Kitchen south of door from bar/service area	39552	Beverage Dispenser w/o CO2	In-Premises Protection	01-Feb-21	Pass
		Kitchen south of door from bar/service area	39552	Beverage Dispenser w/o CO2	In-Premises Protection	07-Oct-21	Pass
William Cutlip	1502 Skyline Dr, Ellensburg	north side/near meter	19463	Irrigation w/o Chemicals	In-Premises Protection	26-May-21	Pass
William Davis	811 E Mtn View AV, Ellensburg	6" North of meter by driveway	A534782-3154		In-Premises Protection	04-Aug-21	Pass
William Everett	1100 S Rosewood Dr, Ellensburg	front yard	179440	Irrigation w/o Chemicals	In-Premises Protection	17-May-21	Pass
William Finch	605 W Lilac WAY, Ellensburg	East of house in back yard	A353564		In-Premises Protection	09-Jun-21	Pass
William G Johnsen	103 N Ruby St, Ellensburg	West side /under porch	A773632		In-Premises Protection	14-May-21	Pass
William Green	201 W Maci Ct, Ellensburg	front yard /next to water meter	2808437		In-Premises Protection	21-May-21	Pass
William Moran	104 E 17th Ave, Ellensburg	NW side of house/front yard	45936		In-Premises Protection	04-Aug-21	Pass
William Myers	1507 E Spokane Ave, Ellensburg	Front yard next to driveway	A297450		In-Premises Protection	20-May-21	Pass
William Phillip DDS Isolation	201 E Mtn View Ave, Ellensburg 08-Dec-21	Pass	basement /south wall		A56105	Premise Isolation	Premises
		SW corner of bldg /near tree	H321254	Irrigation w/o Chemicals	In-Premises Protection	10-May-21	Pass
William Reagan	1100 S Rosewood Dr, Ellensburg	front yard/in bushes	410268	Irrigation w/o Chemicals	In-Premises Protection	05-May-21	Pass
William Weir	1009 E 3rd Ave, Ellensburg	back yard /middle of lawn	10661	Irrigation w/o Chemicals	In-Premises Protection	04-May-21	Pass
Willow Condos	501 E Mt View Ave, Ellensburg	Center court yard/inside gate of unit #4	016796	Irrigation w/o Chemicals	In-Premises Protection	27-May-21	Fail/Pass

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Facility Name	Facility Address	Device Location	Serial No	Hazard Type	Protection Type	Test Date	Pass/Fail
Willow Glen HOA/Micah Brunner	1103 E Spokane Ave, Ellensburg	by tennis court/north of gazebo/south sidewalk	29608	Irrigation w/o Chemicals	In-Premises Protection	13-Apr-21	Pass
		next to 1103 E Spokane/ south end of bike path	65677	Irrigation w/o Chemicals	In-Premises Protection	13-Apr-21	Pass
		On Willow St between Hobert & Spokane by meter box	65726	Irrigation w/o Chemicals	In-Premises Protection	14-Apr-21	Pass
Windermere Real Estate	808 S Main St, City of Ellensburg	SE of Bld 20' by Meter	3749556		Premises Isolation	18-May-21	Pass
Windsor Park LLC	401 E Cherry Ln, Ellensburg	East of parking lot entry from Cherry Lane/ between sidewalk and building/near meter (east assembly)	3375002		Premises Isolation	17-May-21	Pass
		East of parking lot entry from Cherry lane/between sidewalk and building/near meter(west assembly)	3329871		Premises Isolation	17-May-21	Pass
		SW corner of property/near sidewalk	3220121		In-Premises Protection	17-May-21	Pass
Windy Chevrolet	1008 S Canyon Rd, Ellensburg	inside bay of car wash area	268494	Pressure washer	In-Premises Protection	06-Apr-21	Pass
		South corner next to air conditioner	A523190		In-Premises Protection	06-Apr-21	Pass
Winegars	1013 E University Way, Ellensburg	East wall under counter	27910	Beverage Dispenser w/o CO2	In-Premises Protection	07-Dec-21	Pass
	111 E University Way, Ellensburg	NE corner of NE room	035346	Premises Isolation	Premises Isolation	12-Jan-21	Pass
		Under pop machine N wall of service area	W404378	Beverage Dispenser with CO2	In-Premises Protection	13-Jan-21	Pass
Wing Central	1801 N Walnut ST, Ellensburg	Norh side of kitchen/below hand sink	135326	Beverage Dispenser with CO2	In-Premises Protection	08-Dec-21	Pass
		Norh side of kitchen/below hand sink	135326	Beverage Dispenser with CO2	In-Premises Protection	13-Jan-21	Pass

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Facility Name	*Facility Address*	*Device Location*	*Serial No*	*Hazard Type*	*Protection Type*	*Test Date*	*Pass/Fail*
Wipple Station	408 S Main St, Ellensburg	South wall/ behind kitchen sink	306128		Premises Isolation	08-Dec-21	Pass
WKM Properties LLC	904 Juniper Ave, Ellensburg	SE side of front yard/ near patio door	B09808		In-Premises Protection	26-May-21	Pass
WMS Acquisitions LLC	204 W 26th Ave, Ellensburg	North side of house/near door	440886		In-Premises Protection	22-May-21	Pass
Wood Products Northwest	407 S Water St, Ellensburg	Fire sprinkler room/west wall	U04077	Fire Dept. Connection	Dedicated Fire Line	10-Jun-21	Pass
Work Source & People for People	309 E Mtn View Ave, Ellensburg	Janitors closet/south wall/mens restroom	2759937		Premises Isolation	22-Dec-21	Pass
Yakima Federal Savings Bank	201 E 5th Ave, Ellensburg	east side of building facing parking lot	13454	Irrigation w/o Chemicals	In-Premises Protection	25-May-21	Pass
Yellow Church Cafe	111 S Pearl St, Ellensburg	South side of bldg/ in flower bed	HF53706	Irrigation w/o Chemicals	In-Premises Protection	14-May-21	Pass
Yvonne Chueh Premises	604 W Ridgeview Ln, Ellensburg 02-Jul-21	NE corner of house-back yard /near fence	HA 21103	Irrigation w/o Chemicals	In-Premises Protection		Pass
Zachary Trout	1906 E 14th Ave, Ellensburg	NE corner near fire hydrant/front yard	42543	Irrigation w/o Chemicals	In-Premises Protection	24-May-21	Pass
Zoe Zhou	1508 E Seattle Ave, Ellensburg	west side of house/next to heat pump	A103549		In-Premises Protection	19-Aug-21	Pass

Appendix G
O&M Manual

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City of Ellensburg
WASHINGTON

Water System Operations & Maintenance Manual

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SECTION I

INTRODUCTION

This Operation and Maintenance (O & M) Manual has been prepared by City of Ellensburg Water Division personnel to provide guidelines for the operation and maintenance of the Ellensburg water system.

This document is not cast in concrete; it is intended to be flexible and changeable. Daily, situations will occur which will call for the seasoned judgment of experienced personnel.

No operations manual can have unbendable rules. Each employee is required to use his or her best judgment in carrying out their responsibilities.

This manual is to be used in conjunction with the approved water system plan for the City of Ellensburg and with the documents listed in the reference section.

SECTION II

PURPOSE

This Operations Manual has two intended purposes.

It is intended to fulfill the basic requirement of state law which requires a water utility to have an O & M manual. But of equal importance, it is intended that this manual will be used as a learning tool for beginning employees, who are being trained in system operations, as well as a guide to the more experienced employee who is carrying out his or her daily tasks.

SECTION III

ORGANIZATION

3.1 GENERAL INFORMATION

The organization charts shown as Figure 3.1 and Figure 3.2 show how the City of Ellensburg is organized and how the Water Department fits within that framework.

The citizens of Ellensburg elect the City Council who are the legislative leaders of the City. The Council sets the policy direction for the City and authorizes the annual budget for the City. They hire the City Manager.

The City Manager's primary responsibility is to implement Council policy and to prepare the annual budget for the City Council. The City Manager is also responsible for hiring employees.

The departments of Parks & Recreation, Public Works, Finance, Planning, Library, Police, and Energy Services each have a department head who reports directly to the City Manager.

The Director of Public Works is responsible for budget preparation and long range planning for the water department. Together with the Assistant Public Works Director and the Water Foreman, this position develops the annual work plan for the department.

The Assistant Public Works Director is responsible for following all local, state, and federal requirements for annual water system sampling and testing.

The Water Foreman is responsible for implementation of the work plan and providing the crew members with the necessary materials, equipment and training to complete the tasks assigned. Each crew member is responsible for following direction given by the Foreman and perform the work individually or with others to form a team, depending on the task.

The Engineering Department provides technical assistance to the Water Department as needed and prepares construction drawings for all system expansion projects authorized by the Director.

The Operation Analyst provides administrative support for the Water Department, running payroll, providing bid calls, maintaining records, etc.

The duties and responsibilities listed in Table 3.1 provide a brief overview of the major division of responsibilities. It is the policy of the department to have as much cross training as possible between positions; and to that extent, the City will provide training opportunities as they are made available.

3.2 CERTIFICATION

Ellensburg, with a population of 18,320 people and 5,435 service connections, requires that a Group III certified operator be in responsible charge of system operations. The state requirement is currently being met in the Foreman's position which must be, and currently is, certified. The City is also required to have an operator certified in cross connection control to manage the City's cross connection control program.

3.3 PROFESSIONAL GROWTH

The Department of Health requires certified operators to demonstrate continued professional growth in the waterworks field. To demonstrate professional growth, each certified operator must accomplish one of the following activities every three years:

A) Accumulate a minimum of three continuing education units (CEU's) or college credits relevant to the profession.

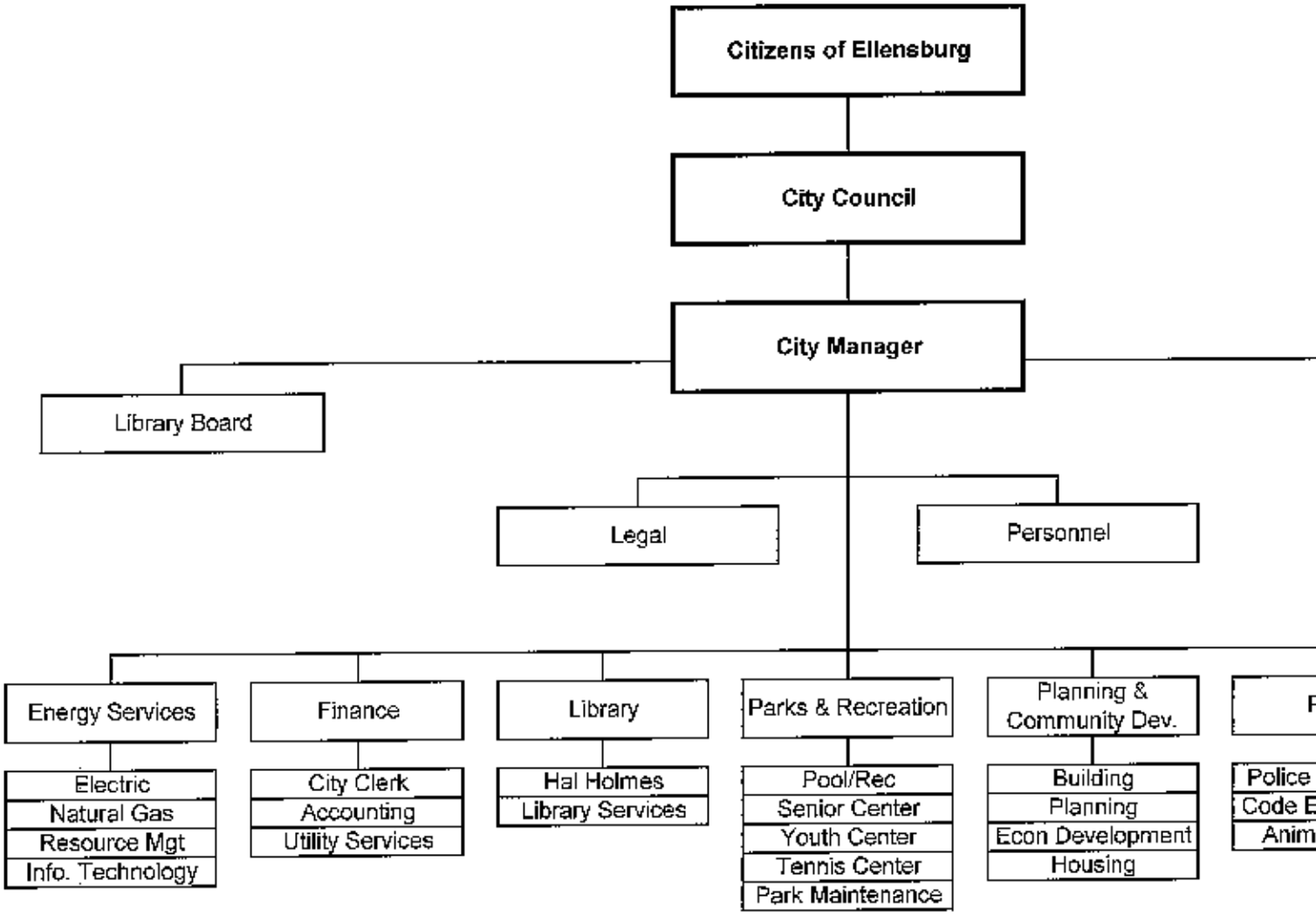
B) Advance by examination in the Waterworks Certification Program to a group 2, 3, or 4, or achieve certification by exam in a different classification, such as Water Distribution Manager, Water Distribution Specialist or Cross Connection Control Specialist.

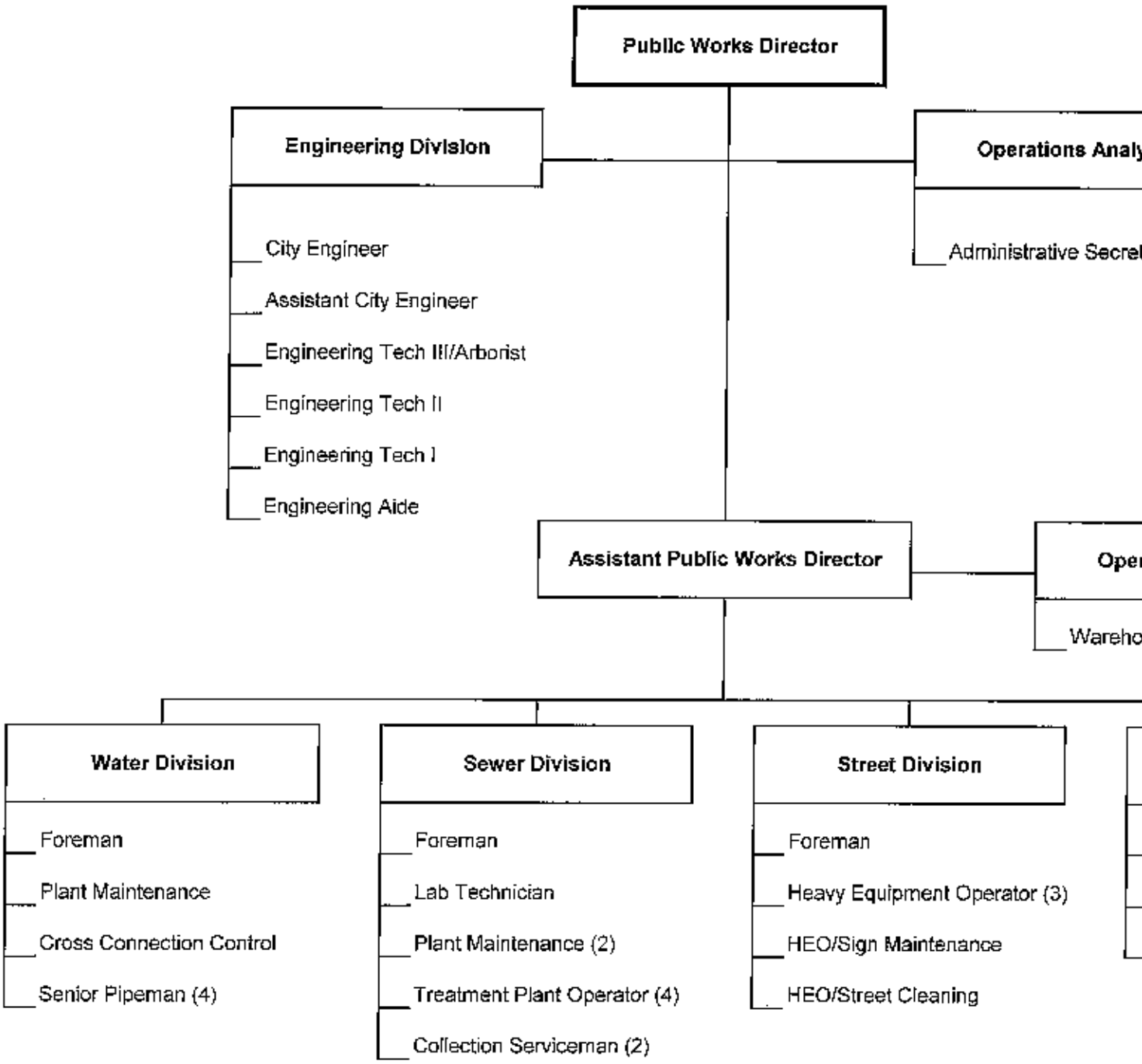
The City encourages all employees in the water utility and sponsors attendance at seminars and classes to improve their training and education as well as maintain their certification.

TABLE 3.1

Personnel Duties and Responsibilities

Director of Public Works	Annual Budget Capital Improvement Planning Capital Plan Implementation Annual Work Planning Public and Press Contacts
Assistant Public Works Director	Emergency Response Annual Budget Capital Improvement Planning Annual Work Planning State & Federal Compliance Issues
Operation Analyst	Administrative Support Records
Foreman (Certification Required) (WDM Group III)	Emergency Response Annual Work Plan Work Plan Implementation Trouble Reports Records Large Meter Test & Repair Program
Cross Connection Control (CCS & BAT Certified)	Cross Connection Control Program
Plant Maintenance	Source Maintenance Water Quality Monitoring Troubleshooting
Senior Pipeman (Service Crew)	New Service Installation Leak Detection and Repair Fire Hydrant Maintenance Valve Exercising Program Pipeline Installation
Engineering Division	Design Services Construction Engineering Bid Calls Permits Records


Citizens of Ellensburg
City Council
City Manager
Library Board
Legal
Personnel
Energy Services
Electric
Natural Gas
Resource Mgt
Info. Technology
Finance
City Clerk
Accounting
Utility Services
Library
Hal Holmes
Library Services
Parks & Recreation
Pool/Rec
Senior Center
Youth Center
Tennis Center
Park Maintenance
Planning & Community Dev.
Building
Planning
Econ Development
Housing
Police
Code E
Anim


Public Works Director
Engineering Division
City Engineer
Assistant City Engineer
Engineering Tech III/Arborist
Engineering Tech II
Engineering Tech I
Engineering Aide
Operations Analy
Administrative Secret
Assistant Public Works Director
Oper
Wareho
Water Division
Foreman
Plant Maintenance
Cross Connection Control
Senior Pipeman (4)
Sewer Division
Foreman
Lab Technician
Plant Maintenance (2)
Treatment Plant Operator (4)
Collection Serviceman (2)
Street Division
Foreman
Heavy Equipment Operator (3)
HEO/Sign Maintenance
HEO/Street Cleaning

SECTION IV

SYSTEM OPERATIONS

The water system is a series of individual components (pumps, motors, reservoirs, etc.), covering both a high and low pressure zone, each of which is maintained as a separate unit but which operates as an integral part of the entire water system to provide reliable pressure, fire flows, and disinfection. Each component of the system is briefly discussed here. To locate a particular system component, the reader is referenced to either Figure 1 in the Water System Plan or the current set of water system operations maps in service.

In order to operate the water system, a set of system maps is kept current by the Engineering Department. Each Water Department vehicle, the Assistant Public Works Director's office, the Foreman's office, and the Engineering Department is provided with a current updated set of maps.

Major system components are the water sources (wells), transmission line, distribution system, reservoirs, booster station, transfer station, telemetering system, and emergency generators.

The telemetering system monitors the water level in the reservoirs and automatically turns on and off at the various source locations based on the level of the reservoir. The booster station and transfer station help regulating water level in the high pressure zone. The transmission and distribution systems move the water from the source to the reservoir and to the customers.

Small components of the system, but not unimportant, include valves, hydrants, and meters. Each component of the system is reviewed.

4.1 SOURCE

The City utilizes two water sources. City Wells located six miles west of town is an infiltration gallery system. Rodeo, Memorial, Kiwanis, Whitney, Mt. Stuart, Airport, and Brooklane well (May 1st - Oct 1st) are located within the City limits. Both Airport and Brooklane well are located within the high pressure zone.

4.1.1 CITY WELLS

City Wells, located six miles west of Ellensburg and adjacent to the Yakima River, consists of a pump house constructed over a large wet well. It contains one vertical turbine pump, a motor control center and a chlorination system. The wet well is fed by 30" diameter perforated concrete pipe laid in the shallow gravel adjacent to the Yakima River.

The Pump is turned on and off as signaled by the telemetering system based on the water level in the reservoir. The motor control is run with a Variable Frequency Drive (VFD) that slows the pumping rate if the well is drawn down due to an inadequate water supply at certain times of the year.

Chlorination is directly added to the wet well and is fed on demand, based on the starting and stopping of pumps.

An emergency generator is located at the site. When power is lost, an alarm activates and water personnel respond to the site and activate the emergency generator which will run the pump for approximately 48 hours on a single tank of fuel.

The station is visited daily.

Installed major equipment includes:

(a) Square D Motor Control Center
(b) Wallace and Tiernan Chlorination
(c) 1 – 12" Vertical Turbine Pump (1 Spare)
(d) 1 150HP Electrical Motor (1 Spare)
(e) 100HP Electric Motor
(f) Wallace and Tiernan Fluoridation Equipment
(g) Hach 1720C Turbidimeter (wet well)
(h) Hach Surface Scatter 6 Turbidimeter (river)
(i) 250KW Emergency Generator (Caterpillar)

Operation tasks are:

(a) Visual check of all equipment
(b) Check motors for oil leaks, heat, vibrations and amps
(c) Check wet well level
(d) Check chlorinator and change tanks as required
(e) Record hours pumps ran and gallons pumped
(f) Check fluoride equipment and adjust feed rate
(g) Calibrate monthly

A sample checklist to be completed by the operator is included in Appendix A.

A 250KW Caterpillar emergency generator is wired into the motor control center at City Well. This generator needs to be started when there is a power outage. It does not start automatically because the well may not need to run. This generator is started weekly and serviced completely annually.

4.1.2 MOUNT STUART WELL

Mount Stuart Well consists of a pump house over a 1,200 foot deep well.

Installed major equipment includes:

(a) 850 GPM; Worthington Vertical Turbine Pump
(b) 290' 10" Pump Column
(c) 200HP 3 phase Electric Motor (drawing approx. 100HP)
(d) Chlorinator
(e) MCC
(f) 2 Clay-Valves
(g) Flow Meter
(h) LMI fluoride saturator and feed pump

The pump is connected to the telemetering system and is normally run on automatic. It can be run manually if required. The chlorinator and Fluoridation equipment responds automatically to pump start and stop. Upon pump start up, one Cla-Valve is open to waste; and the other is closed against the system. The unit pumps to waste for five minutes; then the Cla-Valve slowly closes as the other slowly opens. The station is visited daily by a Pump Maintenance Person.

Operation tasks are:

(a) Visual check of all components
(b) Amp readings on all motor current legs
(c) Water level in well column
(d) Record hours pump ran
(e) Record flow
(f) Check chlorinator feed rate and change cylinders as necessary
(g) Check fluoride feed rate, add fluoride if required

A log sheet is maintained by the Pump Maintenance Person similar to the one for City Wells shown in Appendix A.

4.1.3 RODEO WELL

Rodeo Well consists of a pump house protecting a 1,210 foot deep well.

Installed major equipment includes:

(a) 850 GPM; Peerless Vertical Turbine Pump
(b) 170' 8" Pump Column
(c) 75HP V.S. Electric 3 Phase Motor
(d) Chlorinator
(e) Motor Control Center
(f) 2 Clayton Valves
(g) Flow Meter
(h) De-Sander
(i) Fluoride saturator and feed pump

Operation tasks and procedures are identical to those described for Mount Stuart Well 4.1.2.

4.1.4 MEMORIAL WELL

Memorial Well consists of a pump house protecting a 300 foot deep well.

Installed major equipment includes:

(a) 500 GPM; Berkley Submersible Pump
(b) 150' Pump Column
(c) 40HP Franklin Submersible Motor
(d) Chlorinator
(e) Electric Panel
(f) 2 Cla-Valves
(g) Flow Meter
(h) Fluoride saturator and feed pump

This is a simpler installation than the other deep wells, but the operational checks are the same. This is the only submersible motor installation the City has.

Because the characteristics of submersible motors are different from standard motors, special overload protection is required. Only quick trip heaters can be used, otherwise damage may result to the motor windings. If a heater needs replacing, replace in kind or use the table affixed to the electrical panel in the pump house.

4.1.5 WHITNEY PARK WELL

The Whitney Park Well consists of a concrete block pump house over a 760 foot deep well.

Installed major equipment includes:

(a) 850 GPM Worthington Vertical Turbine Pump
(b) 240' of 8" Pump Column
(c) 100HP V.S. Electric Motor
(d) Chlorinator
(e) Motor Control Center
(f) 2 Bailey Control Valves
(g) Fluoride Saturator and Feed Pump
(h) Flow Meter

Operational tasks are the same as described for Mount Stuart Well 4.1.2.

4.1.6 KIWANIS PARK WELL

The Kiwanis Park Well consists of a concrete block pump house over a 700 foot deep well.

Installed major equipment includes:

(a) 850 GPM Worthington Vertical Turbine Pump
(b) 240' of 8" Pump Column
(c) 100HP V.S. Electric Motor
(d) Chlorinator
(e) Motor Control Center
(f) 2 Bailey Control Valves
(g) Fluoride Saturator and Feed Pump
(h) Flow Meter

Operational tasks are the same as described for Mount Stuart Well 4.1.2.

4.1.7 AIRPORT WELL

The Airport Well consists of a wood framed pump house over a 730 foot deep well.

Installed major equipment includes:

(a) 650 Byron Jackson V.T.P.
(b) 282' 6" Column
(c) 100HP GE Motor
(d) Chlorinator
(e) Motor Control Center

(f) Fluoride Saturator and Feed Pump
(g) Flow Meter

Operational tasks are the same as described for Mount Stuart Well 4.1.2.

4.2 BOOSTER STATION

There is one booster station in the system which pumps water from the low pressure zone to the high pressure zone.

The installation is in a concrete vault at 11th Avenue and Brooklane and is a duplex installation of two Aurora 4x5x10" pumps which are driven by variable frequency drives, controlled manually or by telemetry. Motors are 75HP, 460 GE units. Each unit can pump from 0 to 850 GPM. Both units running can supply 1700 GPM at 100 PSI for fire flows.

The site is visited weekly. Operation checks include:

(a) Visual check of all components
(b) Amp readings on motor current legs
(c) Record hours run

There is a 100KW/75HP Cummins engine emergency generator connected to the frequency control center at located at the booster station. It is started weekly and is completely serviced annually.

4.3 TRANSFER STATION

Located at 18th Avenue and Alder Street, is a vault with a 12" Cla-Valve which allows water to be transferred from the high zone to the low zone. Operation of this transfer valve is determined by the water level of the Airport Reservoir, but will not open if the Booster Station is pumping water from the low zone to the high zone.

4.4 TRANSMISSION SYSTEM

The transmission system consists of a single 24" concrete cylinder pipe line from City Wells to the City along Dry Creek Road into the City along 15th Avenue. No operational procedures are required for the transmission main other than opening and closing of valves during emergencies.

The valves are too large to close manually, and an electric driver gear motor is used. **No employee shall close a transmission line valve without prior training from an experienced employee.** Each main valve is by-passed by a 4" valved line. Before closing a valve, the pumps at City Wells should normally be turned off; and then the valve slowly closed. During normal valve exercising, it will then be slowly opened.

If the main is to be worked on or drained, then the bypass is closed. After the main in isolated, the line is drained, using one of the blow-offs.

When an isolated section is brought back into service, the bypass valves are opened with the blow-off opened to expel air. After the blow-off is flowing full and the isolated section is filled, the main valves are then opened slowly and fully. **CAUTION:** They are always opened last. The blow-off is then closed.

The air vac valves on the transmission systems are discussed in the preventative maintenance section.

4.5 RESERVOIRS (CRAIG'S HILL & AIRPORT)

The 4 MG Reservoir located on Craigs Hill, and the 1 MG Reservoir located at the Airport, are passive portions of the distribution system, filling and emptying on demand and as the pumps run.

There are no operational requirements for the reservoirs. They provide the input to the telemetry system, which senses the reservoir levels. Based on the settings of the telemetry system, as the reservoir levels drops, pumps are signaled to begin operation; and as the reservoir level rises, pumps are then shut off.

4.6 TELEMETERING SYSTEM

The telemetry system is located at the Shop & Warehouse in the Pump Maintenance person's office where it receives signals over a telephone line from the pressure transducer at the reservoirs. The telemetry system is run by a computer running Wonderware software. Current, historical, and alarm data are all recorded on the system.

The list below highlights a few of the features recorded and logged by the telemetry system:

(a) Records reservoir levels
(b) Provides automatic start and stop of all pumps based on preset reservoir levels

(c) Provides an alarm when a pump does not start after being called
(d) Provides an alarm when a telephone circuit is interrupted
(e) Provides a motor fault alarm from the Vuecrest Booster Station. (#10)
(f) Provides high and low pressure alarms based on the reservoir level
(g) Provides a water level recording of the wet well at City Wells and provides a low level alarm at the control panel

4.7 DISTRIBUTION SYSTEM

The distribution system consists of cast iron, ductile iron, with a small amount of asbestos cement, steel and plastic pipes. Current installations are ductile iron. The system is generally passive, with little to do in the way of operations.

Operationally, the system is operated with all valves open, except for valves **specifically noted on the water system maps.**

There are several dead ends in the system which must be flushed periodically to prevent the water from becoming stagnate. The Foreman maintains a list of dead ends. Dead ends are flushed two times annually (Spring & Fall) or if complaints are received.

Components of the distribution system are valves, hydrants, meters, etc. They are discussed separately under preventative maintenance.

SECTION V

PREVENTATIVE MAINTENANCE

The system components described in Section IV, require periodic maintenance to continue operating economically over their life span. Operations and maintenance go hand-in-hand; sometimes we confuse one with another. There is no harm in doing that, provided all tasks are accomplished.

The descriptive tasks that follow are described as maintenance because of the nature of the work or the testing.

5.1 SOURCE

The primary equipment to be maintained is the chlorination and fluoridation equipment and the pumps.

5.1.1 PUMPS AND MOTORS

The pump at city well and in the deep wells are all vertical turbine pumps (Memorial Well is a submersible). Every 30,000 hours of running time, the pumps are to be pulled; and the impellers and end bearings inspected for wear. The column line shaft and line shaft bearings are also inspected for wear.

At the same time the pumps are sent out for rebuilding, the motors are sent out for rebuilding and repair to private companies.

5.1.2 CHLORINATION

Very little maintenance is required on the chlorination systems. When the daily checks are made and the cylinders changed, any problems with the chlorinator that are immediately evident are repaired by the maintenance person. A chlorination system could leak and SAFETY must be stressed.

Breathing chlorine gas can be fatal. Never enter the chlorine room unless the exhaust fan has been operated properly for two minutes or longer. Never enter the chlorine room alone and without an air pack if a leak is evident.

5.1.3 FLOURIDATION

Daily checks are made, and fluoride added as needed. Problems are identified by the maintenance person and corrected.

5.2 BOOSTER PUMP STATION

The station requires little, if any, maintenance. The weekly operational checks will detect any changes in running characteristics. Bearing life on the pumps is calculated in excess of 200,000 hours, and the motor control center requires only an annual cleaning for removal of dust.

5.3 RESERVOIR (CRAIG'S HILL)

The 4 MG steel tank was repainted on the inside in 1974 and cathodic protection installed in 1975. Preventative maintenance consists of:

(a) Visual inspection of interior in five-year intervals
(b) Annual O&M contract with Norton Corrosion for cathodic protection
(c) Paint outside of tank as needed for graffiti removal
(d) Inspect screens, overflow, hatch, locks and ladder on an annual basis

5.4 RESERVOIR (AIRPORT)

The 1 MG steel tank construction with cathodic protection in 2000. It was visually inspected in 2001. Preventative maintenance consists of:

(a) Visual inspection of interior in five-year intervals
(b) Annual O&M contract with Norton Corrosion for cathodic protection
(c) Paint outside of tank as needed for graffiti removal
(d) Inspect screens, overflow, hatch, locks and ladder on an annual basis

5.5 EMERGENCY GENERATORS

Both emergency generators (City Well and Booster Station) are started weekly by pump maintenance personnel, and serviced annually by shop maintenance personnel.

5.6 TELEMETER SYSTEM

The telemeter system is a Supervisory Control and Data Acquisition (SCADA) system that operates water sources, reservoirs, and booster station within the system. Each site has a remote transmitting unit (RTU) with the ability to contact the central control system at the City Shop. This is done via a leased telephone line modem connection.

5.7 DISTRIBUTION SYSTEM

Preventative maintenance of the distribution system consists of the following tasks:

(a) Leak detection and repair
(b) Hydrant testing and repair
(c) Valve exercising

(d) Cross connection device testing
(e) Meters
(f) Air/Vac valve maintenance

5.7.1 LEAK DETECTION

Some of the water distribution system is cast iron pipe with lead poured joints. There is a small amount of asbestos cement pipe, concentrated primarily in West Ellensburg and one large 16" diameter main in Capitol Avenue serving the reservoir. Water services are either galvanized, copper, CTS plastic or poly. Each of the materials has a different life span and some are ore susceptible to damage than others. A number of leaks are reported each year by citizens who observe water surfacing from the ground. Experience indicates there are more leaks underground which never surface. Detecting these subsurface leaks requires the use of a leak detector by trained personnel. The City also owns a Health Metrotech 480 leak detector that is used to help confirm leak locations.

The Assistant Public Works Director and Water Foreman are responsible for scheduling 25% of the system annually for leak detection. This is accomplished by using outside trained personnel and their detection equipment. The results of the survey are used to schedule a work plan for repairs during the year.

5.7.2 HYDRANT TESTING

There are 809 fire hydrants in the system.

The Water Department personnel exercise approximately 400 hydrants each year. When they discover a problem with a hydrant, they fill out a repair card and turn it into the Water Foreman. The hydrant is then scheduled for repair. The priority for repair is set by the Foreman.

The Foreman's office maintains the hydrant repair books and manufacturer's catalog. The Foreman is also responsible for ordering parts.

5.7.3 VALVE EXERCISING

There are more than 2,789 valves in the water system used for isolating sections of line. It is important that these be operable at all times. The valve inventory is maintained on a computer database by the Office Manager in the Engineering Department.

One half of all valves are exercised each year by locating the valve, then closing the valve and reopening the valve. The Foreman is responsible for assigning the task. The personnel

carry-out the assigned task, clean the valve box (if necessary), exercise the valve and note on the card any problems encountered. Any problems encountered are then scheduled for correction.

5.7.4 CROSS CONNECTION DEVICES

There are 2,253 backflow prevention assemblies/devices in the system. By type they are as follows:

(a)	DCVA	1413
(b)	DCDA	39
(c)	PVB	361
(d)	SVBA	3
(e)	RPBA	398
(f)	AIR GAP	39

Of the total, 239 assemblies/devices are installed on Central Washington University Campus.

A file is maintained for each assembly/device by the Cross Connection Control Specialist. Each assembly/device must be inspected and tested annually by a Washington State certified backflow assembly tester. The assemblies/devices on campus are inspected and tested annually by campus personnel who are certified by the State as Cross Connection Control Specialists. The campus engineering department certifies in writing annually the date of inspection and testing results of each device. The Cross Connection Control Specialist notifies the property owner in advance by mail, follows up on the notice and completes the necessary paperwork so the computerized database can be updated.

5.7.5 WATER METERS

There are 5,435 water meters installed in the system. The number of each size and the testing or replacement frequency are shown in Table 5.5.5.1. Meters of the 5/8" and 1" sizes are replaced every twelve and eight years respectively; they are not rebuilt. Replacement meters are purchased on a bid call, or through sole source resolution. Meters of the 1-1/2", and 2" size are maintained by Water Division personnel by testing and rebuilding the meters at their prescribed schedule.

Water Division personnel are responsible for assuring that each meter is tested or replaced and for competing paperwork to keep the meter records up to date. The meter inventory is kept on a computer database by the Operations Analyst.

TABLE 5.5.5.1

SIZE	NUMBER	TEST/REPLACE
5/8"	4,560	12 Years
1"	540	8 Years
1-1/2"	181	6 Years
2"	98	6 Years
3"	36	3 Years
4"	15	2 Years
6"	0	2 Years
8"	5	2 Years

5.7.6 AIR VAC ASSEMBLIES

There are eleven air vac valves in the system along the transmission line. Maintenance consists of a semi-annual inspection for leaks, by the Pump Maintenance Person. The valves are designed to operate until failure; then when a leak appears, they are rebuilt.

SECTION VI

MATERIALS AND EQUIPMENT INVENTORY

6.1 ROLLING STOCK

The Water Department rents its rolling stock from the Central Service Facility. The Water Department utilizes three pickups, two flatbeds, and two backhoes on a regular basis. Larger pieces of equipment (dump trucks, loaders, mini-hoe, vac-truck) require scheduling since they are available to all departments. A complete list is available in Appendix B.

6.2 SMALL EQUIPMENT

The Water Department has a variety of small equipment that it purchases and maintains on its own. This includes dewatering pumps, pipe cutters, shovels, wrenches, etc. A complete list is available in Appendix C.

6.3 SUPPLIES

Over 425 items of supply are maintained in inventory by the Warehouseman. It is the Foreman's responsibility to set stock quantities. The Warehouseman will maintain the inventory above minimum levels. The inventory of supplies with their re-order level is maintained on a computer database. A sample list is available in Appendix D.

6.4 CHLORINE

All orders are handled directly with the vendor. Chlorine is ordered on an as needed basis.

6.5 FLOURIDE

All fluoride is ordered by the Warehouseman and transported to the wells by the Pump Maintenance person.

6.6 TECHNICAL SPECIFICATIONS

All materials used in the delivery or production of water must meet the appropriate

AWWA Standard for that material. Only material meeting City of Ellensburg Standards shall be used. Any proposed change in materials shall be approved by the Assistant Public Works Director, and the Director of Public Works, after verifying that the material meets AWWA Standards and is suitable for the intended purpose. All new construction of water mains or main extensions shall be done in accordance with plans and specifications prepared by the Engineering Department or a consultant retained by the City. The City of Ellensburg's 2012 Development Standards shall be used as the general specifications for all new water main installations.

SECTION VII

WATER QUALITY MONITORING

7.1 GENERAL INFORMATION

To furnish consistently reliable potable water that meets State and Federal Drinking Water Standards, water samples must be regularly collected and analyzed at laboratories that have been certified by the State of Washington. Sample collection is a significant part of the Plant Maintenance person's duties and will continue to expand as sampling and testing requirements continues to grow to meet the requirements of State and Federal law.

The Safe Drinking Water Act continues to place new testing requirements on the water purveyor as rules are promulgated.

The testing and monitoring requirements outlined in this chapter are the current regulations as of this writing. These requirements will be out of date within the year and many times over during the six (6) year life of this manual. This operations manual, which is in loose leaf form, will be updated as needed and the reader is cautioned to make sure they are familiar with the most current standards.

The Plant Maintenance person and the Foreman must be well acquainted with WAC 246-290-300 in order to understand completely the monitoring requirements outlined in this chapter.

7.2 MONITORING PARAMETERS

Refer to WAC 246-290-300 and Table 7.1 when reviewing the monitoring requirements.

A. BACTERIOLOGICAL SAMPLES:

Twenty (20) samples per month are required from representative locations in the distribution system. The City of Ellensburg collects twenty (20) samples. Chlorine and Fluoride samples are taken simultaneously with the bacteriological samples.

B. INORGANIC CHEMICAL & PHYSICAL ANALYSIS (IOC):

Sample every source every three (3) years after treatment and prior to entry in the distribution system.

C. LEAD AND COPPER:

Lead and copper sampling is completed as directed by the Department of Health. The last set of thirty (30) was completed in July 2011. All samples passed the action limits. The results have been sent to the State.

D. NITRATE AND NITRITE:

A sample is required each year from each source, after treatment. Every third year, the sample may be combined with the inorganic chemical and physical analysis.

E. TURBIDITY:

City Wells is monitored continuously.

F. TRIHOLOMETHANES:

Two (2) samples are required each year (April & August). Samples shall be taken from the sites indicated on the Disinfection Byproducts Plan Map (Figure 7.4).

G. HALOACETIC ACIDS:

Two (2) samples are required each year (April & August). Samples shall be taken from the sites indicated on the Disinfection Byproducts Plan Map (Figure 7.4).

H. RADIONUCLIDES:

Each source needs to be tested every four (4) years for gross alpha particle activity and radium 226 and 228.

I. ORGANIC CHEMICALS (VOC & SOC):

The City currently has a waiver of these testing requirements.

J. ASBESTOS:

Asbestos monitoring is required by the Federal Clean Water Act, but waivers are provided for. Current sampling requirements are one (1) sample every nine (9) years.

K. UNREGULATED CONTAMINANTS (UCMR):

Every five years, in accordance with the Safe Drinking Water Act, the EPA identifies a new list of contaminants that are suspected to occur in public water systems and may warrant regulation.

TABLE 7.1
MONITORING LOCATION

SAMPLE TYPE	SAMPLE LOCATION
Asbestos	One (1) sample from distribution system or if required by department, from the source.
Bacteriological	From representative points throughout the distribution system.
Complete Inorganic Chemical	From a point as representative of the source after treatment, and prior to entry to the distribution system.
Lead/Copper	From the distribution system at targeted sample tap locations.
Nitrate/Nitrite	From a point representative of the source, after treatment and prior to entry to the distribution system.
Turbidity – Surface Water	From a location at or before the entry point to the distribution system.
Trihalomethanes	From representative points in the distribution system.
Haloacetic Acids	From representative points in the distribution system.
Radionuclides	From the source.
Organic Chemicals (VOCs & SOCs)	From a point representative of the source, after treatment, and prior to entry to the distribution system.
Other Substances (Unregulated Chemicals)	From a representative of the source, after treatment, and prior to entry to the distribution system, or as directed by the department.

7.3 COLIFORM MONITORING PLAN

A. SYSTEMS INFORMATION:

Ellensburg Public Water System
PWS ID #22950M
Kittitas County

SOURCES (Figure 7.1):

DOH Source #	Source Name	Well Depth
SO1	City Wells	20 Feet w/Infiltration Gallery
SO2	Rodeo Well	1,205 Feet
SO3	Memorial Well	306 Feet
SO4	Mt. Stuart Well	900 Feet
SO5	Kiwanis Well	700 Feet
SO6	Whitney Well	761 Feet
SO7	Brooklane Well	1,000 Feet
SO8	Airport Well	780 Feet
SO9	Highway 10 Well	841 Feet
SO10	Hayward Well	1,042 Feet

STORAGE (Figure 7.1):

Name	Capacity
Craig's Hill Reservoir	4.0 Million Gallons
Airport Reservoir	1.1 Million Gallons

TREATMENT:

All sources are treated with chlorine gas for disinfection.

All sources, except Brooklane Well, are also treated with fluoride.

BOOSTER STATION:

There is one booster station in the system that provides required pressure to the high zone when the Airport Reservoir requires.

TRANSFER STATION:

There is one transfer station in the system that provides for a transfer of water from the high zone to the low zone when the Airport Reservoir is at capacity.

PRESSURE ZONES:

Zone	Service Connections
High	1,355
Low	4,080

POPULATION AND CONNECTION:

Residential Population	18,370 (April 1, 2013)
Number of Active Residential Connections	4,578
Total Number of Metered Connections	5,435

B. SAMPLING INFORMATION:

ROUTINE SAMPLING REQUIRED BY REGULATION:

Twenty (20) samples per month are required by Regulation.

In order to adequately cover the system, twenty (20) routine samples are taken each month.

ROTATION & SITES (Figure 7.2):

Ten (10) different sample sites will be used with repeat sample sites upstream and downstream of the routine site. Alternate sites will also be identified. Alternate site will be utilized when the Main Sample site is not available for sampling.

WEEK 1 & WEEK 3 (Of Each Month)

Sample #1 (Routine) taken at the County Shop, 14th Avenue and Okanogan St.
Repeat Upstream - 516 West 14th Avenue
Repeat Downstream - 404 West 14th Avenue

Sample #2 (Routine) taken at Pebble Beach Salon, 601 North Main
Repeat Upstream – 609 North Main (Ellensburg Chamber)
Repeat Downstream – 213 W 4th Avenue (Orange Spice Salon)

Sample #3 (Routine) taken at CW Barber Shop, 808 E University Way.
Repeat Upstream - 810 University Way (Campus U-Tote-Em)
Repeat Downstream -- 710 N Chestnut (Columbia Paint)

Sample #4 (Routine) taken at Saks Restaurant, 2300 Canyon Road.
Repeat Upstream - 2202 Canyon Road. (Buzz Inn)
Repeat Downstream - 2415 Canyon Road. (WWTP)

Sample #5 (Routine – HP Zone) taken at Dept. of Natural Res., 713 Bowers Road
Repeat Upstream – 1101 Bowers Road (Mid-State Aviation)
Repeat Downstream – 700 Elmview Road (KITTCOM)

WEEK 2 & Week 4 (Of Each Month)

Sample #6 (Routine – HP Zone) taken at Brook Court Multipurpose Room.
Repeat Upstream - Court G Apartments
Repeat Downstream - Court I Apartments

Sample #7 (Routine) taken at Kittitas Valley Community Hospital, 603 So Chestnut.
Repeat Upstream - 716 East Manitoba
Repeat Downstream - 611 South Chestnut

Sample #8 (Routine) taken at Ellensburg High School, 1300 East 3rd Avenue.
Repeat Upstream - 1116 East 3rd Avenue
Repeat Downstream - 1508 East 3rd Avenue

Sample #9 (Routine) taken at University Place Laundry, 1801 North Walnut.
Repeat Upstream - 1902 North Walnut, Walnut Meadows Apts.
Repeat Downstream - 501 East 18th, University Place Apts.

Sample #10(Routine) taken at A-1 Petroleum, 711 S Main St
Repeat Upstream – 615 S Main, (Ranch & Home)
Repeat Downstream – 901 Industrial Way (Animal Shelter)

ALTERNATE SITES (Figure 7.3):

Sample #1 (Routine) taken at Mt. Stuart School, 705 West 15th Avenue
Repeat Upstream - 804 West 15th Avenue
Repeat Downstream - 700 West 15th Avenue

Sample #2 (Routine) taken at 610 West 11th Avenue
Repeat Upstream - 617 West 10th Avenue
Repeat Downstream - 601 West 10th Avenue

Sample #3 (Routine) taken at 108 North Sampson
Repeat Upstream - 208 North Sampson
Repeat Downstream - 102 North Sampson

Sample #4 (Routine) taken at the Wastewater Treatment Plant, 2415 Canyon Rd.
Repeat Upstream - 2202 Canyon Road (Buzz Inn)
Repeat Downstream - 2415 Canyon Road, UV Building at WWTP

Sample #5 (Routine – HP Zone) taken at the Phoenix Ind. Building, 3110 Airport Rd
Repeat Upstream – 1101 Bowers Road (Mid-State Aviation)
Repeat Downstream – 700 Elmview Road (KITTCOM)

Sample #6 (Routine - HP Zone) taken at 1201 Vista Road
Repeat Upstream - 1401 Skyline Drive
Repeat Downstream - 1205 Vista Road

Sample #7 (Routine) taken at Kittitas Valley Clinic, 716 East Manitoba
Repeat Upstream - 800 East Manitoba
Repeat Downstream - 708 East Manitoba

Sample #8 (Routine) taken at Valley View Elementary School, 1508 East 3rd Ave
Repeat Upstream - 1300 East 3rd Avenue
Repeat Downstream - 1113 East 1st Avenue

Sample #9 (Routine) taken at 18th Street Grocery, 1801 North Walnut
Repeat Upstream - 2102 North Walnut, University Court Apartments
Repeat Downstream - 711 East 18th, Ashton Court Apartments

Sample #10(Routine) taken at Rite Aid, 700 S Main
Repeat Upstream – 610 S Main, (Premier Paint)
Repeat Downstream – 808 S Main, (Windermere Real Estate)

** All Wells can be sampled directly as necessary.

** The Reservoirs can also be sampled as necessary.

C. GROUNDWATER RULE (EMERGENCY ACTION):

The City of Ellensburg will follow the Department of Health's adopted federal Groundwater Rule (Effective November 1, 2010) to address the health risks of fecal contamination in groundwater sources used by public water systems.

D. PLAN PREPARATION INFORMATION:

Prepared on: September 10, 2008
Updated on: ***May 6, 2014***
By: Rick Bollinger, Assistant Public Works Director (509) 962-7133

Reviewed by Rick Bollinger Date May 14, 2014

John Akers, Public Works Director

Ryan Lyyski INTERIM PUBLIC WORKS DIRECTOR
RYAN LYYSKI

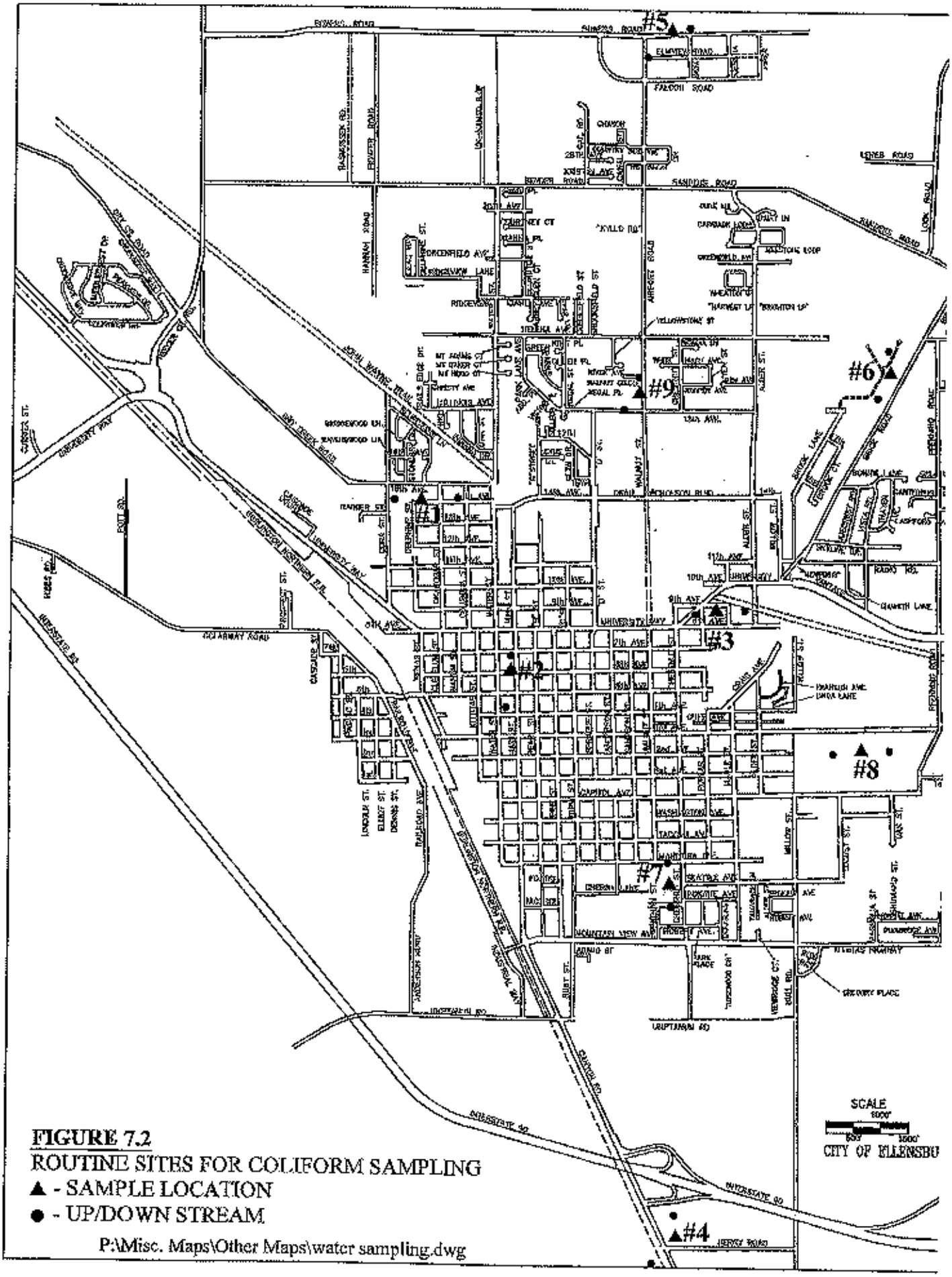


FIGURE 7.2
ROUTINE SITES FOR COLIFORM SAMPLING
▲ - SAMPLE LOCATION
● - UP/DOWN STREAM

P:\Misc. Maps\Other Maps\water sampling.dwg

7.4 DISINFECTION BYPRODUCTS MONITORING PLAN

A. SYSTEMS INFORMATION:

Ellensburg Public Water System
PWS ID #22950M
Kittitas County

SOURCES (Figure 7.1):

DOH Source #	Source Name	Well Depth
SO1	City Wells	20 Feet w/Infiltration Gallery
SO2	Rodeo Well	1,205 Feet
SO3	Memorial Well	306 Feet
SO4	Mt. Stuart Well	900 Feet
SO5	Kiwanis Well	700 Feet
SO6	Whitney Well	761 Feet
SO7	Brooklane Well	1,000 Feet
SO8	Airport Well	780 Feet
SO9	Highway 10 Well	841 Feet
SO10	Hayward Well	1,042 Feet

STORAGE (Figure 7.1):

Name	Capacity
Craig's Hill Reservoir	4.0 Million Gallons
Airport Reservoir	1.1 Million Gallons

TREATMENT:

All sources are treated with chlorine gas for disinfection.

All sources, except Brooklane Well, are also treated with fluoride.

BOOSTER STATION:

There is one booster station in the system that provides required pressure to the high zone when the Airport Reservoir requires.

TRANSFER STATION:

There is one transfer station in the system that provides for a transfer of water from the high zone to the low zone when the Airport Reservoir is at capacity.

PRESSURE ZONES:

Zone	Service Connections
High	1,355
Low	4,080

POPULATION AND CONNECTION:

Residential Population	18,370 (April 1, 2013)
Number of Active Residential Connections	4,578
Total Number of Metered Connections	5,435

E. SAMPLING INFORMATION:

ROUTINE SAMPLING REQUIRED BY REGULATION:

Two (2) samples per calendar year is required by Regulation.

In order to adequately cover the system, two (2) samples will be taken in both April & August. One (1) sample will be taken in the high pressure zone and one (1) sample in the low pressure zone.

SAMPLING SITES (Figure 7.4):

Two (2) different sampling sites shall be utilized for the purpose of disinfection byproducts monitoring.

HIGH ZONE

Site #1 (High Zone) - Taken at Brook Court Multipurpose Room.

LOW ZONE

Site #2 (Low Zone) - Taken at the Wastewater Treatment Plant, 2415 Canyon Rd.

F. PLAN PREPARATION INFORMATION:

Prepared on: March 31, 2010
Updated on: *May 6, 2014*
By: Rick Bollinger, Assistant Public Works Director (509) 962-7133

Reviewed by Rick Bollinger Date May 14, 2014

John Akers, Public Works Director

INTERIM PUBLIC WORKS DIRECTOR

RYAN LYYSKI

SECTION VIII

CROSS CONNECTION CONTROL

To prevent the contamination of the water supply, the City carries out a program of inspection of all commercial and industrial premises for possible cross connections with contaminates. The position of Cross Connection Control Specialist in the Water Department is responsible for this function and that person is required to maintain certification by the State of Washington as a Cross Connection Control Specialist. All existing commercial and industrial premises have been inspected. All proposed new construction is reviewed by the Cross Connection Control Specialist to determine what hazard or potential hazard for cross connection exists. The Cross Connection Control Specialist prescribes the level of protection required and supervises the final installation. A computerized inventory of installed devices is maintained.

Backflow devices installed and inspected are simple air gaps, double check valves, reduced pressure devices and both pressure and atmosphere-vacuum breakers. Only those devices which are approved by the Department of Health and Social Services are installed. Authority for inspecting premises, for requiring the installation of backflow prevention devices is included in City Code Chapter 9.40.700 (Appendix E).

For more detailed information, the reader is referred to the manual of "Accepted Procedures and Practices in Cross Connection Control", published by the Pacific Northwest Section of American Water Works Association.

CITY OF ELLENSBURG

WATER DIVISION

CROSS CONNECTION CONTROL- POLICY AND PROCEDURES

March 15, 2010

Changes in Bold

CITY OF ELLENSBURG

WATER DIVISION

CROSS CONNECTION CONTROL- POLICY AND PROCEDURES

January 2009

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(Revised: 1999, 2002 & 2009)

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APPENDIX a) City of Ellensburg Test Report Form

b) Water Use Survey Report Form

c) WA State Dept of Health & L&I - Installation, Testing and Repair Requirements.

d) Additional- Backflow Assembly Installation & Clearance Requirements

CROSS CONNECTION AND BACKFLOW PREVENTION PROGRAM

--- SECTION 1: PURPOSE ---

To protect and maintain the bacteriological, chemical and aesthetic quality of the municipal potable water supply by the elimination and prevention of cross connections between the City of Ellensburg's potable water distribution system and other sources of water, liquids or gases for any purpose whatsoever.

GENERAL:

Except where specifically designated herein, all words used in this procedure shall carry their customary meanings. Words used in the present tense include the future, and plural included the singular: The word "shall" is always mandatory; the word "may" denotes the use of discretion in making a decision.

CROSS CONNECTION ABATEMENT:
The installation or maintenance of a cross-connection that will endanger the water quality of the potable water supply of the City of Ellensburg is prohibited. Any such cross-connection now existing or hereafter installed is hereby declared a nuisance and shall be abated. The control or elimination of cross-connections shall be in accordance with the State of Washington Administrative Code (WAC 246-290-490, WAC 296-24-12005) or subsequent revisions, together with any future manuals of standard practice pertaining to cross-connection control approved by the Director of the State of Washington, Department of Social and Health Services. The water supply shall be discontinued to any premise for failure to comply with the provisions of this section and will not be re-established until the Director approves compliance.

Service from the City of Ellensburg water supply system to any premise upon which a private water supply system is used or operated contrary to the provisions of the rules and regulations of the State Board of Health regarding public water supplies may be discontinued or refused upon order of the Director.

Furnishing of any water service shall be contingent upon the installation of a backflow prevention assembly at the water service entrance or point of use, or both when required.

By-pass arrangements, jumper connections, removable sections, swivel or change-over devices and other temporary or permanent piping through which or because of which "backflow" can or may occur, will be considered cross-connections and will not be allowed.

REFERENCES:

1) City of Ellensburg Cross-Connection Control Ordinance.
2) 2006 Uniform Plumbing Code and all subsequent revisions.
3) Department of Health (DOH) Drinking Water Regulations WAC 246-290-490, WAC 296-24-12005. (And subsequent revisions)
4) Cross-Connection Control Manual - Accepted Procedure and Practice 6th Edition - Pacific Northwest Section - American Water Works Association.
5) Manual of Cross-Connection Control-Ninth Edition, (Tenth Edition when adopted) USC Foundation for Cross-Connection Control and Hydraulic Research.
6) Cross-Connection Control Manual EPA #57019-89-007.
7) Recommended Practice for Backflow Protection and Cross Connection Control M-14 A.W.W.A
8) Washington State DOH list of 'Backflow Prevention Assemblies Approved for Installation...'

--SECTION 2: DEFINITIONS---

Water Purveyor: The entity responsible for the public water supply system from the source to the meter. The purveyor shall ensure that actual and potential cross-connections between the distribution systems in a customer's water system are eliminated or controlled by the installation of an approved backflow assembly or device commensurate with the degree of hazard.

Authority Having Jurisdiction: The local official, board, dept. or agency authorized to administer and enforce the provisions of the Uniform Plumbing Code as adopted under chapter 10.27 RCW. The Community Development Department has conveyed authority to the City's CCS regarding cross-connection control.

Director of Public Works: Shall mean the Director of Public Works, City of Ellensburg, Ellensburg, Washington. His designee may perform any task required or authorized by the "Director of Public Works" on his or her behalf.

Public Health Officer: Shall be the duly appointed Kittitas County Public Health Dept. official
A representative of the Health Department authorized to enforce state and local codes relating to public health.

Cross-Connection Specialist (CCS): Shall be a person(s) who has been trained and is certified by the State of Washington as a CCS, to carryout the City of Ellensburg's cross-connection control program. This includes the creation, implementation and enforcement of the City's Cross-Connection Policy, WAC 246-290-490 and sections of the UPC pertaining to cross connection control. The CCS shall have basic knowledge of state and local plumbing codes. The CCS shall oversee the proper installation, repair, testing and/or inspection of backflow assemblies or devices used to protect the public water supply.

Backflow Assembly Tester (BAT): Shall be a person who has received training, and is certified by the State of Washington to test backflow prevention assemblies. This person also inspects backflow assemblies, devices and air gaps for proper installation. The BAT has also been trained to submit legible, accurate and complete test report forms following each backflow test (one each to the customer and the water purveyor).

Cross-Connection: The term "cross connection" shall mean any actual or potential physical connection between the public water supply and any source of non-potable liquid, solid or gas that could contaminate the potable water supply by backflow.

Public Water Supply: The system of water supply intended or used for human consumption or other domestic use, including source, treatment, storage, transmission and distribution facilities where served by the potable water supply system.

Auxiliary Supply: Shall mean any water supply on or available to the premises other than the public water supply.

Customer: Any person, persons, firm or corporation that is furnished potable water from the public water supply through a legal service connection to the public water supply distribution system.

Water Service Entrance: The customer's water supply piping system, downstream of the City water meter where it enters the property or facility.

Industrial Fluids: Shall mean any fluid or solution, which could be chemically, biologically or otherwise contaminated or polluted in a form or concentration, which might constitute a health or plumbing hazard if introduced into a potable water supply. This may include but is not limited to all types of processed waters originating from the public water supply or auxiliary supply which may deteriorate in sanitary quality; chemicals in fluid form; plating acids and alkalies; circulated cooling waters that are chemically or biologically treated or stabilized with toxic substance; contaminated natural waters such as from wells, springs, streams or ponds.

Liquids: The term liquid shall mean any substance that flows readily but does not expand indefinitely, such as water and industrial fluids.

Air Gap Separation (A.G.): Shall mean the unobstructed vertical distance through the free atmosphere between the lowest opening from any pipe or faucet supplying water to a tank, plumbing fixture or other device and the flood level rim of the receptacle. All air gap seperations shall be at least twice the inside diameter of the supply pipe measured vertically above the flood level rim of the vessel, and will never be less than one (1) inch.

Backflow: Shall mean the undesirable reversal of flow of water or other substances through a cross connection into the public water supply system or customers potable water system.

Backpressure: Shall mean a pressure (caused by a pump, elevated tank or piping, boiler, or other means) on the consumer's side of the service connection that is greater than pressure provided by the public water supply system and which could cause backflow.

Backsiphonage: Shall mean backflow due to a reduction in system pressure in the public distribution system and/or consumers water system.

Approved Backflow Prevention Assembly: Shall mean an RPBA, RPDA, DCVA, DCDA, PVBA or SVBA of make, model and size that is approved by the WA State Dept of Health. Assemblies that appear on the current approved list developed by the University of Southern Cal. for Cross Connection Control and Hydraulic Research or other entity acceptable the department are considered approved by the department.

Atmospheric Vacuum Breaker (AVB): Shall mean a backflow prevention device that is operated by atmospheric pressure in combination with the force of gravity. The unit is so designed to work on a vertical plane only. The moving part consists of a poppet valve that must be carefully sized to slide in a guided chamber and effectively shut off the reverse flow of water when a negative pressure exists in the supply system. (Considered a non- testable *device*)

Pressure Vacuum Breaker Assembly (PVBA): Shall mean an assembly containing an independently operating internally loaded check valve and an independently operating loaded air inlet valve located on the discharge side of the check valve. The assembly is to be equipped with properly located resilient test cocks and tightly closing resilient seated shutoff valves attached to each end of the assembly

Spill-Resistant Vacuum Breaker Assembly (SVBA): Shall mean an assembly containing an independently operating internally loaded check valve and independently operating loaded air inlet valve located on the discharge side of the check valve. The assembly is to be equipped with a properly located resilient seated test cock, a properly located bleed/vent valve, and tightly closing resilient seated shutoff valves attached to each end of the assembly

Double Check Valve Assembly (DCVA): Shall mean an assembly composed of two (2) single, independently acting approved check valves, four (4) properly located test cocks and tightly closing resilient seated approved shutoff valves attached to each end of the assembly

Double Check Detector Assembly (DCDA): Operates and functions exactly like a DCVA with the addition of a factory installed bypass feature. This bypass feature is used to detect the unauthorized use of water.

Reduced Pressure Backflow Assembly (RPBA): Shall mean an assembly containing two independently acting internally loaded check valves, a differential pressure relief valve, four properly located test cocks and two isolation valves.

Reduced Pressure Detector Assembly (RPDA): Operates and functions exactly like a RPBA with the addition of a factory installed bypass feature. This bypass feature is used to detect the unauthorized use of water.

Degree of Hazard: The low or high hazard classification that shall be attached to all actual cross connections.

Health Hazard: Shall mean any condition, device, or practice in a water supply system and/or its operation that creates or may create a danger to the health and well being of a customer.

Plumbing Hazard: Shall mean a cross-connection in a customer's potable water system that may permit backsiphonage in the event of a negative pressure in the supply line.

System Hazard: Shall mean an actual or potential threat of severe damage to the physical properties of the public potable water system or the customer's potable water system or of a pollution or contamination that would have a protracted effect on the quality of the potable water in the system

Temporary Usage Connection: Any vehicle to which a tank or container is affixed for containing water and/or chemicals, materials, or any temporary use of water for construction, testing, cooling or other non-domestic purposes which are capable of imparting contamination or pollution to the public water supply through a cross-connection between such points of usage and the water supply via a fire hydrant or other temporary connection.

Thermal Expansion Water expands when heated. Generally water moves back and forth through the water meter to adjust to the increase and decrease of water volume. If the system becomes closed because a backflow assembly is installed, water heaters and plumbing may be damaged if pressure temperature relief valves malfunction.

Code Authority and Enforcement: The enforcement of this cross-connection program in the area served by the Water Department, City of Ellensburg, will be in accordance with the Uniform Plumbing Code, 2006 edition as amended by the City of Ellensburg "Water Regulations", Official Code of the City of Ellensburg and WAC 248-290-490, WAC 296-24-12005, Rules and Regulations of the State Board of Health relating to public water supplies.

General Policy: It is the intention of this policy to provide for the permanent abatement or control of all cross-connections. Where it is physically and economically unfeasible to locate or to permanently eliminate all cross-connections of the customer' water system, and when it is deemed necessary by the CCS / City personnel, there shall be installed at the service connection and/or point of use, a suitable backflow assembly or device commensurate with the degree of hazard to the public water supply.

--- SECTION 3: RESPONSIBILTIES---

1) City of Ellensburg-

a) The City of Ellensburg shall work to protect the health of its customers by ensuring safe and reliable drinking water using both 'premise isolation' and 'in-premise' protection methods. Our efforts will include on-going surveillance of new and existing water supply systems and facilities in order to meet City and State requirements.

2) Water Customer

a) The water customer shall be responsible for the elimination or control of actual or potential cross connections on their property through the installation, testing and maintenance of approved backflow prevention assemblies and/or devices.

b) The water customer shall be responsible to obtain the required permits and provide information, entry and access for water use surveys and inspections.

c) The water customer is responsible for notifying the CCS of assemblies or devices which the customer believes are no longer required or are inactive.

d) The water customer is responsible for providing signs at all water take-off points downstream of backflow prevention assemblies or devices.

e) The water customer is responsible for all costs associated with installing, testing and maintenance of backflow prevention assemblies and devices.

-- SECTION 4: SURVEY/ INSPECTION PROGRAM ---

The City of Ellensburg Water Division is required to protect the water system from contamination due to cross connections (WAC 248-290-490) and a systematic program of 'water use surveys' of all new and existing buildings and grounds is established.

The systematic program of surveys/inspections shall establish priorities on the basis of risk to public health and shall be conducted as outlined in the following section:

New and Proposed Construction:

1) Upon application for a building permit, the City shall require a copy of detailed plans and specifications related to the mechanical drawing(s).

2) The City shall review these plans and specifications to determine the probability of cross-connections, the availability of auxiliary water supply, the handling of substances, which, if introduced into the water supply would constitute a health, plumbing, or system hazard. If upon review it is determined that any of these conditions will exist, the City shall advise the customer of solutions to either eliminate or protect the cross-connection.

3) During the construction phase of any new building, structure, or ground installation, the City will perform an on-site water use survey. Upon completion of the survey, but prior to the establishment of a water service connection, it shall be certified in writing that a cross-connection control survey has been completed and that backflow prevention is or is not required.

4) Upon receipt of an application for a new water service, but prior to occupancy, a cross-connection water use survey shall be completed by the CCS. City officials may require that backflow prevention assemblies and/or devices be installed at the Water Service Entrance or on in-premise equipment etc. Backflow assembly testing must be completed prior to the system being put into use.

Existing Buildings, Structures and Grounds:

1) Water Use Surveys (inspection) will be performed by a City of Ellensburg CCS on facilities served by city water based on the relative hazard. The survey may include other City personnel and/ or it's consultants as deemed necessary by City staff.

2) Water Use Surveys shall proceed according to the following steps:

   a) Prior to the initial water use survey the CCS will contact the customer by phone, letter or in person to explain the necessity of a cross-connection program. The CCS will discuss the owners' responsibilities/liabilities and answer questions the owners may have.

   b) The CCS will make an appointment for inspection at a time agreeable to both parties involved. This may be done by telephone, mail or in person. The City may request a person knowledgeable with the customer's water system to be present at the time of inspection. The City may also request copies of any/all building, mechanical or 'as built' drawings of the building to assist them in completing the survey.

   c) On the scheduled date, the CCS along with the building owner or representative (if one is assigned) will complete a physical survey of the building including the plumbing system, fixtures and equipment.

   d) Upon completion of the survey the CCS will complete a Water Use Survey report form.(see appendix) The report shall include, but is not limited to the following information:

      1. All required customer information contained in the heading.

2. List of all actual or potential cross-connections located on the premises and corrective actions required or recommended. The survey report may include a list of all on-site water using equipment/fixtures.

3. List all material, chemicals or other contaminating liquids used on site and/ or pumped under pressure, their use, and degree of risk.

4. List of any applicable drawings, sketches, blueprints, photographs, etc. that were used to complete the survey.

5 A summary of findings.

6. Other recommendations. (if any)

SECTION 5: CORRECTIVE ACTION & COMPLIANCE REQUIREMENTS

e) The Director of Public Works or the CCS shall prepare a letter to the customer outlining the findings of the report, the corrective action required and establishing a time frame (normally 30 days) in which corrective action(s) must be completed*. A copy of the letter and report will be sent to the customer and one copy placed in a suspense file noting the date of which the corrective action(s) must to be completed.

*If a severe health hazard exists the CCS will notify the Director of Public Works who may act to terminate the customer's water service immediately at his/her discretion.

f) On the corrective action completion date, the CCS shall take the necessary steps to confirm whether or not the corrections have been completed. (see; non-compliance)

g) Upon completion of the re-inspection, the CCS will provide a copy of the report to the Public Works Director.

h) When all required corrective actions have been completed, a copy of the report shall be placed in the CCS files.

i) Premises may be resurveyed to ensure compliance.

Non-Compliance – If the CCS determines upon completion of the second' follow up' survey that corrective actions have not been completed as required, the following actions will then be taken;

1) The customer will be sent a warning letter giving the c ustomer10 days to respond.

2) If 10 days pass and the correction(s) has not yet been completed, the City's legal department will send another warning letter listing City/ state code requirements, advising the customer that; "Failure to comply with the corrective measure will result in the termination of water service" .The customer shall have 10 days to comply with this letter.

3) If there is no response after 10 days another letter will be hand delivered if possible or delivered by certified mail, giving the customer a date for a hearing and a date for water service termination. The hearing will be held on a Thursday and water shut off will occur on the following Monday.

4) If the customer does not respond, the meter will be turned off and locked on the termination date. The service will remain off until the customer complies.

Moving or relocating backflow prevention assemblies or device:

The CCS shall be notified prior to a customer moving or replacing backflow assemblies or devices. If the customer feels that a backflow assembly or device is no longer required, or would like to place an assembly/device on an in-active status, the customer must submit a written request to do so to the City's CCS for consideration. The CCS may request that the assembly or device be removed and its supply pipes be permanently capped or removed to prohibit use.

--- SECTION 6: BACKFLOW PROTECTION OPTIONS---

The following lists have been prepared to establish a guide to the corrective measures for 'in-premise' protection or 'premise isolation' to correct or isolate actual or potential cross connections.

Code: The following are the terms and abbreviations used herein for backflow assemblies or devices that may be used to prevent or eliminate actual or potential cross connections.

Backflow Assemblies; (testable)

1. Double Check Valve Assembly	D.C.V.A*
2. Double Check Detector Assembly	D.C.D.A.
3. Pressure Vacuum Breaker Assembly	P.V.B.A***
4. Spill Resistant Vacuum Breaker Assembly	S.V.B.A
5. Reduced Pressure Backflow Assembly	R.P.B.A**
6. Reduced Pressure Detector Assembly	R.P.D.A

*D.C.D.A's can be substituted where D.C.V.A's are required.
**R.P.D.A's can be substituted where R.P.B.A's are required
***S.V.B.A's can be substituted where P.V.B.A's are required.

Backflow Devices; (non-testable)

1. Air Gap_____AG

NOTE: Air Gaps must be appropriately sized and be permanent, non-moveable.

2. Atmospheric Vacuum Breaker_____AVB

NOTE: All threaded (add on type) A.V.B.'s must be non removable and A.S.S.E certified.

Terms;

(Minimum) Backflow Protection Options_____B.P.Options
Not Allowed _____**N.A.**

The following list summarizes various types of actual or potential cross-connections which may be anticipated in various facilities, buildings, equipment etc. and the required corrective measures.

I MORGUES, HOSPITALS, MED.CLINICS, CONVALESCENT AND RETIREMENT HOMES

1. Autopsy, operating rooms and laboratories	**B.P.Options**
A. Aspirators	AG or AVB
B. Flushing floor drains	AG or AVB
C. Wash-u sinks	AG
D. Stills	AG or RPBA
E. Sterilizer	AG or AVB
F. Toilets or bidets	AG or AVB
G. Wash-down or flushing hoses	AVB
H. Pipette washers	AG or AVB

2.	Bed pan washers	AG or AVB
3.	Toilets, urinals or bidets	AG or AVB
	Fire sprinkler drains	AG *
5.	Water operated equipment such as elevators, presses or other similar equipment	AG or AVB
6.	Drinking fountains required angle stream with mouth guard	AG
7.	Orthopedic baths	AG or AVB
8.	Colon irrigators or douche attachment	AG or AVB
9.	Water used for heating or cooling agent	AG or PBA
10.	Mop, service or slop sink with hose faucet	AVB
11.	Compound boiler	AG or RPBA
12.	Hose faucets in areas where possible contamination may exist.	AVB
13.	Foot bath	AG
14.	Sits bath	A.G
15.	Bath tub	A.G
16.	Bathtub with hose attachment	AVB
17.	Potable waterline directly connected to sewer	NA

II. INDUSTRIAL OR COMMERCIAL INSTALLATIONS:

1.	Dip tanks or vats	AG or AVB
2.	Water operated presses, elevators, or other similar equipment	AG or AVB
3.	Water used for cooling or heating agent	AG or RPBA
4.	Fire sprinkler drains	AG *
5.	Toilets or urinals	AG or AVB
6a.	Sinks and basins	AG
b.	Sink faucet with hose connection.	AVB
7.	Hose faucets in areas where a hose could possibly be left submerged	AG or AVB
8.	Dual water supply source	AG
9	Pump primers	AVB
	Flushing floor drains	AG or AVB
11.	Potable water line directly connected to sewer	NA
12.	Water operated ejectors	RPBA
13.	Drinking fountains that require angle stream with mouth guard	AG
14.	Foamite stations/quick connection	RPBA
15.	Hose bibs/ water supply outlets located in pits, tanks, trenches or other locations that may become flooded with contaminated liquids etc.	AVB
16.	Compound boilers	AG or RPBA
17.	Commercial car washing installations with cross connection	RPBA
18.	Shampoo basin hose rinse	AVB
19.	Soap and Chemical portioned/injector	AG or RPBA

* No antifreeze permitted in fire sprinkler system.

III	YARD SRINKLER/DRIP IRRIGATION SYSTEMS USING CITY WATER	B.P Options
1.	Sprinkler systems*	PVBA or DCVA
2.	Sprinkler systems supplied with potable water and interconnected with other sources of non- potable water such as ditch water, ponds, lakes or creeks etc.	AG or RPBA
3.	Sprinkler systems containing fungicides, pesticides, soil conditioners or any other chemicals or additives	NA
4.	Hose faucet/bibs (installed above grade)	AVB
	Hose faucet/bibs (installed below grade)	AVB or DCVA

*Note: All sprinkler and/or drip irrigation systems containing *any* buried or below grade conduits, pipes, hoses, tubes etc. used for carrying water must be protected with one of the following backflow assemblies _____PVBA or DCVA

IV EDUCATIONAL INSTITUTIONS

1. Sink/Lavatory _____AG or AVB
2. Sink with threaded faucet_____AVB
3. Dishwashing machine_____AG or AVB
4. Garbage disposers_____AG or AVB

6. Toilets and urinals _____AG or AVB or PVB.
7a. Drinking fountains require angle stream and mouth guard_____AG.
b. Drinking fountains with water supply in waste pipe _____NA
8. Fire sprinkler drains *_____AG
9. Compound boilers _____AG or RPBA
10. Hose faucets/bibs_____AVB

*No antifreeze permitted in fire sprinkler system

V FAMILY RESIDENTIAL FACILITIES B.P Options

1. Toilets and Bidets _____AG or AVB
2. Sink/Lavatory _____AG
3. Bathtubs _____AG
Bathtubs with hose attachments _____AVB
Fire sprinkler drains* _____AG
Compound boilers _____AG or RPBA
6. Mop service, or slop sink with hose faucets _____AVB
7. Drinking fountains require angle stream with a mouth guard _____AG
8. Swimming pool water supply _____AG or RPBA

VI PLACES OF PUBLIC ASSEMBLY

1. Toilets _____AG or AVB
2. Lavatory/sinks _____AG
3. Bathtubs _____AG
4. Swimming pool water supply _____AG or RPBA
5. Fire Sprinkler drains * _____AG
6. Mop, service or slop sinks with hose faucet _____AVB
7a. Drinking fountains require angle stream with mouth guard _____AG
b. Drinking fountain with water supply in waste pipe _____NA
Compound boilers _____AG or RPBA.

VI continued...

9. Swimming pool water supply _____AG or RPBA
10. Mop, service, or slop sinks with hose faucets _____AVB
11. Hose faucet/bibs_____AVB

VII OFFICE BUILDINGS

Toilets or bidets _____AG or AVB

2. Lavatories _____ AG
3a. Drinking fountains require angle stream with mouth guard _____ AG
b. Drinking fountain with water supply in waste pipe _____ NA
Bathtubs _____ AG
5. Fire sprinkler drains _____ AG
6. Compound boilers _____ AG or RPBA.
7a. Mop, service, or slop sinks with hose faucets _____ AVB
b. Threaded connections/ faucets where possible cross connections exist _____ AVB
8. Medical equipment with potable water supply _____ AG or RPBA.
9. Potable water connection to film developing tanks _____ AG or RPBA
10. Water operated presses, elevators, or other similar equipment _____ AG or RPBA

VIII FIRE PROTECTION SYSTEMS

1. High Hazard Fire Systems. Foam filled, chemicals, antifreeze or air pressurized _____ AG or RPBA
2. Low Hazard Fire Systems. Standpipe connection _____ DCDA
3. Residential Fire Systems. Potable water with approved water line material only. _____ follow code

Backflow prevention assemblies may be required at the' water service entrance' where, in the opinion of the Director of Public Works and/ or the Community Development Dept. it is determined that the municipal water supply system should be isolated due to an actual or potential cross-connection in the customer's piping system. The following list is a guide to the degree of protection required for a number of commercial and industrial establishments:

The following methods of cross-connection control are considered minimum protection at the service connection: All new commercial buildings or buildings , industrial or multifamily residential facilities as well as existing undergoing major remodeling and/or additions shall have a DCVA installed at the water service entrance. This may include *existing* buildings/facilities that will undergo a 'change of use'

The public water supply to a premise having an auxiliary water supply with no known cross-connections may be required to install an RPBA at the service connection at the City's discretion if a high health hazard is involved

The public water supply to a premises on which is handled a substance that is objectionable (not a health hazard) in a manner constituting a potential cross-connection shall require an DCVA at the water service entrance.

The public water supply to a premises on which there is an auxiliary water supply and having internal cross-connections that are not correctable or intricate plumbing arrangements, which make it impractical to ascertain whether or not cross-connections exist, shall require an RPBA at the water service entrance.

The public water supply to a premise on which material dangerous to health or toxic substances are handled shall have installed an RPBA at the water service entrance.

The public water supply to a premise where entry is restricted so that inspection for cross-connection cannot be made with sufficient frequency or at sufficient short notice to assure that cross-connections do not exist shall have installed an RPBA at the water service entrance.

The public water supply to a premise on which any substance is handled under pressure so as to permit entry into the public water supply, or where a cross-connection could reasonably be expected to occur, shall have installed an RPBA at the water service entrance.

The public water supply to a premise having a repeated history of cross-connections being established or re-established, shall have installed an RPBA at the water service entrance.

Existing facilities/plants requiring premise isolation at the Water Service Entrance (not a complete list)

Plant or Facility	B.P Option's
1. Aircraft and Missile Plants	AG or RPBA
2. Automotive Plants	AG or RPBA
3. Auxiliary Water Systems a. Unapproved source	AG or RPBA.

b. Approved but not chlorinated source _____ DCVA
c. Approved chlorinated source _____ DCVA

4. Beverage, Bottling Plants and Breweries
a. With steam boiler _____ AG or RPBA
b. Without steam boiler _____ AG or RPBA

5. Buildings or other structures
a. Health hazard exist _____ AG or RPBA
b. No health hazard exist _____ none required

6. Canneries, packing houses and rendering plants _____ AG or RPBA
7. Chemical Plants _____ AG or RPBA
8. Chemically Contaminated Water System _____ AG or RPBA.
9. Dairies and Cold Storage Plants _____ AG or RPBA
10. Film Laboratories _____ AG or RPBA
12. Nursing Homes and Convalescent Centers _____ AG or RPBA
13. Hospitals, Medical Buildings, Sanitariums, Morgues, Mortuaries, Autopsy Facilities ___ AG or RPBA
14. Premises having irrigation systems using city water and with chemical addition, such as parks, playgrounds, cemeteries, golf courses, schools, estates, ranches, etc. _____ AG or RPBA
15. Laundries and Dye Works _____ AG or RPBA
16. Metal Manufacturing, Cleaning, Processing and Fabricating plants
a. Health hazard exist _____ AG or RPBA
b. No health hazard _____ DCVA
17. Oil and Gas Production - Storage or Transmission facilities ___ _____ AG or RPBA
18. Paper and Paper Products Plants _____ _____ AG or RPBA
19. Power Generation Plant _____ _____ AG or RPBA
20. Plating Plants _____ _____ _____ AG or RPBA
21. Facilities containing radioactive materials or substances _____ AG or RPBA
22. Restricted, Classified or other Closed facilities ____ _____ AG or RPBA
23. Sand and Gravel Plants _____ AG or RPBA
24. Schools and Colleges _____ DCVA or RPBA
25. Sewage and Storm Drain Facilities _____ _____ AG or RPBA
26. Waterfront Facilities and Industries
a. Health hazard exist _____ AG or RPBA
b. No health hazard _____ AG or RPBA
27. Recreational vehicle parks _____ DCVA
28. Recreational vehicle dump sites with city water supply _____ AG or RPBA
29. Mobile food/beverage carts using city water _____ DCVA

SECTION 7: Installation, Inspection, Maintenance and Testing of Backflow Prevention Assemblies/Devices

General Installation Requirements:
A. Backflow assemblies or devices must be installed as specified in the latest editions of the Uniform Plumbing Code, AWWA and the City's CCC manual(most restrictive applies) and then inspected and approved by the City's CCS following its installation. The term "approved" shall mean an assembly that has been manufactured in full conformance with the standards established by the American Water Works Association. Each model must have passed the laboratory and field performance specifications of the Foundation for Cross-Connection Control and Hydraulic Research of the University of Southern California. All new or replacement assemblies and devices must be listed in the Washington State Department of Health, Drinking Water Programs approved assemblies list.(latest edition including revisions)

B. Assemblies and devices shall be easily accessible for *in-line* testing, maintenance and repair with threaded or bolt on style unions installed(see sec. 609.5 -2006 UPC)

C. Assemblies and devices shall be protected against freezing, flooding and mechanical damage including harmful, toxic fumes etc.

RPBA's shall be located in an area where water spillage is not objectionable. A drain capable of handling the maximum flow from the relief valve shall be provided when the assembly is located within a building.

PVB- SPVB-DCVA-DCDA-RPBA-RPDA: See appendix for installation clearance requirements.

Atmospheric Vacuum Breakers (AVB) Installation Requirements (see below)

Fixtures or Equipment	Installation Requirements
Aspirators and ejectors	C-L at least 6" above flood level of receptacle served.
Dental units	On models without built in vacuum breakers C-L at least 6" above flood rim of bowl.
Dishwashing machines	C-L at least 6" above flood level of machine. Install on both hot and cold water supply lines.
Flushometers (closet & urinal)	C-L at least 6" top of fixture supply.
Garbage can cleaning machine	C-L at least 6" above flood level of machine. Install on both hot and cold water supply lines.
Hose outlets	C-L at least 6" above highest point on hose line.
Laundry machines	C-L at least 6" above flood level of machine. Install on both hot and cold water supply lines.
Lawn sprinklers (existing)	C-L at least 6" above highest all downstream piping.
Steam tables	C-L at least 6" above flood level.
Tanks and vats	C-L at least 6" above flood level rim.
Trough urinals	C-L at least 30" above perforated flush pipe.
Flush tanks	Equipment with approved ball cock where ball cocks touch tank water, equipment with vacuum breaker must be at least 1" above overflow outlets. Where bullock does not touch tank water, install bullock outlet at least 1" above overflow outlet or provide vacuum breaker as specified
Hose bibs (where aspirators or ejectors could be connected)	C-L at least 6" above flood level of receptacle served.

C-L, critical level is defined as the level to which the backflow preventor (vacuum breaker) may be submerged before backflow will occur The bottom of the assembly or device shall be taken as the C-L.

Testing and Maintenance:

a. Since there are a large number of AVB's installed in the City a continuous program of inspection is determined to not be economically feasible. Field inspection shall be monitored or completed by the CCS or a City approved Backflow Assembly Tester (BAT). Visual inspections for proper installation etc. shall be done on a regular basis.

b. When a defective or damaged AVB is reported and/or discovered the owner shall have the device repaired or replaced as soon as possible. Not to exceed 10 days.

SECTION 8: PERMIT REQUIREMENTS

Prior to installing a backflow assembly or device in the City of Ellensburg, you must first obtain a permit. With the exception of assemblies installed on Fire Protection Systems* all permits for in-premise and premise isolation protection can be obtained from the Public Works Dept. located on the 2nd floor of City hall at: 501 N. Anderson Street.
*Fire Protection system backflow assemblies are currently permitted thru the Fire Dept. located at 102 N. Pearl St.

After all permits have been issued, installation work may begin. Please note that all installation or repairs *inside* a building must be performed by the building owner, his/her employee or a licensed/bonded plumber. Backflow assembly/device repairs *inside* a building may also be performed by a BAT who also has a current WA State Backflow Specialty Certificate. After the installation work is complete,

and before its use, the assembly or device must be inspected by City's CCS. After the installation has been approved, the assembly must be tested/passed by a City Approved Backflow Assembly Tester (BAT). Copies of the original completed test report must be forwarded to the City's CCS* and the customer. *The customer is responsible for all cost associated with the installation, testing, and maintenance of backflow assemblies or devices.*

SECTION 9: TESTING REQUIREMENTS

a) All backflow assemblies connected to City water shall be tested/passed at least annually to ensure proper operation. Irrigation system assemblies must be tested by June 30th.

b) Backflow assemblies shall also be tested/passed after being moved relocated or immediately following repairs or a backflow incident. The CCS may require assembly testing following assembly freeze/thaw events.

c) If an assembly fails any part of the test, it will be placed in suspense until all repairs and retesting have been completed.

d) Immediately following a test failure, the assembly must be repaired and retested/passed. If repair parts are unavailable the assembly must be replaced and retested/passed.

Note: The City CCS/BAT reserves the right to be present when a backflow assembly or device is being installed, tested or repaired. The City CCS/ BAT may also choose to test the assembly using City owned test equipment at no additional cost to the customer.

Testing notification for existing installations:

a. The CCS shall notify the customer in writing thirty (30) days in advance of test due dates and requirements when possible.

b. The customer is required to notify the CCS if the address/contact information has changed, or if problems exist that may inhibit compliance.

SECTION 10: BACKFLOW ASSEMBLY TESTER REQUIREMENTS

a. All testing and/or inspection of backflow assemblies or devices connected to or supplied by City water shall be completed by a City Approved BAT.

b. BAT's must be on to the City's Approved Backflow Assembly Tester List *prior* to testing or inspection of backflow assemblies or devices. In order have the business name added to the list, BAT's are required to submit the following, *current* information:

1) BAT certification cards. (all)
2) Test kit calibration report. (all)
3) L&I Registration (including Specialty Certificate, if applicable)
4) City of Ellensburg Business License
5) Certificate of Liability Insurance

Note: The City Approved BAT List is subject to change and therefore the City CCS may have the only current, 'up to date' version of the list on file at any time. Anyone that would like to receive a copy of the list should contact the CCS during regular business hours.

c. BAT's shall receive permission from the customer prior to every test/inspection/repair. After inspections or testing have been completed, the BAT is then required to fill out a test report form. Copies of the original report must then be forwarded to the CCS and the customer. The time period to submit the report form shall not exceed seven (7) days from date of test.

- Test report forms must be *pre approved* by the City of Ellensburg's CCS before use.*

- Test reports must be *neat, legible* and *complete* using all applicable fields.*

*Test reports not meeting the above listed requirements may not be accepted. The CCS shall inform the customer and/or the BAT if the test report is non-compliant.

B.A.T non-compliance-

The City of Ellensburg reserves the right to temporarily suspend or remove Backflow Assembly Testers from the City's Approved List, and will not be eligible to test pending an appeal. BAT's may be suspended or permanently removed from the list for failure to conform to either the WA State Dept. of Heath or City requirements. The City's CCS shall maintain a detailed record of serious or repeat infraction(s) and submit copies of these records to the Director of Public Works. The Director shall review the findings and determine if a BAT should be removed or suspended from the list.*

*If a BAT is removed or suspended from the list, he/she will be notified by certified mail. BAT's that are removed or suspended may appeal to the Director for re-instatement. Appeals must be submitted in writing for consideration.

BACKFLOW ASSEMBLY INSTALLATION & CLEARANCE REQUIREMENTS

DCVA & DCDA

a) When installed outside of a building, assemblies shall be installed in a well drained, *below* ground valve box or in an *above* ground valve box that is protected against freezing, flooding, contamination etc.
b) The tie-in connection and valve box(s) shall be installed with a minimum separation distance of at least three (3') feet from the City's water meter/valve box(s)
c) A union shall be installed on each end of the assembly,(inside of the valve box, **when applicable).**
d) A minimum clearance of at least three (3) inches shall be maintained from the outside edge of each union, measured from the inside face of the valve box.
e) Additional installation clearances are as follows:
- 12" minimum clearance below the assembly (6" if installed above a 12" deep gravel base.)
- 24" minimum clearance* above the assembly.
- 3" minimum clearance from the back side of the assembly to any surface or obstruction.
- 24" minimum clearance* from the front side of the assembly to the any surface or obstruction.

* Unless assembly is *centered* in large valve box with a removable lid. The distance from top of assembly to the top of valve box and/or finish grade shall not exceed sixteen (16") inches.)

RPBA & RPDA

a) When installed outside of building, assemblies may be installed in a box/vault below grade and shall be 'bore sight' drained. Above and below grade box/vault installations shall include provisions to protect against freezing, flooding, toxic fumes, contamination etc.
b) Same as 'b' listed above.
c) Same as 'c' listed above.
d) Same as 'd ' listed above.
e) Same as 'e' listed above except that a distance of twelve (12") inches shall always be maintained between the lowest portion of relief valve and grade.

PVBA & SVBA

a) Must be installed above ground and the center line a minimum of twelve (12') inches above the highest downstream piping or outlet. The assembly must be protected from freezing, flooding, toxic fumes contamination etc.
b) Same as 'b' listed above.
c) Same as 'c' listed above (without valve box).
d) Additional installation clearance requirements are as follows:
- 24"- minimum clearance above the assembly
- 3" - minimum clearance from the back side of the assembly to any surface or obstruction.
- 24"- minimum clearance from the front side of the assembly to any surface or obstruction.

Note: Different requirements may apply for assemblies that are 2 1/2" and larger.

Recommendations:

- An additional shut off valve should be installed on each side of the assembly to allow for maintenance and repairs without having to shut down and/or drain the entire system for maintenance.

- Landscape irrigation system assemblies should include a winterization 'blow out(s)'. Note: Never 'blow out' thru any part of a backflow assembly or device as this may damage internal working components causing assembly failure and/ or contamination to enter the water supply.

- Install 'tracer wire' above all buried, customer owned, water lines installed downstream of the meter.

David VanCleve

From: Rick Bollinger [bollingerr@ci.ellensburg.wa.us]
Sent: Tuesday, May 27, 2014 11:05 AM
To: David VanCleve
Subject: RE: WSP DOH Comments
Attachments: wc3501@cityofellensburg.org_20140627_121256.pdf

David,

Attached is the inventory of the backflow assemblies. The assemblies are categorized by type: air gap, reduced pressure backflow assembly, ect. They are also designated by application: premise isolation or in-premise protection.

All assemblies are tested annually. The irrigation assemblies are due to be tested in March of each year. The due date for the rest of the assemblies is the anniversary date of their installation.

The testing failure rate averages around five percent. We continue to check accuracy and expand the scope of information in the assembly database.

If additional information is needed let me know.

Rick Bollinger
Assistant Public Works Director
City of Ellensburg
501 North Anderson Street
Off. (509)962-7133/C (509)929-7230

From: David VanCleve [mailto:dvancleve@g-o.com]
Sent: Thursday, May 22, 2014 10:35 AM
To: Rick Bollinger
Subject: FW: WSP DOH Comments

Rick

I did not ask for this the first time but I need one more item to finalized the comments.

- For Cross-connection Control, we need to see a listing of ALL installed backflow prevention devices and a table showing the timing and testing results.

Thanks

David Van Cleve, P.E.

Gray & Osborne, Inc.
...SUITE 1000...

107 South Third Street, Yakima, WA 98901
Phone: (509) 453-4833 Fax: (509) 453-5953

CITY OF ELLENSBURG
BACKFLOW PREVENTER INVENTORY

05/27/2013

	AG	RPBA	DCVA	DCDA	PVBA	SVBA	TOTAL
PREMISES ISOLATION	1	111	4	413	10	0	539
IN PREMESIS	3	290	1139	0	354	3	1789
TOTAL	4	401	1143	413	364	3	2328

SECTION IX

EMERGENCY RESPONSE

9.1 CALL UP LISTS

The names, phone numbers and addresses where water system personnel can be reached in an emergency are listed on the Water System Personnel Emergency call-up list included in Appendix F. Names and phone numbers for other DOH personnel are also included in Appendix G.

9.2 NOTIFICATION PROCEDURES

If a water quality emergency develops, the current procedure is for the Public Works Director to contact the DOH either at work or at home and discuss the situation. If it is determined that public notification is necessary, the Public Works Director will notify the local radio station (KXLE) and the local newspaper (The Daily Record) as soon as possible. The Public Works Director shall notify the Kittitas County Health Department that day or the following work day if during non-working hours. In addition, businesses who serve the public, such as restaurants, will be individually notified of the situation. If it is deemed necessary, fliers may be delivered to the service connections that are affected.

The home phone number for the Public Works Director is included on the emergency contact list included in Appendix F.

9.3 VULNERABILITY ANALYSIS

To provide a reliable supply of potable water at all times is the goal of every water system. The ability to fight fires under any circumstances is a number one priority.

Each component of the system is vulnerable to some degree to a variety of hazards. It could be a dig-up, an earthquake, flood, or even war. Regardless of the cause, a plan for a timely response to the emergency is needed; and practice is required to make sure department personnel has the confidence to carry out the response in a timely fashion.

9.4 HAZARDOUS WASTE AND CHEMICAL SPILL – YAKIMA RIVER

Hazardous and chemical waste being transported on the freeway could cause a spill on the river. Depending on the proximity to the City Wells and the material that is spilled, there exists a risk of contamination to the water supply.

Procedure:

1.1 Isolate River well

1.2 Contact Department of Ecology in Yakima -- hazardous spill team

1.3 Notify City Manager, Mayor and the press

1.4 Implement appropriate stage of water curtailment plan, if required

9.5 TRANSMISSION LINE FAILURE

The most likely cause of a transmission line failure would be either a dig-up or a wash-out at a creek crossing. Either case would result in the loss of transmission capacity from City Wells. **(Note: Collars for 18" and 24" transmission main are stored at City Well).**

Procedure:

1.1 Isolate transmission line break

1.2 Advise the City Manager, Mayor and press

1.3 Implement appropriate stage of water curtailment plan, if necessary

1.4 Implement temporary repairs using appropriate sized steel well casing

1.5 Disinfect line and return to service

9.6 RESERVOIRS

The risk of loss of the reservoir itself is considered low; however, it could conceivably become contaminated or otherwise inoperable for a period of time. If the reservoir must be inactivated, the VFD at City Wells will be operated to maintain system pressure. Also, two deep wells will be operated manually and system pressure monitored.

It is important that sufficient blow-offs around the system be opened to provide a continuous demand and provide some relief from shock loading.

If the reservoir is to be inactivated for an extended period of time, large water users (Twin City Foods) must be curtailed.

9.7 DEEP WELLS

Each of the deep wells operates independently. The impact of loss to the system of one well would not be severe unless it occurred in August, and the chance of loss of a well due to natural disaster is considered minimal.

In the event of the loss of a well due to mechanical failure, the City would utilize the services of one of its vendor and implement the water curtailment plan if necessary.

9.8 DISTRIBUTION SYSTEM

The most likely cause of disruption in the distribution system is a dig-up, rather than any natural disaster or war. The second most likely cause would be a planned shut-down to repair or replace a leaking main or service line of some vintage.

Training in main repair for this condition will provide the operator the skills required for a true emergency.

Procedure:

1.1 Isolate break using appropriate valves

1.2 Notify affected residents and businesses

1.3 Notify Communications Center

1.4 Notify Public Works, Police, and Fire District 2

1.5 Notify School District (If bus routes are affected)

1.5 Excavate damaged area

1.6 Repair with appropriate repair band or coupling

1.7 In the unlikely event the necessary material is not available, first contacts would be Yakima Water Department and Nob Hill Water District; second would be vendors in Yakima and/or Seattle

9.9 WATER CURTAILMENT PROGRAM

Upon adoption of a water supply emergency resolution the public works director shall implement a water consumption curtailment program corresponding to the emergency level declared by city council. The water curtailment program shall consist of the following measures and any other measures necessary, in the judgment of the public works director, to maintain the health and safety of the domestic water supply system.

Procedure (Mild Stage):

1.1 The public works department will establish a city website pertaining to water conditions within the city's official website.

1.2 The public works department will prepare and send a water status report to large water users, such as Twin City Foods and Central Washington University, and city parks. A representative will also meet with any other large water users as identified in the water utility billing system to inform

them of the current condition and request a voluntary percentage reduction in their domestic water consumption.

1.3 The public works department shall develop and distribute to customers within the water utility billing system a water conservation guide.

Procedure (Moderate Stage):

In addition to the following measures all of the measures indicated in the mild stage water emergency shall apply.

1.1 The public works department will publish a notice of a water supply emergency via an ad in the newspaper with general circulation in the city. Additional media communications shall be utilized as determined necessary.

1.2 The public works department will establish an emergency water supply telephone hotline to address public questions and concerns.

1.3 Mandatory landscape water restrictions shall be implemented. The public works department will publish notice requesting that Ellensburg domestic water users using city water for irrigation conform to the following landscape watering schedule:

A. Even numbered addresses water on even numbered calendar days.

B. Odd numbered addresses water on odd numbered calendar days.

1.4 Washing of streets, sidewalks, driveways or decks will be prohibited except as necessary for public health and safety.

1.5 Construction operations receiving water from a hydrant shall not use water unnecessarily for any purposes other than those required by regulatory agencies.

1.6 Operators of hotels, motels and other commercial establishments offering lodgings, shall post in each room a notice of emergency water conditions as approved by the public works director.

Procedure (Severe Stage):

In addition to the following measures all of the measures indicated in the mild stage and moderate stage water emergencies shall apply.

1.1 All watering of any lawn, yard, city park, landscaping, recreational area or any other area containing vegetation shall be prohibited.

1.2 Hydrant permits shall be rescinded and no new permits issued.

1.3 City-owned pools and wading pools shall be closed.

1.4 Washing of boats and vehicles is prohibited unless at a commercial car washing facility equipped with water recycling equipment.

1.5 The filling of swimming pools, spas, ponds and artificial lakes is prohibited.

1.6 All restaurants that provide table service shall post in a conspicuous place a notice of emergency water conditions as approved by the public works director and shall refrain from serving water except upon a specific request by a customer.

1.7 In the event the above measures do not prevent a shortage of water supply available for the basic function of health and sanitation, the public works director may be authorized to implement a rolling system of water system outages as necessary to preserve basic health and sanitation.

APPENDIXES

City of Ellensburg Daily Well Report

Date: _____

City Wells Depth: _____ Craig's Hill Reservoir Depth: _____ Airpo

Well	Time	Hour Meter	Power Meter	Pump Press	Amps	Flow Meter	Fluoride Meter	Sample Test	Chlorine Weight
City Wells						x			
Mt. Stuart						x			
Kiwanis						x			
Memorial						x			
Rodeo						x			
Whitney						x			
Airport						x			
Brooklane						x			
IRRP						x			

Brooklane Irrigation: 4" _____ TCF: _____

8" _____ Booster Stn: _____

City Wells: Turbidity: _____ Conductivity: _____ Temperature: ____

Yakima River: Turbidity: _____ Conductivity: _____ Temperature: ____

APPENDIX - B

ROLLING STOCK

Equip #	Description
10	2003 Chevrolet ½-Ton Utility Truck
16	2004 Chevrolet ½-Ton Extended Cab Pickup
26	2000 Ford ½-Ton Pickup
38	2003 Chevrolet 1-Ton Flatbed
41	2001 Peterbilt 10-Yard Dump Truck
48	1990 Ford 5-Yard Dump Truck
83	2003 Cat 928G Loader
98	Shoring & Trailer
102	2000 GMC 5-Yard Dump Truck
106	2001 Freightliner 5-Yard Dump Truck
107	2000 Freightliner 5-Yard Dump Truck
130	2001 Ford F450 Flat Bed w/Crane
134	2002 JD 310SG Backhoe
136	2003 JD 310SG Backhoe
146	2006 CAT 304CCR Mini-Exacator
148	2006 Vactor Truck

APPENDIX - C

SMALL EQUIPMENT

Tool Inventory – Vehicle #38

Tool Inventory – Vehicle #130

APPENDIX - D

INVENTORY STOCK (SAMPLE)

System: 4/22/2013 12:14:28 PM City of Ellensburg Page: 1
User Date: 4/22/2013 DETAILED ITEM LIST User ID: malcllat

Item Number	Item Description	Generic	Tax Schedule	U of M Schedule ID
Item Type	Shp-Wt	Qty On Hand	Qty Allocated	Qty On Order	Qty Drop-Ship PO	Qty Back Ordered	Qty Requisitioned
FOB	Vendor ID	Vendor Name	Vendor Item Number				

400151 REPAIR CLAMP SS - 1" (1.32) x 6" WATER EA
Sales Inventory 0.00 2 0 0 0 0 0
None 00632 H. D. FOWLER CO. INC SS1 1.32 x6
None 02826 HD SUPPLY WATERWORKS LTD 400151

400175 REPAIR CLAMP SS 1-1/2" (1.9) x 6" WATER EA
Sales Inventory 0.00 7 0 0 0 0 0
None 01379 UNITED PIPE & SUPPLY 400175

400232 REPAIR CLAMP - SS 2.4 X 6, 2" steel WATER EA
Sales Inventory 0.00 7 0 0 0 0 0

400334 COUPLING HYMAX 3.46 - 4.29 WATER EA
Sales Inventory 0.00 3 0 0 0 0 0
None 00632 H. D. FOWLER CO. INC 2000-0433-260

400336 Grip Ring 3' WATER EA
Sales Inventory 0.00 3 0 0 0 0 0
None 01379 UNITED PIPE & SUPPLY 400336
None 02826 HD SUPPLY WATERWORKS LTD 3" RM ROMAGRIP

400407 COUPLING ROMAC 4.50-4.81 x 5.10-5.30 WATER EA
Sales Inventory 0.00 2 0 0 0 0 0

400408 COUPLING ROMAC 4.11 - 4.81 WATER EA
Sales Inventory 0.00 3 0 0 0 0 0

400409 COUPLING 4" HYMAX 4.75- 5.61 WATER EA
Sales Inventory 0.00 5 0 0 0 0 0
None 01379 UNITED PIPE & SUPPLY 400409

400410 COUPLING ROMAC 4.8 - 5.45 WATER EA
Sales Inventory 0.00 1 0 0 0 0 0

Ellensburg City Code (Chapter 9)

9.40.700 Water contamination prevention.

A. The installation or maintenance of a cross-connection which will endanger the water quality of the potable water supply of the city is prohibited. Any such cross-connection now existing or hereafter installed is a nuisance and shall be abated. The control or elimination of cross-connections shall be in accordance with the Washington Administrative Code (WAC 246-290-490 or 296-24-12005) or subsequent revisions, together with any future manuals of standard practice pertaining to cross-connection control approved by the Director of the State of Washington Department of Health, and the city's "Cross-Connection and Backflow Policy and Procedure," which policy by this reference is incorporated into this title and which is on file with the office of the city clerk for public use and examination. The water supply will be discontinued to any premises for failure to comply with the provisions of this section and will not be re-established until compliance is approved by the public works director.

B. Service from the city water supply system to any premises upon which a private water supply system is used or operated contrary to the provisions of the rules and regulations of the State Department of Health regarding public water supplies may be discontinued or refused upon order of the public works director.

C. Furnishing of any fire suppression, irrigation or other service representing a backflow potential shall be contingent upon the installation of the backflow prevention device approved by the State of Washington Department of Health for the protection of the city water supply from backflow.

D. A public works irrigation/backflow permit shall first be issued prior to any connection being made to the city water system, when said connection has been identified as being a potential cross-connection. [Ord. 4503 § 2, 2007.]

Water Emergency - Phone List

		WORK #	HOME #	CELL #
CITY OF ELLENSBURG				
Ted Barkley	City Manager	962-7221	933-1514	859-4837
John Akers	Public Works Director	962-7230	925-1198	899-0221
Rick Bollinger	Asst. Public Works Director	962-7133	925-9171	929-7230
Art Sinclair	Water Division Foreman	962-7261	962-9407	929-7220
Reed Carlson	CCS	962-7278	331-4299	929-3814
Shawn Byers	Pump Maintenance	925-8628	899-4459	929-7222
Dale Miller	Police Chief	962-7248	911	
KITTITAS COUNTY				
Health Dept		962-7515		
State Patrol		925-2698		
John Sinclair	Fire District #2	933-7235		
WASHINGTON STATE				
Mark Steward (DOH)	Water Quality Specialist	329-2134		
Russell Mau (DOH)	Regional Engineer	329-2116		
Mike Wilson (DOH)	Cross Connection Control	329-3117		
After Hours (DOH)		877-481-4901		
LABORATORIES				
Cascade Analytical	Bacteriological Testing	509-452-7707		
Edge Analytical	Chemical Testing	800-755-9295		
FEMA				
Regional Office		206-487-4604		
Emergency Officer		800-258-5990		
Customer Assistance		800-462-9029		
STATE EMERGENCY				
Camp Murray	Terrorist	800-562-6108		
Homeland Security	Suspicious Activity	866-347-2423		
Disease Control	24-HR Hotline	888-246-2675		
DOE	Hazardous Substances	800-633-7585		

Washington State Department of Health
Office of Drinking Water

EASTERN DRINKING WATER OPERATIONS

16201 East Indiana Avenue, Suite #1500
Spokane Valley, Washington 99216
MAIN (509) 329-2100 ● FAX (509) 329-2104

REQUESTS FOR INFORMATION AND TECHNICAL ASSISTANCE

The Eastern Drinking Water Operations office is open Monday through Friday 8:00 a.m. to 5:00 p.m. Please direct all inquiries to our main line at (509) 329-2100. Staff are available to assist with most questions immediately. As necessary, other questions will be referred to the appropriate staff for response.

Visit our website at http://www.doh.wa.gov/communityandenvironment/drinkingwater.aspx

REGIONAL MANAGER

Dorothy Tibbetts, M.S, MPH
Dorothy.Tibbetts@doh.wa.gov
(509) 329-2105

- Supervises the Eastern Regional Office
- Participates in the Field Operations Management Team

ASSISTANT REGIONAL MANAGER

Craig Riley, P.E.
Craig.Riley@doh.wa.gov
(509) 329-2131

- Supervises the Regional Engineers and Planners
- Participates in the Field Operations Management Team

REGIONAL ENGINEERS

Regional Engineers are responsible for the implementation of the state's drinking water program in assigned counties. They conduct sanitary surveys and special purpose investigations of public water systems and promote needed water facility improvements. They also review and approve water system plans and specifications for system improvements and provide technical assistance to purveyors and local health departments upon request.

ADAMS ASOTIN KLICKITAT YAKIMA	BENTON FERRY FRANKLIN PEND OREILLE STEVENS WHITMAN	GRANT KITITTAS LINCOLN	SPECIAL PROJECTS	COLUMBIA GARFIELD WALLA WALLA SPOKANE	CHELAN DOUGLAS OKANOGAN HANFORD AREA SYSTEMS
Andres Cervantes, P.E.	***Tom Justus, P.E.***	***Russell Mau, Ph.D., P.E.***	***Jeff Johnson, P.E.***	***Ed Parry, P.E.***	***Mike Wilson, P.E.***
Andres.Cervantes@doh.wa.gov	Tom.Justus@doh.wa.gov	Russell.Mau@doh.wa.gov	Jeff.Johnson@doh.wa.gov	Ed.Parry@doh.wa.gov	Michael.Wilson@doh.wa.gov
(509) 329-2120	(509) 329-2119	(509) 329-2116	(509) 329-2110	(509) 329-2123	(509) 329-2117

SOURCE WATER QUALITY PROGRAM MANAGER

Bryony Stasney, L.Hg.
Bryony.Stasney@doh.wa.gov
(509) 329-2132

- Administers Source Monitoring Program for IOC, SOC, VOC and radionuclides
- Oversees water quality monitoring reports, susceptibility assessments and consumer confidence reports
- Provides technical assistance to water systems, local health jurisdictions and the public
- Conducts water quality investigations and sanitary surveys

WATER QUALITY SPECIALIST

Mark Steward
Mark.Steward@doh.wa.gov
(509) 329-2134

- Administers Coliform Program
- Oversees health advisory process
- Compiles & interprets water quality results
- Contact for coliform monitoring requirements

ENVIRONMENTAL SPECIALIST

Britta Renfro, MS
Britta.Renfro@doh.wa.gov
(509) 329-2133

- Administers Nitrate Program
- Assists with Coliform Monitoring Program/Assists with health advisory process
- Assists with Surface Water Treatment Program
- Oversees Chlorination Program

COMPLIANCE PROGRAM MANAGER

George Simon
George.Simon@doh.wa.gov
(509) 329-2135

- Initiates and tracks enforcement actions
- Operating Permit Program Manager
- Manages the enforcement database
- Researches and responds to adequacy requests (loan letters)
- Administers the Transfer of Ownership Program

WATER FACILITY INVENTORY PROGRAM ADMINISTRATOR

Katrina Anderson
Katrina.Anderson@doh.wa.gov
(509) 329-2128

- Reviews & processes Water Facility Inventory (WFI) forms

REGIONAL PLANNERS

Regional Planners are responsible for the implementation of the state's water system planning program in assigned counties. They review and approve waters system plans, small water system management programs, and satellite management agency plans. They provide technical assistance to purveyors regarding source water protection, water use efficiency, municipal water law, and managerial & financial capacity. Planners coordinate with Ecology on SEPA and water resources and act as liaisons with local governments on land use and water system development and the GMA.

CHELAN	**OKANOGAN**	**ADAMS**	**GARFIELD**
DOUGLAS	**PEND OREILLE**	**ASOTIN**	**GRANT**
FERRY	**SPOKANE**	**BENTON**	**KLICKITAT**
KITTITAS	**STEVENS**	**COLUMBIA**	**WALLA WALLA**
LINCOLN		**FRANKLIN**	**YAKIMA**

Heather Cannon
Heather.Cannon@doh.wa.gov
(509) 329-2121

Christine Collins, MURP
Christine.Collins@doh.wa.gov
(509) 329-2122

SANITARY SURVEY & GROUP B WATER SYSTEM COORDINATOR

Danielle Russell
Danielle.Russell@doh.wa.gov
(509) 329-2136

- Coordinates sanitary surveys and technical assistance for the ERO; acts as primary contact person for 3rd Party surveyors, providing pre-survey data reports; processes A-19s; enters deficiencies noted on the survey reports into Sentry for compliance tracking
- Performs well-site inspections
- Reviews and approves new Group B water systems, Farm Exempt Systems, and 2-Unit Waivers

ADMINISTRATIVE SUPPORT

Susan Stredwick
OFFICE MANAGER
Susan.Stredwick@doh.wa.gov
(509) 329-2106

Diana Jacobson
Diana.Jacobson@doh.wa.gov
(509) 329-2107

LeAnn Grant
LeAnn.Grant@doh.wa.gov
(509) 329-2108
&
Lavina Long
Lavina.Long@doh.wa.gov
(509) 329-2143

- Arrange training, travel (reservations/expense vouchers)
- Building and maintenance contact
- Processes complaints for Eastern Region water systems
- Public Disclosure Program
- Personnel, timekeeping, payroll, and inventory
- Meeting logistics, authorize payments, project assistance
- Maintains Sub Log database, generates approval letters, invoices, construction reports
- Provides administrative support to technical staff, proofing/editing
- Maintains database for water system submittals
- Project invoicing for water system reviews/approvals and quarterly reports
- Answer phones/reception, CCRs, motor pool
- Purchase equipment, supplies, & publications, process incoming/outgoing mail

SPECIALTY AREAS

Ground Water Under the Influence (GWI)	***Andres Cervantes, P.E.***	(509) 329-2120
Lead & Copper	***Ed Patry, P.E.***	(509) 329-2123
State Revolving Loan Fund Assistance	***Tom Justus, P.E.***	(509) 329-2119
Surface Water	***Mike Wilson, P.E.***	(509) 329-2117
Cross Connection Control	***Mike Wilson, P.E.***	(509) 329-2117
Water Rights Issues	***Christine Collins, MURP***	(509) 329-2122
Disinfection By-Products	***Russell Mau, Ph.D., P.E.***	(509) 329-2116

Safety

City of Ellensburg - Water Division
Respiratory Protection Program

Purpose -

The purpose of the respiratory protection program is to ensure the protection of all division employees from respiratory hazards through the proper use, selection, and maintenance of respirators.

Program Elements -

- Responsibilities
- Potentially Hazardous Environments
- Selection and Use of Respirators
- Training
- Medical Questionnaires / Interviews / Examinations
- Record Keeping

I – Responsibilities

Facility Safety Officer -

The Water Division Foreman is hereby designated as Facility Safety Officer (FSO) who will be responsible for the administration of this program and who has full authority to make decisions to ensure compliance with and the success of this program. This authority includes making recommendations for staffing and equipment purchases to implement and operate this program. The FSO will be responsible to maintain the written policies in a manner which ensures statutory compliance and a safe work environment.

The City of Ellensburg expressly authorizes the FSO and division supervisors to halt any operation that poses a threat to the respiratory health of employees.

Annually, the FSO will distribute and collect the respiratory questionnaires. They will be forwarded to the selected medical facility for review and, if necessary, the FSO will ensure that follow-up interviews and/or exams occur.

The FSO will ensure that each member issued a respirator will be properly fit tested and educated on the use and limitations of their respirator. Subsequent fit testing will be performed as needed (at least annually.)

The FSO will maintain all records described in section VI of this policy.

employees shall be mandatory prior to assignment to duties that would require respirator use. Training to all employees shall be initiated if significant changes in the respiratory protection program occur or if the respiratory equipment changes. The FSO shall initiate remedial training for any employee who fails to adhere to this policy.

V - Medical Evaluation

Questionnaire - Annually, each member who is issued a respirator or who may reasonably be expected to don a respirator at work shall be given a Respiratory Questionnaire. Completion of this questionnaire is mandatory and a copy is attached as Appendix A. The questionnaire will be forwarded by the FSO to the physician contracted by the city. The questionnaire shall be administered during normal work or at a time convenient to the employee and shall be strictly confidential. The questionnaire shall be administered in a way that ensures the employee understands all questions and the employee shall have the right to question the physician regarding the questionnaire if he/she chooses. The physician will review the questionnaire and may opt to approve the employee for respirator use, schedule a follow-up interview for more information or may schedule a physical exam prior to approval for respirator use.

Information For the Physician -

The physician shall have the following information prior to receiving the employee's respiratory questionnaire -

- Type and weight of respirator
- Duration and frequency of use by the employee
- Expected physical work effort
- Additional protective equipment / clothing that would reasonably be expected to be worn while using the respirator
- Temperature and humidity extremes that may be encountered

Additionally, the physician shall have a current copy of the workplace specific respiratory policy on file.

Medical Determination -

The FSO shall obtain a written recommendation from the physician which will include any limitations regarding respirator use, the need for follow-up interviews and/or exams - at employer cost and a statement that the employee was provided a copy of the written recommendation by the physician.

Introduction

A medical evaluation to determine whether an employee is able to use a given respirator is an important element of an effective respiratory protection program and is necessary to prevent injuries, illnesses, and even, in rare cases, death from the physiological burden imposed by respirator use. Previously, the Respiratory Protection Standard WAC 296-62-07109(3) required that a respiratory program administrator using guidelines established by a physician, determine whether or not a person could be assigned to a task requiring a respirator. The new (1999) Standard has a medical evaluation requirement for respirator users which identifies who is to be evaluated, and addresses the frequency and content of these evaluations. It authorizes licensed health care professionals, both physicians and non-physicians, (PLHCP) to evaluate employees for respirator use to the extent authorized by the scope of their state licensure, and to conduct follow-up medical evaluations based on specific indicators of need.

The purpose of a medical evaluation program is to ensure that any employee required to use a respirator can tolerate the physiological burden associated with such use, including the burden imposed by the respirator itself (e.g., its weight and breathing resistance during both normal operation); musculoskeletal stress (e.g., SCBA use); limitations on auditory, visual, and odor sensations; and isolation from the workplace environment. Certain conditions in which a respirator is used can also impose a physiological load on the user; factors to be considered include the duration and frequency of respirator use, the level of physical work effort, the use of protective clothing, and the presence of temperature extremes or high humidity. Job-and workplace-related stressors may interact with respirator characteristics to increase the physiological stress experienced by employees. For example, being required to wear protective clothing (PPE) while performing the typical work encountered at the fireground imposes a heavy workload that can be highly stressful. Specific medical conditions can compromise an employee's ability to tolerate the physiological burdens imposed by respirator use, thereby placing the employee at increased risk of illness, injury, and even death. These medical conditions include cardiovascular and respiratory diseases (e.g., a history of high blood pressure, angina, heart attack, cardiac arrhythmias, stroke, asthma, chronic bronchitis, emphysema), reduced pulmonary function caused by other factors (e.g., smoking or prior exposure to respiratory hazards), neurological or musculoskeletal disorders (e.g., ringing in the ears, epilepsy, lower back pain), and impaired sensory function (e.g., a perforated ear drum, reduced olfactory function). Psychological conditions, such as claustrophobia, can also impair the effective use of respirators by employees and may also cause, independent of physiological burdens, significant elevations in heart rate, blood pressure, and respiratory rate that can jeopardize the health of employees who are at high risk for cardiopulmonary disease. Claustrophobia and severe anxiety may be evaluated as these conditions are often detected during respirator training.

A medical evaluation must be performed on every employee required to use a respirator, regardless of the duration and frequency of respirator use. The initial medical evaluation must be conducted prior to fit testing to identify those employees who have medical conditions that contraindicate even the limited amount of respirator use associated with fit testing. If medical problems are observed during fit testing, the employee must be medically re-evaluated.

A-1-2.1 Respirator Medical Evaluation Questionnaire (Mandatory)

To the employer: Answers to questions in Section 1, and to question 9 in Section 2 of Part A, do not require a medical examination.

To the employee: Your employer must allow you to answer this questionnaire during normal working hours, or at a time and place that is convenient to you. To maintain your confidentiality, your employer or supervisor must not look at or review your answers, and your employer must tell you how to deliver or send this questionnaire to the health care professional who will review it.

Part A-Section 1 (Mandatory). The following information must be provided by every employee who has been selected to use any type of respirator (please print).

1. Today's Date: _____

2. Your Name: _____

3. Your Age (To Nearest Year): _____ 4. Sex: ☐ Male ☐ Female

5. Your Height: _____ ft. _____ in.

6. Your Weight: _____ lbs.

7. Your Job Title: _____

8. Phone Number: (____) _____
   Where you can be reached by the health care professional who reviews this questionnaire.

9. Best Time to Phone You At This Number _____

10. Has your employer told you how to contact the health care professional who will review this questionnaire? ☐ **Yes** ☐ **No**

11. Check the type(s) of respirator you will use:
    - ☐ N, R, or P disposable respirator (filter-mask, non-cartridge type only).
    - ☐ Other type (for example, half or full-facepiece type, powered-air purifying, supplied-air, self-contained breathing apparatus).

12. Have you worn a respirator? ☐ **Yes** ☐ **No**
    If yes, what type(s)? _____

Part B-Section 2. Any of the following questions and other questions not listed may be added to the questionnaire at the discretion of the health care professional who will review the questionnaire.

1. In your present job, are you working at high altitudes (over 5,000 ft.) or in a place that has lower than normal amounts of oxygen? ☐ Yes ☐ No

   If "yes", do you have feelings of dizziness, shortness of breath, pounding in your chest, or other symptoms when you're working under these conditions? ☐ Yes ☐ No

2. At work or at home, have you ever been exposed to hazardous solvents, hazardous airborne chemicals (e.g., gases, fumes, or dust) or have you come into skin contact with hazardous chemicals? ☐ Yes ☐ No

   If "yes", name the chemicals if you know them:

   ■

   ■

3. Have you ever worked with any of the materials, or under any of the conditions, listed below?

a.	Asbestos:	☐ Yes ☐ No
b.	Silica (e.g., in sandblasting):	☐ Yes ☐ No
c.	Tungsten/cobalt (e.g., grinding or welding this material):	☐ Yes ☐ No
d.	Beryllium:	☐ Yes ☐ No
e.	Aluminum:	☐ Yes ☐ No
f.	Coal (for example, mining):	☐ Yes ☐ No
g.	Iron:	☐ Yes ☐ No
h.	Tin:	☐ Yes ☐ No
i.	Dusty environments:	☐ Yes ☐ No
j.	Any other hazardous exposures:	☐ Yes ☐ No

   If "yes", describe these exposures: _____

4. List any second jobs or side businesses you have:

   ■

5. List your previous occupations:

   ■

   ■

6. List your current and previous hobbies:

   ■

CITY OF ELLENSBURG

Lockout - Tagout Procedure
Safety Procedures for Water, Wastewater, Shop & Warehouse and Electric Divisions

Control of Hazardous Energy WAC 296-24-110

To ensure full employee protection the City will use a Lockout - Tagout system. The standard means of controlling residual energy will be a Lockout system. Only systems that are not capable of being locked out will be tagged out. In cases where a tagout must be used, it will be attached in the same location that a lockout would be used.

A **Lockout** is simply a locking device, such as a padlock, placed on a power source to prevent the release of hazardous energy that could set a machine in motion or otherwise endanger an employee working on the machine. Locks may be used with a lockout device that holds energy control point, such as a switch, lever or valve, in the off position, making it impossible to operate.

A **Tagout** is a written warning telling all others not to operate a switch or valve that could release hazardous energy or set a machine in motion. The tagout is placed prominently on the switch or lever so as not to be missed.

Responsibilities

It shall be the responsibility of the Supervisor to enforce the lockout-tagout procedure as well as provide the necessary equipment to comply in all respects with the procedure. Transferred employees shall be instructed by their supervisor in the purpose and use of the lockout-tagout procedures listed below.

1. The Operations Workgroup shall be responsible for being knowledgeable of and adhering to this procedure. No locks shall be removed from equipment without first consulting the person who locked the equipment off.

2. A lockout-tagout continued from one shift to the next shall be the responsibility of the employee who applied the lock involved to remove the appropriate lock and replace it with a new one if it is to be serviced during that shift. If a machine is not going to be serviced during the following shift the lock may remain until the original employee has completed the servicing and removes the lock.

3. If more than one individual is required to lockout or tagout equipment, each shall place their own lock or tag on the affected equipment in such a way as to be certain the equipment is locked out. If the affected equipment can not accept multiple locks or tags, a multiple lockout or tagout hasp shall be used.

7. The maintenance will not create hazards for other employees.

The following are specific procedures to be followed for lockout-tagout.

1. Notify affected employees of the impending lockout situation, the reason for it and estimated start and duration times.

2. Equipment shutdown and isolation. Place all switches in the "off" or "safe" position. Disconnect sources of power, ensuring all sources of both primary and secondary power to the equipment are interrupted.

3. Dissipate residual energy. Shutting down equipment does not mean there is no energy left in it. Check for trapped pressure or residual electricity in the system. This may include bleeding hydraulic fluid, draining pipes, etc.

4. Lockout or tagout all in-line points of control. In most cases, this may be more than one place, or more than one lock, if several people are working on the equipment.

5. Lockout verification. Take nothing for granted. Verify that the locked-out switch or control can not be overridden. Test the equipment to be certain that the locked-out switch is de-energized & not simply malfunctioning. Press all start buttons or valves to see if the equipment starts. Ensure the system you will be working on is the same one that has been locked out.

6. Perform the work scheduled. Try to foresee all possible hazards. Ensure the new/repair work does not bypass the lockout and reactivate the system.

7. Lock and/or tag removal. All locks and tags are to be left in place until work is completely finished. This is especially true when more than one employee is working on the equipment. A lock is never to be removed except by the person who placed it there.

NOTE: Only immediate supervisors are to authorize emergency removal of a lock or tag.

8. Equipment start up. Make a final safety check before restarting equipment, to be certain it is safe to operate. Make sure of the following:

   A. All tools and other items have been removed.
   B. All machine guards are returned to their proper position.
   C. All electric, hydraulic, pneumatic or other systems are properly reconnected.
   D. All employees are clear of equipment.

PERSONAL PROTECTIVE EQUIPMENT - SELECTION AND USE

General

All personal protective equipment and accessories shall be of a type approved by the Department of Labor and Industries and in accordance with WISHA standards or other applicable regulations or standards available for review at the City Shop, City Hall, or Public Safety Building.

All persons required to use protective equipment shall be properly instructed in the use and care of such equipment by their supervisor or individual directing the work.

Items of personal wear shall be maintained in serviceable condition and shall be cleaned, sterilized, inspected, and repaired if necessary before being reissued to other employees or returned to storage.

Loose and frayed clothing, dangling ties, hand rings, etc., shall not be worn around moving machinery or other source of entanglement.

It shall be the duty of the supervisor in any department to follow prescribed specific policy and laws on wearing or using personal protective equipment on any job under his/her supervision and make periodic checks to see that such policy is being adhered to by his/her foreperson and the employees supervised.

Evaluation of safety procedures and equipment shall be completed by the individual directing the work. These individuals shall at a minimum consider the following three steps:

1. Determine the Need. When faced with a hazardous situation, one should immediately attempt to eliminate it. For instance a machine that effectively confines flying particles eliminates a cause of accidents. This is a better solution to the problem than the use of goggles designed to prevent injury. Likewise, dangerous solvents, chemicals and other vapor or fumes from hazardous substances should be confined to a pipe or closed tank, or the fumes should be exhausted mechanically, instead of depending on a respirator to protect an operator required to work in a hazardous environment.

   Protection by mechanical means is generally more reliable than protection dependent upon human behavior. If it is impractical to eliminate a cause of accidents by mechanical means, an effort should be made to prevent the work force from coming in contact with the hazard. Only when mechanical means and separation have been found impractical should dependence be placed on personal protective equipment.

2. Select Proper Type. Once the need for personal protective equipment has been established, the proper type must be selected. Two criteria should be used:

   a) The degree of protection which a particular piece of equipment affords under varying conditions. b) The ease with which it may be used.

3. Use Protective Equipment Properly. Two factors influence this issue in varying degrees:

   a) The extent to which personnel who must wear the equipment understand the necessity of it; b) The ease and comfort with which it can be used as well as a minimum of interference with normal work procedures. Employees must be given a clear and reasonable explanation of how and why the equipment must be used, and periodic checks shall be made to check for compliance.

The following sections are extracted from the Washington Administrative Code and bear the force of law. Employees are required to wear PPE when engaged in the following listed activities (not meant to be an inclusive list).

Personal Protective and Life Saving Equipment

WAC 296-155-200 - General Requirements.

(1) Application:

(a) Protective equipment, including personal protective equipment for eyes, face, head, hearing, and extremities, protective clothing, respiratory devices, and protective shields and barriers, shall be used, and maintained in a sanitary condition whenever it is necessary by reason of hazards of processes or environment, chemical hazards, radiological hazards, or mechanical irritants encountered in a manner capable of causing injury or impairment in the function of any part of the body through absorption, inhalation or physical contact.

(b) Employee owned equipment. Where employees provide their own protective equipment, the employer shall be responsible to assure its adequacy, including proper maintenance and sanitation of such equipment.

(c) Design. All personal protective equipment shall be of safe design and construction for the work to be performed.

(2) Construction *personnel shall comply* with plant or *job safe practice and procedures*, peculiar to particular industries and plants, *relating to protective equipment and procedures* when engaging in construction work in work areas.

(3) The *Employer is responsible for requiring* the *wearing or using* of appropriate personal *protective equipment* in *all operations where there is* an *exposure* to *hazardous conditions* and where this part indicates a need for using such equipment to reduce the hazards to the employee.

(4) Where there is danger of contact with moving parts of machinery, or the work process is such that a hazard exists: a) the clothing of employees shall fit closely about the body; b) dangling neck wear, bracelets, wristwatches, rings, or similar articles shall not be worn by employees.

(5) Employees, whose duties are performed in areas and under circumstances where they are exposed to the danger of moving vehicles, shall wear work vests of highly visible materials, or equivalent distinguishing apparel.

(6) Employers shall ensure that employees wear no less than a short sleeved shirt, long pants, and shoes meeting the requirements of WAC 296-155-212. Employees shall wear no less than a short sleeved shirt, long pants, and shoes meeting the requirements of WAC 296-155-212.

Note: For additional personal protective and life saving equipment requirements, refer to the general safety and health standards. WAC 296-24-075 through 296-24-092.

WAC 296-155-205 - Head Protection.

(1) All employees on any construction site shall be provided an individual hard hat which meets all requirements of (a) and (b) of this subsection. Employers shall provide individual hard hats at no cost to the employees.

(a) Hard hats are for the protection of employees against impact and/or penetration of falling and flying objects shall meet the specification contained in American National Standards Institute, Z89.1-1969, Safety Requirements for Industrial Head Protection.

(b) Hard hats for the head protection of employees exposed to high voltage electrical shock and burns shall meet the specifications contained in American National Standards Institute, Z89.2-1971.

(2) All employees on or near construction sites must have their individual hard hats on site and readily available at all times.

(3) All employees shall wear a hard hat on any construction site whenever there is a potential exposure to danger of flying or falling objects to persons working or occupying the area.

Note: The hard hat may be removed whenever there is no potential exposure to a hazard. Examples include but are not limited to:

(a) Equipment operators when within an enclosed operator's cab.
(b) Employees within fully enclosed structure.
(c) Where there is no potential for falling or flying objects.

(4) Employees working on asphalt paving crews when they are exposed to extreme temperature from hot mix and when they are not exposed to falling objects need not wear protective hard hats. Flaggers working in conjunction with asphalt paving operations shall wear protective hard hats.

(5) Caps with metal buttons or metal visors shall not be worn around electrical hazards.

(6) Employees working near moving machinery or in locations which present a hair-catching or fire hazard shall wear caps, nets or other head and face protection that will completely contain the hair.

All employees shall be required to wear hard hats at any other time where the employee's experience and judgement indicate that hard hats should be worn.

Definitions

(1) **Construction Site** includes street construction and maintenance, utility construction and maintenance or any location where building activity is occurring, whether or not performed by City employees.
(2) **Immediate Area** is where equipment is operating or construction activity is presenting any risk to the employee.
(3) **Operating Equipment** includes any equipment capable of movement presenting any risk to the employee.

WAC 296-155-210 - Hearing Protection.

(1) The hearing protection requirements of the general occupational health standards, chapter 296-62-WAC, shall apply.

(2) Any employee exposed to 8 hour time-weighted average of 85 DBA or greater shall:
a) Be provided and wear proper ear protection when required: b) have an annual hearing exam by a licensed audiologist at the expense of the City, and c) participate in an annual hearing conservation training program.

(3) The most recent noise survey was completed May 5, 1993 with the following results:

Several operations have the potential to have exposures over 85 decibels on a time weighted average of 480 minutes. Labor & Industries, through its Industrial Hygiene Consultant, Martin Weis, strongly suggests that all public works employees be covered under a "blanket program" hearing conservation program as specified under WAC 296-62-09015-09055. A copy of the sound level readings conducted during this consultation is on file in the Personnel Office. As a general guideline, most heavy equipment generate noise levels in the 80-95 decibel range, i.e. hoepack, grader, loader, mowers. In addition, the well pump motors, air compressors, weed wacker/blower are among other equipment which hearing protection is required to operate.

The program is mandatory for employees in public works, energy services, public safety, park and recreation. For all other employees, the program is voluntary.

WAC 296-155-211 - Leg Protection.

(1) Employees whose duties require them to operate a power chain saw shall wear flexible ballistic nylon pads, sewn or otherwise fastened into the trousers, or other equivalent protection that will protect the vulnerable areas of the legs.

WAC 296-155-212 - Foot Protection.

(1) Substantial footwear, made of leather or other equally firm material, shall be worn by employees in any occupation in which there is a danger of injury to the feet through falling or moving objects, or from burning, scalding, cutting, penetration, or like hazard.

(a) The soles and heels of such footwear shall be of a material that will not create a slipping hazard.

(b) Shoes made of leather or other firm materials that have soft athletic-type soles which would protect employees from foot injuries and at the same time, provide soft and firm footing while working under specialty requirements or with specialty materials are acceptable if meeting safety shoe requirements established of OSHA or ANSI.

(c) Footwear that has deteriorated to a point where it does not provide the required protection shall not be used.

WAC 296-155-215 - Eye And Face Protection.

(1) General.

(a) Employees shall use eye and face protection equipment when machines or operations present potential eye or face injury from physical, chemical, or radiation agents.

(b) Eye and face protection equipment required by this part shall meet the requirements specified in American National Standards Institute, Z87.1-1968, Practice for Occupational and Educational Eye and Face Protection.

(c) Employees whose vision requires the use of corrective lenses in spectacles, when required by this regulation to wear eye protection, shall be protected by goggles or spectacles of one of the following types:

(i) Spectacles whose protective lenses provide optical correction.

(ii) Goggles that can be worn over corrective spectacles without disturbing the adjustment of the spectacles.

(iii) Goggles that incorporate corrective lenses mounted behind the protective lenses.

(d) Face and eye protection equipment shall be kept clean and in good repair. The use of this type equipment with structural or optical defects shall be prohibited.

(e) Table C-1, contained in WAC 296-155-215, shall be used as a guide in the selection of face and eye protection for the hazards and operations noted.

2. Protection against radiant energy.

(a) Selection of shade numbers for welding filter. Table C-2 shall be used as a guide for the selection of the proper shade numbers of filter lenses or plates used in welding. Shades more dense than those listed may be used to suit the individual's needs.

WAC 296-62-071 - Respiratory Protection.

General. In emergencies, or when controls required by Part E of WAC 296-62-071 either fail or are inadequate to prevent harmful exposure to employees, appropriate respiratory protective devices shall be provided by the employer and shall be used in accordance with WAC 296-62-071.

The purpose of a respiratory protection program is to ensure the protection of employees from respiratory hazards while performing duties in potentially hazardous environments, i.e., pipe cutting or grinding operations, painting or sandblasting, wet well operations, natural gas pipeline operations. The City has identified the following departments/divisions as having personnel who may perform duties requiring respiratory protection: Public Works, Public Safety, Park & Recreation, Energy Services/Natural Gas Division. These divisions have developed policy and procedures to ensure safety of employees. A copy of the written procedure is contained in each respective department/division safety handbook and can be reviewed by any employee upon request. Training is conducted annually to familiarize employees with the policy on respiratory protection, and more comprehensively for employees who perform duties requiring respirator use.

WAC 296-155-225 - Safety belts, droplines, lifelines, and lanyards.

(1) General.

(a) When work is to be performed from locations 10 feet or more in height, guardrails or wire rope railings shall be installed.

(b) Safety belts shall be used when workers are exposed to the hazard of falling from buildings, bridges, structures, or construction members such as trusses, beams, purlins, or plates at elevations exceeding 10 feet above ground, water surface, or continuous floor level below.

(c) When requirements in (a) and (b) of this subsection are impractical, approved-type safety nets shall be used. WAC 206-155-230.

(d) When the work is of limited duration and limited exposure, and the hazards involved in rigging and installing the safety devices required by this section equal or exceed the hazards involved in the actual construction, these provisions may be temporarily suspended for connectors only, provided adequate risk control is exercised under immediate competent supervision.

(2) (a) Safety belts and lanyards shall be worn by any worker exposed to a fall of ten feet or more from an elevated work area not otherwise protected by the provisions of this section. The anchor end of the lanyard shall be secured at a level not lower than the workman's waist, and at a horizontal distance not to exceed 6 feet. Where the waist level connection is not possible, connections at foot level may be permitted, provided that adequate risk control procedures are followed. Lanyards shall be secured to a substantial member of the structure or to securely rigged lines.

(b) If worker's duties require horizontal movement, rigging shall be provided so that the attached lanyard will slide along with him. Such rigging shall be provided for all suspended staging, outdoor advertising sign platforms, floats and all other catwalks, or walkways 10 feet or more above the ground or level beneath.

(3) Lifelines, droplines, safety belts and lanyards shall be used only for employee safeguarding. Any lifeline, safety belt or lanyard actually subjected to in-service loading, as distinguished from static load testing, shall be immediately removed from service and shall not be used again for employee safeguarding.

(4) Droplines shall be secured to an anchorage or structural member capable of supporting a minimum dead weight of 5,400 pounds and shall extend below the operation a sufficient distance to permit a safe landing but shall not touch the ground, walking surface, or safe landing area.

(5) Droplines or lifelines used on rock-scaling operations, or in areas where the lifeline may be subjected to cutting or abrasion, shall be a minimum of 7/8-inch wire core manila rope. For all other lifeline applications, a minimum of 3/4-inch manila or equivalent, with a minimum breaking strength of 5,400 pounds, shall be used.

(6) Safety belt lanyard shall be a minimum of 1/2-inch nylon, or equivalent, with a maximum length to provide for a fall of no greater than 6 feet. The rope shall have a nominal breaking strength of 5,400 pounds.

(7) All safety belt, harness, and lanyard hardware shall be drop forged or pressed steel, cadmium plated in accordance with type 1, Class B plating specified in Federal Specification QQ-P-416. Surface shall be smooth and free of sharp edges.

(8) All safety belt and lanyard hardware assemblies shall be capable of withstanding a tensile loading of 4,000 pounds without cracking, breaking, or taking a permanent deformation and shall conform to the requirements of ANSI A10.14-1975.

(9) No employee shall enter a gas main, sewer, sewer flue, duct, tunnel, or other similar place without first notifying the supervisor of his intention to do so. Employees entering such

places shall wear a safety harness with attached retriever line. A watchman capable of maintaining communications at all times shall be stationed at the opening through which the worker entered. See WAC 296-62-145 through 296-62-14529.

(10) Safety belts, harnesses, lanyards, lifelines or droplines, independently attached or attended, shall be used while performing the following types of work when other equivalent type protection is not provided:

(a) Work in hoppers, bins, silos, tanks, or other confined spaces.

(b) Work on hazardous slopes, structural steel (except as provided in subsection (1)(d) of this section), erecting or dismantling safety nets, tying reinforcing bars, working on poles or from boatswains chairs at elevations greater than six feet (1.83 m), swinging scaffolds or other unguarded locations.

(c) Work on slips and platforms used in shafts by crews when the skip or cage does not occlude the opening to within one foot (30.5 cm) of the sides of the shaft, unless cages are provided.

WAC 296-155-305 - Signaling.

(1) **Flaggers.**

(a) When operations are such that signs, signals, and barricades do not provide the necessary protection on or adjacent to a highway or street, flaggers or other appropriate traffic controls shall be provided.

(b) Signaling directions by flaggers shall conform to American National Standards Institute D6.1-1978, Manual on Uniform Traffic Control Devices for Streets and Highways, as amended by the Washington State Department of Transportation. (M24-01 (HT).).

(c) Hand signaling by flaggers shall be by use of sign paddles at least 18 inches in diameter with series "C" letters at least 6 inches high or lights approved by the transportation commission. When hand signaling is done in periods of darkness, the sign paddles must be reflectorized or illuminated as required by ANSI D6.1-1978, Manual on Uniform Traffic Control Devices. The "STOP" side of the paddle shall have a red background with white lettering. When a paddle has a "SLOW" side, the background shall be orange and the lettering black. Colors shall conform to ANSI D6.1 current edition.

(d) Flaggers shall wear an orange warning garment and a yellow protective helmet while flagging. Warning garments worn at night shall be of reflectorized material.

Yellow is specified as the color for helmets; the issue is clearly one of high visibility. Many users have purchased helmets of other colors; some are reflectorized. The Department is not in receipt of a complaint that any of these other colors provide less visibility than the specified yellow color. Furthermore, the iridescent or reflectorized hard hats now available in several colors do provide "high visibility" in both day and night applications. New protective helmets shall be issued every three years to ensure maximum visibility and reflectability.

(e) Each flagger shall have in their possession a valid certificate of completion of an approved flagging course. A certificate is valid for a three year period.

NOTE: Personnel that have not completed a flagging course may be assigned duties as flaggers only during emergencies when a sudden, generally unexpected, set of circumstances demands immediate attention.

WAC 296-155-310 - Barricades.

Barricades for protection of employees shall conform to the portions of the American National Standards Institute D6.1-1971, #928 Manual on Uniform Traffic Control Devices for Streets and Highways, as amended by the Washington State Department of Highways. (M24-01 (HT)), relating to barricades.

WAC 296-24-233 - Wheel chocks.

Trucks parked on an incline shall have the steered wheels turned into the curb and shall have at least one "driver" wheel chocked on each side, independent of the braking system.

A) Check the machine or equipment and the immediate area around it to ensure that nonessential items have been removed and that the equipment is operationally intact.
B) Check the work area to ensure that all employees have been safely positioned or removed from the area.
C) Verify controls in neutral/off position.
D) Remove tags and locking device and energize.
E) Notify affected employees that the servicing and/or maintenance is completed and that the equipment is ready for use.

The City of Ellensburg has identified the following departments/divisions as having personnel who may perform duties requiring lockout/tagout procedures: Water, Wastewater, Shop & Warehouse, and Electric Division of Energy Services. These divisions have developed policy and procedures to ensure safety of employees. A copy of the written procedure is contained in each respective department/division safety handbook and can be reviewed by any employee upon request. Training is conducted annually to familiarize crews with this procedure and more comprehensively for affected employees.

WAC 296-155-675 - Trenching and Shoring

Use shoring whenever an excavation is unsafe to be in without the danger of the sides collapsing and trapping someone. A trench must be shored whenever the ditch is four or more feet deep, over someone's head, or if the slope of the grade and depth do not meet the requirements. (The slope and depth requirement information is with the shoring equipment.) The following rules shall also apply:

1. When a trench or ditch is less than four feet deep and has unstable soil conditions.
2. All employees using shoring must be trained.
3. All contractors for the City are required to supply a safe working environment for their employees and all City employees pertaining to trenching and shoring regulations.
4. Tabulated data and slope and depth requirements shall be kept with the equipment and available for reference at the work site.
5. All trenches, ditches, and excavations shall be monitored for gases while in the trench.
6. Sloping or benching the sides of a trench may be used when it follows the WISHA regulations.

A competent person shall be responsible for making sure all trenches and shoring practices are safe. A competent person is one who can identify hazards in the general surroundings that could cause injury to the employee due to unstable soil conditions and who is knowledgeable in trenching and shoring requirements. This person has the authority to take prompt corrective measures to eliminate any unsafe practices.

CITY OF ELLENSBURG
Confined Space Procedure
Safety Procedures for Water Department

CONFINED SPACE ENTRY POLICY

Entry into confined spaces, with many attendant safety related problems, is responsible for many of the deaths and injuries at wastewater treatment plants and sewer collection facilities. The primary dangers associated with confined spaces in the wastewater industry are oxygen deficient atmospheres, explosive atmospheres, falling, drowning, and the presence of toxic gases. Any of these conditions are possible in sewer manholes, pump station wet wells, digesters and other confined spaces within the Wastewater Division.

OSHA Part 1910--Occupational Safety and Health Standard defines a contined space as a space that:

1. Is large enough and so configured that an employee can bodily enter and perform assigned work; and
2. Has limited or restricted means for entry or exit; and
3. Is not designed for continuous employee occupancy.

A permit-required confined space (permit space) means a confined space that has one or more of the following characteristics:

1. Contains or has a potential to contain a hazardous atmosphere;
2. Contains a material that has the potential for engulfing an entrant;
3. Has an internal configuration such that an entrant could be trapped or asphyxiated by inwardly converging walls or by a floor which slopes downward and tapers to a smaller cross-section; or
4. Contains any other recognized serious safety or health hazard.

A non-permit confined space is a confined space that does not contain or, with respect to atmospheric hazards, have the potential to contain any hazard capable of causing death or serious physical harm.

The Ellensburg Water Distribution System contains many confined spaces, all of which meet the definition of permit spaces. Most confined spaces in the Water Division are meter vaults or valve vaults, but other structures such as the Vuecrest Booster Station and the Reservoir Telemetry Vault also meet the definition of confined space.

Entry Procedures

Permit required confined spaces (permit spaces): All meter vaults and valve vaults are considered permit spaces without exception. The proper tools, safety and protective equipment shall be on hand before the confined space entry is attempted. Before entry the floor should be

Gas Monitors

The gas monitors used in the Wastewater Division will detect an oxygen deficiency, the presence of a toxic gas or an explosive atmosphere. These three conditions are commonly associated with confined spaces. An oxygen deficient atmosphere can occur when the oxygen is replaced by another gas often as a result of bacterial action associated with wastewater or wastewater sludges. Normal air contains 20.9% oxygen at sea level. Most gas monitors will alarm when the oxygen level drops to 19.5%.

A common toxic gas associated with wastewater and wastewater treatment is hydrogen sulfide. Hydrogen sulfide is generated by bacterial action associated with septic conditions. At low concentration (less than 3 ppm) hydrogen sulfide smells like rotten eggs. It becomes particularly dangerous at higher concentrations (20-30 ppm and above) because it paralyzes the olfactory system and cannot be smelled. In addition to being toxic and potentially fatal to personnel, hydrogen sulfide is corrosive. The AIM Logic 600 Series monitors utilized by the Wastewater Division are calibrated to detect the presence of hydrogen sulfide.

Flammable or explosive gases can also present a hazard in confined spaces. Gasoline can enter collection and treatment systems through leading underground storage tanks, spills or deliberate discharges. Methane gas is a very common explosive gas associated with wastewater systems. The AIM Logic 600 monitors are calibrated for methane gas. Employees shall be familiar with the proper operation and care of the gas monitor, and have access to the monitor and the user's manual.

Training

Before any confined space work is performed, the City of Ellensburg Water Division takes responsibility to properly educate and train Water Division employees to safely enter and safely perform assigned tasks in both permit required confined spaces(PRCS) and non-permit confined spaces (NPCS). Ellensburg also ensures that the proper procedures are followed, and that the confined space work is conducted safely. Formal classroom training is done at least yearly. If possible, it is recommended that practice in the use of rescue equipment (tripod and winch) be conducted every 6 months. The classroom training should familiarize employees with the OSHA and WISHA (Federal and State) confined space regulations. The classroom training shall also cover:

* The written procedure for confined space entry, which includes planning, general precautions, and evaluation of hazards.
* The purpose and use of a confined space entry permit.
* The duties of the entrant, attendant, and entry supervisor.
* A complete list of all PRCS and NPCS at the wastewater facility and collection system.
* The proper use of ventilation equipment.
* The proper use of gas-monitoring equipment.
* The proper use of SCBA's, by 3 designated.

hat, ear protection, gloves leather/rubber (depending on job).

* Respiratory protection - will be determined at time if needed for job.
* Full body harness/safety belt, life line, double locking lanyard, mechanical retrieval device.
* Non spark tools where required.
* Communication devices.
* Barriers, shields to protect worker in pit.
* Adequate lighting
* Lock out tags/locks when needed, flanges or other devices to block a potential hazard from employee in work space. (like sludge pipe, lock on valve)etc.

Starting with:

* If permit is required, set that up.
* Check floors for sludge or any other hazards, clean and remove hazards before work is started.
* Set up related safety equipment.
* Set up ventilation equipment, 5 air exchanges need to be done before entering, air exchange must be kept going while in confined space.
* Fill out permit information, if permit is required above info is required on permit.
* Test atmosphere in this order
    1. OXYGEN CONTENT
    2. FLAMMABLE GASES, VAPORS
    3. TOXIC CONTAMINANTS

WATER DEPARTMENT
CONFINED SPACE ENTRY FORM

Entry Supervisor Signature _____

Date and Time of Entry _____

Confined Space Location _____

Manhole Number or Confined Space Name _____

Reason for Entry _____

Atmospheric Checks

Oxygen_____% _____

Flammable Gases_____% _____

Toxics ppm _____

Time _____

Entry Person's Name _____

Standby Persons _____

Entry Supervisor_____Fire Department Notification YES NO

Equipment

Gas Monitor tested YES NO

Safety harness and life line YES NO

Hoisting equipment YES NO

Ventilation Mechanical YES NO Natural Ventilation only YES NO

Protective clothing-gloves YES NO Eye protection YES NO Breathing filter YES NO

Electrical equipment listed class I, Division I, Group D and non sparking tools YES NO

Communications Procedures-Minimum ask for atmospheric checks every 15 minutes.

Rescue Procedures-If the gas monitor alarms for any reason the person must exit the space. If the person will not respond to the exit request, use the retrieval system to bring them out. Contack Kittcom #81 on the radio. Identify the call as an emergency and ask for assistance, or call 911.

Time _____ Time _____

Oxygen_____% _____ Oxygen_____% _____

Toxic ppm_____ Toxic ppm _____

Time_____ Time _____

Oxygen_____% _____ Oxygen_____% _____

Toxic ppm_____ Toxic ppm _____

CITY OF ELLENSBURG
Confined Space Procedure
Safety Procedures for the Water Department

CONFINED SPACE ENTRY POLICY

Entry into confined spaces, with many attendant safety related problems, is responsible for deaths and injuries in the Water Maintenance Field. The primary dangers associated with confined spaces in the water industry are oxygen deficient atmospheres, explosive atmospheres, falling, drowning, and the presence of toxic gases. Any of these conditions are possible in water valve manholes, meter vaults, water towers, and booster pumping stations that are confined spaces within the Water Division.

OSHA Part 1910.--Occupational Safety and Health Standard defines a confined space as a space that:

1. Is large enough and so configured that an employee can bodily enter and perform assigned work; and
2. Has limited or restricted means for entry or exit and
3. Is not designed for continuous employee occupancy.

A permit-required confined space (permit space) means a confined space that has one or more of the following characteristics:

1. Contains or has a potential to contain a hazardous atmosphere;
2. Contains a material that has the potential for engulfing an entrant;
3. Has an internal configuration such that an entrant could be trapped or asphyxiated by inwardly converging walls or by a floor which slopes downward and tapers to a smaller cross-section; or
4. Contains any other recognized serious safety or health hazard.

A non-permit confined space is a confined space that does not contain or, with respect to atmospheric hazards, have the potential to contain any hazard capable of causing death or serious physical harm.

The Ellensburg's water system contains many confined spaces, not all of which meet the definition of permit spaces. Each specific confined space in the system will be discussed and classified at the end of this written policy. Confined spaces designated, as permit-spaces will require additional procedures including completion of an entry permit.

Entry Procedures

Non permit confined spaces: Some work areas in the system meet the definition of a confined space but are well ventilated and do not have a reasonable potential for a hazardous atmosphere. Examples would include the Twin City Foods meter vault and the Brooklane Booster Pump

Station. These work areas have ventilation systems and ladders for easy access. If an employee observes an unusual condition such as the ventilation fan not operating, a portable ventilation blower would be bought to the site. Special procedures have been established for entry into other non-permit spaces. A gas monitors should be used to check atmospheric conditions in non-permit spaces and ventilation may be required. Procedures for each specific confined space are detailed at the end of this written policy.

Permit required confined spaces (permit spaces): All permit spaces will be pre-designated and labeled in a manner that advises employees that special precautions and procedures must be followed before and during entry. Each will be posted with a sign stating **"DANGER--PERMIT-REQUIRED CONFINED SPACE, NO NOT ENTER"**. Some value vaults and meter vaults are considered permit spaces without exception. The proper tools, safety and protective equipment shall be on hand before the confined space entry is attempted. Before entry the floor should be pumped of excessive water to support good footing. Protective clothing such as gloves, coveralls, boots and hard-hats should be worn when conditions warrant. The procedures that must be followed are:

1. Three people will be involved in all permit space entries. One will be designated as the entrant, one as the attendant and one employee will be designated as the entry supervisor.

2. The entry supervisor will fill out the Confined Space Entry Permit. The entry supervisor will be responsible for seeing that the procedures established in this policy are followed. The water foreman will be the designated entry supervisor for the Water Department. If the foreman is not present the lead person on the crew will be the designated entry supervisor. This person is responsible for entering the names of all individuals involved in the confined space entry on the permit.

3. A gas monitor will be used to monitor atmospheric conditions before entry and during the work. The atmosphere should be tested for the following conditions in the order given: (1) oxygen content, (2) flammable gases and vapors, and (3) toxic air contaminants. The entrant must exit immediately if at any time during the work the monitoring indicates a hazardous atmosphere. Safe working conditions must be re-established before re-entry is permitted. The entry supervisor is responsible for entering the readings from the atmospheric testing on the permit.

4. The workspace should be subjected to forced air ventilation before entry and during the work.

5. The water department has no confined spaces that in ordinary circumstances require a retrieval system. However, it circumstances arise that warrant the use of a retrieval system such equipment may be obtained from the Waste Water Treatment Plant.

6. After the work is finished, the entry supervisor is responsible for forwarding the permit to the Facility Safety Officer—Water Department Foreperson. The Facility Safety Officer will keep permits on file for a minimum of one year.

In place ladder rungs located in the water system manholes can become worn and unreliable. Entrants should be aware of this potential hazard and be sure they are attached to a retrieval system with fall protection. In some instances it may be possible to use a portable ladder to aid in safe entry.

OSHA regulations allow for modification of permit space entry procedures under certain conditions. OSHA document 3138, Permit-Required Confined Spaces (Permit Spaces) states: "For example, if employers can demonstrate with monitoring and inspection data that the only hazard is an actual or potential hazardous atmosphere, which can be made safe for entry by the use of continuous forced air ventilation alone, they may be exempted from some requirements, such as permits and attendants." This allows for some important policy flexibility in appropriate situations.

Gas Monitors

The gas monitors used in the Water Division will detect an oxygen deficiency, the presence of a toxic gas or an explosive atmosphere. These three conditions are commonly associated with confined spaces. An oxygen deficient atmosphere can occur when the oxygen is replaced by another gas often as a result of bacterial action. Normal air contains 20.9% oxygen at sea level. Most gas monitors will alarm when the oxygen level drops to 19.5%.

A common toxic gases associated with confined spaces is hydrogen sulfide. Hydrogen sulfide is generated by bacterial action associated with septic conditions. At low concentration (less than 3 ppm) hydrogen sulfide smells like rotten eggs. It becomes particularly dangerous at higher concentrations (20-30 ppm and above) because it paralyzes the olfactory system and cannot be smelled. In addition to being toxic and potentially fatal to personnel, hydrogen sulfide is corrosive. The monitors utilized by the Water Division are calibrated to detect the presence of hydrogen sulfide.

Flammable or explosive gases can also present a hazard in confined spaces. Gasoline can enter a meter or valve vault through leaking underground storage tanks, spills or deliberate discharges. Methane gas is a very common explosive gas associated with water systems. The Dynamation CGM AutoCal 900 series monitor utilized by the water department is calibrated for methane gas. Employees shall be familiar with the proper operation and care of the gas monitor and have access to the monitor and the user's manual. The water department has assigned gas monitor calibration to one person on the crew to assure reliable readings.

Training

Before any confined space work is performed, the City of Ellensburg Water Division takes responsibility to properly educate and train Water Division employees to safely enter and safely perform assigned tasks in both permit required confined spaces (PRCS) and non-permit confined

spaces (NPCS). Ellensburg also ensures that the proper procedures are followed, and that the confined space work is conducted safely. Formal classroom training is done at least yearly. If possible, it is recommended that practice in the use of rescue equipment (tripod and winch) be conducted every 6 months. The classroom training should familiarize employees with the OSHA and WISHA (Federal and State) confined space regulations. The classroom training shall also cover:

* The written procedure for confined space entry, which includes planning, general precautions, and evaluation of hazards.
* The purpose and use of a confined space entry permit.
* The duties of the entrant, attendant, and entry supervisor.
* A complete list of all PRCS and NPCS in the water distribution system
* The proper use of ventilation equipment.
* The proper use of rescue/retrieval equipment.
* The use of personal protective clothing/equipment.

Upon completion of this training the employer must ensure that employees have acquired the understanding, knowledge, and skills necessary to safely perform their assigned confined space duties. The employees must receive a certificate of training that includes the employee's name, trainer's signature, and date of training. Employees and their assigned representatives must make the certification available for inspection.

The employer must also ensure that employees are trained in first aid and CPR. This training is especially important for any person acting as an attendant. (At present, water employees are required to update their first aid and CPR training on a yearly basis, so this particular training is already provided.)

For each project or job, individuals who are competent in the evaluation of hazards, precautions, first aid and CPR shall be specifically assigned. All personnel shall be trained in the use of personal protective equipment required for the specific job assignment. Additional training is required when:

1. The job duties change
2. There is a change in the confined space program or the confined space presents a new hazard, or
3. When an employee's job performance is deficient.

The Personnel Department will be responsible for maintaining training records, including confined space training.

These confined space entry procedures should be followed faithfully. They have been developed for the worker's protection. Safety must be the first consideration for every job, and this is especially critical for jobs requiring confined space entry. All employees have a responsibility to see that required safety procedures are followed. A list of specific work areas within the water system follows. Some are designated as permit required confined spaces and require that the established procedures be followed. Some work areas are not permit spaces but certain

precautions are recommended for work within. Employees should always remain alert to changing conditions of the job that warrant special safety precautions be taken.

Work Areas

The following work areas are considered permit required confined spaces. (PRCS) Three people will be involved in the entry process as discussed earlier. Forced air ventilation and gas monitoring is mandatory.

A) Craig Hill Reservoir

B) All valve access vaults on the Dry Creek/Water Street main.

1) **911 N. Water**
2) **209 W. 10th**
3) **1607 Dry Creek**
4) **3629 Dry Creek**
5) **100 Mc Manamy Rd.**
6) **492 Mc Manamy Rd.**

The above vaults have 18" access manhole openings. The City will modify the openings, making them safer for entry and exit. Until that time the whole cement lid will be removed to access these valve vaults. Forced air ventilation and gas monitoring will be mandatory.

The following meter vaults will require permit entry and only be entered after gas monitoring and forced air ventilation have taken place.

Monterey Gardens
Treatment Plant
Gold Leaf Rehab
City Well, Kiwanis, and Whitney flow meter vaults
9th & D Street (Shaw)
13th & Walnut (L&L Building)
11th & D Street (Physical Plant)
14th & D Street (Primate Center)
10th & Walnut (Samuelson student Union)
15th & Alder (Nicholson Pavilion)
8th & Walnut (High rise housing)
Brooklane Village
Mt. Stuart School
Morgan Administration Building
Valley View School
Lincoln School
Twin City Foods 4th Street

The following vaults will be considered non-permit entry, (NPCS) unless a circumstances alerts workers to new conditions.

A) Twin City Foods 5th Street
B) Brooklane Booster Pump

These vaults have continuous running ventilation fans and have had sufficient gas monitoring to know they are not a health threat. There are electrical connections at Brooklane Booster pump and the Tower. These two are included in the Lock Out/ Tag Out program when working on the electrical systems.

EMPLOYEES ARE ENCOURAGED TO TAKE ANY ADDITIONAL SAFETY PRECAUTIONS BEYOND THOSE ESTABLISHED IN THIS POLICY IF THEY FEEL THEY ARE WARRANTED. This policy should be reviewed and understood by all affected employees. It is subject to continual review and modification to meet employee concerns and regulatory changes. Safety is everyone's business!

Confined Space Entry Form

Entry Supervisor Signature _____

Date and Time of Entry

_____

Confined Space Location

_____

Manhole number or Confined Space Name _____

Reason for Entry

_____

Atmospheric Checks
Oxygen ___%

_____

Flammable Gases_____%

_____

Toxics ppm _____ _____ _____ ____H2S _____

Time

_____

Entry Persons Name _____

Standby Persons Name

_____

Entry Supervisor _____ Fire Department Notification YES NO
Equipment

Gas Monitor Tested _____ YES NO
Safety harness and life line ___YES NO
Hoisting Equipment____ ____ YES NO
Ventilation __Mechanical_____YES NO _Natural Ventilation only___ YES NO
Protective clothing-gloves___YES NO Eye Protection__YES NO_Breathing filter YES NO
Electrical equipment listed class I, Division I, Group D and non sparking tools YES NO
Communications Procedures-Minimum ask for atmospheric checks every 15 minutes.

Rescue procedures-If the gas monitor alarms for any reason the person must exit the space. If the person will not respond to the exit request, use the retrieval system to bring them out.

Contact Kittcom #81 on the radio. Identify the call as an emergency and ask for assistance or call 9-911.

Time_____ Time

Oxygen__ __%_____ _____Oxygen %

Explosive%___ _____ Explosive%

Toxic ppm_ _____ Toxic ppm

Time_ _____ Time __ _____

Oxygen_____% Oxygen ___%

Explosive% _____ Explosive%

Toxic ppm_____ _____ Toxic ppm

Standby person___ Standby person___

Back up person _____ Back up person _____

Equipment__ _____ Equipment_ _____

Gas monitor tested YES NO_ Gas monitor tested___YES NO_

Safety harnesses and life line YES NO__ Safety harnesses and life line YES NO_

Hoisting equipment _____ Hoisting equipment _____

Communication procedures - Verbal check every 5 minutes. Demand exit if communication check is not responded to.

Rescue Procedures - If the person will not respond to an exit request, use the retrieval system to bring them out. Contact Kittcom #81 with an emergency call and ask for assistance.

Atmospheric check

Communication procedures - Verbal check every 5 minutes. Demand exit if communication check is not responded to.

Rescue Procedures - If the person will not respond to an exit request use the retrieval system to bring them out. Contact Kittcom #81 with an emergency call and ask for assistance.

Atmospheric check

Oxygen _____ Oxygen_____

Flammable Gases _____ Flammable Gases _____

Toxic_____ Toxic___

Time___ Time_

SAFETY EQUIPMENT

GATHER ALL EQUIPMENT NEEDED BEFORE ENTRY

* **Oxygen and gas detector.**
* **Blower/air re-circulation if required, must be running while working in space.**
* **Eye and face protection, if eye irritating material is present, dust, vapors, chemicals, etc. Air blower will cause irritation.**
* **Body protection, proper work clothes depending on job, might need rubber suits), hard hat, ear protection, gloves leather/rubber (depending on job).**
* **Respiratory protection - will be determined at timeif needed for job.**
* **Full body harness/safety belt, Life line, double locking lanyard, mechanical retrieval device.**
* **Non spark tools where required.**
* **Communication devices.**
* **Barriers, shields to protect worker in pit.**
* **Adequate lighting.**
* **Lock out tags/locks when needed, flanges or other devices to block a potential hazard from employee in work space. (Like sludge pipe, lock on valve) etc.**

Starting with:

* **If permit is required, set that up.**
* **Check floors for any other hazards, clean and remove hazards before work is started.**
* **Set up related safety equipment.**
* **Set up ventilation equipment, 5 air exchanges need to be done before entering, air exchange must be kept going while in confined space.**
* **Fill out permit information, if permit is required above info is required on permit.**
* **Test atmosphere in this order, (1) OXYGEN CONTENT, (2) FLAMMABLE GASES, VAPORS. (3) TOXIC CONTAMINANTS.**

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Appendix H

Water System Construction Standards

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Section

1

DEVELOPMENT STANDARDS

City of Ellensburg

WATER STANDARDS

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DOMESTIC WATER MAIN EXTENSIONS

GENERAL

INTRODUCTION

The items herein contained are the domestic water main extension and repair Standards, Conditions, and Specifications for the City of Ellensburg. These are minimums only when they exceed the minimums required in the Washington State DOH Standard (Department of Health "Design Standards for Public Water Supplies) *the current edition of Washington State Department of Transportation Standard Specifications for Road, Bridge, and Municipal Construction*, and may be increased or altered at the discretion of the Public Works Director to fit particular situations, but in no event shall said standards be reduced below the DOH and *WSDOT Standard Specifications* standards. In the event of conflicting standards the higher standard shall control.

The City water system is owned and operated by the City of Ellensburg. The only authorized personnel to operate City valves, hydrants or other appurtenances attached to the City's system are the City's Water Department and Fire Department. Developers and their contractors may only access City water after obtaining a usage permit as set forth in this Section below, and may only operate downstream of an approved backflow device.

Unauthorized use of the City's water system will be subject to a monetary fine as authorized in Ellensburg City Code.

STANDARDS AND CONDITIONS

NOTE: These Standard Specifications are to be used in conjunction with the City of Ellensburg Standard Details, which the pertaining drawings will be included at the end of each Section.

A. When extension of the existing water distribution system is required for service, an Agreement for Domestic Water Main Extension in the form which is included at the end of this section shall be entered into between the Developer and the City. Extensions shall be in accordance with the City of Ellensburg Comprehensive Water Plan, see Future Distribution Main Locations Map, located at the end of this section.

Water mains shall be extended to provide service when required for all types of development or service request. In extreme cases where single family residences make application for service, a deferral may be granted allowing for a long service line to be constructed. The deferral will require that the single family residence participate in any future LID or latecomers agreement when the water main is constructed in front of the property.

B. To initiate the Water Main Extension process the Developer shall submit a water plan designed by a registered professional engineer licensed in the State of Washington. Final plan and profile drawings shall be stamped by the same.

C. The licensed professional engineer shall certify that the design and construction of the water distribution system meets or exceeds all applicable standards, to include backflow prevention and cross connection control, as required.

D. Obtaining necessary permits will be the responsibility of the Developer.

E. Where franchises, easements or deeds to property are required it shall be the responsibility of the Developer to obtain and provide the same and submit appropriate documentation to the City.

F. Easements shall be as per Section 7 of these Standards.

G. A development containing forty lots or more shall contain at least two water supply routes, completing a system loop, or if fire protection flow requires looping.

H. Newly constructed watermains shall be fully constructed with the use of "restrained joint" pipe. All joints shall be restrained with the use of Field Lok 350 gasket joint or Mega Lug joint restraints distributed by U.S. Pipe or Romac 600 Series joint restraints, or approved equal. Restrained joint fittings are also required on each side of connection to existing water mains (for example a tee cut-in connection). The use of thrust blocking may be needed at connections to existing mains and shall be evaluated by contractor's engineer.

I. Fire hydrant locations and distribution shall be in accordance with Appendix III-B of the Uniform Fire Code, or current City of Ellensburg Fire Code. Included in this section is a table depicting maximum fire hydrant spacing. Final requirements will be established by City's fire marshal. Fire lines are to be constructed by the developer. Ownership of the fire line is the property served by the fire line and shall begin at the City's water main. No above ground obstructions are allowed within a three foot radius of fire hydrants.

J. The minimum size water main permitted shall be eight inch (8") diameter. When special conditions permit, the main size may be reduced to either a 6" class 52 ductile iron pipe or a smaller diameter high density polyethylene. The reduction shall be determined based upon: no potential for future extension of the main, ie cul de sacs; fire hydrant or fire suppression system requirements; and where potential issues may arise based on water turnover in a main. The reduction in main size must be submitted by developer's engineer with adequate information to base the reduction, and must be approved by the Director of Public Works. Under no circumstances will a reduction in size be authorized for smaller than 2" diameter. A minimum 6" class 52 ductile iron pipe stub shall be used to connect the water main to offset fire hydrants.

K. The Developer shall submit mylar and electronic drawings in current city drawing program format prior to permit issuance, and completed "Record Drawings" after completion of the project.

L. The Developer is required to supply bonding and insurance as per the Section on "Bonding and Liability Insurance."

M. The Developer shall notify the City 48 hours prior to connection between the City's existing system and the new water distribution system.

N. The City will perform all tie-ins to the existing City water system where shutdown of the main will result in loss of service to customers. Prior to that tie-in, the developer shall be required to excavate, shore, and provide all material to City crews that are necessary to perform the tie-in, at a cost to developer.

Also, the developer shall be required to perform a live tap if the connection is not at an existing connection point on the main and it shall be the developer's option to utilize a private tapping service or to utilize City crews to perform this live tap, at a cost to developer.

O. All main lines must be designed to provide proper circulation of water and fire flow to all lands serviced by the development. Extensions shall be required through and to the extremes of the property for future service as determined by the City. The Developer shall install a blowoff if a water service or hydrant is not located at end of water main. Fire flow demand shall be in accordance with the Uniform Fire Code Appendix Table III B as now exists or as may be amended, included in this Section.

P. Final acceptance shall not constitute acceptance of any unauthorized or defective work or material. The City shall not be barred from requiring the Developer to reimburse the City for the removal, adjustment, replacement, repair or disposal of any unauthorized or defective work or material or from recovering costs for any such work or material within one year, in accordance with the Bonding and Insurance Section of these Development Standards.

Q. Meters and meter boxes shall be furnished and set by the City. Meters shall not be activated prior to payment by water user of all applicable hook-up fees. The City owns and maintains only appurtenances from and including the water meter to the water main.

R. Water Main Extension projects shall be conveyed to the City for operation and maintenance upon final project acceptance.

S. Installation and testing shall be in conformance with the current edition of APWA (American Public Work Association) specifications. All testing shall be performed by the City as follows: the City will take bacteriological samples from the main at a source point provided by the developer's contractor; the costs for obtaining and processing the bacteriological sample will be included in the permit fee; and, the Developer shall be required to pay the City for any additional samples if additional testing is required. The water system shall not be placed into service until the City provides written permission.

T. For existing platted lots, the City may enter into Latecomer Agreements with Developers, prior to installation of water mains and appurtenances, in order to provide for the reimbursement to Developers for a pro-rata share of the cost of construction pursuant to Ellensburg City Code as now exists or as may hereafter be amended.

U. Any portion(s) of water improvements that are brought to finish grade within roadway sections, shall have a minimum of 6" of risers, or have the ability to lower 6" for future projects.

MAIN EXTENSIONS

1. All extensions to the water system shall conform to the design standards of the City as set forth herein. The system must be capable of future expansion if required and be constructed of permanent materials. Water main extensions shall be in accordance with the City's water system comprehensive plan. In cases where larger mains are required, developer may request payment from the City for the costs of oversizing the main. Costs must be prepared by a licensed professional engineer, and the request must be submitted in writing and approved by the City Council prior to commencing work.

2. The Developer may be required to perform main or service extensions to properties that are adjacent to the improvements which will then benefit from the main or service extension. In these cases, the Developer will be required to supply the City with a reasonable cost (material and labor) to perform the work. In determining such cost, the Developer will be required to pay their employees per the requirements of Labor and Industries (prevailing wages) for the additional work required to install service to those adjacent properties not included in their proposal. Upon completion of the work, and receipt of the appropriate L&I documentation, the City will reimburse the Developer for the work.

- In cases where main or service extensions are desired by the City, developer may request payment from the City for the costs of extending the main or services.

- Costs must be prepared by a licensed professional engineer, and the request must be submitted in writing and approved by the City Council prior to commencing work.

PLANS AND SPECIFICATIONS

The installation of water main extensions shall be in accordance with construction plans and specification approved by the City, and shall comply with the most current version of the WSDOT Standard Specifications.

METHODS AND MATERIALS OF CONSTRUCTION

1. Water mains shall be class 52 ductile iron pipe with cement mortar lining and push-on joints. All push-on-joints shall be restrained with Field Lok 350 Gasket Joint Restraint or Mega Lug joint restraints distributed by U.S. Pipe, Romac 600 Series joint restraints, or approved equivalent. In cases where HDPE lines are allowed, the HDPE shall be class 160 psi, 2" or 4" IPS, PE 4710, SDR 11.

2. HDPE pipe shall be Class 160 psi, IPS, PE 4710, SDR 11. The Connection to the Ductile iron main (new and existing mains)for a 2" HDPE pipe shall be done by installing a 2" Ford FB500 corporation stop, 2" brass nipple, 2" Gate valve through 2" poly transition fitting. A saddle is required. The connection shall be per City of Ellensburg Standard Details. All in line splices shall be heat fused. The connection to the ductile iron main (new and existing mains) for a 4" HDPE pipe shall be done be installing a 4" tapping sleeve on existing main, and a 4" FL x MJ valve, per City of Ellensburg Standard Details.

3. Fire hydrants shall be installed in accordance with these standards and the current 'Uniform Fire Code and City of Ellensburg' fire code as adopted.

4. Valves shall be installed at all intersections, at each tee and cross, and in line at a maximum spacing of 600 feet. All fire hydrants shall have an auxiliary valve next to each hydrant per the fire hydrant installation detail. For fire hydrant lines over 50 feet in length from the main, the Developer shall install an additional valve at the main.

5. Minimum cover for all water mains shall be four feet (4') to top of pipe unless otherwise approved. Maximum coverage shall be 4' 6".

6. Except as otherwise noted herein, all work shall be accomplished as recommended in the current applicable American Waterworks Association (AWWA) and American Public Works Association/Department of Transportation Standard Specifications and according to the recommendations of the manufacturer of the material or equipment use. Developer shall have a copy of the approved plans and specifications on the job site at all times. Developer shall furnish a water tight plug of the appropriate size which shall be installed in the end of the water main when work is delayed or stopped at the end of the work day.

7. All materials shall be new and undamaged. Unless otherwise approved by the City, the same manufacturer of each item shall be used throughout the work.

TRENCH EXCAVATION

Clearing and grubbing where required shall be performed within the easement or public right-of-way and as permitted by the property owner and/or governing agencies. Debris resulting from the clearing and grubbing shall be disposed of by the Developer in accordance with the terms of all applicable permits.

Trenches shall be excavated to the line and depth designated by the approved plans to provide a minimum of 48 inches of cover over the pipe, unless otherwise approved. The trench width shall be excavated only to such widths as are necessary for adequate and safe working space. The trench shall be kept free from water until complete. Surface water shall be diverted so as not to enter the trench. The Developer shall maintain sufficient pumping equipment on the job to insure that these provisions are carried out.

The Developer shall perform all excavation. Boulders, rocks, roots and other obstructions shall be entirely removed or cut out to the width of the trench and to a depth 4 inches below water main grade. Where material is removed from below subgrade, the trench shall be backfilled to grade with material satisfactory to the City and thoroughly compacted to 85% for easements outside of roadway and 95% in streets, alleys or traveled ways, using standard proctor testing. The Developer shall be responsible for meeting current Labor and Industry Trench and Shoring Protection and Washington State Safety Standards.

Unsuitable material below the depth of the proposed pipe shall be removed and replaced with satisfactory materials as determined by the City.

When trenching operations cut through asphalt/concrete pavement, the pavement shall be sawcut, and removed to a solid edge along the width of the trench as approved by the City engineer. See Surface Restoration for Trenches Standard Details in the Street Section of these Standards.
Trenching operation shall not proceed more than 200 feet in advance of pipe laying without written approval of the City.

PIPE INSTALLATION WITHIN STREET RIGHT-OF-WAYS

The Developer may use any method which provides satisfactory results which complies with the Ellensburg City Code as it now exists or may be hereafter amended and is acceptable to the City and the agency having control of the road, provided that the Developer restores the roadway per the requirements of the City of Ellensburg Surface Restoration for Trenches Standard Detail. A Public Works Permits shall be required for all water main work, and work within right of way. Highway crossings may require the placing of steel pipe casing by jacking or tunneling and laying the water main within this casing.

PIPE IN FILLED AREAS

Special treatment may be required at the discretion of the City. This treatment may consist of compacting the backfill in 6" lifts, use of select backfill materials, use of Mechanical Joint Ductile Iron Pipe in short lengths, restrained joint pipe, or such other reasonable methods or combinations as may be necessary in the opinion of the City based upon topography, soil type and any other unique characteristics or the area.

PIPE BEDDING

1. The pipe shall be placed on a prepared subgrade of imported or native bedding material four inches under the pipe for all pipe sizes of 27 inches diameter and smaller and 6 inches for all pipe sizes 30 inches and larger. Bedding material shall be pea gravel or native material meeting the requirements of WSDOT Standard 9-03.12(3) for Gravel Backfill for Pipe Zone Bedding. Developer shall be responsible to provide City with sieve analysis if they desire to use native bedding. Bell holes shall be excavated so the pipe, when laid, will have a uniform bearing under the full length of the pipe. The Developer shall be responsible for adequate support and bedding for the pipe. The trench shall be backfilled from the spring line of the pipe to four inches (4") above the top of the pipe as shown in the City of Ellensburg Standard Details, included in this section. The material shall be placed in four-inch layers and compacted to no less than 95 percent of the maximum theoretical density as measured by a soil lab, using the modified proctor test.

2. Where the undisturbed trench below the four-inch bedding is unstable, the unstable material shall be removed and backfilled with foundation gravel upon which to place the bedding, as approved by the City engineer. The Developer shall be responsible for providing a stable foundation for placing of the bedding.

3. Boulders, rocks, roots and other obstructions shall be entirely removed or cut out to the full width of the trench and to a depth four inches below the pipe. In solid rock, the trench shall be excavated four inches below the pipe bottom and backfilled as provided above.

4. Whenever the trench is excavated below the depth required for proper bedding, it shall be backfilled with bedding gravel and compacted, as provided above.

DUCTILE IRON PIPE

Ductile iron water mains shall be Class 52 with cement mortar lining. Ductile iron pipe shall be constructed in accordance with AWWA C151. Cement mortar lining shall be in accordance with AWWA C104. Mains shall be constructed with rubber gasketed joints in accordance with AWWA C111. All push-on-joints shall be restrained with Field Lok 350 Gasket Joint Restraint or Mega Lug joint restraint, distributed by U.S. Pipe, Romac 600 series joint restraints, or approved equivalent. All ductile iron water mains shall be installed with bronze conductive wedges at each joint. See City of Ellensburg Water Main Installation Standard Details.

The Developer shall furnish written certification from the manufacturer of the pipe and gasket being supplied that the inspection and all of the specified tests have been made and the results thereof comply with the requirements of this standard.

DUCTILE IRON PIPE INSTALLATION

Ductile iron pipe shall be installed in accordance with AWWA Standard C-151 and the manufacturer's recommendation.

The bottom of the trench shall be finished to grade with hand tools in such a manner that the pipe will have bearing along the entire length of the barrel. The bell holes shall be excavated with hand tools to sufficient size to make up the joint. Bolts on mechanical joint pipe and fittings shall be tightened uniformly with a "Torque" wrench which measures the torque applied. Required torque for mechanical joints shall be as follows:

4" - 24" pipe size 3/4" bolts 75-90 ft.lb. torque, or per the manufacturer's recommendation.

Installation of push-on-joint (Tyton) pipe shall be in accordance with the manufacturer's instructions, and shall include the use of Field Lok 350 Gasket Joint Restraint or Mega Lug joint restraint, distributed by U.S. Pipe, Romac 600 Series joint restraints, or approved equivalent at each joint.

TRACER WIRES

The Developer shall install a tracer wire, in addition to the location ribbon, over all non-metallic water mains, fire sprinkler lines, and services. The tracer wire shall be 12 gauge USE blue plastic coated solid copper tracer wire. The tracer wire shall be installed as shown on the City of Ellensburg Standard Details. Bare wire contact points shall be provided at valve boxes, air release and blow off installations, and shall be mechanically connected to corporation stop on main to continue continuity to the main.

DETECTABLE MARKING TAPE

Detectable Marking Tape, meeting the requirements of WSDOT Standard Specification 9-15.18, shall be installed twelve inches (12") below finished grade over all non-metallic water mains. Pipe locator ribbon shall be two inches wide, plastic coated aluminum and shall be clearly marked, "CAUTION BURIED WATER LINE" continuously along the length of the ribbon with minimum 1-1/2 inch letters. The ribbon shall be blue in color. For combined utility ditch requirements see Section 10.

DUCTILE IRON FITTINGS

Ductile iron fittings shall be short body for pressure rating of 350 psi, unless otherwise noted. Metal thickness and manufacturing process shall conform to applicable portions of USA Standard A21.10, A21.11, B16.2 and B16.4.

Fittings shall be cement-lined in accordance with USA Standard A21.4 (AWWA C-104).

Rubber gaskets for mechanical joint (M.J.) in accordance with USA Standard A21.11 (AWWA C-111).

Gasket material for flanges shall be neoprene, Buna N, chlorinated butyl. Type of connections shall be specified as push-on-joint (Tyton), mechanical joint (M.J.), or plain end (P.E.). Flanged fittings are only allowed on tapping sleeve for hot-taps.

The fittings shall also include restrained joints.

BOLTS IN PIPING

Bolts shall be cast iron, zinc or chromium plated or stainless steel, as approved by the City.

CONCRETE THRUST BLOCKING (IF REQUIRED)

All newly constructed water mains shall be completely restrained, therefore thrust blocking will not be needed, unless the new main is tying into an existing water main that is not completely restrained, or contractor's Engineer determines thrust blocking is required.

In situation where the new water main is tying into an existing non-restrained main, thrust blocking will be required. Blocking shall bear against fittings only and shall be clear of joints so as to permit taking up or dismantling joint. All poured in place blocking shall have a minimum measurement of twelve inches (12") between the pipe and the undisturbed bank. All bends and tees shall be blocked in accordance with Standard Blocking as per design details which shall be adequate to withstand full test pressures as well as to continuously withstand operating pressure under all conditions of service. Polyethylene sheeting shall be installed to cover joints and bolts for future dismantling.

BEDDING CONCRETE

Bedding concrete shall be mixed from materials acceptable to the City and shall have a 30-day compressive strength of not less than 2,000 psi. The mix shall contain four sacks of cement per cubic yard and shall be of such consistency that the slump is between 1 inch and 5 inches.

GATE VALVES

Gate valves shall be used when an 8” or smaller valve is required. The gate valves shall be M&H 4067 or approved equal as approved by the City. The valve shall be in accordance with AWWA standard C509 or C515. Valve shall be cement mortar lined and seal coated in accordance with AWWA C104. Valve shall be

equipped with a 2” non-rising stem operating nut. Valve shall be mechanical joint. Flanged joints will only be allowed for hot taps, and the valve shall be flange by mechanical joint.

BUTTERFLY VALVES

All valves over 8” in diameter shall be butterfly valves. The butterfly valves shall be M&H 4500 or approved equal as approved by City. The valve shall be in accordance with AWWA standard C504 for class 150-B valves. Valve shall be in accordance with AWWA C104. Valve shall be equipped with a 2” non-rising stem operating nut. Valve shall be mechanical joint. Flanged fittings will only be allowed for hot taps, and the valve shall be flange by mechanical joint.

AIR AND VACUUM RELEASE VALVES

Air and vacuum release valves shall be APCO - Valve and Primer Corporation, "Heavy-Duty", “Crispin” combination air release valve, or equal.

Installation shall be as shown on the City of Ellensburg Standard Details.

Piping and fittings shall be as per City of Ellensburg Standard Details. The installation shall be set at the high point of the line. Water line must be constructed so the air release valve may be installed in a convenient location.

VALVE INSTALLATION

The valve and valve box shall be set plumb with the valve box centered on the valve. Valve boxes shall be set as shown on the City of Ellensburg Standard Details. An area around the top shall be black topped in unimproved roads for 2 feet. Where valve operation nut is more than 3 feet below finished grade, a stem extension shall be installed conforming to the City of Ellensburg Standard Details.

VALVE BOXES

Valve boxes shall be slip type with pick hole type cover, adjustable 36”, Olympic Foundry conforming to ASTM A48-76; WWP 401; and CS-188 with a rust protective coating or equal as determined and approved by the City.

VALVE MARKER INSTALLATION

Blue valve markers will be installed by the City of Ellensburg Water Dept.

FIRE HYDRANTS

Fire hydrants shall have a minimum valve opening of 5-1/4" O-ring stem seal, two 2½" N.S.T. hose nozzle connections, and one 4½" N.S.T. pumper connection. The shoe connection shall be 6" mechanical joint. The operation nut shall be 1¼" pentagonal. Hydrants shall be Mueller Centurion, M&H Style 929 “Reliant”, or equal, with approved breakaway features. Hydrant shall be equipped with a front port adapter. The front port adapter shall be 5” Snap-Tite/Storz to 4 ½” NST (FSA 50 F45 NST) and 5” Snap-Tite/Storz blind cap, or approved equals. See City of Ellensburg Standard Details.

HYDRANT GUARDS

When required by City engineer, hydrant guards shall consist of individually designed curbed planters. Hydrant guards shall be required where hydrants are susceptible to potential vehicle contact as determined by the City. In lieu of curbed planters, bollards may be used for hydrant protection.

SERVICE CONNECTION

A service connection shall be installed to each lot within a development. Connections shall be installed by direct tap into Class 52 or thicker ductile. Installation shall be as shown in the City of Ellensburg Standard Details. Minimum tap size is 1 inch. If extending water service lines, only fusion splices will be permitted.

METER BOX

All meter boxes are supplied and shall be installed by the City as per City of Ellensburg Standard Details. Developer's contractor or surveyor to provide horizontal and vertical control for meter location prior to City installing meter. If meter is required to be moved after initial installation, City crews will move the meter at the expense of the Developer.

PLASTIC SERVICE PIPE AND CONNECTIONS

Plastic service pipe and connections shall meet the requirements of City of Ellensburg Standard Details.

DETECTOR CHECK AND BACKFLOW DEVICE

Cross Connection Control requirements shall be as set forth in the City of Ellensburg Cross Connection Control Handout, included in this Section.

BACKFILLING

Backfilling and surface restoration shall closely follow installation and testing of pipe, so that not more than 200 feet is left exposed without express approval of the City. Selected backfill material shall be placed and compacted around and under the water mains by hand tools to a height of 4 inches above the top of the water main. The remaining backfill shall be compacted to current WSDOT Standards, standard proctor test, of the maximum density as determined by the Public Works Director or a certified soils lab. Where other agencies have jurisdiction over roadways, the backfill and compaction shall be done to the standard of the agency having jurisdiction. Backfill material shall be native material, unless deemed unsuitable by the City of Ellensburg, and an approved select native material shall be used. The City reserves the right to require compaction by a certified soils lab.

HYDROSTATIC TESTS

Hydrostatic tests shall be in compliance with APWA requirements and WSDOT Standard Specifications, the City of Ellensburg Water Main Installation Handout, and as follows:

1. The Developer's Engineer shall place hydrostatic water system pressure on civil drawings as well as test pressure requirements. Hydrostatic water system pressure is available from City's Public Works Department.

2. All water mains will be tested in sections of convenient length under a hydrostatic pressure equal to 150 psi in excess of that under which they will operate and in no case will the test pressure be less than 225 psi.

3. All equipment necessary for performing the test shall be furnished and operated by the contractor.

4. The pressure test will be accomplished by pumping the main up to the required pressure, stopping the pump for 15 minutes. Allowable loss shall be as calculated in Section 7-09.3(23) of the WSDOT Standard Specifications, however, no loss is preferred. During the test, the section being tested will be watched to detect any leakage. A clean container will be used for holding water for pumping up pressure. This makeup water will be sterilized by the addition of chlorine to a concentration of 50 mg/l.

5. Two inch polyethylene pipe shall be tested to 160 psi. In cases where 2" polyethylene pipe has been installed with a new ductile iron main, it shall be tested as follows:

- The new mains shall be tested together at a test pressure of 160 psi (ductile iron and polyethylene).
- Once the pressure test has been completed, the two inch valve shall be closed, and the ductile iron water main shall be tested per the requirements of these provisions.

STERILIZATION AND FLUSHING OF WATER MAINS

Sterilization and Flushing of Mains shall be in accordance with APWA requirements, AWWA Standard C-651, the City of Ellensburg Water Main Installation Handout, and as follows:

1. Dry calcium hypochlorite will be placed in each section of pipe to yield a dosage of not less than 50 mg/l available chlorine, calculated on the volume of water, which the pipe will contain.

2. When the main line is installed, contact the City of Ellensburg Cross-Connection Division for a backflow assembly to fill the new main. (The water source for filling the main must be prearranged with the City.)

3. The main line should be filled and allowed to stand for 24 hours.

4. The initial chlorine content will not be less than 50 mg/l, with a residual after 24 hours of not less than 25 mg/l.

5. The City Cross-Connection Division will provide a backflow assembly for flushing the main.

6. The Developer's Contractor is responsible for the disposal of the treated water. The treated water should be flushed into a water truck for proper disposal, or into a vacant lot if permission is obtained from the property owner. (Super chlorinated water shall not be flushed into a storm drain, irrigation ditch or stream. If neutralized it could be discharged into a sanitary sewer provided the rate of disposal will not overload the sewer.)

7. The City will take a bacteriological sample after the line has been flushed for a period of time to reduce the chlorine residual. If the first sample fails the test, and additional samples are required, the City will charge for each additional sample.

8. Bacteriological water samples will only be scheduled Monday through Thursday. (The Water Lab is not open on weekends.) The City will furnish the results of the test to the contractor in approximately 24 to 48 hours.

SANITARY SEWER CROSSINGS

All sanitary sewer crossing requirements shall be per the Washington State Department of Ecology. A copy of "Criteria for Sewage Works Design" is also available for reference in the City of Ellensburg Public Works Department.

Required Separation Between Water Lines and Sanitary Sewers shall be as follows:

The basic separation requirements apply to sewers of 24-inch diameter or less; larger sewers may create special hazards because of flow volumes and joint types. The special construction requirements given are for the normal conditions found with sewage and water systems. More stringent requirements may be necessary in areas of high ground water, unstable soil conditions, etc.

A. Horizontal Separation (Parallel)

A minimum horizontal separation of ten (10) feet between gravity sanitary sewers and any potable water lines shall be maintained, whenever possible. The distance shall be measured edge to edge.

B. Unusual Conditions (Parallel)

When local conditions prevent a horizontal separation as described previously, a gravity sewer may be laid closer than 10 feet to a water line provided:

1. It is laid in a separate trench; or, it is laid in the same trench with the water line that is located at one side on a bench of undisturbed earth; and

2. In either case, the elevation of the crown of the gravity sewer must be at least 18 inches below the invert of the water line. When this vertical separation cannot be obtained, the gravity sewer shall be constructed of materials and joints that are equivalent to water main

standards of construction and shall be pressure tested to assure water tightness prior to backfilling.

C. Vertical Separation (Perpendicular)

Sewer lines crossing water lines shall be laid below the water lines to provide a separation of at least 18 inches between the invert of the water pipe and the crown of the sewer, whenever possible.

D. Unusual Conditions (Perpendicular)

When local conditions prevent a vertical separation the following construction shall be used:

1. Gravity sewers passing over or under water lines shall be:

    i. Constructed of material described in Table C1-4 (Water Main Standard Pipe Material), from the Dept. of Ecology's Criteria for Sewage Works Design. The one segment of the maximum standard length of pipe, (but no less than 18 feet long) shall be used with the pipes centered to maximize joint separation.

    ii. Standard gravity sewer material encased in concrete or in a 1/4" thick continuous steel, ductile iron, or pressure rated PVC pipe with a dimension ratio (DR) (the ratio of the outside diameter to the pipe wall thickness) of 18 or less, with all voids pressure-grouted with sand-cement grout or bentonite. Commercially available pipe skids and end seals are acceptable. When using steel or ductile iron casing, design consideration for corrosion protection should be considered.

    iii. The length of sewer pipe shall be centered at the point of crossing so that the joints will be equidistant and as far as possible from the water line. The sewer pipe shall be the longest standard length available from the manufacturer.

2. Water lines passing under gravity sewers, in addition, shall be protected by providing:

    i. A vertical separation of at least 18 inches between the invert of the sewer and the crown of the water line;

    ii. Adequate structural support for the sewers to prevent excessive deflection of joints and settling on and breaking of the water lines; and

    iii. The length of sewer pipe shall be centered at the point of crossing so that the joints will be equidistant and as far as possible from the water line. The sewer pipe shall be the longest standard length available from the manufacturer.

    iv. Pressure sewers shall only be constructed under water lines with ductile iron pipe or standard sewer pipe in a casing for a distance of at least ten (10) feet on each side of the crossing.

SUMMARY

Any material, design, standard or testing not specifically addressed within these standards shall be as per the current edition of American Public Works Association Standard Specifications for Road, Bridge, and Municipal Construction, Washington State Department of Transportation and the American Water Works Association Standards, all of which are hereby adopted by this reference.

DOMESTIC WATER MAIN EXTENSIONS CHECKLIST

1. Developer submits legal description of proposed development.

2. City provides standards, conditions and specifications.

3. Developer submits water distribution plan designed by registered civil engineer licensed in Washington State. Developer shall also submit information to the City identifying all materials to be used on the project. Both the distribution plan and the identified materials must be approved by the City.

4. Developer signs Domestic Water Service Extension Agreement.

5. If the project is in full compliance with the water system comprehensive plan, as determined by the City engineer, administrative approval is sufficient.

6. After the water distribution plan is accepted, City enters into agreement with the Developer for water main extension, which will include a Public Works Permit.

7. Water main extension to be constructed by a licensed and bonded contractor to City standards as certified by a licensed engineer. The construction contract management shall be at the Developer's expense. At the City's option, the project inspectors may be City staff or may be contracted for by the City. (See Appendix B, Exhibit 2)

8. A copy of these City of Ellensburg Water Standards and the City of Ellensburg Standard Details shall be kept on the development site at all times for reference.

9. Developer posts required bonds and insurance.

10. Developer must purchase a Hydrant Use Permit in order access fill and flush water. A deposit shall be required.

11. City inspects and observes testing of water main prior to approval.

12. Developer conveys system to City for operation and maintenance.

13. All services off of the water main extension are installed by the developer and meters are set by the City. Applicable hook-up fees are paid by the property owner when service is requested. The City will not install a water meter until service is requested.

14. Developer may request a water meter be installed at a service location for access to water after completion of the main. Developer will be required to obtain a permit prior to City crews installing the meter.

15. After one year, City inspects improvements and, if appropriate, releases bond/returns deposit balance.

DOMESTIC SEWER, STORM SEWER, AND WATER MAIN EXTENSIONS - RECORD DRAWINGS

Record drawings of all improvements deeded or conveyed to the City of Ellensburg shall be provided. Record drawings shall show all modifications made during construction. They shall also show precisely the location of all buried utilities, including the measured distance to all tees, bends, wyes, and the distance from valves or structures to fittings. The location of water, sanitary sewer, and storm sewer facilities shall be indicated by showing measured distances to monuments or other approved permanent reference.

Record drawings turned over to the City upon acceptance of the utilities shall meet the requirements of the Drafting Section of these Development Standards.

AGREEMENT FOR EXTENSION OF ELLENSBURG INFRASTRUCTURE (WATER AND/OR SEWER)

This AGREEMENT is executed _____, 20___ by the City of Ellensburg (herein "City") and _____ (herein "Developer").

WHEREAS, the Developer desires to develop certain real property situated in the County of Kittitas, State of Washington, particularly described as:

_____

_____

_____

_____

and to install a system of streets, pipes and appurtenances for the above described property to enable the delivery of domestic water, wastewater, or transportation from the City's existing service;

WHEREAS, the City will approve the proposed facilities and furnish said connections upon the Developer's facilities upon the Developers full compliance with the terms, conditions and covenants of this agreement;

NOW, THEREFORE, it is mutually agreed as follows:

1. DEVELOPER TO FURNISH DESCRIPTION: Developer shall furnish to the City a legal description of the real property which he/she plans to develop. A copy of the legal description is attached to this Agreement as "Exhibit A".

2. DEVELOPER TO FURNISH DEVELOPMENT PLAN: Developer shall also furnish to the City a copy of his/her plan to develop or subdivide the "Exhibit A" real property.

3. PREPARATION OF INFRASTRUCTURE PLAN: Upon receipt of the Developer's plans, the City shall provide basic information as needed by the Developer to prepare an infrastructure plan. Developer will be responsible for the cost of preparation of the plan. The plan shall be prepared by a professional engineer licensed in the State of Washington. The plan shall include the following:

a. The location of connection to the City's existing systems for the purpose of supplying service to the proposed development.

b. A plan/profile of all transportation and pipe system facilities to be installed to serve the development and its components.

c. The pipe sizes and specifications of all mains and laterals.

d. All fittings, equipment and material to be installed in connection with the mains and laterals in order to transport water from the City's system to the point of utilization.

e. Standards and methods of construction as adopted herein shall be in full force for this agreement.

f. Any other information which the City determines is required by the particular circumstances involved.

4. DEVELOPER TO PROVIDE PROOF OF INSURANCE: Developer shall have system installed by a licensed and bonded contractor. The contractor shall furnish proof of license, bond and insurance. The Developer may elect to install the infrastructure system with his own forces. The City will require that the Developer have public liability and property damage insurance coverage as outline in the Bonding and Insurance Section of the Development Standards.

5. CONSTRUCTION OF SYSTEM: Developer will construct or cause to be constructed a completed system, in full conformity with the infrastructure plan, as prepared by the Developer's Engineer. The City's standards, conditions and specifications shall be followed in the construction process.

6. RECORD DRAWING PLAN: Developer or Developer's Contractor will provide a copy of the Record Drawing Plan showing final relations to the property lines and other physical features. Record Drawings shall be in accordance to the Drafting Section of these Development Standards. Bond will not be released until Record Drawings are completed and approved.

7. EASEMENT DESCRIPTIONS: Easements for the entire infrastructure shall be a minimum of 10 feet wide. Easement legal descriptions shall be prepared by a surveyor or engineer licensed to practice in the State of Washington. Easement legal descriptions shall be reviewed and approved by the City Engineer prior to acceptance and recording.

8. CITY'S INSPECTION AND DIRECTION: The City, by its agents, servants and employees, shall have the right to enter upon the Developer's property, at any time prior to the completion of the construction, installation, inspection and testing of the system to inspect the construction and/or direct the Developer, his contractor, agents, or employees, to take any action necessary to fully comply with the infrastructure plan. Developer shall take, or cause to be taken; any action directed by the City and shall cause such system to be constructed in all respects in full conformity with the plan. Developer will be required to get a permit from the City of Ellensburg prior to construction, which will include the Inspection costs for City inspectors.
If the scope of the project requires such, the City will require the design-engineering firm to provide inspection of the construction work. The Developer shall be responsible for the charges from the engineering firm. The City and the engineering firm shall coordinate the inspections and resolve any disputes regarding plan or specification interpretation.

9. INSTALLATION OF STREETS, MAIN TAPS OR CONNECTIONS: All connections to existing City facilities, necessary to serve such water and wastewater systems, shall be installed by the Developer, at the expense of the Developer. All costs shall be paid in full prior to acceptance of the system by the City.

10. INSPECTION AND TESTING OF COMPLETED SYSTEM: When the Developer believes that the system has been completed in full conformity with the Infrastructure Plan, he shall notify the City. The City shall inspect the system and be present during tests to the system as the City shall specify. Such testing shall be at the expense of the Developer. Following such testing, the City shall notify the Developer of its approval of the system, or of any additions, changes or modifications required prior to such approval.

11. ACCEPTANCE OF SYSTEM: Upon approval of the construction and conveyance of the water and sewer systems by the City, and the deposit of cash or a bond by the Developer as hereinafter provided, the City shall notify the Developer of its acceptance of the system. The system shall then become a part of the City's system. Thereafter, the Developer and his assigns shall be entitled to receive services from the City in the same manner, and upon the same terms as other users within the City.

12. REPAIRS TO AND REPLACEMENT OF SYSTEM: Following the acceptance of the said system by the City, the responsibility for repairs and replacements thereto shall be as follows:

a. For the first twelve months following such acceptance, the obligation and expense of any repairs or replacements to the system which are required by the City shall be that of the Developer. Any such repairs or replacement shall be

done by the City. The cost shall be paid by the Developer, as computed by the City. The Developer shall deposit with the City either cash or a performance bond with a surety acceptable to the City in the sum of 10 percent of construction costs. In the event the Developer fails or neglects to pay the costs of any such repairs or replacements during the twelve month period, the costs may be assessed against the surety bond. After the Developer's responsibility for repair or replacement has terminated, any balance of the cash deposit will be refunded to the Developer.

b. Twelve months after the acceptance of the infrastructure, the responsibility for the repair and replacement of that portion of the system conveyed by the Developer to the City shall become the responsibility of the City.

13. CITY RULES AND REGULATIONS: The Developer, his successors and assigns shall be subject to existing or as amended ordinances, rules and regulations of the City at the time of development.

14. BINDING AGREEMENT: The terms, conditions and covenant hereof shall extend to and be binding upon the heirs, successors, and assigns of the parties to this agreement.

15. INDEMNIFICATION: The permittee shall indemnify, defend and hold harmless the City, its officers, agents and employees, from and against any and all claims, losses or liability, including attorney fees, arising from injury or death to persons or damage to any other cause related to the improvement for which this agreement is granted. With respect to this agreement and to claims against the City, its officers, agents and employees, the permittee expressly waives its immunity under Title 51 of the Revised Code of Washington, the Industrial Insurance Act, for injuries to any employee the permittee may have, and agrees that the obligation to indemnify, defend and hold harmless provided for in this paragraph extends to any claim brought by or on behalf of any employee of the developer. This waiver has been mutually negotiated by the parties as part of the agreement process and is given, as is the indemnification agreement contained within this paragraph, as consideration for the City allowing development. This paragraph shall not apply to any damage or injury resulting from the sole negligence of the City, its agents or employees. The extent any of the damages or injuries referenced by this paragraph were caused by or resulted from the concurrent negligence of the City, its agents or employees, this obligation to indemnify, defend and hold harmless is valid and enforceable only to the extent of the negligence of the developer, its officers, agents or employees, if any.

16. ADDITIONAL COVENANTS AND TERMS: (if any)

IN WITNESS WHEREOF the parties have caused this instrument to be executed the day and year first written.

_____
Developer

_____
Developer

CITY OF ELLENSBURG

_____
Public Works Director or City Engineer

NUMBER AND DISTRIBUTION OF FIRE HYDRANTS

(Table A-III-B-1 from 1997 Uniform Fire Code)

FIRE-FLOW REQUIREMENT (GPM)	MINIMUM NO. OF HYDRANTS	AVERAGE SPACING BETWEEN HYDRANTS SEE NOTES 1,2,3	MAXIMUM DISTANCE FROM ANY POINT ON STREET OR ROAD FRONTAGE TO A HYDRANT SEE NOTE 4
1700 gpm or less	1	500	250
2000 – 2250 gpm	2	450	225
2500 gpm	3	450	225
3000 gpm	3	400	225
3500 – 4000 gpm	4	350	210
4500 – 5000 gpm	5	300	180
5500 gpm	6	300	180
6000 gpm	6	250	150
6500 – 7000 gpm	7	250	150
7500 gpm or more	8 or more (see note 5)	200	120

* This standard is created for informational purposes. Designer is encouraged to refer to the most current edition of the 'Uniform Fire Code'.

NOTES:

1. Reduce by 100 feet for dead-end streets or roads.

2. Where streets are provided with median dividers which can be crossed by firefighters pulling hose lines, or arterial streets are provided with four or more traffic lanes and have a traffic count more than 30,000 vehicles per day, hydrant spacing shall average 500 feet on each side of the street and be arranged on an alternating basis up to fire-flow requirement of 7,000 gallons per minute and 400 feet for higher fire-flow requirements.

3. Where new water mains are extended along streets where hydrants are not needed for protection of structures or similar fire problems, fire hydrants shall be provided at spacing not to exceed 1000 feet to provide for transportation hazards.

4. Reduce by 50 feet for dead-end streets or roads.

5. One hydrant for each 1,000 gallons per minute or fraction therof.

Section

1

DEVELOPMENT STANDARDS

City of Ellensburg

WATER DETAILS

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WATER MAIN INSTALLATION

REVISED 6-15-11

ALL PIPE WILL BE INSTALLED IN ACCORDANCE WITH THE STANDARDS OF THE AWWA FOR INSTALLING THE TYPE OF PIPE USED.

The following is an outline of the procedure required by the City of Ellensburg:

New Water mains **will not** be connected to existing mains until a satisfactory bacteriological report is obtained. **48 hours** notice must be given to the City of Ellensburg prior to desired connection to the City main, to schedule work.

The contractor will lay the new line to within one pipe length of the existing main and will expose the existing pipe (and provide shoring, if needed) to verify elevation and pipe type. The general guideline to connect new water main to existing water main will be as follows:

- **Hot tap connection will be required, unless otherwise authorized by the City.** Hot taps can be performed by the City or the Contractor. If the Contractor chooses to have the City perform the hot tap, the Contractor will need to call the Water Foreman to make arrangements for the hot tap. If City personnel perform the hot tap connection, City will furnish the tapping sleeve and valve. The cost for the Water Department hot tap connection will be billed to the contractor. If the City is unable to perform the hot tap connection, the Contractor needs to make arrangements for the hot tap, including the tapping sleeve and valve. After the hot tap part of the connection is finished (either by the City or by the Contractor), the remaining part of the connection of the new water main to the new valve (installed by the hot tap) will be finished by Contractor.
- Whenever conditions in field are not favorable for hot tap, connection shall be made by other method approved by City. When connection to a City main requires that an **existing main be shut down and customers will be out of service**, the City will perform connection. When the **shut down does not** put any **customer out of service**, the contractor shall perform the connection. The City will determine if any water shut off is required and which customers will be affected by it. The City requires at least a 24-hour notice for notification of water shut off to affected customers. No shut off of mains will be permitted overnight, over weekends or on holidays.
- The City will allow for cut in connections on dead end, hydrant only lines in cases where no customers will be out of service.
- **Hot taps** shall be accomplished per City Standard drawings WT-62 and WT-63.

The whole process of the connection performed by contractor must be observed and approved by City personnel, including hot tap. All the material shall be supplied by the contractor (except tapping sleeve and valve, if the hot tap performed by City) and needs to be scheduled 48 hours minimum prior to actual connection. The remaining guidelines are listed below. The City contact personnel and their phone numbers are given at the end of this policy.

1. Pipe will be handled in a manner to prevent damage, and to prevent foreign material from entering the pipe during installation.

    A. Class 52 cement lined ductile iron pipe required.

B. Restrained joint pipe is required for all newly constructed water mains. Where newly constructed water main is tieing into an existing non-restrained water main, the contractors engineer shall determine whether additional restraints or thrust blocking will be required on the existing main. At the very minimum, the connecting fitting to the existing main (coupler, elbow, tee, cross) shall be restrained to the pipe(s) its connecting.

C. Pipe will be laid to line and grade as shown on the plans. Variance from the established line and grade will not be greater than 0.05 feet unless approved by the Engineer. The Contractor will vary grade and line as directed by the Engineer to make a smooth transition to connect to existing water mains.

D. Pipe zone bedding shall be pea-gravel only.

E. When pipe lying is not in progress the open ends of the pipe will be closed by a watertight plug.

F. Dry calcium hypochlorite will be placed in each section of pipe to yield a dosage of not less than 50 mg/l available chlorine, calculated on the volume of water, which the pipe will contain.

2. When the main line is installed, contact the City of Ellensburg Cross-Connection Division for a backflow assembly to fill the new main. The water source for filling the main must be prearranged with the City.

   A. The main line should be filled and allowed to stand for 24 hours.

   B. The initial chlorine content will not be less than 50 mg/l, with a residual after 24 hours of not less than 25 mg/l.

3. Hydrostatic Pressure Test.

   A. All water mains will be tested in sections of convenient length under a hydrostatic pressure equal to 150 psi in excess of that under which they will operate and in no case will the test pressure be less than 225 psi.

   B. All equipment necessary for performing the test shall be furnished and operated by the contractor.

   C. The pressure test will be accomplished by pumping the main up to the required pressure, stopping the pump for 15 minutes, then pumping the main up to the test pressure again. During the test, the section being tested will be watched to detect any leakage. A clean container will be used for holding water for pumping up pressure. This makeup water will be disinfected by the addition of chlorine to a concentration of 50 mg/l.

4. Water service taps shall be accomplished per City Standard drawings WT-20 and WT-21.

   A. All taps on the main shall be made prior to the pressure and bacteriological tests.

5. Flushing

   A. The City Cross-Connection Division will provide a backflow assembly for flushing the main. The contractor shall call the Water Cross Connection person to arrange for installation of the device.

   B. The Contractor is responsible for the disposal of the treated water. The treated water should be flushed into a water truck for proper disposal, or into a vacant lot if permission is obtained from the property owner. (**Super chlorinated water should not be flushed into a storm drain, irrigation**

ditch or stream. If neutralized it could be discharged into a sanitary sewer provided the rate of disposal will not overload the sewer.)

C. The City will take a bacteriological sample after the line has been flushed for a period of time to reduce the chlorine residual. If the first sample fails the test, and additional samples are required, the City will charge $50 per sample per each additional sample.

D. Bacteriological water samples will only be scheduled Monday through Thursday. (The Water Lab is not open on weekends.) The City will furnish the results of the test to the contractor in approximately 24 to 48 hours.

6. Contractors must not operate valves or hydrants owned by the City. Contact the Water Department Foreman for Water Department personnel to operate the valve. **Violators are subject to fines.**

City of Ellensburg Contact Telephone Numbers:

Water Division Foreman	962-7261 or 929-7220
Water Division Cross-Connection	962-7278
Engineering Division – Permits	962-7233
Engineering Division – Inspection	962-7135 cell 929-7280
Assistant Public Works Director	962-7133
City Engineer	962-7230

INSTALLATION OF 2" OR 4" MAIN LINE ON NEW WATER MAINS & EXISTING WATER MAINS

REVISED 08/31/17

ALL PIPE WILL BE INSTALLED IN ACCORDANCE WITH THE STANDARDS OF THE AWWA FOR INSTALLING THE TYPE OF PIPE USED.

The following is an outline of the procedure required by the City of Ellensburg for installation of **2" or 4" Poly line** (serving multiple connections) in conjunction with construction of new water mains and existing water mains:

I. Pipe will be handled in a manner to prevent damage, and to prevent foreign material from entering the pipe during installation.

A. Poly Pipe for Multiple Service extension shall be **Class 160 PSI, 2" or 4" IPS, PE4710, SDR11**. The connection to the Ductile iron main (new mains and existing mains) shall be done by installing:

- **2" Poly Line**: a saddle, 2" Ford FB500 corporation stop, 2" brass nipple, 2" Gate valve through 2" poly transition fitting.
- **4" Poly Line**: **4" tapping sleeve on existing main, and a 4" FL x MJ valve**. The connections shall be as per City of Ellensburg Standard Details.

B. **Water service connections** on **Poly line** shall be by **Fusion only and** shall be done by using a **Fusion Tee**. All fittings and in-line splices shall be fusion.

C. **Pipe zone bedding shall be pea-gravel only**.

D. When pipe lying is not in progress the open ends of the pipe will be closed by a watertight plug.

II. Testing Procedures:

2" or 4" Main Construction In Conjunction With "New Ductile Iron Main":

A. The new ductile iron water main shall be pressure tested to a minimum of **200PSI or 150+ Static Pressure**, whichever is greater in accordance with the Water Main Installation Policy. The corporation stop to 2" Poly will be at open position but the 2" Gate valve to poly will be at closed position. The 4" valve connected to the tapping sleeve for 4" HDPE mains will be in the closed position, when testing the ductile iron water main.
Once the new ductile iron water main has passed the pressure test, the line pressure shall be reduced to **160PSI** and 2" and/or 4" Gate valves shall be in the open position to test the Poly lines at **160PSI**.

B. **All taps on the new ductile iron main and all service connections on 2" and 4" Poly shall be made prior to the pressure and bacteriological tests**.

C. The ductile iron main and poly lines will be flushed and Bacteriological Tests will be performed in accordance with the Water Main Installation Policy.

D. The final tie in of the ductile iron main to City water main will be performed after all the satisfactory results of the testing are available and in accordance with the Water Main Installation Policy.

2" or 4" Main Construction Poly On Existing Water Mains:

A. **The service connections on Poly lines shall be made prior to pressure test**.

B. The **Poly** lines will be tested at **160 PSI** with the Gate valve and corporation stop at closed position.

C. **City crews will flush the poly line by opening the Gate valve**.

D. **The Bacteriological** test will be performed after flushing is complete.

E. **The valve to the poly line will stay at the closed position until such time that the satisfactory results of Bacteriological samples are obtained. After this, the valve will be opened and remain in the open position**.

III. Flushing

A. The City Cross-Connection Division will provide a backflow prevention assembly for flushing the main. The contractor is required to obtain a permit and provide a deposit for the backflow prevention assembly.

B. The Contractor is responsible for the disposal of the treated water. The treated water should be flushed into a water truck for proper disposal, or into a vacant lot if permission is obtained from the property owner. (Super chlorinated water should not be flushed into a storm drain, irrigation ditch or stream. If neutralized it could be discharged into a sanitary sewer provided the rate of disposal will not overload the sewer.)

C. The City will take a bacteriological sample after the line has been flushed for a period of time to reduce the chlorine residual. If the first sample fails the test, and additional samples are required, the City will charge $50 per sample per each additional sample.

D. Bacteriological water samples will only be scheduled Monday through Thursday. (The Water Lab is not open on weekends.) The City will furnish the results of the test to the contractor in approximately 24 to 48 hours.

IV. **Contractors shall not operate valves or hydrants owned by the City. Violators are subject to fines.**

City of Ellensburg Contact Telephone Numbers:

Water Division Foreman	962-7261 or 929-7220
Water Division Cross-Connection	962-7278
Engineering Division – Permits	962-7233
Engineering Division – Inspection	962-7135
Assistant Public Works Director	962-7133
City Engineer	962-7230

FIRE LINE INSTALLATIONS

REVISED 5-2014

The contractor shall not touch or operate any city valves or hydrants. Operating these may be subject to penalties.

All pipes shall be installed in accordance with the standards of the AWWA & NFPA.

The following are contact people in City of Ellensburg who shall be involved in the installation procedure.

1.	**Fire Marshal**	**Fire Department**	**962-7273**
2.	**Public Works Permits**	**Engineering Department**	**962-7233**
3.	**Public Works Inspection**	**Engineering Department**	**962-7135**
4.	**Cross connection**	**Water Department**	**962-7278**
5.	**Foreman**	**Water Department**	**962-7261**

"Water main" is the City of Ellensburg water main that will be the source of water for the fire service. "Fire line" is the fire service installation from the point of connection to the City water main, to and through the double check backflow prevention device installed as part of the sprinkler system. "Temporary Backflow Prevention Device" is the City owned Device used when filling the new fire line for testing.

Following procedure shall be followed for water main/fire line installations:

New Water mains will not be connected to existing mains until a satisfactory bacteriological report is obtained. 48 hours notice must be given to the City of Ellensburg prior to desired connection to the City main, to schedule work..

The contractor will lay the new line to within one pipe length of the existing main and will expose the existing pipe (and provide shoring, if needed) to verify elevation and pipe type. The general guideline to connect new water main to existing water main will be as follows:

- **Hot tap connection will be required.** Hot taps can be performed by the City or the Contractor. If the Contractor chooses to have the City perform the hot tap, the Contractor will need to call the Water Foreman to make arrangements for the hot tap. If City performs the hot tap connection, City will furnish tapping sleeve and valve. If the City is unable to perform the hot tap connection, Contractor needs to make arrangements for the hot tap. In the case that the contractor performs the hot tap, the contractor needs to furnish the tapping sleeve and valve. After the hot tap part of the connection is finished (either by city or by contractor), the remaining part of the connection of the new water main to the new valve (installed by the hot tap) will be finished by the contractor.
- Whenever conditions in field are not favorable for hot tap, connection shall be made by other method approved by the City. When connection to city main requires that an **existing main be shut down and customers will be out of service**, the City will perform connection. When a shut down does not put any customer out of service, contractor may perform the connection.

- The City will allow for cut in connections on dead end, hydrant only lines in cases where no customers will be out of service.

The whole process of the connection performed by contractor must be observed and approved by City personnel, including hot tap. All the material shall be supplied by the contractor (except tapping sleeve and valve, if the hot tap performed by City) and needs to be scheduled 48 hours minimum prior to actual connection. The remaining guidelines are listed below. The City contact personnel and their phone numbers are given at the end of this policy.

Pipe will be handled in a manner to prevent damage, and to prevent foreign material from entering the pipe during installation. The other requirements regarding pipe materials and restraint are as follows:

A. Class 52 cement lined ductile iron pipe required.

B. Vertical thrust blocks will not be allowed. If project will require vertical change in direction, contractor shall be required to install **restrained** joint pipe for the run of pipe.

C. Fire Sprinkler lines will require tracer wire if non-metallic pipe.

All the material will be supplied by the contractor except tapping sleeve and valve (if hot tap performed by City) and needs to be scheduled 48 hours minimum prior to actual connection. **The remaining guidelines are listed below.**

1. The developer shall submit sprinkler plans to the Fire Marshal, and civil plans Engineering Department for approval and for the Public Works Permit. Two Public Works Permits are required: one for civil plan review and inspection of that portion of the fire line installation exterior to the building; the second is for the deposit for the Backflow Prevention Device. The contractor is responsible for all excavation, shoring, thrust blocks, backfill, and installation of the fire line. The cost for the Water Department hot tap connection will be billed to the contractor.

2. **The Contractor installing the fire line shall be licensed by State Fire Marshal's office.**

3. **The Public Works permit for inspection (and City provided tap, if required) shall be approved and paid for before excavation begins.** The contractor shall contact the City's Engineering Department to arrange for inspection. The contractor shall contact 962-7236 to arrange for the permit for the Temporary Backflow Prevention Device. After the Backflow permit is paid for, call the Water Department at 962-7278 to have the Backflow Prevention Device installed.

4. **Pipe zone bedding shall be pea-gravel only.**

5. **New fire lines shall be constructed to within one pipe length of the existing city main, and capped.**

6. When pipe laying is not in progress, the open ends of pipe shall be closed by a water tight plug.

7. All fire line pipe and appurtenances shall be prechlorinated prior to installation.

8. After the installation of Backflow Prevention Device, the contractor shall contact the Engineering Department for the Water Main Hydrostatic Pressure Test and the Fire Marshal for the Fire Line Pressure Test. **New** Water mains and Fire Lines can be pressure tested together or as separate units. The fire line shall be filled with chlorinated water and allowed to stand for 24 hours. The initial chlorine content will not be less than 50mg/l, with a residual after 24 hours of not less than 25mg/l.

9. **<u>Hydrostatic Pressure Test</u>** shall be done as follows:

A. All water mains shall be tested in sections of convenient length under a hydrostatic pressure equal to 150 psi in excess of that under which they operate or in no case will the pressure be less than 225 psi.

B. The contractor shall furnish all equipment necessary for performing the test.

C. The test shall be performed as per the current version of WSDOT Standard Specifications, Sec7-09.3 (23) requirements.

D. Fire Line Hydrostatic Pressure Test shall be of 2 hours duration.

10. **Flushing Fire Line:** The contractor shall flush the fire line with sufficient quantity of water and sufficient length of time at a minimum velocity of 10ft/sec. as required by the NFPA 24 Standard. Treated water shall be flushed until the replacement water throughout its length shows until testing the absence of chlorine as per the above Standard Specifications. The contractor shall be responsible for the disposal of treated water. **The treated water should be flushed into a water truck for proper disposal, or into a vacant lot if permission is obtained from the property owner. (Super chlorinated water should not be flushed into a storm drain, irrigation ditch or stream.** If neutralized it could be discharged into a sanitary sewer provided the rate of disposal will not overload the sewer.)

11. **Bacteriological Test: City's Bacteriological Test must be performed for fire lines.** Call 962-7261 to arrange for the sampling. This test shall be performed after flushing of line. Bacteriological water samples will only be scheduled Monday through Thursday. (Water Lab is not open on weekends.) Samples will be taken at contractor provided location downstream of Sprinkler Backflow Device. The City will furnish the results of the test to the contractor in approximately 24 to 48 hours. If the sample does not pass, further sampling of water shall be charged at $50 per sample.

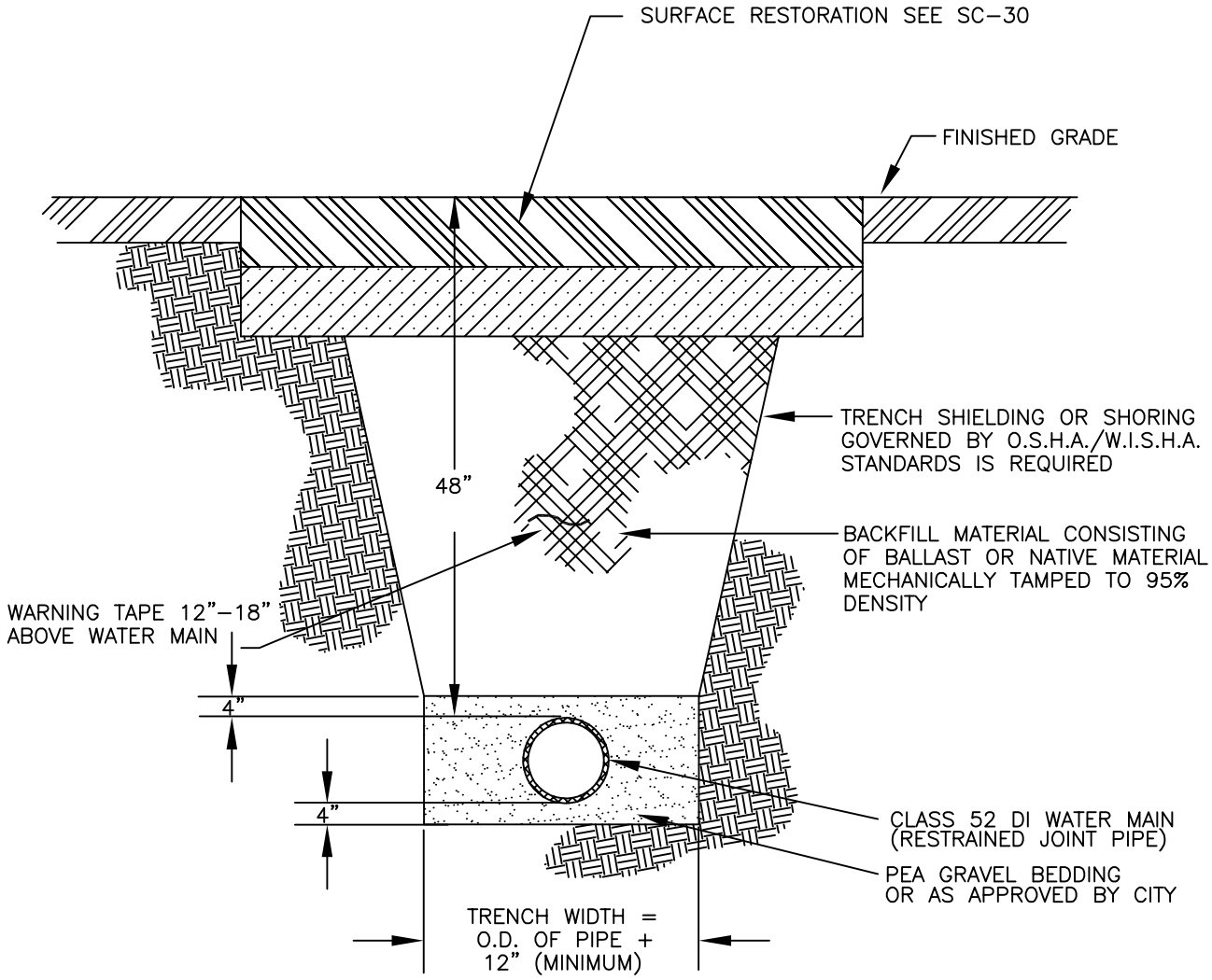
12. After the satisfactory results of Bacteriological Test, contractor shall coordinate the day and time for the fire line connection with the City's water main. **City personnel (Engineering Inspection)** must observe the connection of the new line with existing main. **The City will determine if any water shut off is required and which customers will be affected by it. The City requires at least a 24-hour notice for notification of water shut off to affected customers. No shut off of mains will be permitted overnight, over weekends or on holidays.**

13. Once work starts on the connection, it shall proceed continuously without interruption and as rapidly as possible until completed.

14. **The contractor shall not touch or operate any City valve. Contact the Water Department Foreman for Water Department personnel to operate the valve. Violators are subject to fines.**

15. After water main tie to City's main, Fire Line shall be flushed under normal line pressure and shall be witnessed by the **Fire Marshal.**

16. **The Fire Marshal** shall inspect sections of fire line, joints and thrust blocks before back filling is done.



NOTES:
1. WATERMAIN PRESSURE TEST SHALL BE COMPLETED AFTER SERVICES AND OTHER WATERMAIN PENETRATIONS ARE COMPLETED.

2. CONTRACTOR MUST FOLLOW ALL THE INSTRUCTIONS CONTAINED IN WATERMAIN INSTALLATION POLICY.

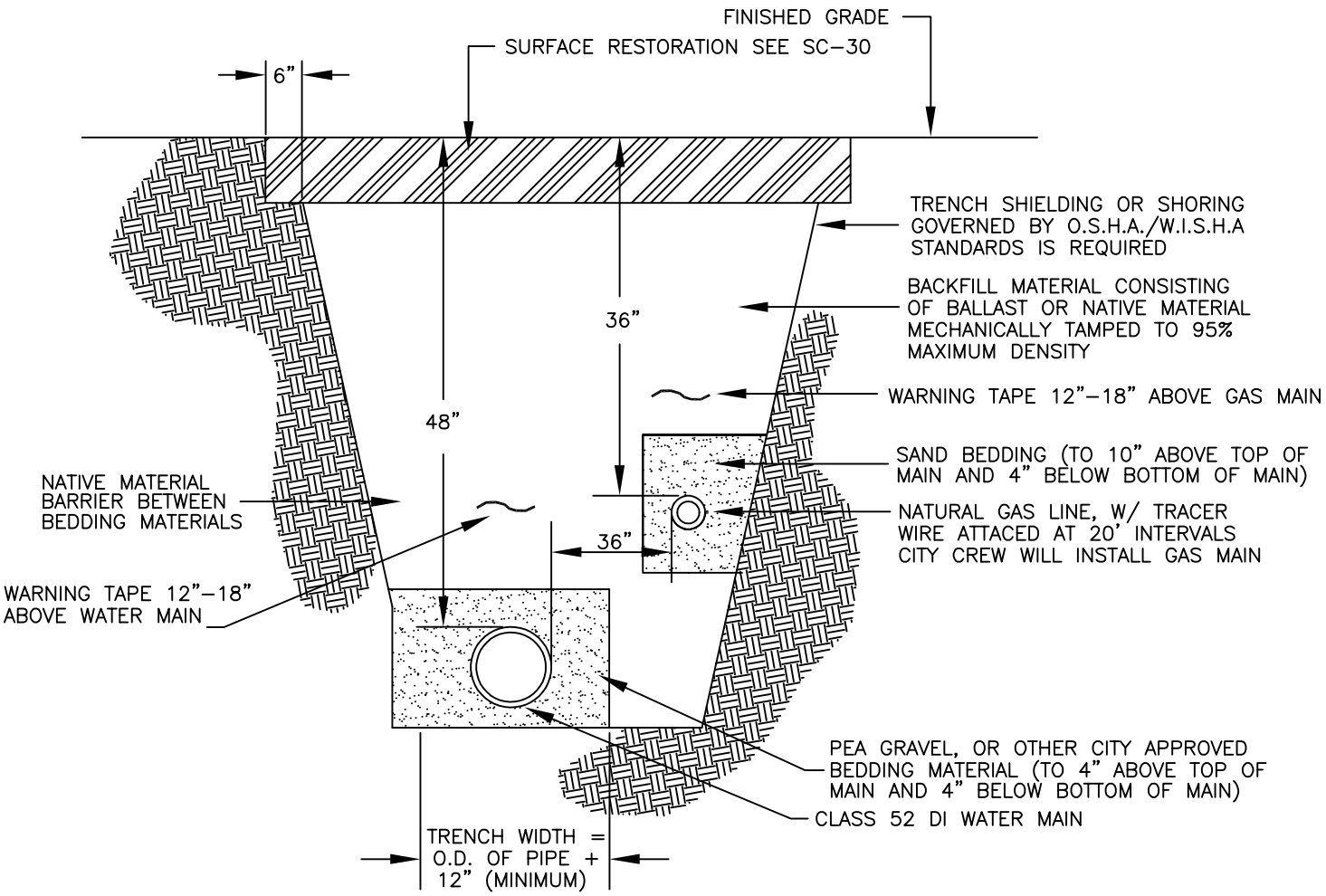
3. IF PIPE IS LAYED WITHIN ORDINARY HIGH WATER ELEVATION, PLACE SUITABLE NATIVE OR CLAY DAMS IN PLACE OF PEA GRAVEL BEDDING EVERY 300' OF PIPE. THIS WILL HELP PROVIDE A GROUND WATER DAM.

**INSTALL BRONZE CONTINUITY WEDGES AT EACH JOINT & AT COUPLERS TO MAINTAIN ELECTRICAL CONDUCTIVITY OF MAIN. CITY CREWS WILL TEST MAIN FOR CONDUCTIVITY WHEN COMPLETE.

USE # OF BRONZE CONTINUITY WEDGES PER JOINT
2 EA.–4"
3 EA.–6" & 8"
4 EA.–10" OR LARGER

REVISED 03-15-10

City of Ellensburg WASHINGTON	CITY OF ELLENSBURG STANDARD PLANS & DETAILS	WATER TRENCH		PLAN NO. WT-10
	DRAWN BY: HLG	DATE: 09-20-96	UPDATED BY:	SCALE: NONE



NOTES:
1. WATERMAIN PRESSURE TEST SHALL BE COMPLETED AFTER SERVICES AND OTHER WATERMAIN PENETRATIONS ARE COMPLETED.

2. CONTRACTOR MUST FOLLOW ALL THE INSTRUCTIONS CONTAINED IN WATERMAIN INSTALLATION POLICY.

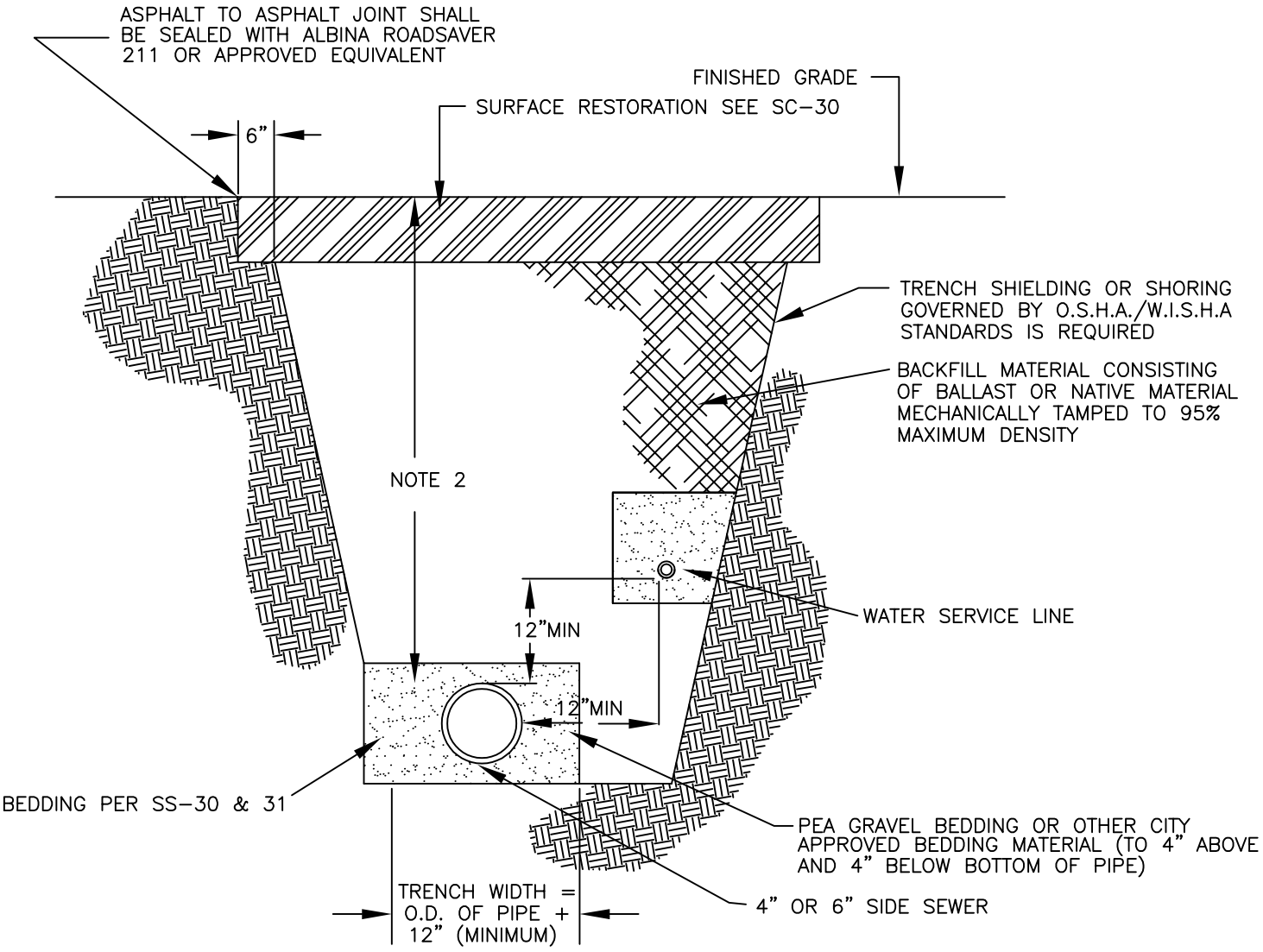
3. IF PIPE IS LAYED WITHIN NORMAL HIGH GROUND WATER ELEVATION, PLACE SUITABLE NATIVE OR CLAY DAMS IN PLACE OF PEA GRAVEL BEDDING EVERY 300' OF PIPE. THIS WILL HELP PROVIDE A GROUND WATER DAM.

**INSTALL BRONZE CONTINUITY WEDGES AT EACH JOINT & AT COUPLERS TO MAINTAIN ELECTRICAL CONDUCTIVITY OF MAIN. CITY CREWS WILL TEST MAIN FOR CONDUCTIVITY WHEN COMPLETE.

USE # OF BRONZE CONTINUITY WEDGES PER JOINT
2 EA.-4"
3 EA.-6" & 8"
4 EA.-10" OR LARGER

REVISED 03-15-10

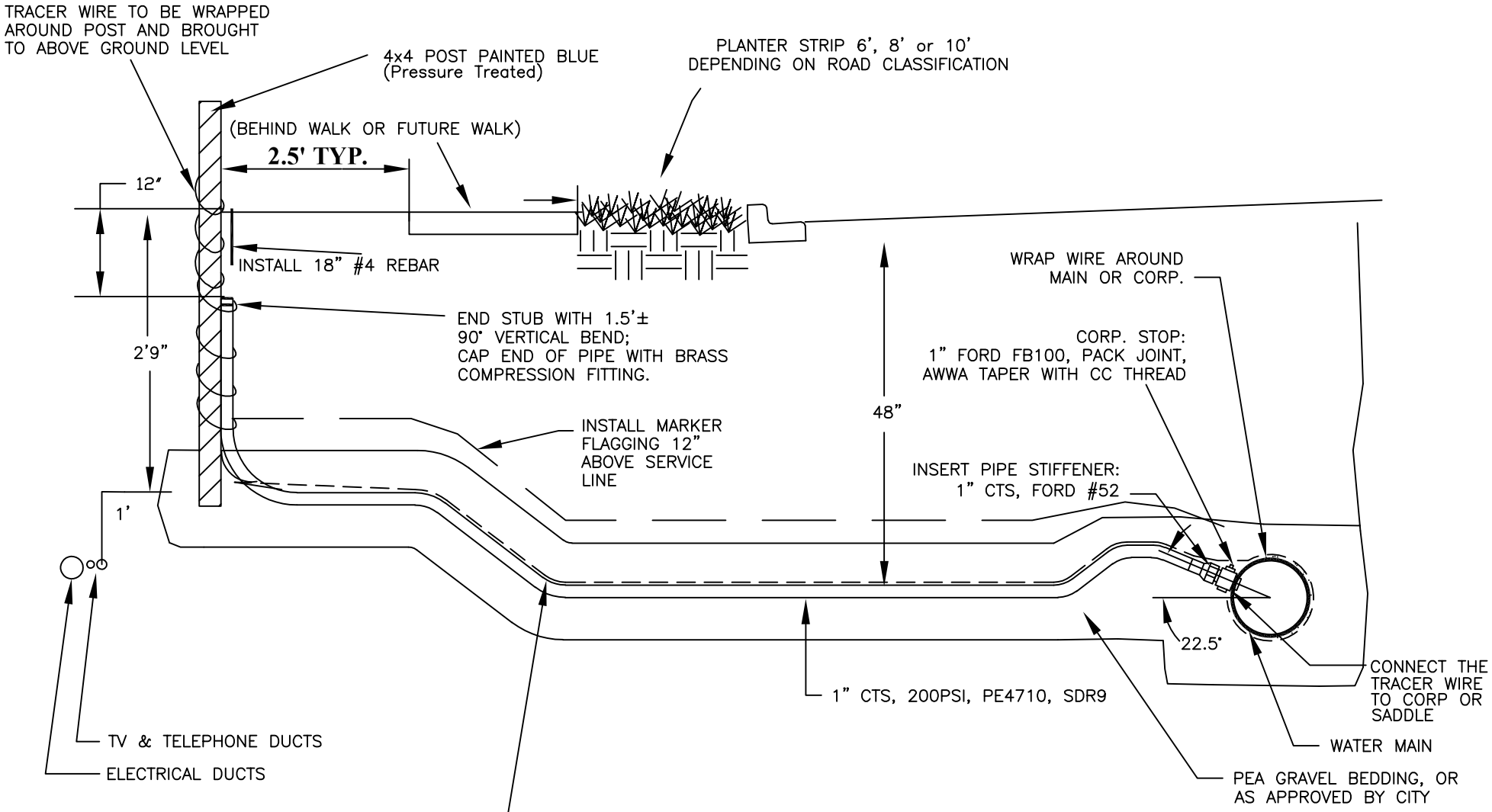
City of Ellensburg WASHINGTON	CITY OF ELLENSBURG STANDARD PLANS & DETAILS	WATER & GAS TRENCH			PLAN NO. WT-15
	DRAWN BY: HLG	DATE: 09-20-96	UPDATED BY:	SCALE: NONE	



NOTES:
1. THIS DETAIL ONLY APPLICABLE DOWN STREAM FROM CITY WATER METER.
2. 48" MIN. IN RIGHT OF WAY; 30" MIN. ON PRIVATE PROPERTY.

REVISED 03-15-10

City of Ellensburg WASHINGTON	CITY OF ELLENSBURG STANDARD PLANS & DETAILS	WATER SERVICE & SIDE SEWER COMMON TRENCH			PLAN NO. WT-16
	DRAWN BY: GDC	DATE: 05-27-03	UPDATED BY:	SCALE: NONE	

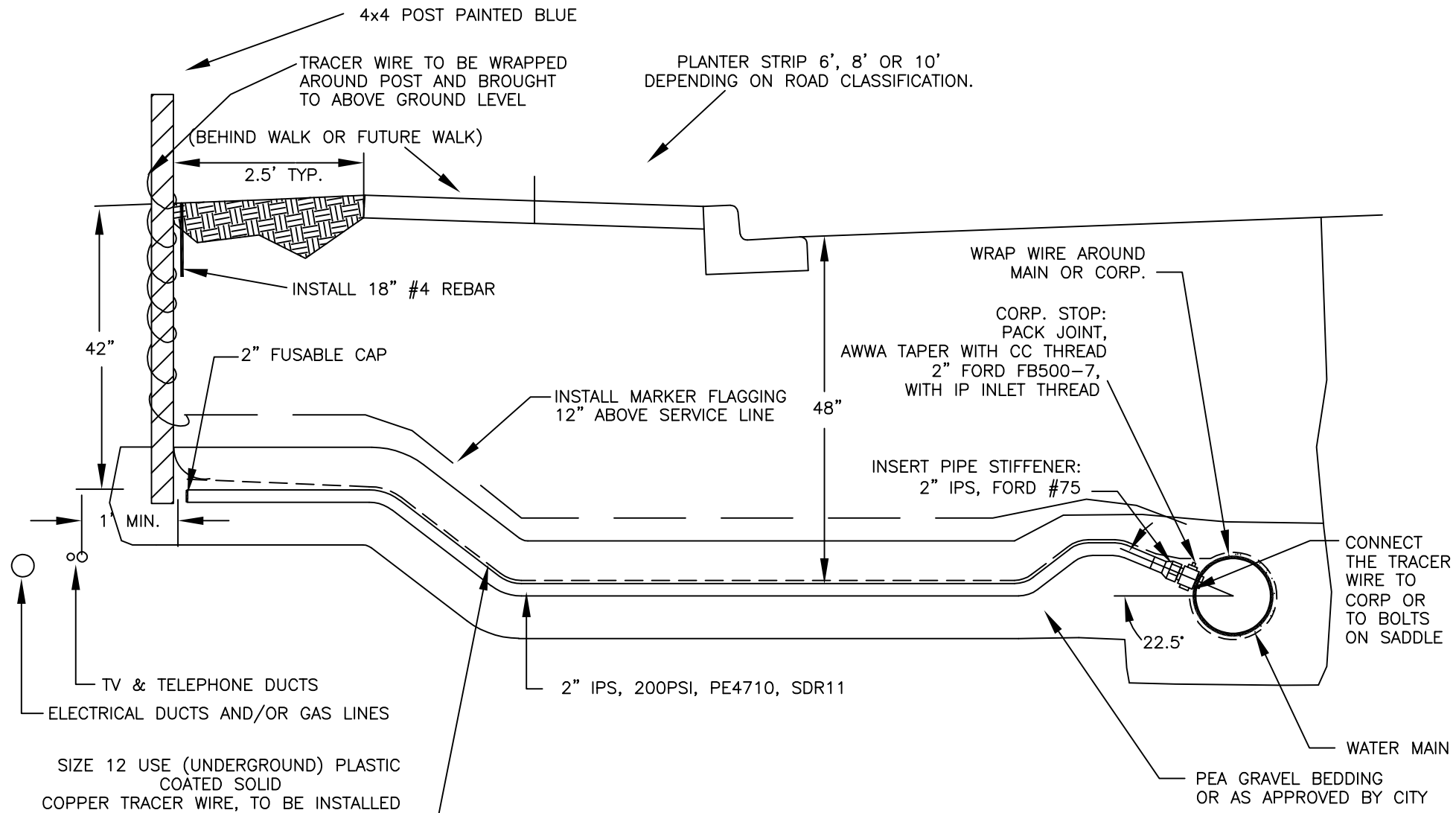


NOTES:

1. **1" PIPE USED FOR 5/8" OR 1" WATER SERVICES.**
2. **WHEN EXTENDING SERVICE LINES, ONLY FUSION SPLICES WILL BE PERMITTED.**

REVISED 09-01-17

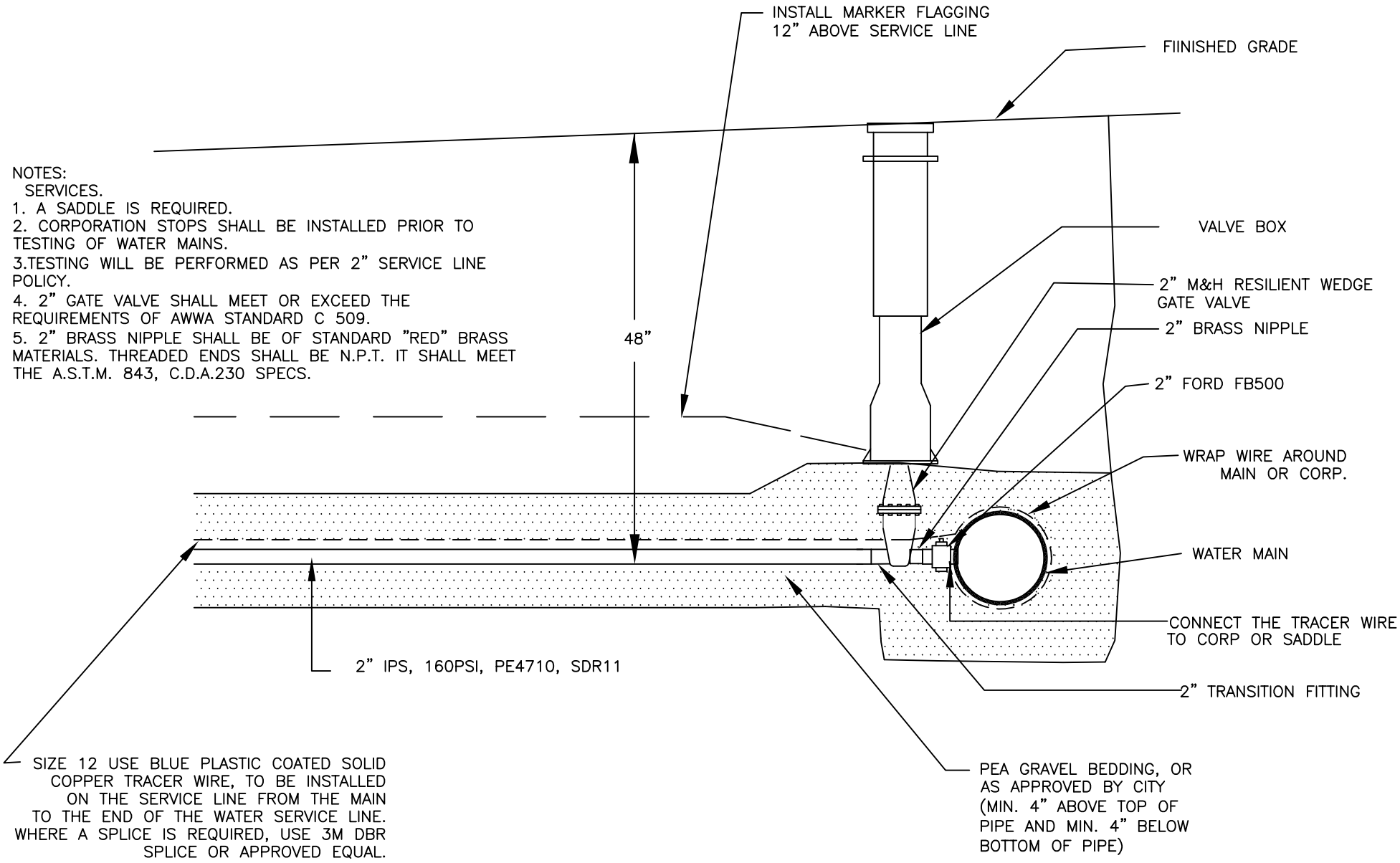
City of Ellensburg WASHINGTON	CITY OF ELLENSBURG STANDARD PLANS & DETAILS	DRAWN BY: JSG / UPDATED BY: DY	DATE: 09-20-96 / SCALE: NONE	1" CTS WATER SERVICE STUB INSTALLATION	PLAN NO. WT-20



NOTES:
1. 2" PIPE USED FOR 1-1/2" OR 2" WATER SERVICES.
2. A SADDLE IS REQUIRED.
3. FOR EXTENDING 2" IPS, IF REQUIRED, ONLY FUSION SPLICE WILL BE PERMITTED.
4. CORPORATION STOPS SHALL BE INSTALLED PRIOR TO TESTING OF WATER MAINS.

REVISED 09-01-17

City of Ellensburg WASHINGTON	CITY OF ELLENSBURG STANDARD PLANS & DETAILS	DRAWN BY: JSG / UPDATED BY: DY	DATE: 10-21-03 / SCALE: NONE	2" IPS WATER SERVICE STUB INSTALLATION (SINGLE METER)	PLAN NO. WT-21

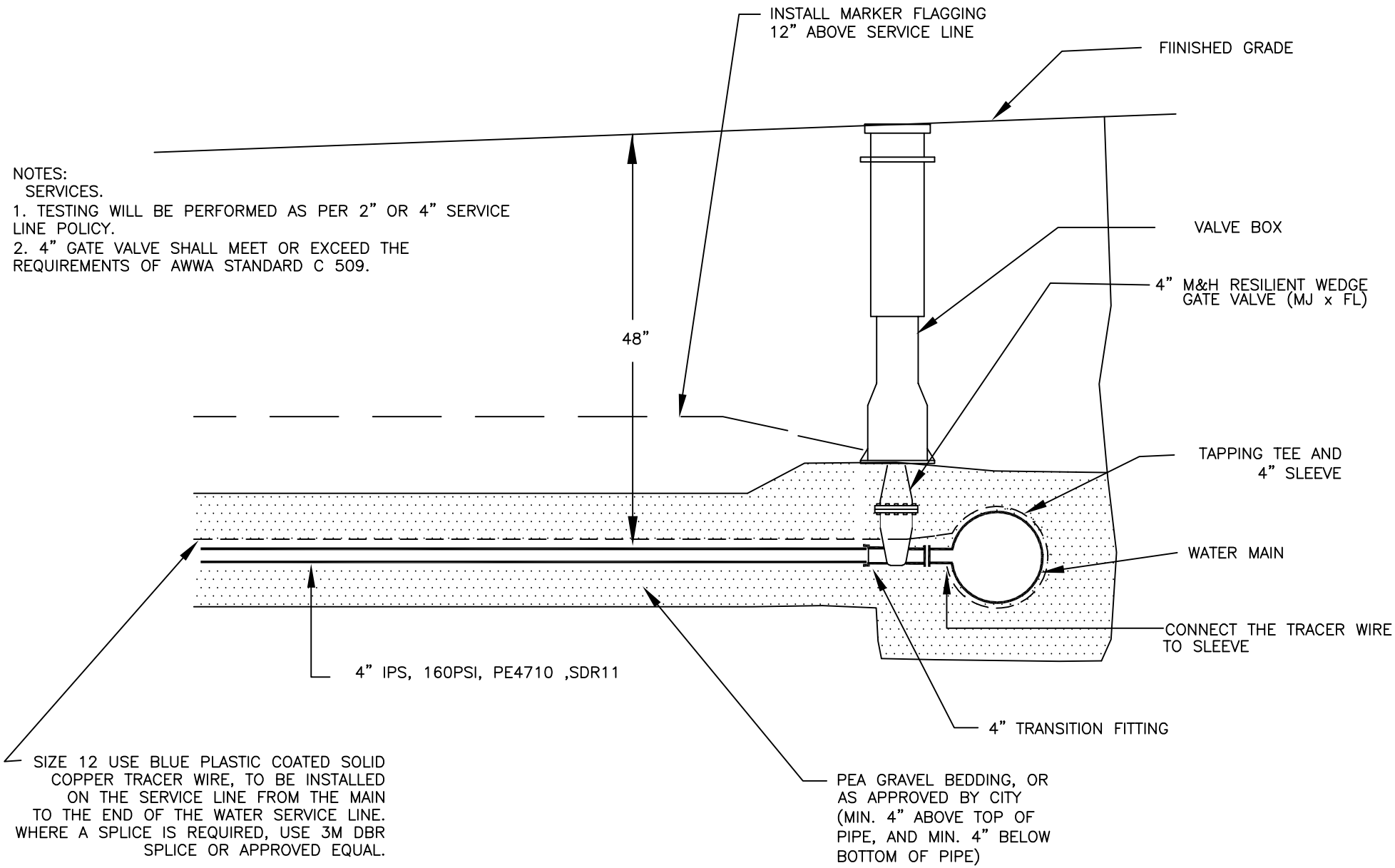


NOTES:
SERVICES.

1. A SADDLE IS REQUIRED.
2. CORPORATION STOPS SHALL BE INSTALLED PRIOR TO TESTING OF WATER MAINS.
3. TESTING WILL BE PERFORMED AS PER 2" SERVICE LINE POLICY.
4. 2" GATE VALVE SHALL MEET OR EXCEED THE REQUIREMENTS OF AWWA STANDARD C 509.
5. 2" BRASS NIPPLE SHALL BE OF STANDARD "RED" BRASS MATERIALS. THREADED ENDS SHALL BE N.P.T. IT SHALL MEET THE A.S.T.M. 843, C.D.A.230 SPECS.

REVISED 09-01-17

City of Ellensburg WASHINGTON	CITY OF ELLENSBURG STANDARD PLANS & DETAILS	DRAWN BY: JSG	DATE: 10-21-03	2" WATER MAIN INSTALLATION
		UPDATED BY: DY	SCALE: NONE	PLAN NO. WT-22

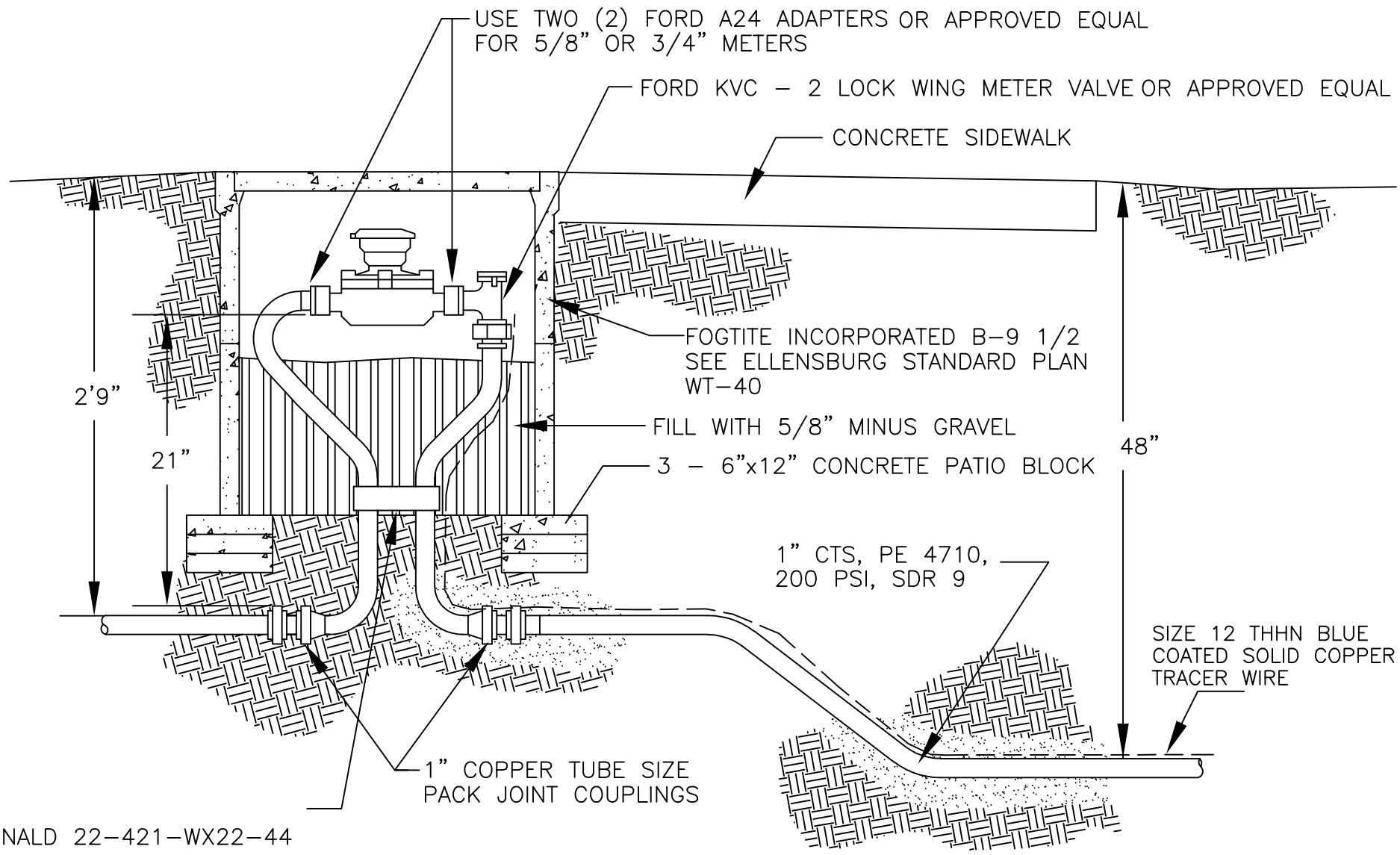


NOTES:
SERVICES.
1. TESTING WILL BE PERFORMED AS PER 2" OR 4" SERVICE LINE POLICY.
2. 4" GATE VALVE SHALL MEET OR EXCEED THE REQUIREMENTS OF AWWA STANDARD C 509.

REVISED 09-01-17

City of Ellensburg WASHINGTON	CITY OF ELLENSBURG STANDARD PLANS & DETAILS	DRAWN BY: DKM	DATE: 10-21-03	4" WATER MAIN INSTALLATION
		UPDATED BY: DY	SCALE: NONE	PLAN NO. WT-23

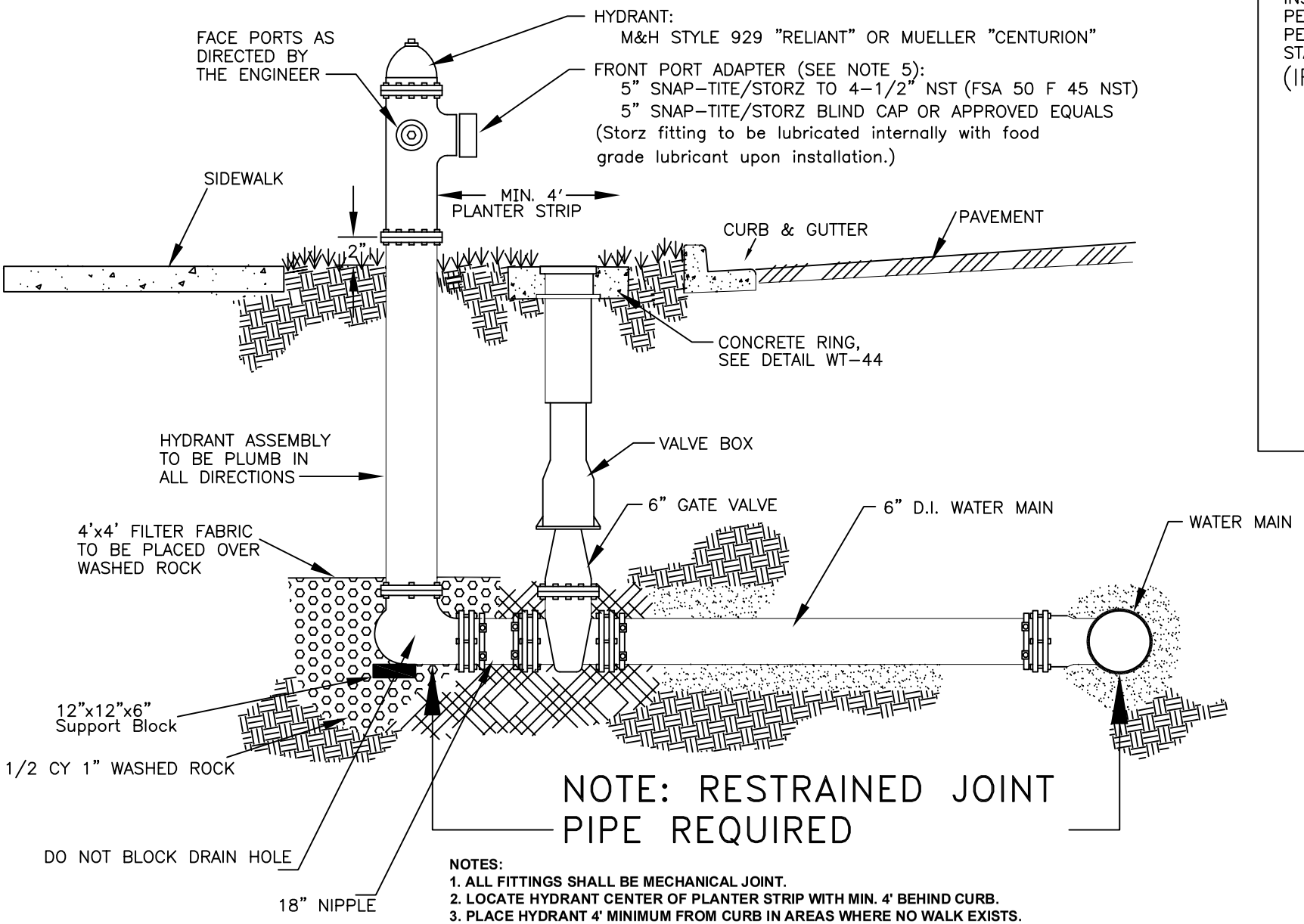
NOTE: COPPERSETTER, METER, & SERVICE BOX
INSTALLED BY CITY AT DEVELOPERS COST.



McDONALD 22–421–WX22–44
OR APPROVED EQUAL

REVISED 3-11-19

City of Ellensburg WASHINGTON	CITY OF ELLENSBURG STANDARD PLANS & DETAILS	DRAWN BY: HLG	DATE: 09-23-96	5/8" OR 1" WATER SERVICE INSTALLATION	PLAN NO. WT-25
		UPDATED BY: DY	SCALE: NONE		



INSTALL BOLLARDS PER PLANS AND/OR PER DEVELOPMENT STANDARDS (IF REQUIRED)

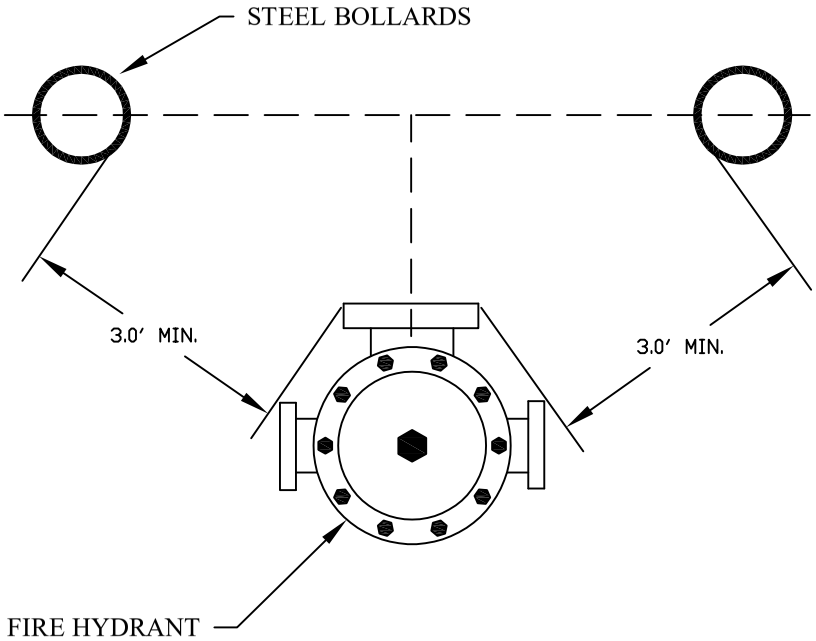
NOTES:

1. ALL FITTINGS SHALL BE MECHANICAL JOINT.
2. LOCATE HYDRANT CENTER OF PLANTER STRIP WITH MIN. 4' BEHIND CURB.
3. PLACE HYDRANT 4' MINIMUM FROM CURB IN AREAS WHERE NO WALK EXISTS.
4. TOP AND PORT NUTS ON HYDRANT SHALL BE 1-1/4"PENTAGONAL.
5. FITTING SHALL BE STORZ, HARRINGTON, OR ANGUS BRANDS. IF ANOTHER BRAND IS DESIRED CONTRACTOR SHALL SUBMIT REQUEST AND ATTAIN APPROVAL IN WRITING FROM THE CITY OF ELLENSBURG.

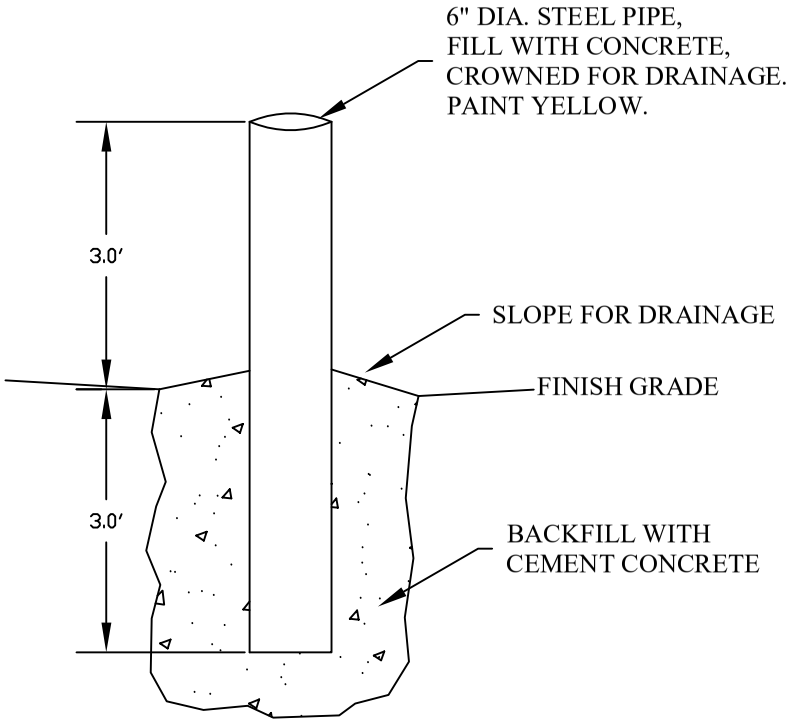
REVISED 10-28-16

City of Ellensburg WASHINGTON	CITY OF ELLENSBURG STANDARD PLANS & DETAILS	DRAWN BY: HLG / UPDATED BY: DY	DATE: 10-25-96 / SCALE: NONE	FIRE HYDRANT ASSEMBLY INSTALLATION	PLAN NO. WT-30

HYDRANT PROTECTION



BOLLARD DETAIL

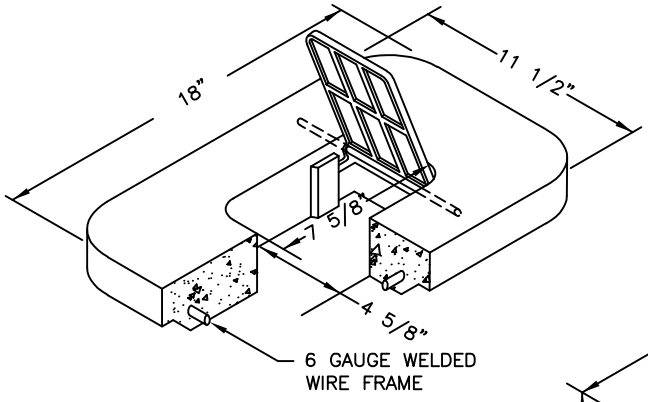


REVISED XX-XX-XX

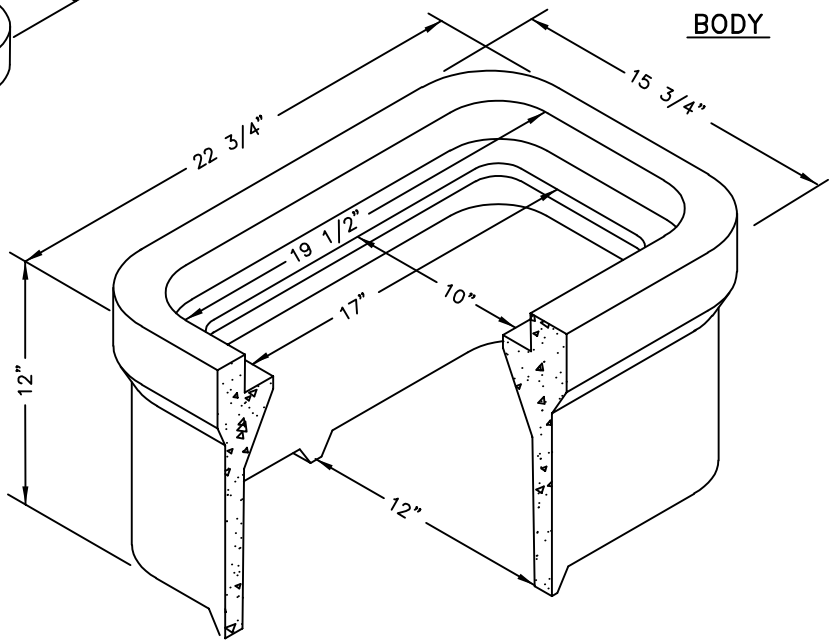
City of Ellensburg WASHINGTON	CITY OF ELLENSBURG STANDARD PLANS & DETAILS	DRAWN BY: DKM	DATE: 12-29-03	FIRE HYDRANT PROTECTION (BOLLARDS)	PLAN NO. WT-31
		UPDATED BY:	SCALE: NONE		

COVER WITH HINGED LID

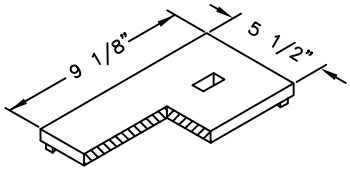
FOGTITE INCORPORATED B–9 1/2
OR APPROVED EQUAL



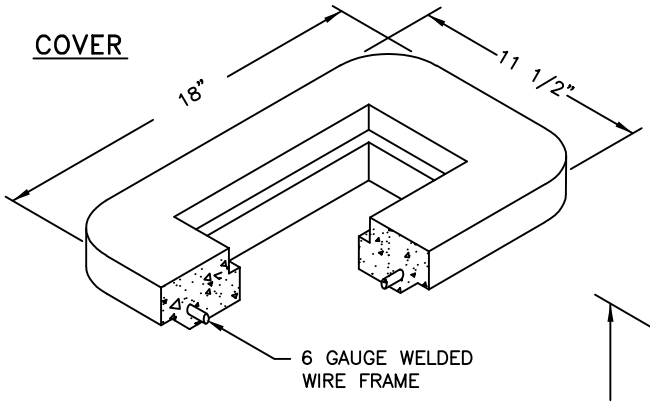
BODY



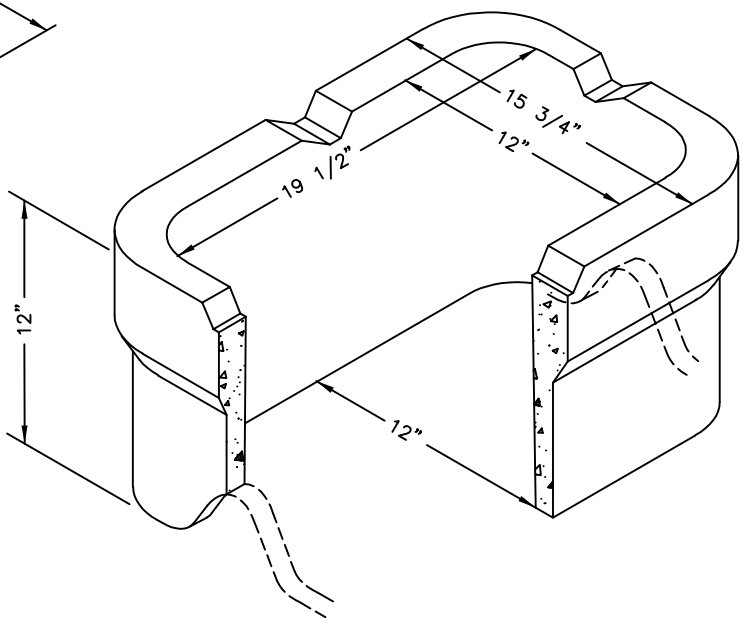
METAL DROP–IN LID



COVER



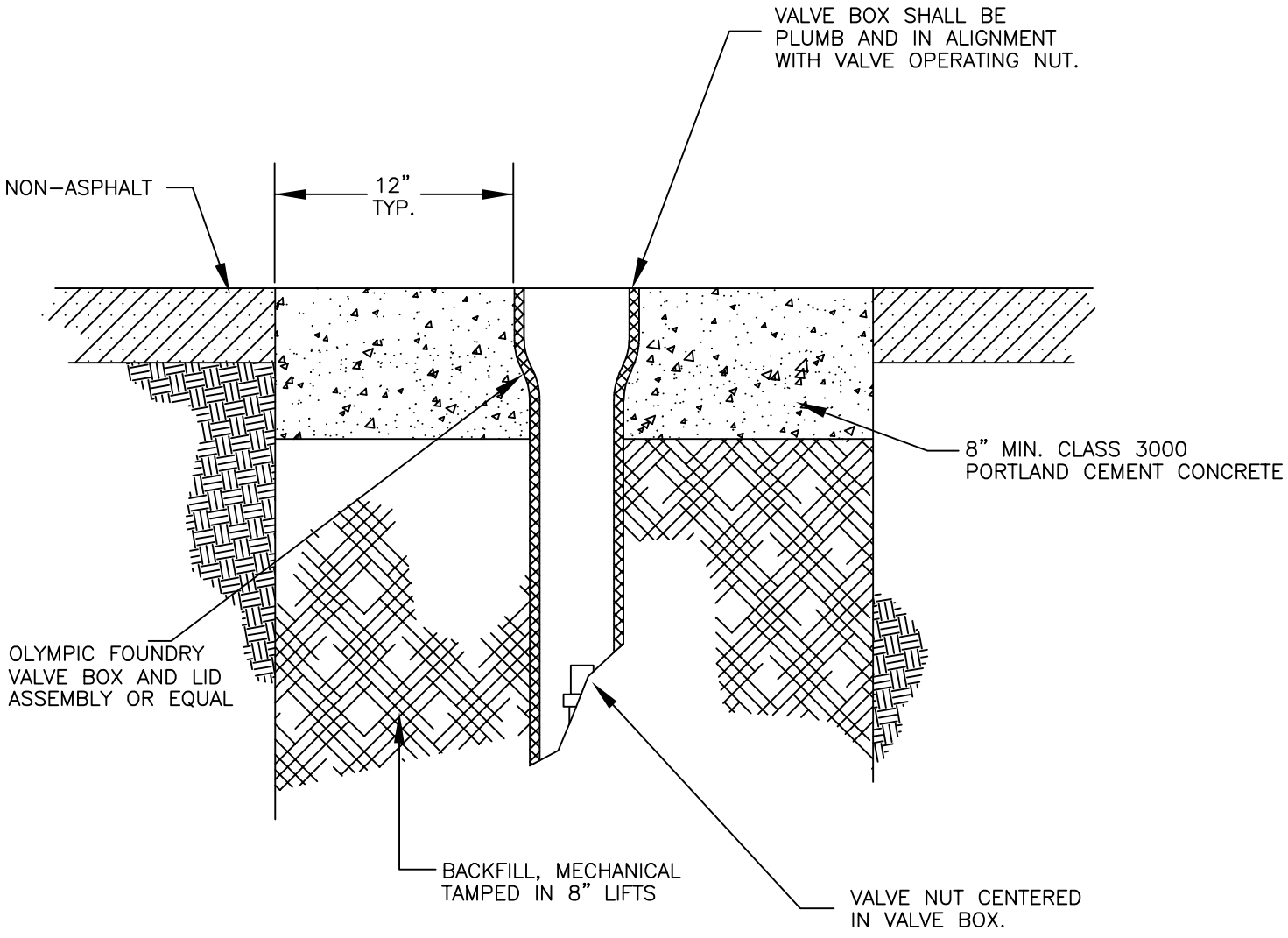
EXTENSION



NOTE: BOXES SUPPLIED AND INSTALLED BY CITY AT DEVELOPERS COST.

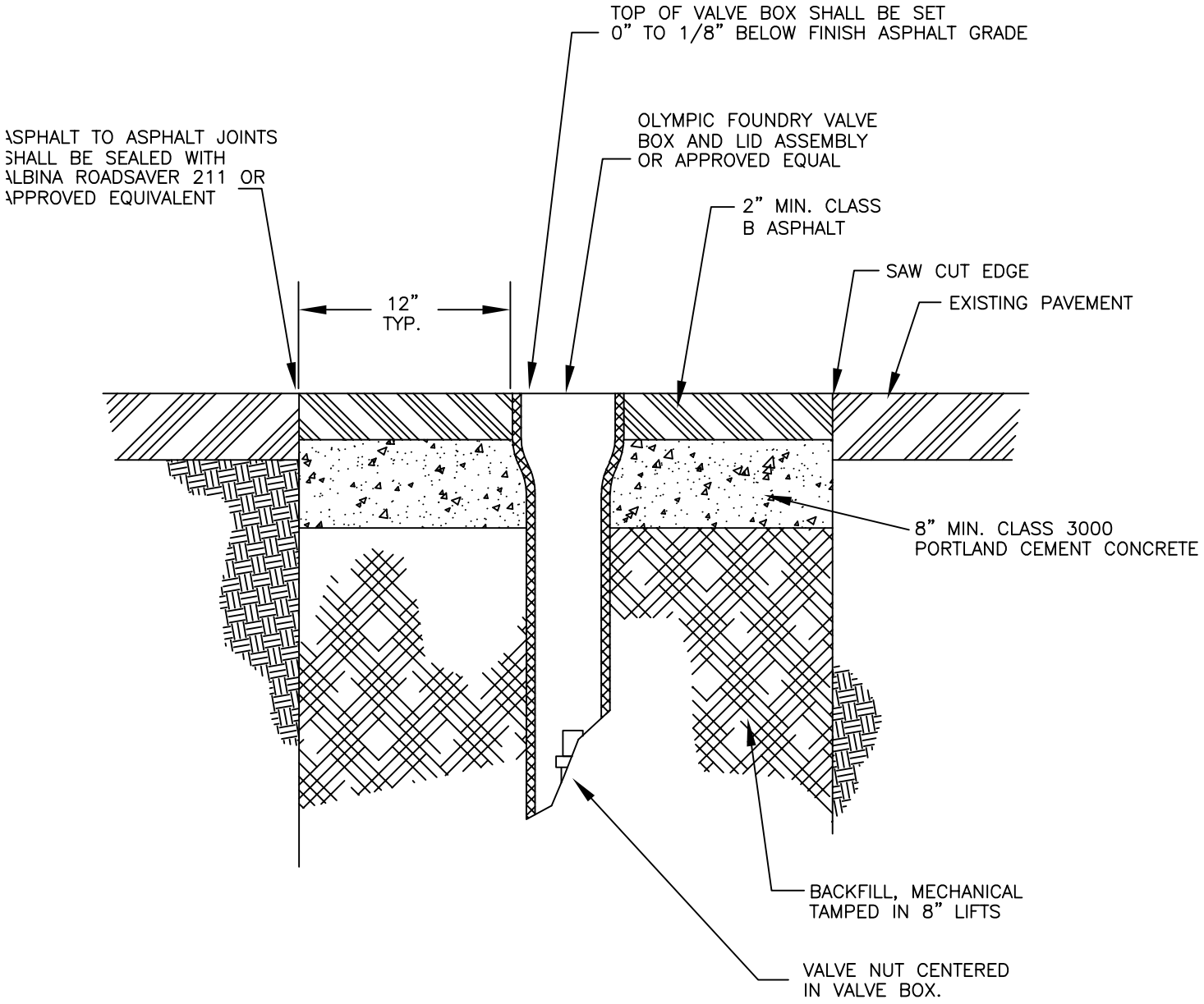
REVISED 05-30-01

City of Ellensburg WASHINGTON	CITY OF ELLENSBURG STANDARD PLANS & DETAILS	5/8" AND 1" WATER METER BOX			PLAN NO. WT-40
	DRAWN BY: HLG	DATE: 12-01-03	UPDATED BY:	SCALE: NONE	



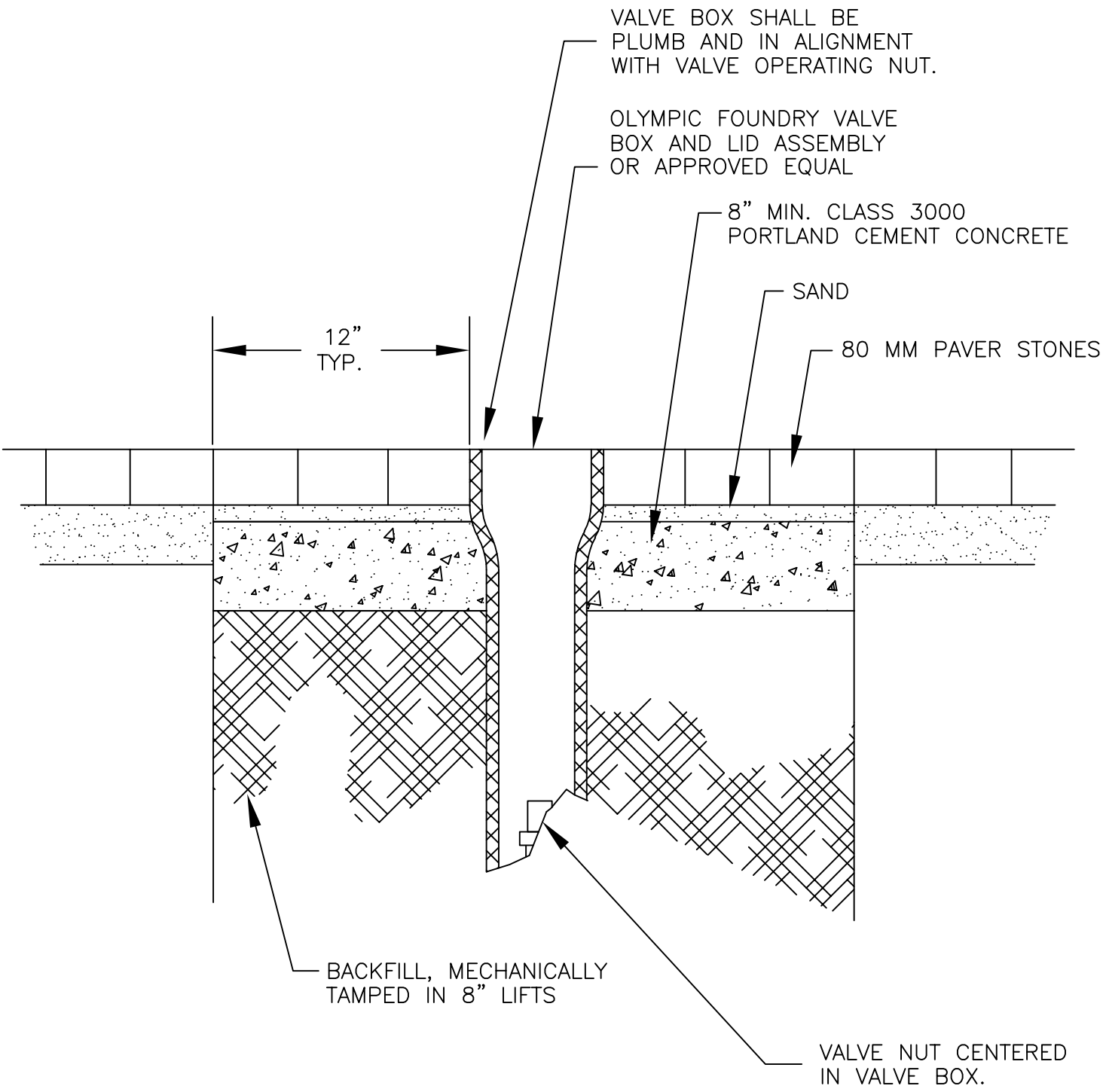
REVISED 3-11-19

City of Ellensburg WASHINGTON	CITY OF ELLENSBURG STANDARD PLANS & DETAILS	WATER VALVE BOX ADJUSTMENT NON-ASPHALT AREAS			PLAN NO. WT-44
	DRAWN BY: HLG	DATE: 09-23-96	UPDATED BY:	SCALE: NONE	



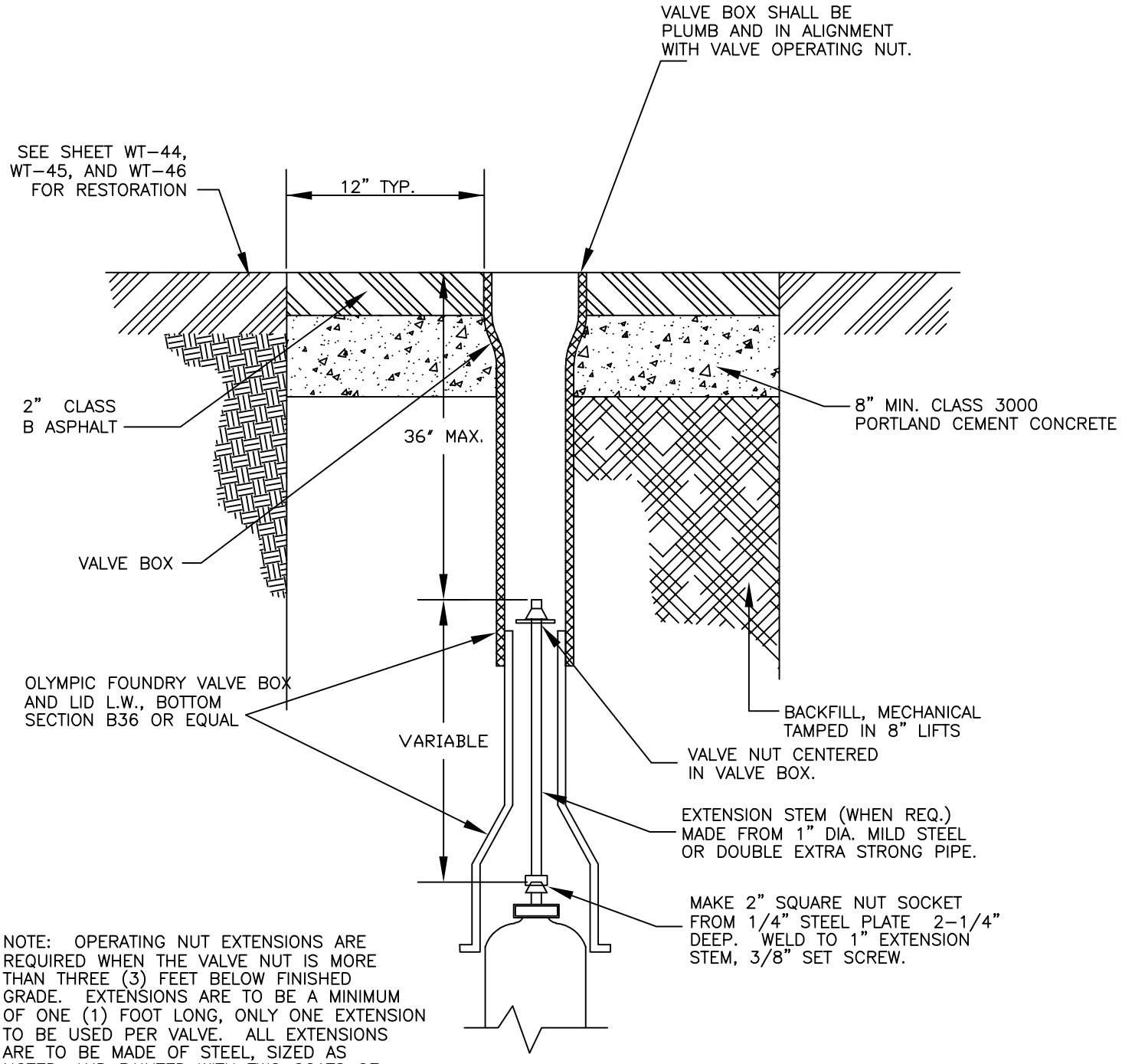
REVISED 3-11-19

City of Ellensburg WASHINGTON	CITY OF ELLENSBURG STANDARD PLANS & DETAILS	WATER VALVE BOX ADJUSTMENT ASPHALT SURFACING			PLAN NO. WT-45
	DRAWN BY: HLG	DATE: 09-23-96	UPDATED BY:	SCALE: NONE	



REVISED 3-11-19

City of Ellensburg WASHINGTON	CITY OF ELLENSBURG STANDARD PLANS & DETAILS	WATER VALVE BOX ADJUSTMENT PAVER STONE SURFACING			PLAN NO. WT-46
	DRAWN BY: HLG	DATE: 09-23-96	UPDATED BY: XX	SCALE: NONE	



NOTE: OPERATING NUT EXTENSIONS ARE REQUIRED WHEN THE VALVE NUT IS MORE THAN THREE (3) FEET BELOW FINISHED GRADE. EXTENSIONS ARE TO BE A MINIMUM OF ONE (1) FOOT LONG, ONLY ONE EXTENSION TO BE USED PER VALVE. ALL EXTENSIONS ARE TO BE MADE OF STEEL, SIZED AS NOTED, AND PAINTED WITH TWO COATS OF METAL PAINT.

REVISED 06-15-11

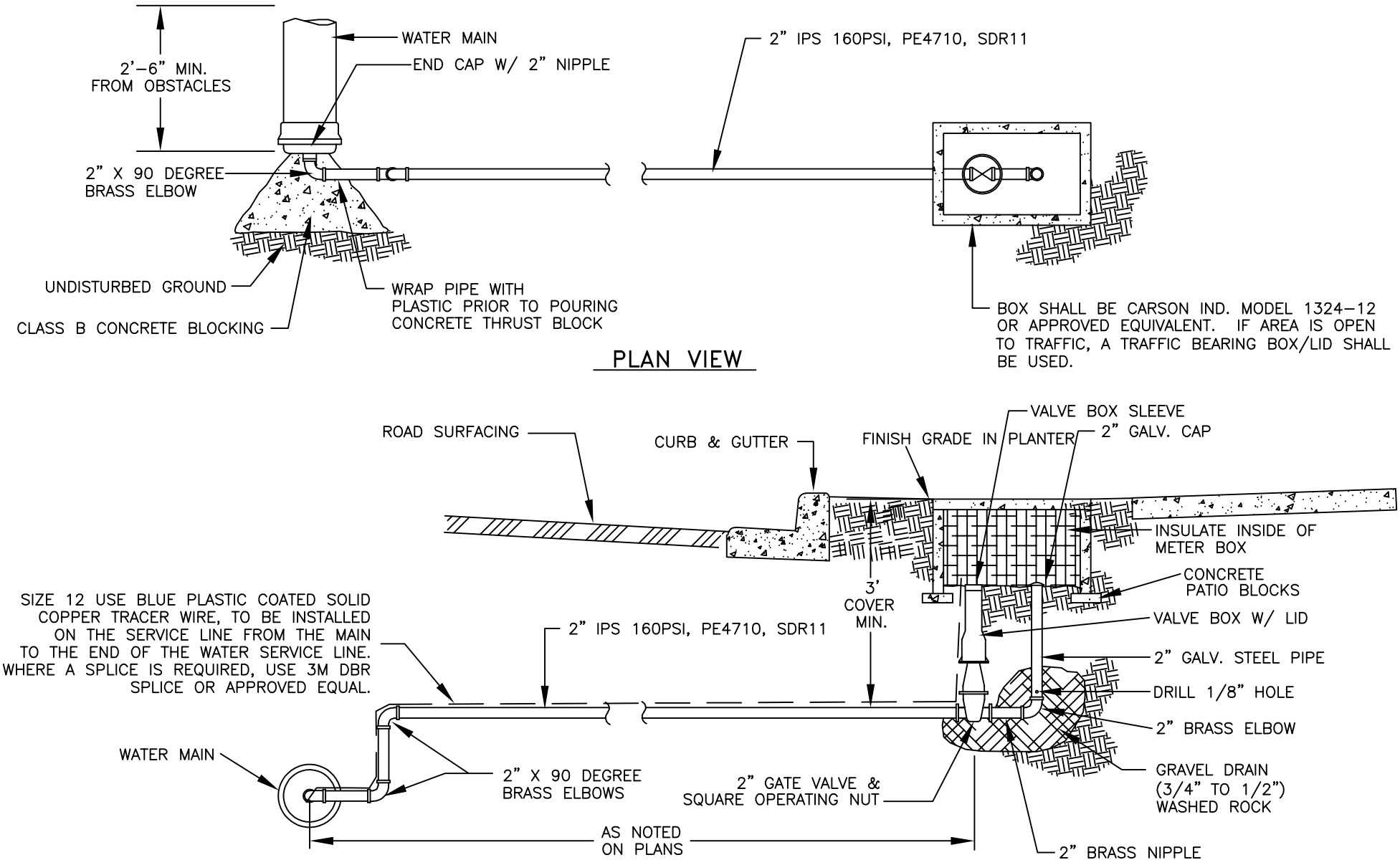
City of Ellensburg WASHINGTON

CITY OF ELLENSBURG
STANDARD PLANS & DETAILS

WATER VALVE BOX EXTENSION

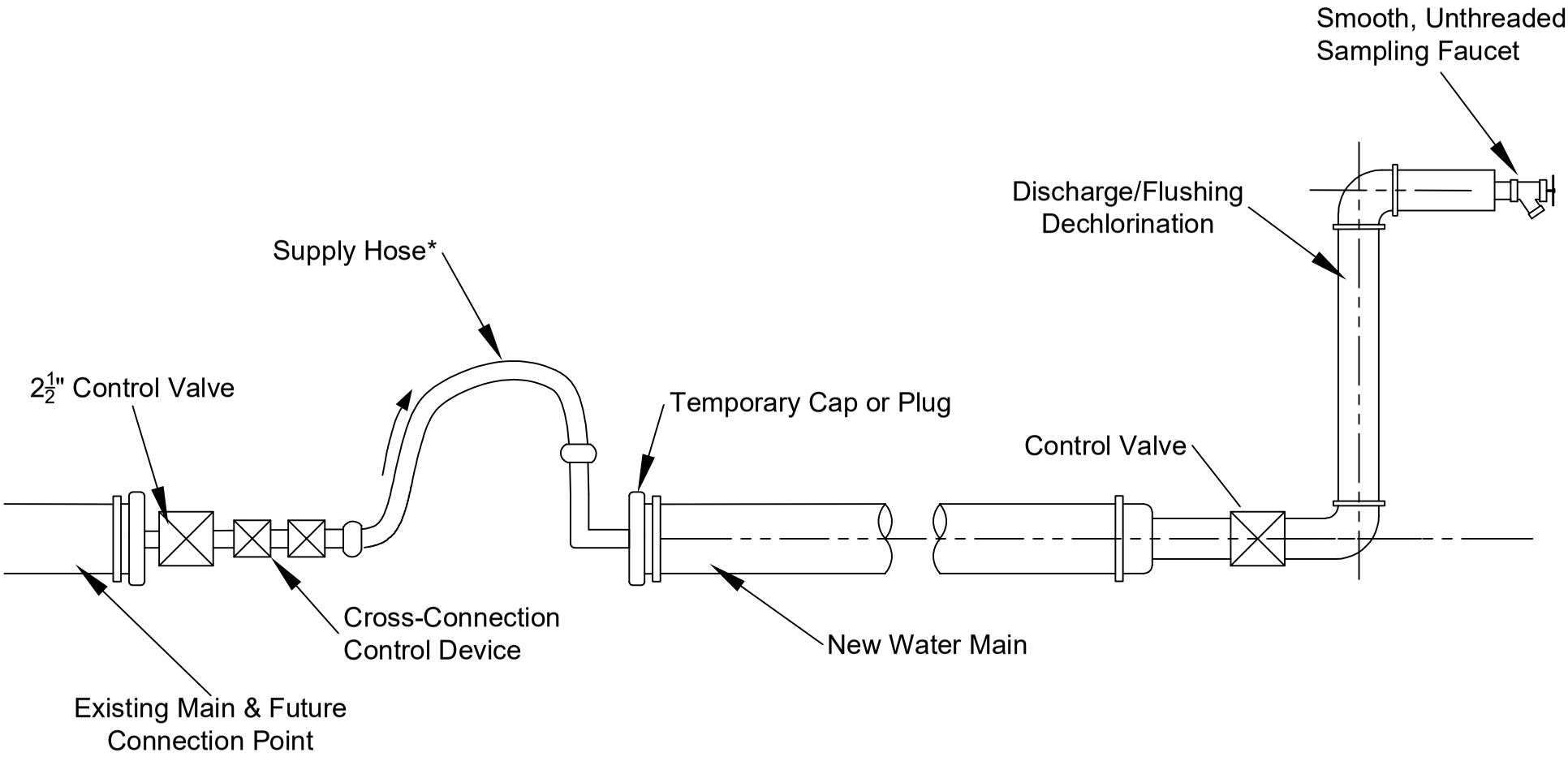
PLAN NO. WT-47

DRAWN BY:	DATE:	UPDATED BY:	SCALE:
DKM	12-01-03		NONE



REVISED 09-01-17

City of Ellensburg WASHINGTON	CITY OF ELLENSBURG STANDARD PLANS & DETAILS	DRAWN BY: HLG	DATE: 09-23-96	WATER MAIN 2" BLOW-OFF ASSEMBLY	PLAN NO. WT-50
		UPDATED BY: DY	SCALE: NONE		

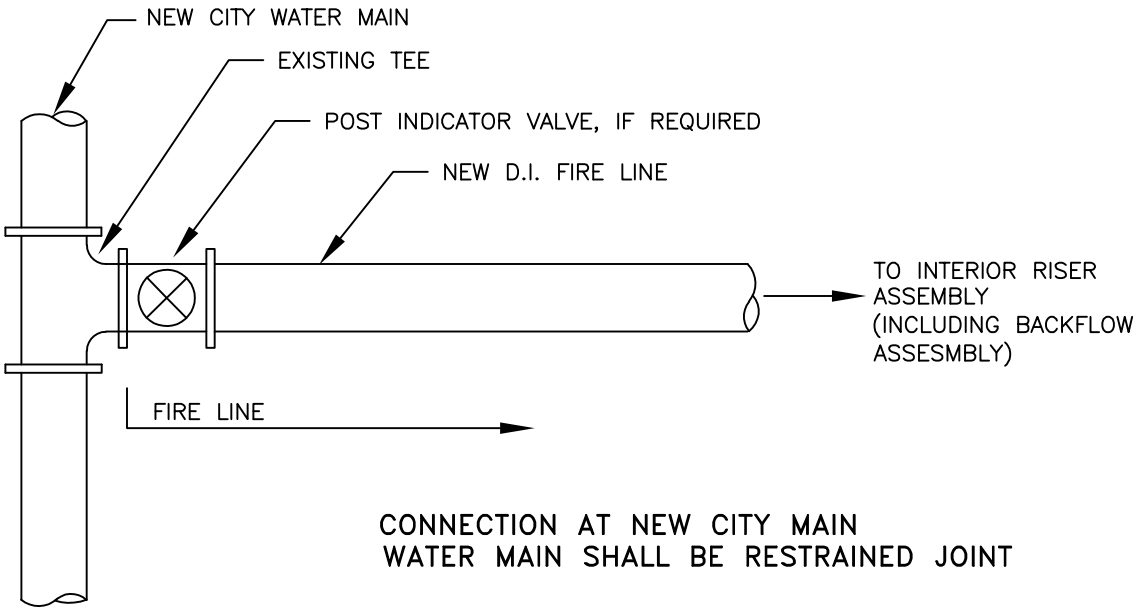


NOTES

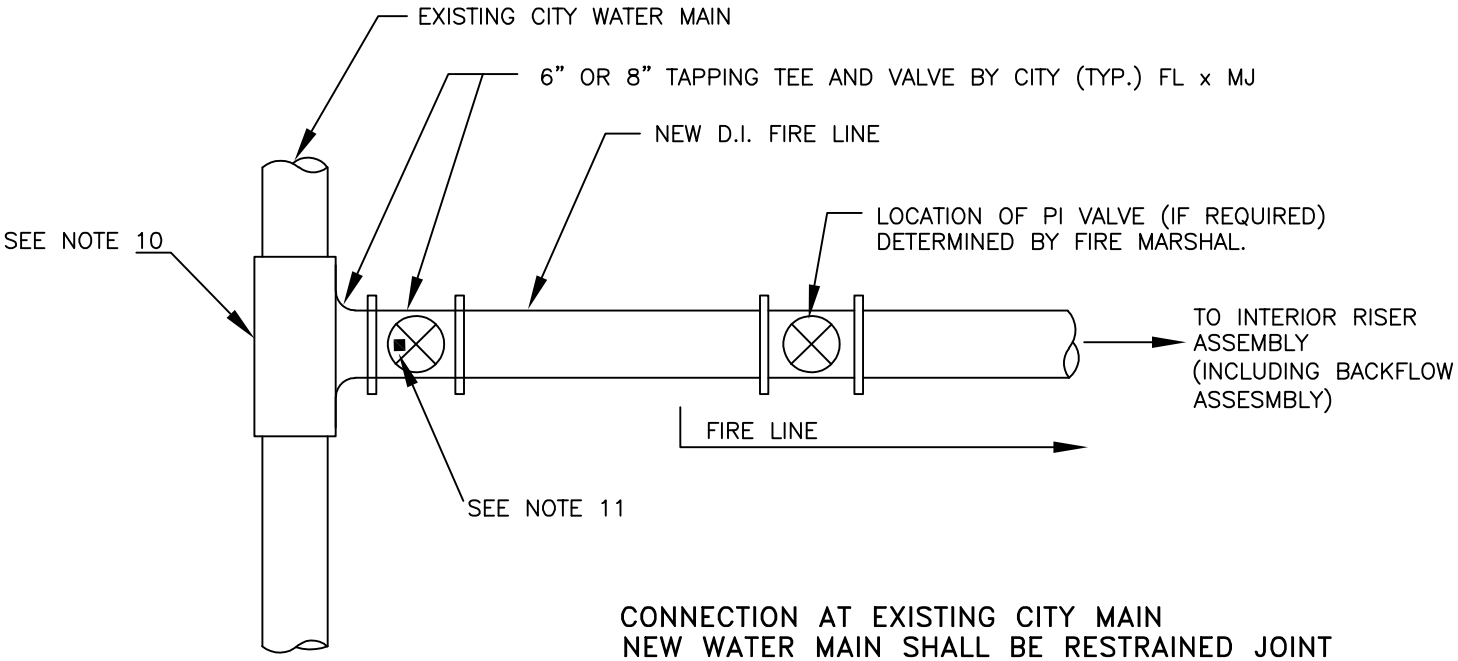
- This figure applies to pipes with diameters 4 in. (100 mm) through 12 in. (300 mm). Larger sizes must be handled on a case-by-case basis.
- *Clean potable-water hose only. This hose must be removed during the hydrostatic pressure test.

REVISED XX-XX-XX

City of Ellensburg WASHINGTON	CITY OF ELLENSBURG STANDARD PLANS & DETAILS	DRAWN BY: DY	DATE: 11-01-16	FLUSHING WATER MAINS	PLAN NO. WT-51
		UPDATED BY:	SCALE: NONE		



CONNECTION AT NEW CITY MAIN
WATER MAIN SHALL BE RESTRAINED JOINT

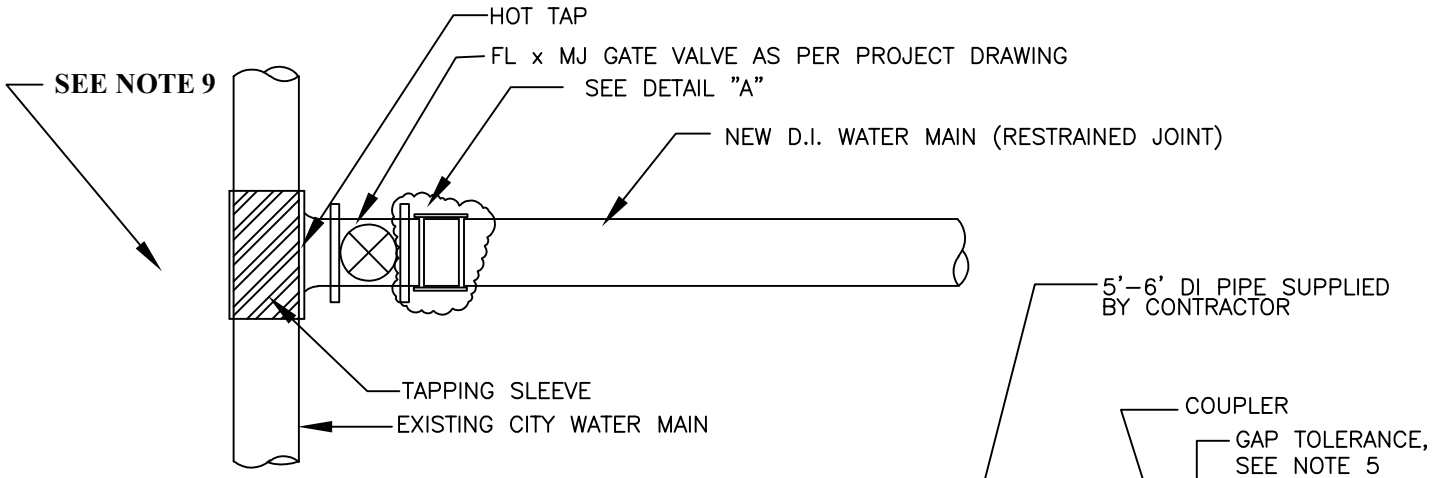


CONNECTION AT EXISTING CITY MAIN
NEW WATER MAIN SHALL BE RESTRAINED JOINT

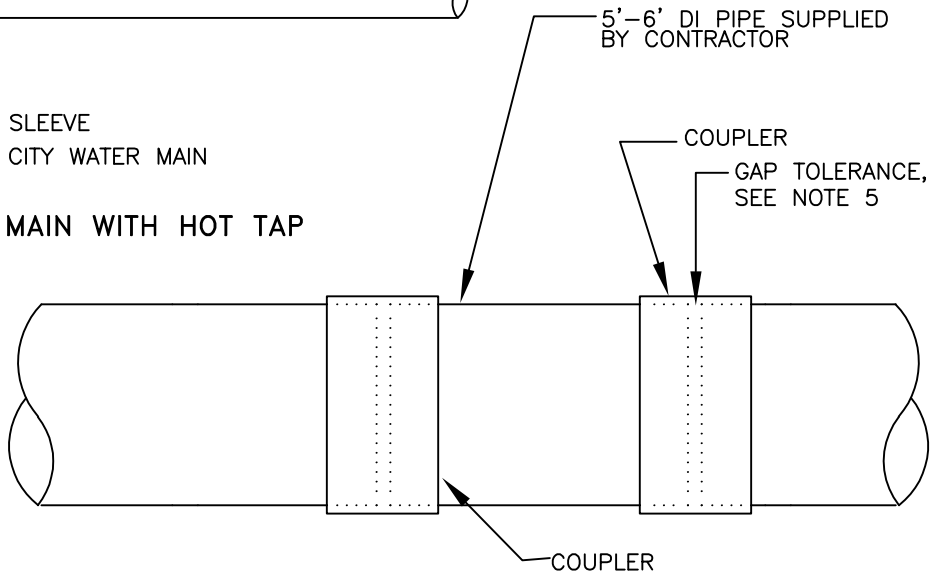
NOTES:
1. THE FIRE LINE FROM THE CITY WATER MAIN IS TO BE INSTALLED BY LICENSED FIRE SERVICE INSTALLER.
2. HOT TAP CONNECTION REQUIRED UNLESS OTHER METHOD APPROVED BY CITY.
3. CITY WILL SUPPLY TAPPING SLEEVE AND VALVE IF CITY PERFORMS HOT TAP.
4. CONTRACTOR TO SUPPLY ALL OTHER PARTS REQUIRED FOR CONNECTION.
5. CONTRACTOR TO GET THE PARTS INSPECTED BY INSPECTOR PRIOR TO ANY TIE IN. ALL MATERIALS WILL BE ON JOB SITE PRIOR TO SHUT DOWN OF EXISTING MAIN.
6. CONTRACTOR TO CUT THE PIPE TO SIZE. TOLERANCES FOR GAP SHALL BE WITHIN MANUFACTURER TOLERANCES.
7. CONTRACTOR MUST SCHEDULE TIE–IN 48 HOURS IN ADVANCE.
8. THE CONNECTION MUST BE APPROVED AND OBSERVED BY CITY PERSONNEL.
9. CONTRACTOR MUST FOLLOW ALL INSTRUCTIONS CONTAINED IN FIRE MAIN INSTALLATION POLICY.
10. IF THE EXISTING MAIN IS NON–RESTRAINED, CONTRACTOR ENGINEER SHALL DETERMINE IF ADDITIONAL RESTRAINING OR THRUST BLOCKING IS REQUIRED ON THE EXISTING MAIN.
11. INSTALL 2"x2" TREATED STAKE WITH RED METAL TAG THAT STATES "FIRE SERVICE – DO NOT CLOSE" NAILED TO THE TOP. STAKES TO BE PLACED WITHIN VALVE BOX AND TOP OF STAKE TO BE WITHIN 6" OF VALVE BOX LID.

REVISED 10-18-07

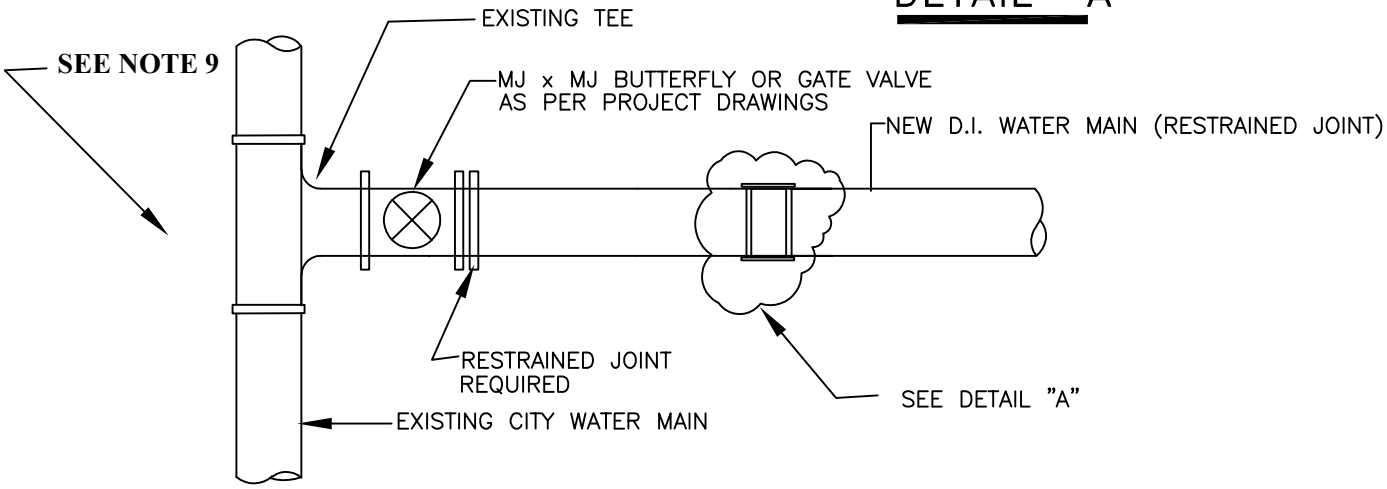
City of Ellensburg WASHINGTON	CITY OF ELLENSBURG STANDARD PLANS & DETAILS	FIRE SERVICE CONNECTION AT CITY MAIN	PLAN NO. WT-62
DRAWN BY: JDS	DATE: 05-30-01	UPDATED BY:	SCALE: NONE



CONNECTION WITH EXISTING CITY MAIN WITH HOT TAP



DETAIL "A"



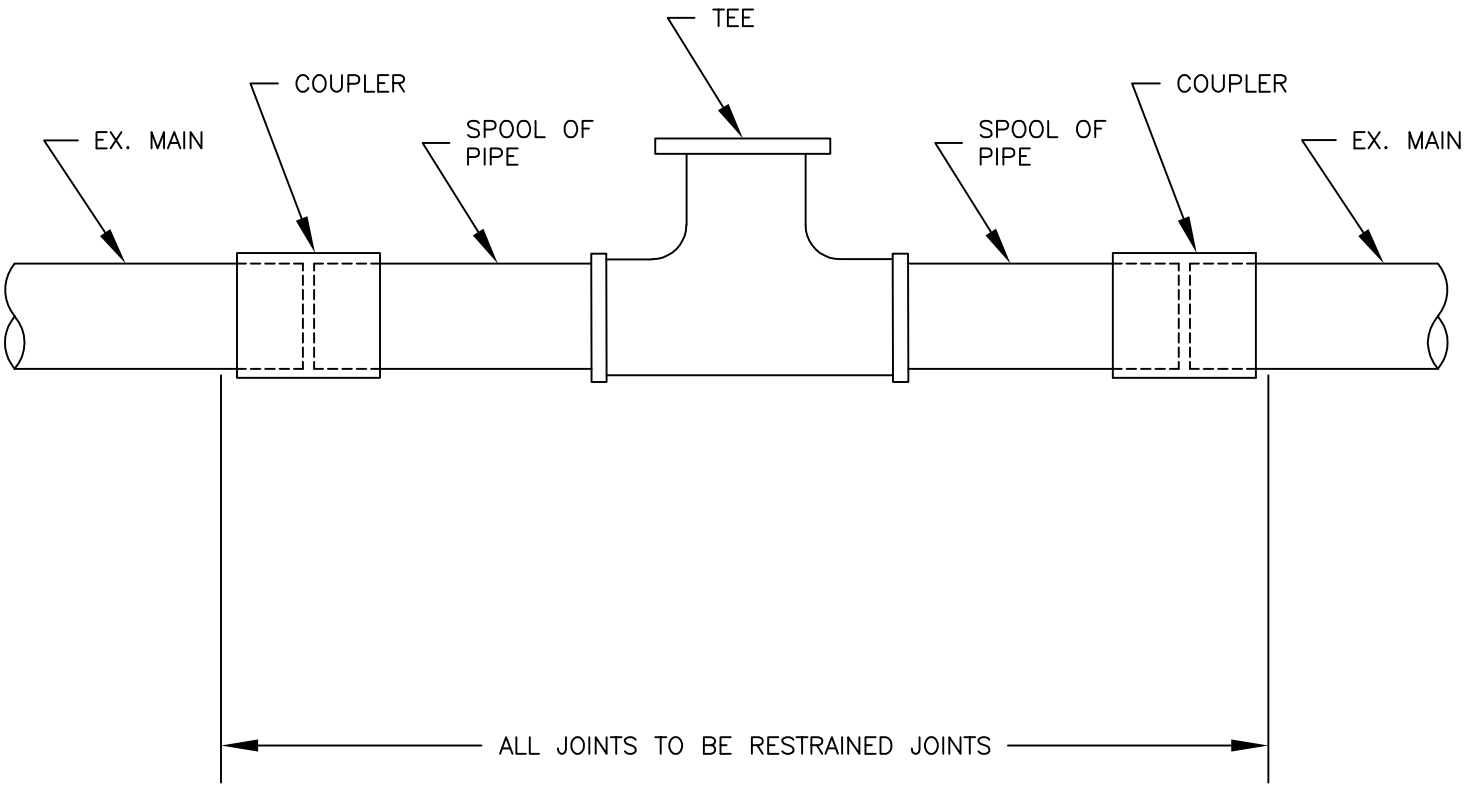
CONNECTION AT EXISTING CITY MAIN WITH TEE/VALVE

NOTES:
1. HOT TAP CONNECTION REQUIRED UNLESS ANOTHER METHOD IS APPROVED BY CITY.
2. CITY WILL SUPPLY TAPPING SLEEVE AND VALVE IF CITY PERFORMS HOT TAP.
3. CONTRACTOR TO SUPPLY ALL OTHER PARTS REQUIRED FOR CONNECTION.
4. CONTRACTOR TO GET THE PARTS INSPECTED BY INSPECTOR PRIOR TO ANY TIE IN. ALL MATERIALS SHALL BE ON JOB SITE PRIOR TO SHUT DOWN OF EXISTING MAIN.
5. CONTRACTOR TO CUT THE PIPE TO SIZE. TOLERANCES FOR GAP SHALL BE WITHIN MANUFACTURER TOLERANCES.
6. CONTRACTOR MUST SCHEDULE TIE–IN 48 HOURS IN ADVANCE.
7. THE CONNECTION MUST BE APPROVED AND OBSERVED BY CITY PERSONNEL.
8. CONTRACTOR MUST FOLLOW ALL INSTRUCTIONS CONTAINED IN WATER MAIN INSTALLATION POLICY.
9. IF THE EXISTING MAIN IS NON–RESTRAINED, CONTRACTORS ENGINEER SHALL DETERMINE IF ADDITIONAL RESTRAINING OR THRUST BLOCKING IS REQUIRED ON THE EXISTING MAIN.

REVISED 12-27-04

City of Ellensburg WASHINGTON

CITY OF ELLENSBURG STANDARD PLANS & DETAILS	TYPICAL CONNECTION WITH CITY MAIN	PLAN NO. WT-63
DRAWN BY: JAG	DATE: 09-16-02	UPDATED BY:
SCALE: NONE		



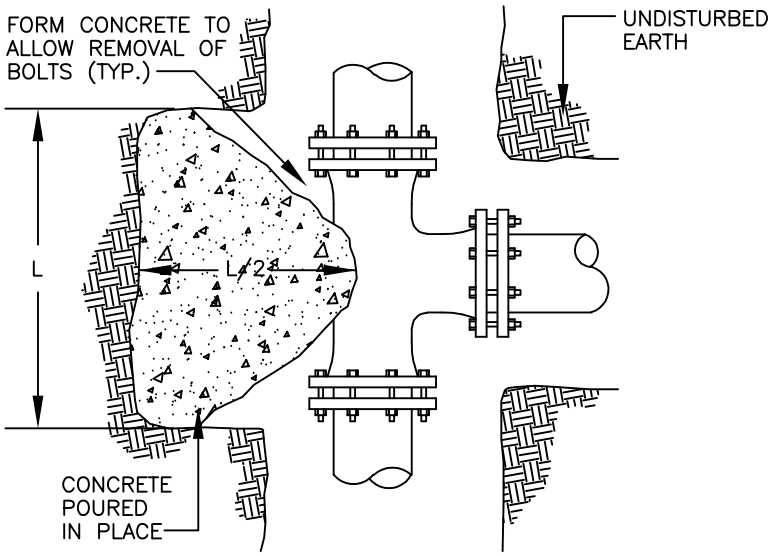
NOTES:

1. CONTRACTOR TO SUPPLY ALL OTHER PARTS REQUIRED FOR CONNECTION.
2. CONTRACTOR TO GET THE PARTS INSPECTED BY INSPECTOR PRIOR TO ANY TIE IN. ALL MATERIALS SHALL BE ON JOB SITE PRIOR TO SHUT DOWN OF EXISTING MAIN.
3. CONTRACTOR TO CUT THE PIPE TO SIZE. TOLERANCES FOR GAP SHALL BE WITHIN MANUFACTURER TOLERANCES.
4. CONTRACTOR MUST SCHEDULE TIE–IN 48 HOURS IN ADVANCE.
5. THE CONNECTION MUST BE APPROVED AND OBSERVED BY CITY PERSONNEL.
6. CONTRACTOR MUST FOLLOW ALL INSTRUCTIONS CONTAINED IN WATER MAIN INSTALLATION POLICY.
7. IF THE EXISTING MAIN IS NON–RESTRAINED, CONTRACTORS ENGINEER SHALL DETERMINE IF ADDITIONAL RESTRAINING OR THRUST BLOCKING IS REQUIRED ON THE EXISTING MAIN.

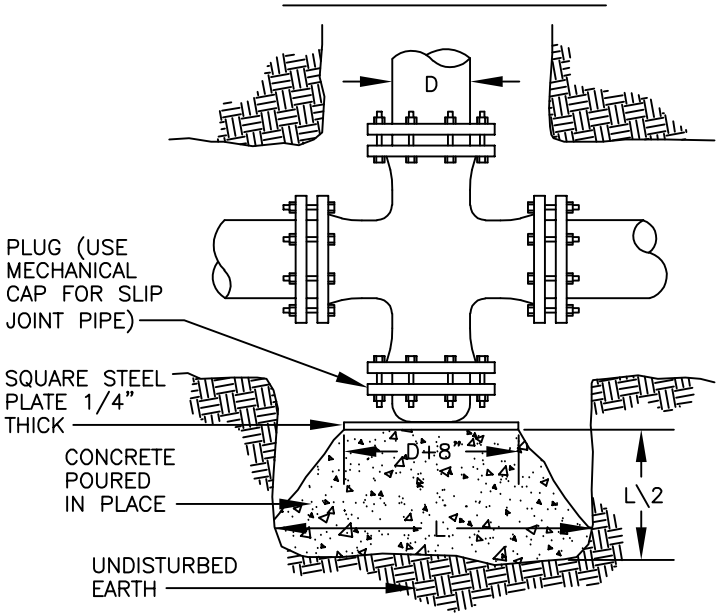
REVISED 01-14-05

City of Ellensburg WASHINGTON	CITY OF ELLENSBURG STANDARD PLANS & DETAILS	CUT IN CONNECTION WITH CITY MAIN	PLAN NO. WT-64
DRAWN BY: DKM	DATE: 01-28-04	UPDATED BY:	SCALE: NONE

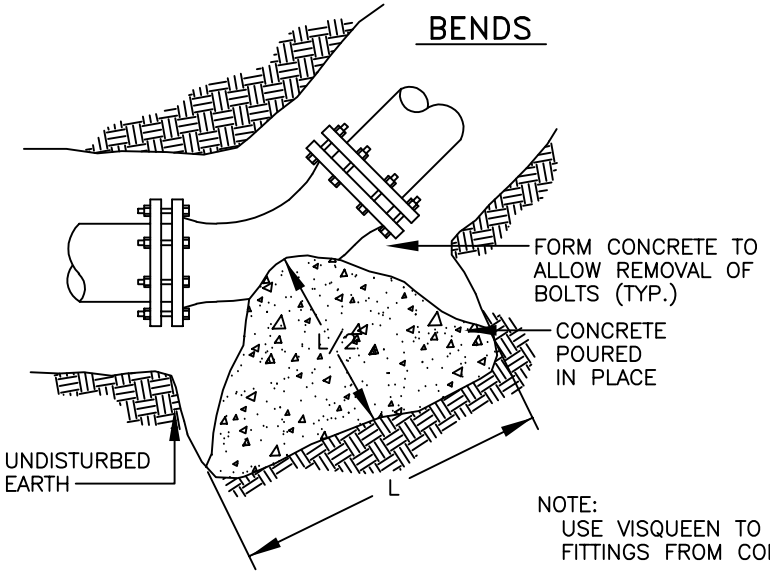
TEES



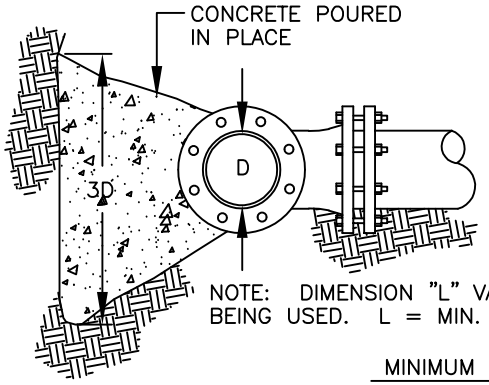
PLUGS & CAPS



BENDS



NOTE:
USE VISQUEEN TO PROTECT FITTINGS FROM CONCRETE.



SIDE VIEW

(THIS VIEW TYPICAL FOR ALL BLOCKING)

NOTE: DIMENSION "L" VARIES PER PIPE DIAMETER AND FITTING BEING USED. L = MIN. END AREA DIVIDED BY 3D.

MINIMUM END AREAS

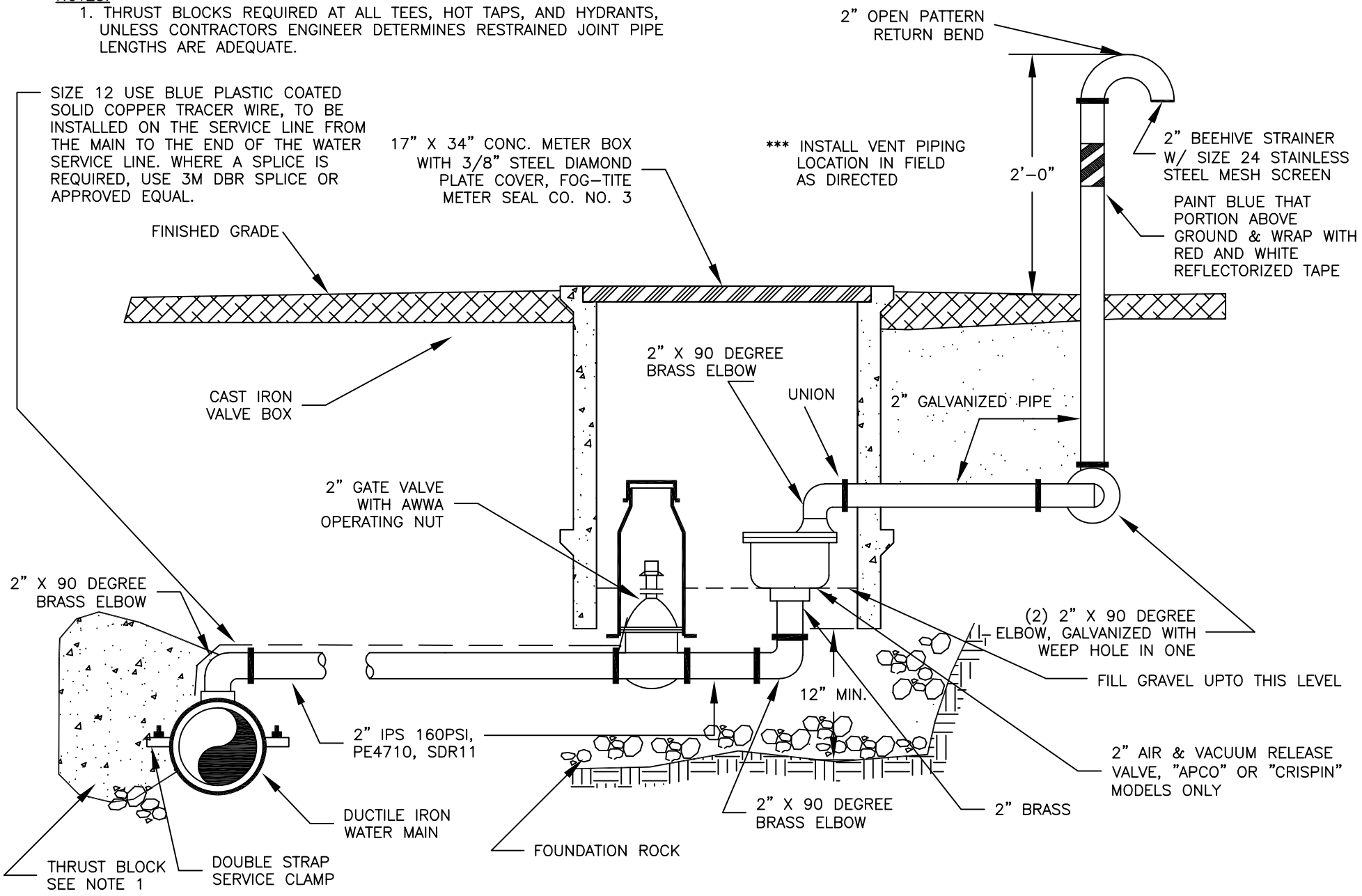
PIPE SIZE D	TEES & PLUGS	45° BENDS	22 1/2° BENDS
6"	3.8 SQ.FT.	2.6 SQ.FT.	1.3 SQ.FT.
8"	6.7 SQ.FT.	4.5 SQ.FT.	2.2 SQ.FT.
10"	10.5 SQ.FT.	7.0 SQ.FT.	3.5 SQ.FT.
12"	15.0 SQ.FT.	10.0 SQ.FT.	5.0 SQ.FT.

* SEE NOTE IN INSTALLATION POLICY REGARDING RESTRAINT OF PIPES

REVISED 12-22-03

City of Ellensburg WASHINGTON	CITY OF ELLENSBURG STANDARD PLANS & DETAILS	DRAWN BY: HLG	DATE: 10-25-96	WATER MAIN CONCRETE BLOCKING
		UPDATED BY:	SCALE: NONE	PLAN NO. WT-70

NOTES:
1. THRUST BLOCKS REQUIRED AT ALL TEES, HOT TAPS, AND HYDRANTS, UNLESS CONTRACTORS ENGINEER DETERMINES RESTRAINED JOINT PIPE LENGTHS ARE ADEQUATE.



REVISED 09-01-17

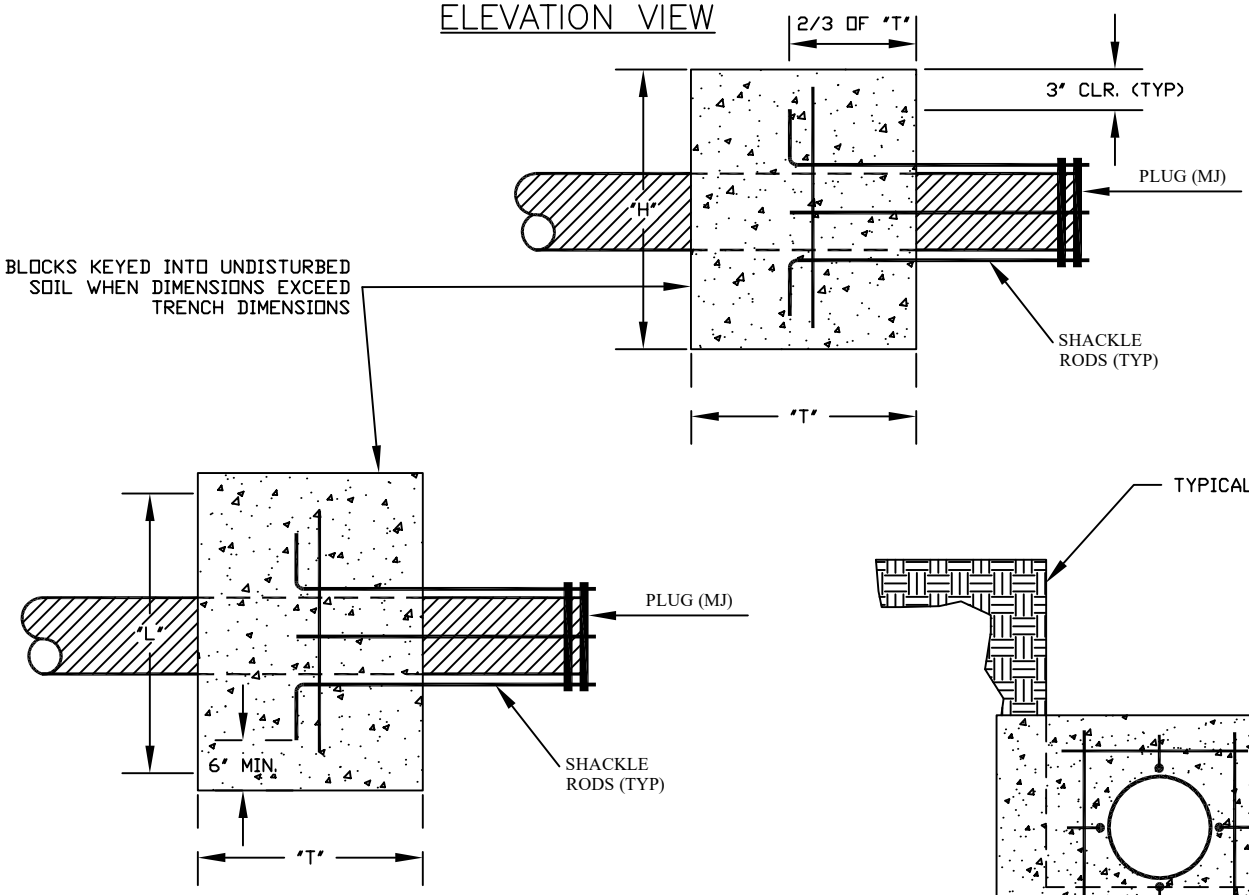
City of Ellensburg WASHINGTON	CITY OF ELLENSBURG STANDARD PLANS & DETAILS	DRAWN BY: CB / UPDATED BY: DY	DATE: 11-23-15 / SCALE: NONE	AIR AND VACUUM RELEASE ASSEMBLY	PLAN NO. WT-72

SIZING TABLE				MIN. BLOCK LENGTH (L)						
				SOIL CONDITIONS						
PIPE DIA.	T (min)	H (min)	SHACKLE RODS	PIPE DIA.	SOFT CLAY	SILT	SANDY SILT	SAND	SANDY CLAY	HARDY CLAY
6"	18"	30"	(4)#5 (5/8" dia)	6"	30"	30"	30"	30"	30"	30"
8"	18"	36"		8"	42"	38"	36"	34"	32"	32"
10"	18"	46"		10"	54"	48"	40"	38"	37"	36"
12"	24"	48"		12"	72"	64"	50"	47"	44"	42"
14"	36"	50"		14"	96"	80"	62"	56"	50"	47"
16"	42"	52"		16"	120"	100"	72"	65"	58"	53"

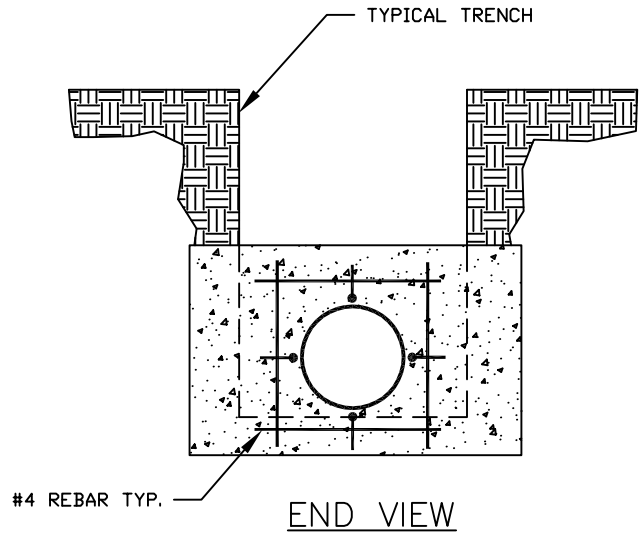
BLOCK SIZES GOOD TO 300 psi TEST PRESSURE

NOTES:
* This standard detail is for deadman blocking only.
* Concrete block shall be per APWA specifications 7-11.3(13) 1988.
* Maintain 18" minimum cover over the top of block.
* Bottom of block is to be on undisturbed soil.
* Trench to be backfilled with crushed rock compacted to 95% density on all sides of block and a distance of 4' minimum in front of block to full depth of block.
* Upon extension of water main, shackle rods are to be cut, remove plug. Concrete block to remain in place.
* For soil conditions not shown, block is to be designed by engineer.

ELEVATION VIEW



PLAN VIEW



END VIEW

REVISED XX-XX-XX

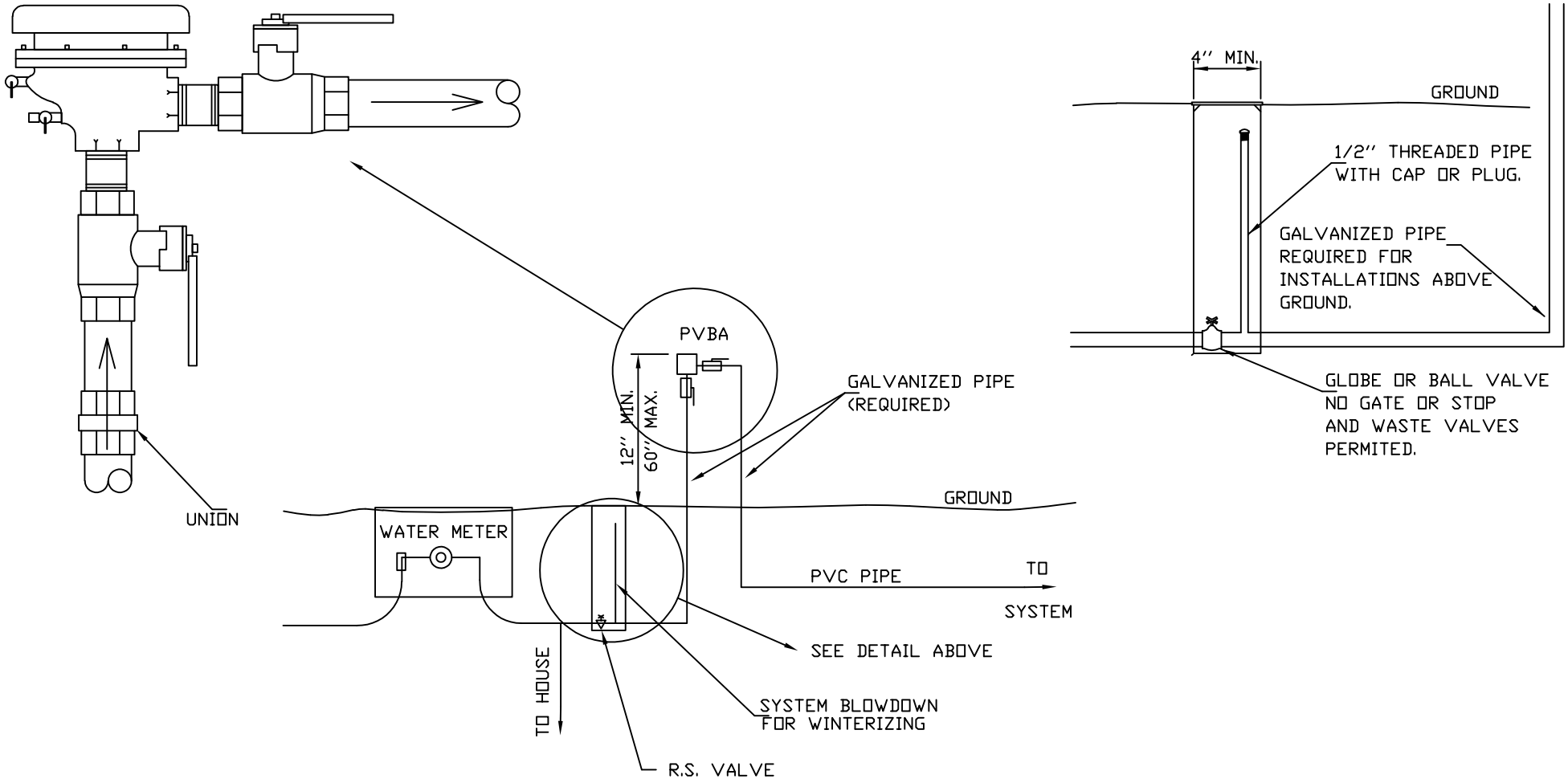
City of Ellensburg WASHINGTON

CITY OF ELLENSBURG
STANDARD PLANS & DETAILS

WATER MAIN CONCRETE BLOCKING
DEADMAN THRUST BLOCKING

PLAN NO.
WT-73

DRAWN BY: DKM	DATE: 06-27-03	UPDATED BY:	SCALE: NONE



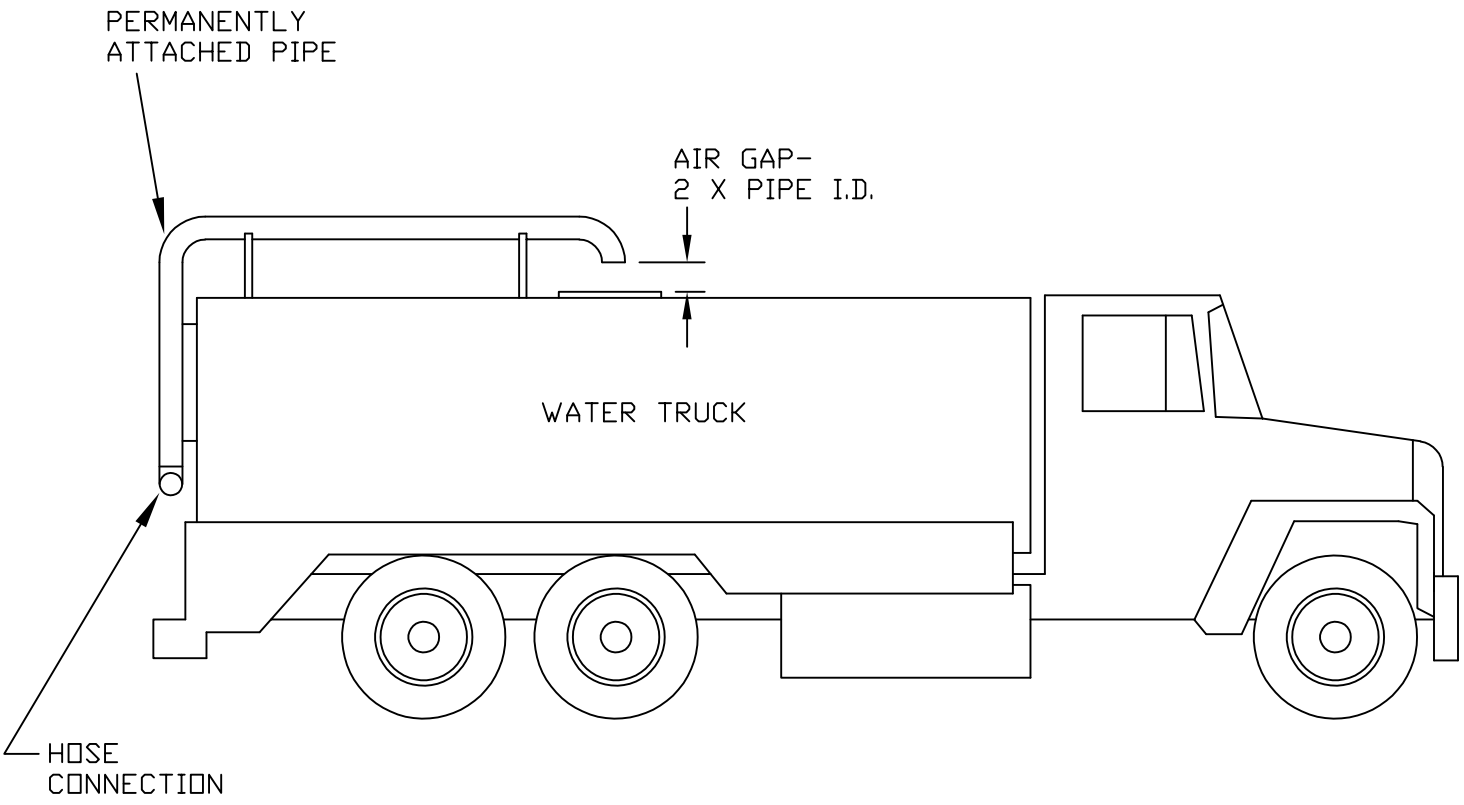
PVBA INSTALLATION

NOTES:

1) PVBA MAY BE INSTALLED ON LOW HAZARD POTABLE WATER SUPPLY SYSTEMS ONLY.
2) A CITY OF ELLENSBURG CROSS CONNECTION SPECIALIST MUST BE PRESENT DURING INSTALLATION.
3) PVBA MUST BE INSTALLED NOT LESS THAN 12'' ABOVE THE HIGHEST POINT OF USE AND NOT MORE THAN 60'' HIGH.

REVISED 12-28-04

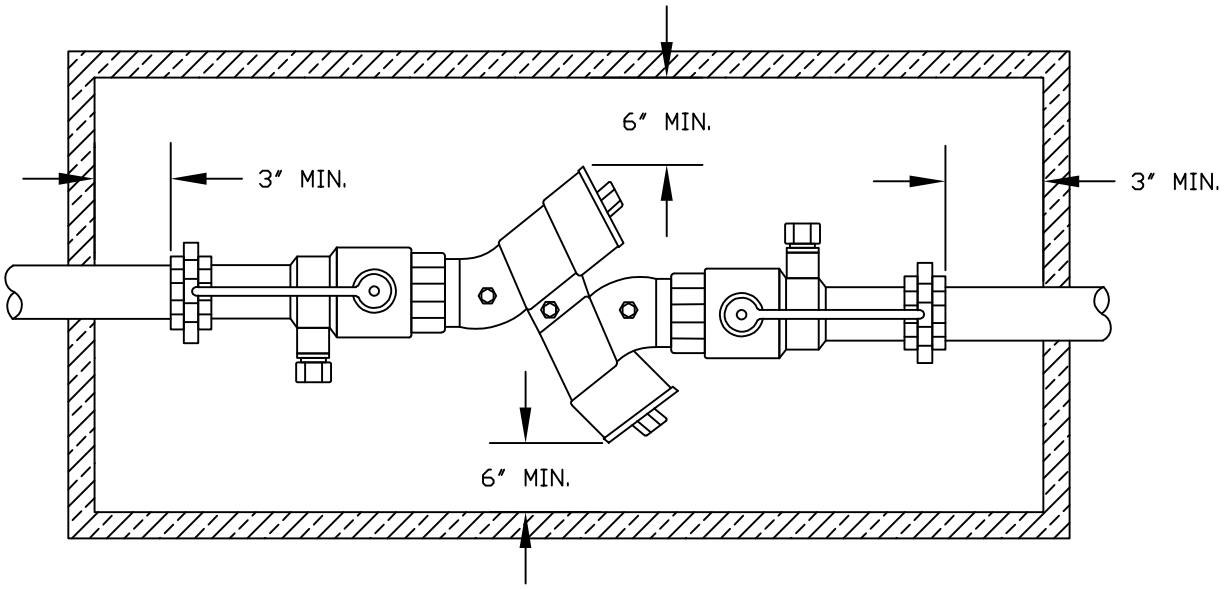
City of Ellensburg WASHINGTON	CITY OF ELLENSBURG STANDARD PLANS & DETAILS	DRAWN BY: HLG	DATE: 09-20-96	PVBA INSTALLATION
		UPDATED BY: DKM	SCALE: NONE	PLAN NO. WT-75



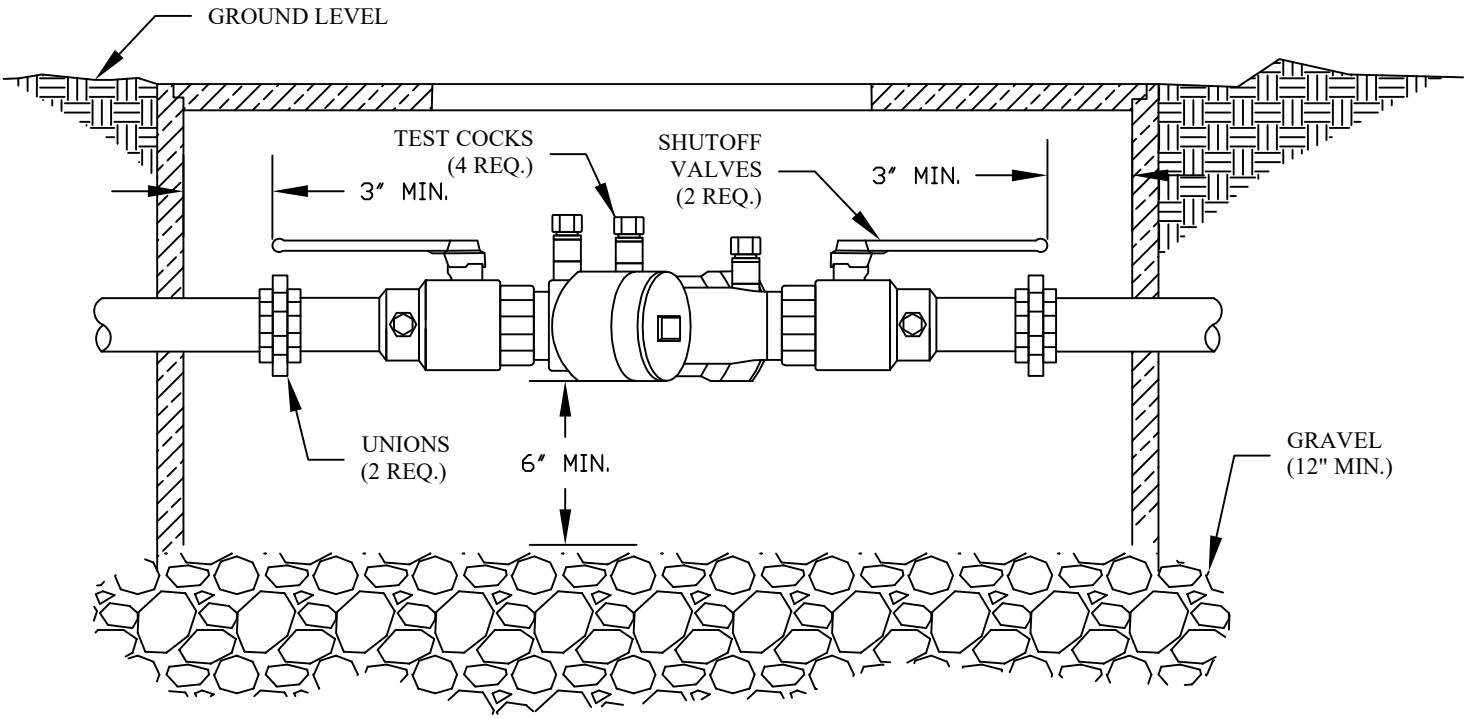
REVISED 06-27-03

City of Ellensburg WASHINGTON	CITY OF ELLENSBURG STANDARD PLANS & DETAILS	WATER TRUCK WITH AIR GAP			PLAN NO. WT-80
	DRAWN BY: HLG	DATE: 10-25-96	UPDATED BY:	SCALE: NONE	

BACKFLOW PREVENTER



TOP VIEW

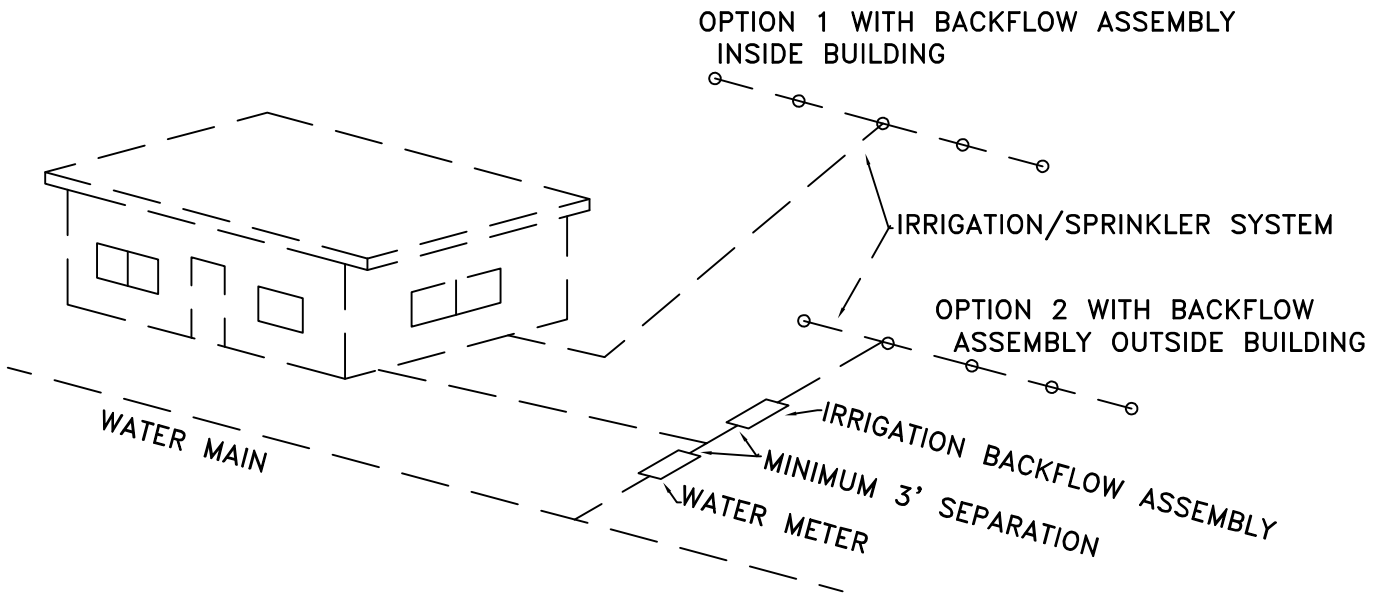


SIDE VIEW

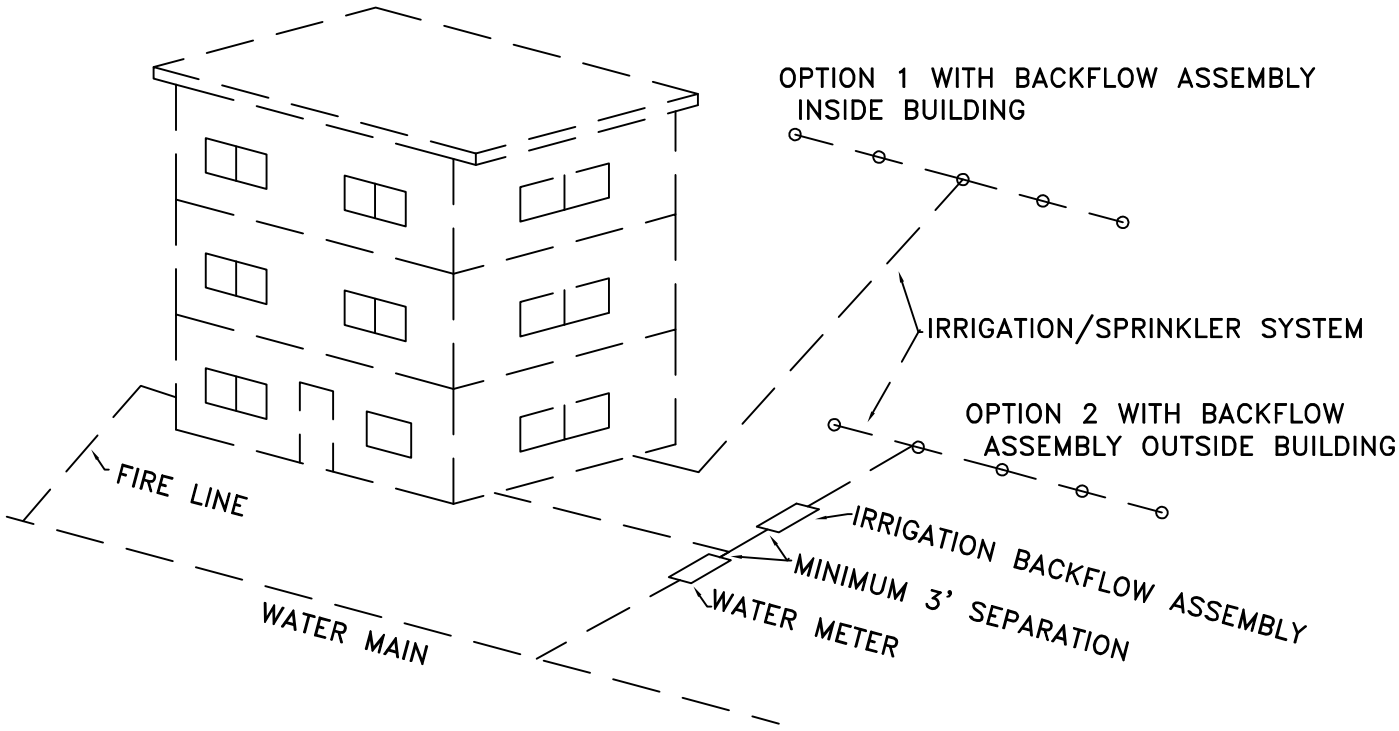
REVISED 03-15-10

City of Ellensburg WASHINGTON	CITY OF ELLENSBURG STANDARD PLANS & DETAILS	OUTSIDE INSTALLATION OF A BACKFLOW ASSEMBLY			PLAN NO. WT-85
	DRAWN BY: DKM	DATE: 06-30-03	UPDATED BY:	SCALE: NONE	

RESIDENTIAL HOUSE



MULTI-FAMILY/COMMERCIAL

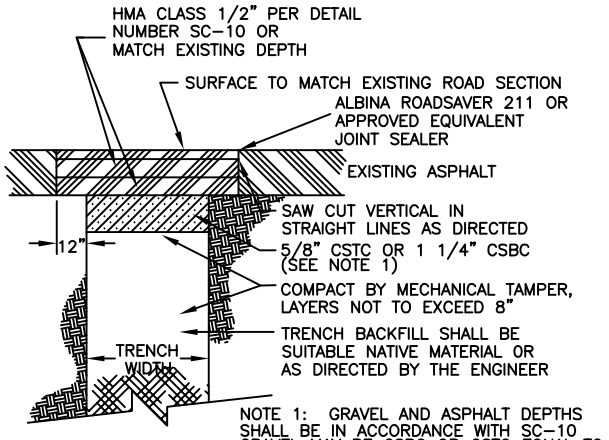


-BACKFLOW REQUIRED FOR COMMERCIAL BUILDINGS AND BUILDINGS 3 STORIES (30') OR MORE
-BACKFLOW MAY BE REQUIRED FOR FIRE SYSTEMS DEPENDING ON TYPE AND CONFIGURATION
-BACKFLOW REQUIRED FOR IRRIGATION SYSTEMS
-ANY BACKFLOW ASSEMBLY INSTALLED OUTSIDE OF BUILDING NEEDS TO BE PROTECTED FROM FREEZING AND FLOODING.
*CONTACT THE CROSS CONNECTION SPECIALISTS @ 509-962-7278 FOR MORE INFORMATION

REVISED XX-XX-XX

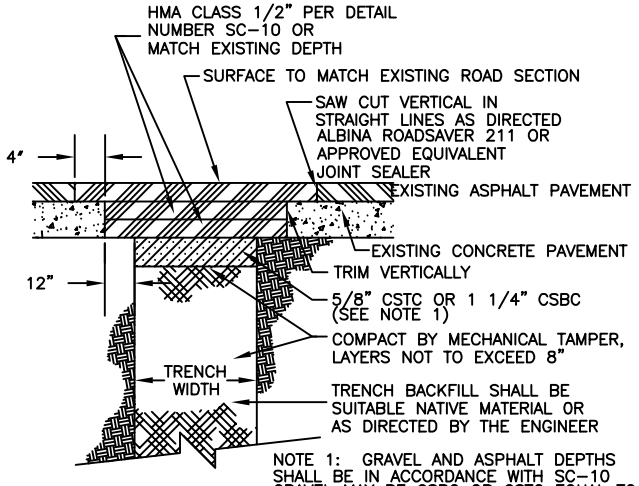
City of Ellensburg WASHINGTON	CITY OF ELLENSBURG STANDARD PLANS & DETAILS	IRRIGATION/BUILDING BACKFLOW	PLAN NO. WT-86
DRAWN BY: CJ	DATE: 03-15-10	UPDATED BY:	SCALE: NONE

TYPE 'A'
ASPHALT STREET SECTION



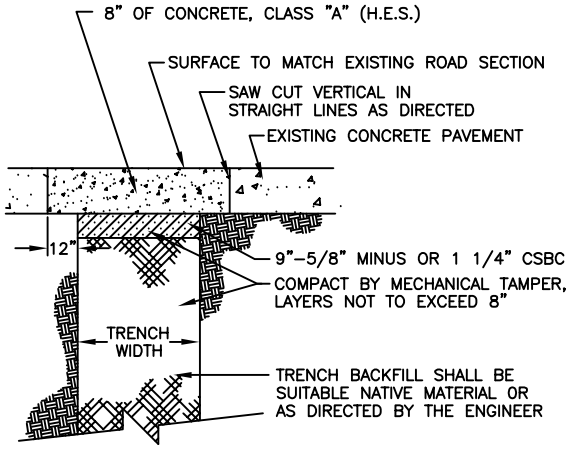
NOTE 1: GRAVEL AND ASPHALT DEPTHS SHALL BE IN ACCORDANCE WITH SC-10 GRAVEL MAY BE CSBC OR CSTC EQUAL TO THE COMBINED GRAVEL DEPTHS ON SC-10

TYPE 'B'
ASPHALT/CONCRETE STREET SECTION

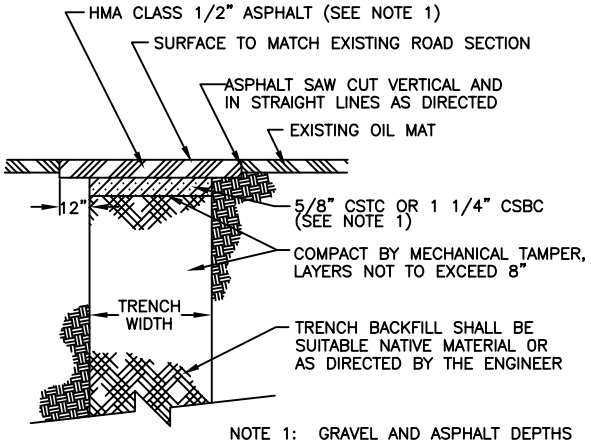


NOTE 1: GRAVEL AND ASPHALT DEPTHS SHALL BE IN ACCORDANCE WITH SC-10 GRAVEL MAY BE CSBC OR CSTC EQUAL TO THE COMBINED GRAVEL DEPTHS ON SC-10

TYPE 'C'
CONCRETE STREET SECTION

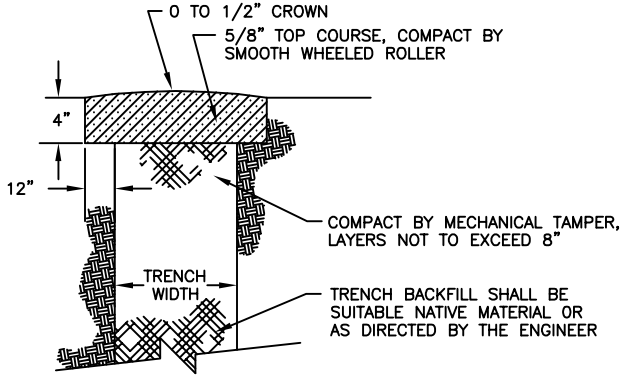


TYPE 'D'
SEAL COAT STREET SECTION

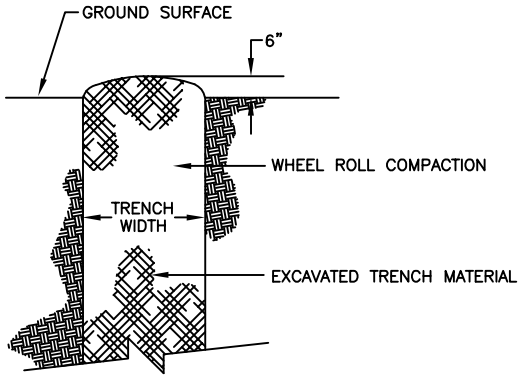


NOTE 1: GRAVEL AND ASPHALT DEPTHS SHALL BE IN ACCORDANCE WITH SC-10 GRAVEL MAY BE CSBC OR CSTC EQUAL TO THE COMBINED GRAVEL DEPTHS ON SC-10

TYPE 'E'
STREET SHOULDER, ALLEY OR PARKING AREAS



TYPE 'F'
OPEN FIELD

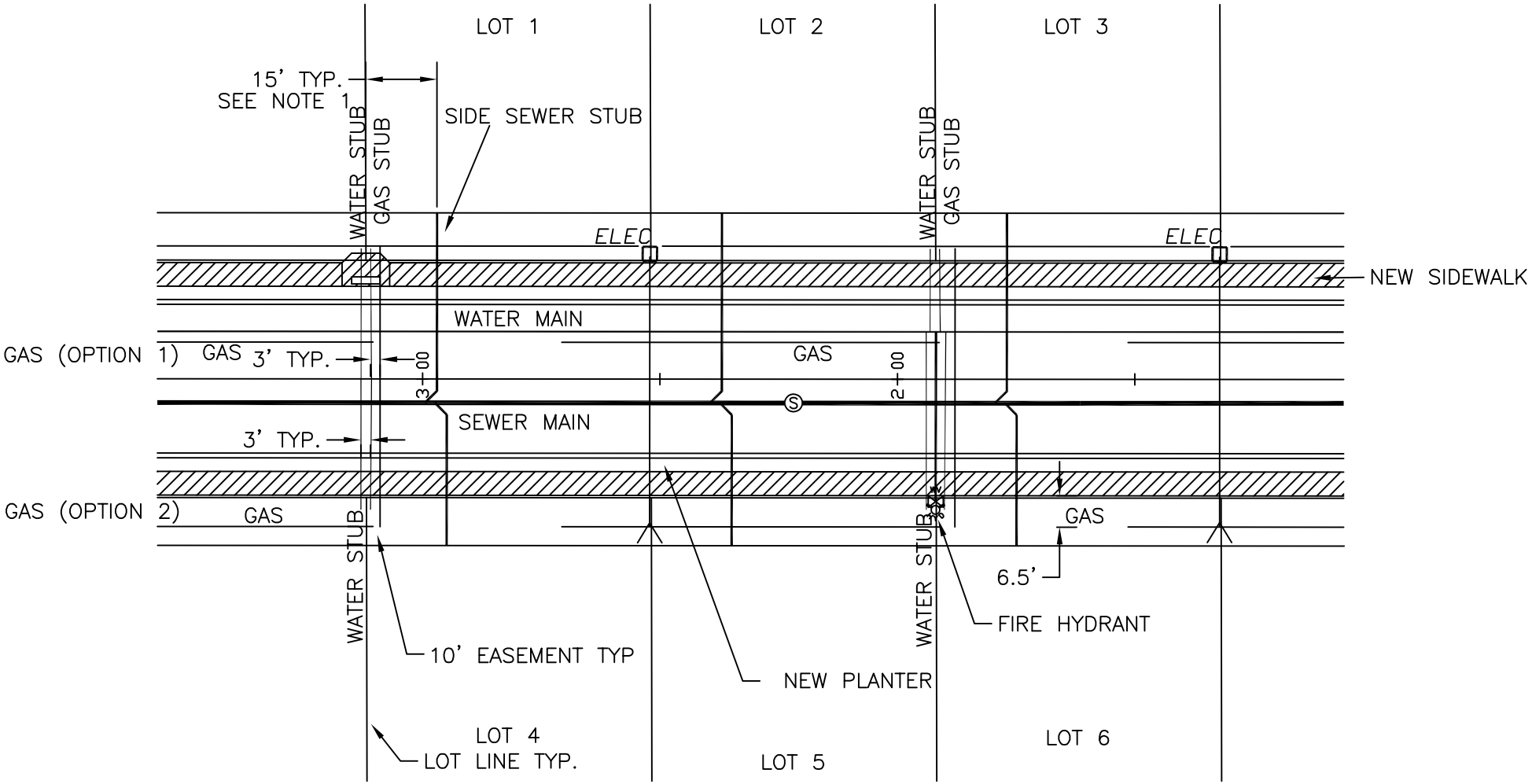


NOTE: USE 5/8" MINUS TO TEMPORARILY FILL TRENCHES TO FINISH GRADE, PRIOR TO PATCHING WITH ACP.

REVISED 08-10-05

City of Ellensburg WASHINGTON

CITY OF ELLENSBURG STANDARD PLANS & DETAILS	DRAWN BY: HLG	DATE: 10-25-96	SURFACE RESTORATION FOR TRENCHES	PLAN NO. SC-30
	UPDATED BY:	SCALE: NONE		



NOTE 1: +/– 15' FROM DOWN STREAM SIDE OF LOT

REVISED 07-28-14

City of Ellensburg WASHINGTON	CITY OF ELLENSBURG STANDARD PLANS & DETAILS	DRAWN BY: GDC	DATE: 09-20-96	TYPICAL UTILITY SERVICE LAYOUT FOR NEW PLATS
		UPDATED BY:	SCALE: NONE	PLAN NO. MI-10

City of Ellensburg
WASHINGTON

WATER DIVISION

Cross Connection and Backflow Policy and Procedures

November 2017

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(Revised: 1999, 2002, 2009, 2014, 2017)

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CROSS CONNECTION AND BACKFLOW PREVENTION PROGRAM

--- SECTION 1: PURPOSE ---

To protect and maintain the bacteriological, chemical and aesthetic quality of the municipal potable water supply by the elimination and prevention of cross connections between the City of Ellensburg's potable water distribution system and other sources of water, liquids or gases for any purpose whatsoever.

GENERAL:

Except where specifically designated herein, all words used in this procedure shall carry their customary meanings. Words used in the present tense include the future, and plural included the singular: The word "shall" is always mandatory; the word "may" denotes the use of discretion in making a decision.

CROSS CONNECTION ABATEMENT:

The installation or maintenance of a cross-connection that will endanger the water quality of the potable water supply of the City of Ellensburg is prohibited. Any such cross-connection now existing or hereafter installed is hereby declared a nuisance and shall be abated. The control or elimination of cross-connections shall be in accordance with the State of Washington Administrative Code (WAC 246-290-490) or subsequent revisions, together with any future manuals of standard practice pertaining to cross-connection control approved by the Director of the State of Washington, Department of Social and Health Services. The water supply shall be discontinued to any premise for failure to comply with the provisions of this section and will not be re-established until the Director approves compliance.

Service from the City of Ellensburg water supply system to any premise upon which a private water supply system is used or operated contrary to the provisions of the rules and regulations of the State Board of Health regarding public water supplies may be discontinued or refused upon order of the Director.

Furnishing of any water service shall be contingent upon the installation of a backflow prevention assembly at the water service entrance or point of use, or both when required.

By-pass arrangements, jumper connections, removable sections, swivel or change-over devices and other temporary or permanent piping through which or because of which "backflow" can or may occur, will be considered cross-connections and will not be allowed.

REFERENCES:

1) City of Ellensburg Cross-Connection Control Ordinance.

2) Current edition of the Uniform Plumbing Code and all subsequent revisions.

3) Department of Health (DOH) Drinking Water Regulations WAC 246-290-490. (And subsequent revisions)

4) Cross-Connection Control Manual - Accepted Procedure and Practice - Pacific Northwest Section - American Water Works Association.

5) Manual of Cross-Connection Control-Ninth Edition, (Tenth Edition when adopted) USC Foundation for Cross-Connection Control and Hydraulic Research.

6) Cross-Connection Control Manual EPA #57019-89-007.

7) Recommended Practice for Backflow Protection and Cross Connection Control M-14 A.W.W.A

8) Washington State DOH list of 'Backflow Prevention Assemblies Approved for Installation…'

--- SECTION 2: DEFINITIONS ---

Air Gap Separation (A.G.): Shall mean the unobstructed vertical distance through the free atmosphere between the lowest opening from any pipe or faucet supplying water to a tank, plumbing fixture or other device and the flood level rim of the receptacle. All air gap separations shall be at least twice the inside diameter of the supply pipe measured vertically above the flood level rim of the vessel, and will never be less than one (1) inch.

Approved Backflow Prevention Assembly: Shall mean an RPBA, RPDA, DCVA, DCDA, PVBA or SVBA of make, model and size that is approved by the WA State Dept. of Health. Assemblies that appear on the current approved list developed by the University of Southern Cal. for Cross Connection Control and Hydraulic Research or other entity acceptable the department are considered approved by the department.

Atmospheric Vacuum Breaker (AVB): Shall mean a backflow prevention device that is operated by atmospheric pressure in combination with the force of gravity. The unit is so designed to work on a vertical plane only. The moving part consists of a poppet valve that must be carefully sized to slide in a guided chamber and effectively shut off the reverse flow of water when a negative pressure exists in the supply system. (Considered a non- testable device)

Authority Having Jurisdiction: The local official, board, dept. or agency authorized to administer and enforce the provisions of the Uniform Plumbing Code as adopted under chapter 19.27 RCW. The Community Development Department has conveyed authority to the City's CCS regarding cross-connection control.

Auxiliary Supply: Shall mean any water supply on or available to the premises other than the public water supply.

Backflow: Shall mean the undesirable reversal of flow of water or other substances through a cross connection into the public water supply system or customers potable water system.

Backflow Assembly Tester (BAT): Shall be a person who has received training, and is certified by the State of Washington to test backflow prevention assemblies. This person also inspects backflow assemblies, devices and air gaps for proper installation. The BAT has also been trained to submit legible, accurate and complete test report forms following each backflow test (one each to the customer and the water purveyor).

Backpressure: Shall mean a pressure (caused by a pump, elevated tank or piping, boiler, or other means) on the consumer's side of the service connection that is greater than pressure provided by the public water supply system and which could cause backflow.

Backsiphonage: Shall mean backflow due to a reduction in system pressure in the public distribution system and/or consumers water system.

Code Authority and Enforcement: The enforcement of this cross-connection program in the area served by the Water Department, City of Ellensburg, will be in accordance with the Uniform Plumbing Code, 2006 edition as amended by the City of Ellensburg "Water Regulations", Official Code of the City of Ellensburg and WAC 246-290-490, Rules and Regulations of the State Board of Health relating to public water supplies.

Cross-Connection: The term "cross connection" shall mean any actual or potential physical connection between the public water supply and any source of non-potable liquid, solid or gas that could contaminate the potable water supply by backflow.

Cross-Connection Specialist (CCS): Shall be a person(s) who has been trained and is certified by the State of Washington as a CCS, to carry out the City of Ellensburg's cross-connection control program. This includes the creation, implementation and enforcement of the City's Cross-Connection Policy, WAC 246-290-490 and sections of the UPC pertaining to cross connection control. The CCS shall have basic knowledge of state and local plumbing codes. The CCS shall oversee the proper installation, repair, testing and/or inspection of backflow assemblies or devices used to protect the public water supply.

Customer: Any person, persons, firm or corporation that is furnished potable water from the public water supply through a legal service connection to the public water supply distribution system.

Degree of Hazard: The low or high hazard classification that shall be attached to all actual cross connections.

Director of Public Works: Shall mean the Director of Public Works, City of Ellensburg, Ellensburg, Washington. His designee may perform any task required or authorized by the "Director of Public Works" on his or her behalf.

Double Check Detector Assembly (DCDA): Shall mean a specifically designed assembly composed of a line-size approved double check valve assembly with a bypass containing a specific water meter and an approved double check valve assembly. The meter shall register accurately for rates of flow up to 2 gpm (gallons per minute) and shall show a registration for all rates of flow.

Double Check Valve Assembly (DCVA): Shall mean an assembly composed of two (2) single, independently acting approved check valves, four (4) properly located test cocks and tightly closing resilient seated approved shutoff valves attached to each end of the assembly.

General Policy: It is the intention of this policy to provide for the permanent abatement or control of all cross-connections. Where it is physically and economically unfeasible to locate or to permanently eliminate all cross-connections of the customer' water system, and when it is deemed necessary by the CCS / City personnel, there shall be installed at the service connection and/or point of use, a suitable backflow assembly or device commensurate with the degree of hazard to the public water supply.

Health Hazard: Shall mean any condition, device, or practice in a water supply system and/or its operation that creates or may create a danger to the health and wellbeing of a customer.

Industrial Fluids: Shall mean any fluid or solution, which could be chemically, biologically or otherwise contaminated or polluted in a form or concentration, which might constitute a health or plumbing hazard if introduced into a potable water supply. This may include but is not limited to all types of processed waters originating from the public water supply or auxiliary supply which may deteriorate in sanitary quality; chemicals in fluid form; plating acids and alkalies; circulated cooling waters that are chemically or biologically treated or stabilized with toxic substance; contaminated natural waters such as from wells, springs, streams or ponds.

Liquids: The term liquid shall mean any substance that flows readily but does not expand indefinitely, such as water and industrial fluids.

Plumbing Hazard: Shall mean a cross-connection in a customer's potable water system that may permit backsiphonage in the event of a negative pressure in the supply line.

Pressure Vacuum Breaker Assembly (PVBA): Shall mean an assembly containing an independently operating internally loaded check valve and an independently operating loaded air inlet valve located on the discharge side of the check valve. The assembly is to be equipped with properly located resilient test cocks and tightly closing resilient seated shutoff valves attached to each end of the assembly.

Public Health Officer: Shall be the duly appointed Kittitas County Public Health Dept. official
A representative of the Health Department authorized to enforce state and local codes relating to public health.

Public Water Supply: The system of water supply intended or used for human consumption or other domestic use, including source, treatment, storage, transmission and distribution facilities where served by the potable water supply system.

Reduced Pressure Backflow Assembly (RPBA): Shall mean an assembly containing two independently acting approved check valves together with a hydraulically operating, mechanically independent pressure differential relief valve located between the check valves and at the same time below the first check valve. The unit shall include properly located resilient seated test cocks and tightly closing resilient seated shutoff valves at each end of the assembly.

Reduced Pressure Detector Assembly (RPDA): Shall mean a specifically designed assembly composed of a line-size approved reduced pressure principle backflow prevention assembly with a specific bypass containing a specific water meter and an approved reduced pressure principle backflow prevention assembly. The meter shall register accurately for rates of flow up to 2 gpm (gallons per minute) and shall show a registration for all rates of flow.

Spill-Resistant Vacuum Breaker Assembly (SVBA): Shall mean an assembly containing an independently operating internally loaded check valve and independently operating loaded air inlet valve located on the

discharge side of the check valve. The assembly is to be equipped with a properly located resilient seated test cock, a properly located bleed/vent valve, and tightly closing resilient seated shutoff valves attached to each end of the assembly.

System Hazard: Shall mean an actual or potential threat of severe damage to the physical properties of the public potable water system or the customer's potable water system or of a pollution or contamination that would have a protracted effect on the quality of the potable water in the system.

Temporary Usage Connection: Any vehicle to which a tank or container is affixed for containing water and/or chemicals, materials, or any temporary use of water for construction, testing, cooling or other non-domestic purposes which are capable of imparting contamination or pollution to the public water supply through a cross-connection between such points of usage and the water supply via a fire hydrant or other temporary connection.

Thermal Expansion: Water expands when heated. Generally water moves back and forth through the water meter to adjust to the increase and decrease of water volume. If the system becomes closed because a backflow assembly is installed, water heaters and plumbing may be damaged if pressure temperature relief valves malfunction.

Water Purveyor: The entity responsible for the public water supply system from the source to the meter. The purveyor shall ensure that actual and potential cross-connections between the distribution systems in a customer's water system are eliminated or controlled by the installation of an approved backflow assembly or device commensurate with the degree of hazard.

Water Service Entrance: The customer's water supply piping system, downstream of the City water meter where it enters the property or facility.

--- SECTION 3: RESPONSIBILITIES ---

City of Ellensburg

1) The City of Ellensburg shall work to protect the health of its customers by ensuring safe and reliable drinking water using both 'premises isolation' and 'in-premises' protection methods. Our efforts will include on-going surveillance of new and existing water supply systems and facilities in order to meet City and State requirements.

2) The City shall provide advance notification to the customer of any required testing of the backflow prevention assembly. The customer shall have such test performed by any person certified by the Washington State Department of Health, and the results shall be delivered to the City on a form prescribed by the City. If such test is not performed within the time requested herein, the City may initiate proceedings for termination of water service.

Water Customer

1) The water customer shall be responsible for the elimination or control of actual or potential cross connections on their property through the installation, testing and maintenance of approved backflow prevention assemblies and/or devices.

2) The water customer shall be responsible to obtain the required permits and provide information, entry and access for water use surveys and inspections.

3) The water customer is responsible for notifying the CCS of assemblies or devices which the customer believes are no longer required or are inactive.

4) The water customer is responsible for providing signs at all water take-off points downstream of backflow prevention assemblies or devices.

5) The water customer is responsible for all costs associated with installation, initial testing, annual testing and maintenance of backflow prevention assemblies and devices.

--- SECTION 4: SURVEY/INSPECTION PROGRAM ---

The City of Ellensburg Water Division is required to protect the water system from contamination due to cross connections (WAC 246-290-490) and a systematic program of 'water use surveys' of all new and existing buildings and grounds is established.

The systematic program of surveys/inspections shall establish priorities on the basis of risk to public health and shall be conducted as outlined in the following section:

New and Proposed Construction:

1. Upon application for a building permit, the City shall require a copy of detailed plans and specifications related to the mechanical drawing(s).

2. The City shall review these plans and specifications to determine the probability of cross-connections, the availability of auxiliary water supply, the handling of substances, which, if introduced into the water supply would constitute a health, plumbing, or system hazard. If upon review it is determined that any of these conditions will exist, the City shall advise the customer of solutions to either eliminate or protect the cross-connection.

3. During the construction phase of any new building, structure, or ground installation, the City will perform an on-site water use survey. Upon completion of the survey, but prior to the establishment of a water service connection, it shall be certified in writing that a cross-connection control survey has been completed and that backflow prevention is or is not required.

4. Upon receipt of an application for a new water service, but prior to occupancy, a cross-connection water use survey shall be completed by the CCS. City officials may require that backflow prevention assemblies and/or devices be installed at the Water Service Entrance or on in-premise equipment etc. Backflow assembly testing must be completed prior to the system being put into use.

Existing Buildings, Structures and Grounds:

1. Water Use Surveys (inspection) will be performed by a City of Ellensburg CCS on facilities served by city water based on the relative hazard. The survey may include other City personnel and/ or it's consultants as deemed necessary by City staff.

2. Water Use Surveys shall proceed according to the following steps:

    a) Prior to the initial water use survey the CCS will contact the customer by phone, letter or in person to explain the necessity of a cross-connection program. The CCS will discuss the owners' responsibilities/liabilities and answer questions the owners may have.

    b) The CCS will make an appointment for inspection at a time agreeable to both parties involved. This may be done by telephone, mail or in person. The City may request a person knowledgeable with the customer's water system to be present at the time of inspection. The City may also request copies of any/all building, mechanical or 'as built' drawings of the building to assist them in completing the survey.

    c) On the scheduled date, the CCS along with the building owner or representative (if one is assigned) will complete a physical survey of the building including the plumbing system, fixtures and equipment.

    d) Upon completion of the survey the CCS will complete a Water Use Survey report form.(see appendix) The report shall include, but is not limited to the following information:

        1. All required customer information contained in the heading.

        2. List of all actual or potential cross-connections located on the premises and corrective actions required or recommended. The survey report may include a list of all on-site water using equipment/fixtures.

        3. List all material, chemicals or other contaminating liquids used on site and/ or pumped under pressure, their use, and degree of risk.

4. List of any applicable drawings, sketches, blueprints, photographs, etc. that were used to complete the survey.
5. A summary of findings.
6. Other recommendations. (if any)

--- SECTION 5: CORRECTIVE ACTION & COMPLIANCE REQUIREMENTS ---

1. The Director of Public Works or the CCS shall prepare a letter to the customer outlining the findings of non-compliance, the corrective action required and establishing a time frame (normally 30 days) in which corrective action(s) must be completed*. A copy of the letter and report will be sent to the customer and one copy placed in a suspense file noting the date of which the corrective action(s) must to be completed.
    - If a severe health hazard exists the CCS will notify the Director of Public Works who may act to terminate the customer's water service immediately at his/her discretion.
2. On the corrective action completion date, the CCS shall take the necessary steps to confirm whether or not the corrections have been completed. (see; non-compliance)
3. Upon completion of the re-inspection, the CCS will provide a copy of the report to the Public Works Director.
4. When all required corrective actions have been completed, a copy of the report shall be placed in the CCS files.
5. Premises may be resurveyed to ensure compliance.

Non-Compliance – If the CCS determines upon completion of the second' follow up' survey that corrective actions have not been completed as required, the following actions will then be taken;

1. The customer will be sent a warning letter giving the customer ten (10) working days, including a date of completion to comply.
2. If ten (10) working days pass and the correction(s) have not yet been completed, the City's legal department will send another warning letter listing City/ state code requirements, advising the customer that; "Failure to comply with the corrective measure will result in the termination of water service" .The customer shall have ten (10) working days, including a date of completion to comply with this letter.
3. If there is no response after ten (10) working days another letter will be hand delivered if possible or delivered by certified mail, giving the customer a date for a hearing and a date for water service termination. The hearing will be held on a Thursday and water shut off will occur on the following Monday if compliance is not obtained from the customer.
4. If the customer does not respond, the meter will be turned off and locked on the termination date. The service will remain off until the customer complies.

*****The Director of Public Works or the CCS reserves the right to also impose penalties based upon Chapter 1.80 of the Ellensburg City Code.

Moving, Removing, or Replacing backflow prevention assemblies or device:

The CCS shall be notified prior to a customer moving, removing, or replacing backflow assemblies or devices. If the customer feels that a backflow assembly or device is no longer required, or would like to place an assembly/device on an in-active status, the customer must submit a written request to do so to the City's CCS for consideration. The CCS may request that the assembly or device be removed and its supply pipes be permanently capped or removed to prohibit use.

--- SECTION 6: BACKFLOW PROTECTION OPTIONS ---

The installation of water main extensions shall be in accordance with construction plans and specification approved by the City, and shall comply with the most current version of the WSDOT Standard Specifications.

Code: The following are the terms and abbreviations used herein for backflow assemblies or devices that may be used to prevent or eliminate actual or potential cross connections.

Backflow Assemblies; (testable)

1.	Double Check Valve Assembly	DCVA*
2.	Double Check Detector Assembly	DCDA
3.	Pressure Vacuum Breaker Assembly	PVBA***
4.	Spill Resistant Vacuum Breaker Assembly	SVBA
5.	Reduced Pressure Backflow Assembly	RPBA**
6.	Reduced Pressure Detector Assembly	RPDA

*DCDA's can be substituted where DCVA's are required
**RPDA's can be substituted where RPBA's are required
***SVBA's can be substituted where PVBA's are required

Backflow Devices; (non-testable)

1. Air Gap — AG

   NOTE: Air Gaps must be appropriately sized and be permanent, non-moveable.

2. Atmospheric Vacuum Breaker — AVB

   NOTE: All threaded (add on type) AVB's must be non-removable and A.S.S.E. certified.

TERMS:	(Minimum) Backflow Protection Options	BP Options
	Not Allowed	N/A

The following list summarizes various types of actual or potential cross-connections which may be anticipated in various facilities, buildings, equipment, etc. and the required corrective measures.

I. MORGUES, HOSPITALS, MEDICAL CLINICS, CONVALESCENT AND RETIREMENT HOMES

		BP OPTIONS
1	Autopsy, operating rooms and laboratories	
	a) Aspirators	AG or RPBA
	b) Flushing floor drains	AG or RPBA
	c) Wash-up sinks	AG
	d) Stills	AG or RPBA
	e) Sterilizer	AG or RPBA
	f) Toilets or bidets	AG or RPBA
	g) Wash-down or flushing hoses	RPBA
	h) Pipette washers	AG or RPBA
2	Bed pan washers	AG or RPBA
3	Toilets, urinals or bidets	AG or RPBA
4	Fire sprinkler drains	AG*

5	Water operated equipment such as elevators, presses or other similar equipment	AG or RPBA
6	Drinking fountains required angle stream with mouth guard	AG
7	Orthopedic baths	AG or RPBA
8	Colon irrigations or douche attachment	AG or RPBA
9	Water used for heating or cooling agent	AG or RPBA
10	Mop, service or slop sink with hose faucet	RPBA
11	Compound boiler	AG or RPBA
12	Hose faucets in areas were possible contamination may exist	RPBA
13	Foot bath	AG
14	Sits tub	AG
15	Bathtub	AG
16	Bathtub with hose attachment	RPBA
17	Potable waterline directly connected to sewer	N/A

**No antifreeze permitted in fire sprinkler system.*

II. INDUSTRIAL OR COMMERCIAL INSTALLATIONS

		BP OPTIONS
1	Dip tanks or vats	AG or RPBA
2	Water operated presses, elevators, or other similar equipment	AG or RPBA
3	Water used for cooling or heating agent	AG or RPBA
4	Fire sprinkler drains	AG*
5	Toilets or urinals	AG or RPBA
6a	Sinks and basins	AG
6b	Sink faucet with hose connection	RPBA
7	Hose faucets in areas where a hose could possibly be left submerged	AG or RPBA
8	Dual water supply source	AG
9	Pump primers	RPBA
10	Flushing floor drains	AG or RPBA
11	Potable water line directly connected to sewer	N/A
12	Water operated ejectors	RPBA
13	Drinking fountains that require angle stream with mouth guard	AG
14	Foamite stations/quick connection	RPBA
15	Hose bibs/water supply outlets located in pits, tanks, trenches or other locations that may become flooded with contaminated liquids, etc.	AVB
16	Compound boilers	AG or RPBA
17	Commercial car washing installations with cross connection	RPBA
18	Shampoo basin hose rinse	RPBA
19	Soap and chemical portioned/injector	AG or RPBA

**No antifreeze permitted in fire sprinkler system.*

III. YARD SPRINKLER/DRIP IRRIGATION SYSTEMS USING CITY WATER

		BP OPTIONS
1	Sprinkler systems	PVBA or DCVA
2	Sprinkler systems supplied with potable water and interconnected with other sources of non-potable water such as ditch water, ponds, lakes or creeks, etc.	AG or RPBA
3	Sprinkler systems containing fungicides, pesticides, soil conditioners or any other chemicals or additives	N/A
4	Hose faucet/bibs (installed above grade)	AVB
5	Hose faucet/bibs (installed below grade)	DCVA
	**NOTE: All sprinkler and/or drip irrigation systems containing ANY buried or below grade conduits, pipes, hoses, tubes, etc. used for carrying water must be protected with one of the following backflow assemblies.*	*PVBA or DCVA*

IV. EDUCATIONAL INSTITUTIONS

		BP OPTIONS
1	Sink/lavatory	AG or AVB
2	Sink with threaded faucet	AVB
3	Dishwashing machine	AG or RPBA
4	Garbage disposers	AG or RPBA
5	Toilets and urinals	AG or PVB
6a	Drinking fountains require angle stream and mouth guard	AG
6b	Drinking fountains with water supply in waste pipe	N/A
7	Fire sprinkler drains	AG*
8	Compound boilers	AG or RPBA
9	Hose faucets/bibs	AVB

**No antifreeze permitted in fire sprinkler system.*

V. FAMILY RESIDENTIAL FACILITIES

		BP OPTIONS
1	Toilets and bidets	AG
2	Sink/lavatory	AG
3a	Bathtubs	AG
3b	Bathtubs with hose attachments	AVB
4	Fire sprinkler drains	AG*
5	Compound boilers	AG or RPBA
6	Mop service, or slop sink with hose faucets	AVB
7	Drinking fountains require angle stream with a mouth guard	AG
8	Swimming pool water supply	AG or RPBA

**No antifreeze permitted in fire sprinkler system.*

VI. PLACES OF PUBLIC ASSEMBLY

		BP OPTIONS
1	Toilets	AG
2	Sink/lavatory	AG
3	Bathtubs	AG
4	Swimming pool water supply	AG or RPBA
5	Fire sprinkler drains	AG*
6	Mop, service or slop sinks with hose faucet	AVB
7a	Drinking fountains require angle stream with a mouth guard	AG
7b	Drinking fountain with water supply in waste pipe	N/A
8	Compound boilers	AG or RPBA
9	Hose faucet/bibs	AVB

**No antifreeze permitted in fire sprinkler system.*

VII. OFFICE BUILDINGS

		BP OPTIONS
1	Toilets or bidets	AG
2	Lavatories	AG
3a	Drinking fountains require angle stream with a mouth guard	AG
3b	Drinking fountain with water supply in waste pipe	N/A
4	Bathtubs	AG
5	Fire sprinkler drains	AG*
6	Compound boilers	AG or RPBA
7a	Mop service, or slop sink with hose faucets	AVB
7b	Threaded connections/faucets where possible cross connections exist	AVB
8	Medical equipment with potable water supply	AG or RPBA
9	Potable water connection to film developing tanks	AG or RPBA
10	Water operated presses, elevators, or other similar equipment	AG or RPBA

**No antifreeze permitted in fire sprinkler system.*

VIII. FIRE PROTECTION SYSTEMS

		BP OPTIONS
1	High Hazard Fire Systems: Foam filled, chemicals, antifreeze or air pressurized	AG or RPBA
2	Low Hazard Fire Systems: Standpipe connection	DCDA
3	Residential Fire Systems: Potable water with approved water line material only	FOLLOW CODE

Backflow prevention assemblies may be required at the' water service entrance' where, in the opinion of the Director of Public Works and/ or the Community Development Dept. it is determined that the municipal water supply system should be isolated due to an actual or potential cross-connection in the customer's piping system. The following list is a guide to the degree of protection required for a number of commercial and industrial establishments:

The following methods of cross-connection control are considered minimum protection at the service connection:

1. All new commercial, industrial or multi-family residential buildings shall have a DCVA installed at the water service entrance. All existing commercial, industrial or multi-family residential buildings undergoing major remodeling, additions or change of use shall have a DCVA installed at the service entrance.

2. The public water supply to premises having an auxiliary water supply with no known cross-connections may be required to install an RPBA at the service connection at the City's discretion if a high health hazard is involved

3. The public water supply to premises on which is handled a substance that is objectionable (not a health hazard) in a manner constituting a potential cross-connection shall require a DCVA at the water service entrance.

4. The public water supply to premises on which there is an auxiliary water supply and having internal cross-connections that are not correctable or intricate plumbing arrangements, which make it impractical to ascertain whether or not cross-connections exist, shall require an RPBA at the water service entrance.

5. The public water supply to premises on which material dangerous to health or toxic substances are handled shall have installed an RPBA at the water service entrance.

6. The public water supply to premises where entry is restricted so that inspection for cross-connection cannot be made with sufficient frequency or at sufficient short notice to assure that cross-connections do not exist shall have installed an RPBA at the water service entrance.

7. The public water supply to premises on which any substance is handled under pressure so as to permit entry into the public water supply, or where a cross-connection could reasonably be expected to occur, shall have installed an RPBA at the water service entrance.

8. The public water supply to premises having a repeated history of cross-connections being established or re-established, shall have installed an RPBA at the water service entrance.

EXISTING FACILITIES/PLANTS REQUIRING PREMISES ISOLATION AT THE WATER SERVICE ENTRANCE

(NOT A COMLETE LIST)

	PLANT OR FACILITY	BP OPTIONS
1	Aircraft and Missile Plants	AG or RPBA
2	Automotive Plants	AG or RPBA
3	Auxiliary Water Systems	
	a) Unapproved Source	AG or RPBA
	b) Approved but not Chlorinated Source	DCVA
	c) Approved Chlorinated Source	DCVA
4	Beverage, Bottling Plants and Breweries	
	a) With Steam Boiler	AG or RPBA
	b) Without Steam Boiler	AG or RPBA
5	Buildings or Other Structures	
	a) Health Hazard Exist	AG or RPBA

	b) No Health Hazard Exist	NONE REQUIRED
6	Canneries, Packing Houses and Rendering Plants	AG or RPBA
7	Chemical Plants	AG or RPBA
8	Chemically Contaminated Water System	AG or RPBA
9	Dairies and Cold Storage Plants	AG or RPBA
10	Film Laboratories	AG or RPBA
11	Nursing Homes and Convalescent Centers	AG or RPBA
12	Hospitals, Medical Buildings, Sanitariums, Morgues, Mortuaries, Autopsy Facilities	AG or RPBA
13	Premises Having Irrigation Systems Using City Water and With Chemical Addition, Such as Parks, Playgrounds, Cemeteries, Golf Courses, Schools, Estates, Ranches, etc.	AG or RPBA
14	Laundries and Dye Works	AG or RPBA
15	Metal Manufacturing, Cleaning, Processing and Fabricating Plants	AG or RPBA
	a) Health Hazard Exist	AG or RPBA
	b) No Health Hazard Exist	DCVA
16	Oil and Gas Production – Storage or Transmission Facilities	AG or RPBA
17	Paper and Paper Products Plants	AG or RPBA
18	Power Generation Plant	AG or RPBA
19	Plating Plants	AG or RPBA
20	Facilities Containing Radioactive Materials or Substances	AG or RPBA
21	Restricted, Classified or Other Closed Facilities	AG or RPBA
22	Sand and Gravel Plants	AG or RPBA
23	Schools and Colleges	DCVA or RPBA
24	Sewage and Storm Drain Facilities	AG or RPBA
25	Waterfront Facilities and Industries	
	a) Health Hazard Exist	AG or RPBA
	b) No Health Hazard Exist	AG or RPBA
26	Recreational Vehicle Parks	DCVA
27	Recreational Vehicle Dump Sites With City Water Supply	AG or RPBA
28	Mobile Food/Beverage Carts Using City Water	DCVA

--- SECTION 7: INSTALLATION, INSPECTION, MAINTENANCE AND TESTING OF BACKFLOW PREVENTION ASSEMBLIES/DEVICES ---

General Installation Requirements:

1. Backflow assemblies or devices must be installed as specified in the latest editions of the Uniform Plumbing Code, AWWA and the City's CCC manual(most restrictive applies) and then inspected and approved by the City's CCS following its installation. The term "approved" shall mean an assembly that has been manufactured in full conformance with the standards established by the American Water Works Association. Each model must have passed the laboratory and field performance specifications

of the Foundation for Cross-Connection Control and Hydraulic Research of the University of Southern California. All new or replacement assemblies and devices must be listed in the Washington State Department of Health, Drinking Water Programs approved assemblies list.(latest edition including revisions)

2. Assemblies and devices shall be easily accessible for in-line testing, maintenance and repair with threaded or bolt on style unions installed (see Section 603.4.3 - 2015 Uniform Plumbing Code)

3. Assemblies and devices shall be protected against freezing, flooding and mechanical damage including harmful, toxic fumes etc.

4. RPBA's shall be located in an area where water spillage is not objectionable. A drain capable of handling the maximum flow from the relief valve shall be provided when the assembly is located within a building.

PVB-SPVB-DCVA-DCDA-RPBA-RPDA: See appendix for installation clearance requirements.

Atmospheric Vacuum Breakers (AVB) Installation Requirements (see below)

FIXTURES OR EQUIPMENT	INSTALLATION REQUIREMENTS
Aspirators and Ejectors	C-L at least 6" above flood level of receptacle served
Dental Units	C-L at least 6" above flood rim of bowl on models without built in vacuum breakers
Dishwashing Machines	C-L at least 6" above flood level of machine. Install on both hot and cold water supply lines
Flushometers (closet & urinal)	C-L at least 6" above top of fixture supply
Garbage Can Cleaning Machine	C-L at least 6" above flood level of machine. Install on both hot and cold water supply lines
Hose Outlets	C-L at least 6" above highest point on hose line
Laundry Machines	C-L at least 6" above flood level of machine. Install on both hot and cold water supply lines
Lawn Sprinklers (existing)	C-L at least 6" above highest downstream pipe
Steam Tables	C-L at least 6" above flood level
Tanks and Vats	C-L at least 6" above flood level rim
Trough Urinals	C-L at least 30" above perforated flush pipe
Flush Tanks	Equipment with approved ball cock where ball cocks touch tank water, equipment with vacuum breaker must be at least 1" above overflow outlets. Where ball cock does not touch tank water, install ball cock outlet at least 1" above overflow outlet or provide vacuum breaker as specified
Hose Bibs (where aspirators or ejectors could be connected)	C-L at least 6" above flood level of receptacle served

C-L, critical level is defined as the level to which the backflow preventer (vacuum breaker) may be submerged before backflow will occur. The bottom of the assembly or device shall be taken as the C-L.

Testing and Maintenance:

1. Since there are a large number of AVB's installed in the City a continuous program of inspection is determined to not be economically feasible. Field inspection shall be monitored or completed by the CCS or a City approved Backflow Assembly Tester (BAT). Visual inspections for proper installation etc. shall be done on a regular basis.

2. When a defective or damaged AVB is reported and/or discovered the owner shall have the device repaired or replaced as soon as possible. Not to exceed 10 days.

--- SECTION 8: PERMIT REQUIREMENTS ---

Prior to installing a backflow assembly or device in the City of Ellensburg, you must first obtain a permit. With the exception of assemblies installed on Fire Protection Systems* all permits for in-premise and premise isolation protection can be obtained from the Public Works Dept. located on the 2nd floor of City hall at: 501 N. Anderson Street.

After all permits have been issued, installation work may begin. Please note that all installation or repairs inside a building must be performed by the building owner, his/her employee or a licensed/bonded plumber. Backflow assembly/device repairs inside a building may also be performed by a BAT who also has a current WA State Backflow Specialty Certificate.

After the installation work is complete, and before its use, the assembly or device must be inspected by City's CCS. After the installation has been approved, the assembly must be tested/passed by a City Approved Backflow Assembly Tester (BAT). Copies of the original completed test report must be forwarded to the City's CCS* and the customer. *The customer is responsible for all cost associated with the installation, testing, and maintenance of backflow assemblies or devices.*

***Fire Protection system backflow assemblies are currently permitted thru the Kittitas Valley Fire & Rescue, located at 400 East Mountain View Avenue.**

--- SECTION 9: TESTING REQUIREMENTS ---

1. All backflow assemblies connected to City water shall be tested/passed at least annually to ensure proper operation. Irrigation system assemblies must be tested by June 30th.

2. Backflow assemblies shall also be tested/passed after being moved relocated or immediately following repairs or a backflow incident. The CCS may require assembly testing following assembly freeze/thaw events.

3. If an assembly fails any part of the test, it will be placed in suspense until all repairs and retesting have been completed.

4. Immediately following a test failure, the assembly must be repaired and retested/passed. If repair parts are unavailable the assembly must be replaced and retested/passed.

   Note: The City CCS/BAT reserves the right to be present when a backflow assembly or device is being installed, tested or repaired. The City CCS/ BAT may also choose to test the assembly using City owned test equipment at no additional cost to the customer.

Testing notification for existing installations:

- The CCS shall provide in writing a minimum of thirty (30) days advance notification to the customer of the required annual test due date of the backflow prevention assembly.
- The customer is required to notify the CCS if the address/contact information has changed, or if problems exist that may inhibit compliance.

Notification for non-compliant testing of existing installations:

- The CCS will send a second notification letter to the customer immediately after the initial testing due date stating they have ten (10) working days to complete the annual required testing of the Backflow Device.
- If, after ten (10) working days following the second notification letter, the City has not received a satisfactory testing report in compliance with the Cross Connection Control Policy and Procedures, the City of Ellensburg Public Works Director or his or her designee, shall send a third and final notice letter both by certified mail and regular mail informing the customer that a satisfactory testing report must be received by the City within ten (10) working days from the date of the letter to show compliance with the testing requirements. The final notice letter will include a date of termination of water service to inform the customer that failure to provide a satisfactory testing report by such date will result in the termination of the customer's water service until compliance with the testing requirements.

--- SECTION 10: BACKFLOW ASSEMBLY TESTER REQUIREMENTS ---

1. All testing and/or inspection of backflow assemblies or devices connected to or supplied by City water shall be completed by a City Approved BAT.

2. BAT's must be on to the City's Approved Backflow Assembly Tester List prior to testing or inspection of backflow assemblies or devices. In order have the business name added to the list, BAT's are required to submit the following, current information:

    1) BAT certification cards. (all)
    2) Test kit calibration report. (all)
    3) L&I Registration (including Specialty Certificate, if applicable)
    4) City of Ellensburg Business License
    5) Certificate of Liability Insurance

    Note: The City Approved BAT List is subject to change and therefore the City CCS may have the only current, 'up to date' version of the list on file at any time. Anyone that would like to receive a copy of the list should contact the CCS during regular business hours.

3. BAT's shall receive permission from the customer prior to every test/inspection/repair. After inspections or testing have been completed, the BAT is then required to fill out a test report form. Copies of the original report must then be forwarded to the CCS and the customer. The time period to submit the report form shall not exceed seven (7) days from date of test.

    - Test report forms must be pre-approved by the City of Ellensburg's CCS before use.*
    - Test reports must be neat, legible and complete using all applicable fields.*

    **Test reports not meeting the above listed requirements may not be accepted.*

    The CCS shall inform the customer and/or the BAT if the test report is non-compliant.

B.A.T NON-COMPLIANCE

The City of Ellensburg reserves the right to temporarily suspend or remove **B**ackflow **A**ssembly **T**esters from the City's Approved List, and will not be eligible to test pending an appeal. BAT's may be suspended or permanently removed from the list for failure to conform to either the WA State Dept. of Heath or City requirements. The City's CCS shall maintain a detailed record of serious or repeat infraction(s) and submit copies of these records to the Director of Public Works. The Director shall review the findings and determine if a BAT should be removed or suspended from the list.*

*If a BAT is removed or suspended from the list, he/she will be notified by certified mail. BAT's that are removed or suspended may appeal to the Director for re-instatement. Appeals must be submitted in writing for consideration.

BACKFLOW ASSEMBLY INSTALLATION & CLEARANCE REQUIREMENTS

DCVA & DCDA

a. When installed outside of a building, assemblies shall be installed in a well-drained, below ground valve box or in an above ground valve box that is protected against freezing, flooding, contamination etc.

b. The tie-in connection and valve box(s) shall be installed with a minimum separation distance of at least three (3') feet from the City's water meter/valve box(s)

c. A union shall be installed on each end of the assembly,(inside of the valve box, when applicable).

d. A minimum clearance of at least three (3) inches shall be maintained from the outside edge of each union, measured from the inside face of the valve box.

e. Additional installation clearances are as follows:
   - 12" minimum clearance below the assembly (6" if installed above a 12" deep gravel base.)
   - 24" minimum clearance* above the assembly.
   - 3" minimum clearance from the back side of the assembly to any surface or obstruction.
   - 24" minimum clearance* from the front side of the assembly to the any surface or obstruction.

   * Unless assembly is centered in large valve box with a removable lid. The distance from top of assembly to the top of valve box and/or finish grade shall not exceed sixteen (16") inches.)

RPBA & RPDA

a. When installed outside of building, assemblies may be installed in a box/vault below grade and shall be 'bore sight' drained. Above and below grade box/vault installations shall include provisions to protect against freezing, flooding, toxic fumes, contamination etc.

b. Same as 'b' listed above.

c. Same as 'c' listed above.

d. Same as 'd ' listed above.

e. Same as 'e' listed above except that a distance of twelve (12") inches shall always be maintained between the lowest portion of relief valve and grade.

PVBA & SVBA

a. Must be installed above ground and the center line a minimum of twelve (12') inches above the highest downstream piping or outlet. The assembly must be protected from freezing, flooding, toxic fumes contamination etc.

b. Same as 'b' listed above.

c. Same as 'c' listed above (without valve box).

d. Additional installation clearance requirements are as follows:
   - 24"- minimum clearance above the assembly
   - 3" - minimum clearance from the back side of the assembly to any surface or obstruction.
   - 24"- minimum clearance from the front side of the assembly to any surface or obstruction.

   Note: Different requirements may apply for assemblies that are 2 1/2" and larger.

Recommendations:

- An additional shut off valve should be installed on each side of the assembly to allow for maintenance and repairs without having to shut down and/or drain the entire system for maintenance.

- Landscape irrigation system assemblies should include a winterization 'blow out(s)'.

Note: Never 'blow out' thru any part of a backflow assembly or device as this may damage internal working components causing assembly failure and/ or contamination to enter the water supply.

- Install 'tracer wire' above all buried, customer owned, water lines installed downstream of the meter.

WATER USE SURVEY FORM

Date: _____

Customer name: _____ Customer phone #_____
Customer mailing address: _____
Name of Facility: _____ Facility address: _____

--WATER SUPPLIED FIXTURE & OR EQUIPMENT--	YES	NO
POST MIX BEVERAGE DISPENSER		
ICE MAKER		
BOILER		
PHOTO DEVELOPMENT EQUIPMENT (SINKS OR TANKS)		
HEAT EXCHANGERS OR PUMPS (OMIT DOUBLE WALL WITH LEAK PATH)		
HIGH PRESSURE WASHER		
DIALYSIS EQUIPMENT		
FIRE PROTECTION SYSTEM		
STRUCTURES OVER 30’ IN HEIGHT ON PREMESIS		
ASPIRATOR-INCLUDING HOSE END TYPE		
BOOSTER PUMPS		
AIR CONDITIONING EQUIPMENT THAT IS CONNECTED TO CITY WATER SUPPLY		
SOAP OR CHEMICAL INJECTION EQUIPMENT		
HYDRONIC HEATING SYSTEM		
TRAP PRIMER		
LANDSCAPE IRRIGATION-SPRINKLER - DRIP SYSTEM		
HOSE BIBS - INCLUDING OUTSIDE - FROST FREE TYPE		
PRIVATE WELL OR OTHER AUXILLARY WATER SUPPLY		
HOT TUB OR SPA		
SWIMMING POOL		
DECORATIVE POND		
ELEVATED STORAGE TANKS		
RESEVOIRS - COOLING TOWERS		
WATER TROUGH		
BAPTISMAL		
RECLAIMED WATER STORAGE - BARRELS ETC.		
GARBAGE DISPOSAL		
DISHWASHER		
Survey completed by:		

Appendix I
Water Rights Information

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Water Right Self-Assessment Form for Water System Plan

Mouse-over any link for more information. Click on any link for more detailed instructions.

Water Right Permit, Certificate, or Claim # *If water right is interruptible, identify limitation in yellow section below	WFI Source # If a source has multiple water rights, list each water right on separate line	Existing Water Rights Qi= Instantaneous Flow Rate Allowed (GPM or CFS) Qa= Annual Volume Allowed (Acre-Feet/Year) This includes wholesale water sold				Current Source Production – Most Recent Calendar Year Qi = Max Instantaneous Flow Rate Withdrawn (GPM or CFS) Qa = Annual Volume Withdrawn (Acre-Feet/Year) This includes wholesale water sold				10-Year Forecasted Source Production (determined from WSP) This includes wholesale water sold				20-Year Forecasted Source Production (determined from WSP) This includes wholesale water sold			
		Primary Qi Maximum Rate Allowed	Non-Additive Qi Maximum Rate Allowed	Primary Qa Maximum Volume Allowed	Non-Additive Qa Maximum Volume Allowed	Total Qi Maximum Instantaneous Flow Rate Withdrawn	Current Excess or (Deficiency) Qi	Total Qa Maximum Annual Volume Withdrawn	Current Excess or (Deficiency) Qa	Total Qi Maximum Instantaneous Flow Rate in 10 Years	10-Year Forecasted Excess or (Deficiency) Qi	Total Qa Maximum Annual Volume in 10 Years	10-Year Forecasted Excess or (Deficiency) Qa	Total Qi Maximum Instantaneous Flow Rate in 20 Years	20-Year Forecasted Excess or (Deficiency) Qi	Total Qa Maximum Annual Volume in 20 Years	20-Year Forecasted Excess or (Deficiency) Qa
1 GWC 926-D	S01 - City Well, S05 - Kiwanis Well, S06 - Whitney Well, S09 - Route 10 Well, S10 - Hayward Well	4,861 gpm	0 gpm	3,850 afy	0 afy	1,366 gpm 819 gpm 772 gpm 1,080 gpm 1,097 gpm	(273 gpm)	3,025 afy	825 afy	1,366 gpm 819 gpm 772 gpm 1,080 gpm 1,097 gpm	(273 gpm)	3,850 afy	0 afy	1,366 gpm 819 gpm 772 gpm 1,080 gpm 1,097 gpm	(273 gpm)	3,850 afy	0 afy
2 GWC 924-D	NA – Anderson Well	400 gpm	0 gpm	79 afy	0 afy	75 gpm	325 gpm	8 afy	71 afy	75 gpm	325 gpm	8 afy	71 afy	75 gpm	325 gpm	8 afy	71 afy
3 GWC 925-D	S03 – Memorial Well	700 gpm	0 gpm	565 afy	0 afy	381 gpm	319 gpm	215 afy	350 afy	381 gpm	319 gpm	286 afy	279 afy	381 gpm	319 gpm	358 afy	207 afy
4 GWC 816-A	S02 – Rodeo Well	700 gpm	0 gpm	1,130 afy	0 afy	590 gpm	110 gpm	608 afy	522 afy	590 gpm	110 gpm	778.4 afy	351.6 afy	590 gpm	110 gpm	982.4 afy	147.6 afy
5 GWC 3525-A	S11 – Airport Well No. 3	1,050 gpm	0 gpm	0 afy	1,675 afy	156 gpm	894 gpm	182 afy	(182 afy)	156 gpm	894 gpm	242 afy	(242 afy)	156 gpm	894 gpm	303 afy	(303 afy)
6 G4-25307C	S04 – Mt. Stuart Well NA – Illinois Well	1,700 gpm	0 gpm	2,742 afy	0 afy	649 gpm 0 gpm	1,051 gpm	624 afy	2,118 afy	649 gpm 2,500 gpm	(1,449 gpm)	1,011 afy	1,731 afy	649 gpm 2,500 gpm	(1,449 gpm)	2,240 afy	502 afy
7 G3-20414C	S07 – Brooklane Well	910 gpm	0 gpm	480 afy	0 afy	780 gpm	130 gpm	111 afy	369 afy	780 gpm	130 gpm	148 afy	332 afy	780 gpm	130 gpm	185 afy	295 afy
8 G4-27814C	NA – Mt. View/Lions Park Well	110 gpm	0 gpm	21.6 afy	0 afy	-	-	-	-	110 gpm	0 gpm	21.6 afy	0 afy	110 gpm	0 gpm	21.6 afy	0 afy
Future	Unknown	-	-	-	-	-	-	-	-	-	-	-	-	1,042 gpm	(1,042 gpm)	-	-
	TOTALS =	10,431 gpm		8,867.6 afy		7,765 gpm	2,666 gpm	4,773 afy	4,094.6 afy	10,375 gpm	56 gpm	6,345 afy	2,522.6 afy	11,417 gpm	(986 gpm)	7,949 afy	918.6 afy
Column Identifiers for Calculations:		A		B		C	=A-C	D	=B-D	E	= A-E	F	=B-F	G	=A-G	H	=B-H

PENDING WATER RIGHT APPLICATIONS: Identify any water right applications that have been submitted to Ecology.

Application Number	New or Change Application?	Date Submitted	Quantities Requested			
			Primary Qi	Non-Additive Qi	Primary Qa	Non-Additive Qa
G4-29206A	New	2/19/1987	1,500 gpm	0 gpm	1,200 afy	0 afy
G4-29308A	New	2/19/1987	1,500 gpm	0 gpm	1,200 afy	0 afy
G4-33267A	New	1/4/2021	0 gpm	3,200 gpm	0 afy	3,200 afy

INTERTIES: Systems receiving wholesale water complete this section. Wholesaling systems must include water sold through intertie in the current and forecasted source production columns above.

Name of Wholesaling System Providing Water	Quantities Allowed In Contract		Expiration Date of Contract	Currently Purchased Current quantity purchased through intertie				10-Year Forecasted Purchase Forecasted quantity purchased through intertie				20-Year Forecasted Purchase Forecasted quantity purchased through intertie			
	Maximum Qi Instantaneous Flow Rate	Maximum Qa Annual Volume		Maximum Qi Instantaneous Flow Rate	Current Excess or (Deficiency) Qi	Maximum Qa Annual Volume	Current Excess or (Deficiency) Qa	Maximum Qi 10-Year Forecast	Future Excess or (Deficiency) Qi	Maximum Qa 10-Year Forecast	Future Excess or (Deficiency) Qa	Maximum Qi 20-Year Forecast	Future Excess or (Deficiency) Qi	Maximum Qa 20-Year Forecast	Future Excess or (Deficiency) Qa
1 None															
2															
3															
TOTALS =															
Column Identifiers for Calculations:	A	B		C	=A-C	D	=B-D	E	=A-E	F	=B-F	G	=A-G	H	=B-H

INTERRUPTIBLE WATER RIGHTS: Identify limitations on any water rights listed above that are interruptible.

Water Right #	Conditions of Interruption	Time Period of Interruption
1 None		
2		
3		

ADDITIONAL COMMENTS:

Existing year = 2018. 10-year forecast for 2030. 20-year forecast for 2040.
Demand is without water use efficiency.
G3-20414C and G4-27814C are seasonal with the period of use from April 1 through October 31.
The City did not provide water use data from 2018 for the Mt. View/Lions Park Well.
Ground water claims held by the City (G4-050887CL, G4-005767CL, G4-005763CL, G4-005765CL, G4-026703CL, and G4-026704CL) are not included in this table.
Surface water rights authorized for use by the City (S4-84605-J, S4-85603-J, S4-83651-J, and S4-83580-J) are not included in this table since they are not currently use for direct potable supply.
Additional information on individual water rights is contained in Chapter 6
Assume that the Illinois Well will get source approval and come on-line before the 10-year forecasted period under G4-25307C.
Maximum Day Demand in 2040 (11,417 gpm) calculated to exceed water right limit (10,431 gpm) and installed well pumping capacity (10,190 gpm).

Certificate GWC 926-D

City Well, Kiwanis Well, Whitney Well, Route 10 Well, Hayward Well, and Three Future Wells

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STATE OF WASHINGTON
DEPARTMENT OF ECOLOGY

REPORT OF EXAMINATION FOR CHANGE
TO APPROPRIATE PUBLIC WATERS OF THE STATE OF WASHINGTON

☐ Surface Water (Issued in accordance with the provisions of Chapter 117, Laws of Washington for 1917, and amendments thereto, and the rules and regulations of the Department of Ecology.)

☒ Ground Water (Issued in accordance with the provisions of Chapter 263, Laws of Washington for 1945, and amendments thereto, and the rules and regulations of the Department of Ecology.)

PRIORITY DATE	APPLICATION NUMBER	PERMIT NUMBER	CERTIFICATE NUMBER
April 13, 1913	CG4-GWC926-D		

NAME
City of Ellensburg (c/o John Akers, Public Works Director)

ADDRESS (STREET)	(CITY)	(STATE)	(ZIP CODE)
414 N Main St	Ellensburg	WA	98926

PUBLIC WATERS TO BE APPROPRIATED

SOURCE
8 wells

TRIBUTARY OF (IF SURFACE WATERS)

MAXIMUM CUBIC FEET PER SECOND	MAXIMUM GALLONS PER MINUTE	MAXIMUM ACRE -FEET PER YEAR
	4861	3850

QUANTITY, TYPE OF USE, PERIOD OF USE
Continuously for municipal supply.

LOCATION OF DIVERSION/WITHDRAWAL

APPROXIMATE LOCATION OF DIVERSION--WITHDRAWAL
City Wells - being within the SE¼SE¼ of Section 12, T. 18 N., R. 17 E.W.M.
Kiwanis Well -- being within the NW¼SE¼ of Section 35, T. 18 N., R. 18 E.W.M.
Whitney Well – being within the SW¼NE¼ of Section 1, T. 17 N., R. 18 E.W.M.

5 additional wells to be constructed within:

SE¼, SE½ of Section 12, T. 18 N., R. 17 E.W.M.
S½ of Section 17, T. 18 N., R. 18 E.W.M.
All of Section 20, T. 18 N., R. 18 E.W.M.
S½ and the NW¼ of Section 21, T. 18 N., R. 18 E.W.M.
S½ and NW¼ of Section 27, T. 18 N., R. 18 E.W.M.
All of Section 28, T. 18 N., R. 18 E.W.M.
N½ of Section 34, T. 18 N., R. 18 E.W.M.

LOCATED WITHIN (SMALLEST LEGAL SUBDIVISION)	SECTION	TOWNSHIP N.	RANGE, (E. OR W.) W.M.	W.R.I.A.	COUNTY
	12	18	17	39	Kittitas
	17, 20, 21, 27, 28, 34, 35	18	18		
	1	17	18		

RECORDED PLATTED PROPERTY

LOT	BLOCK	OF (GIVE NAME OF PLAT OR ADDITION)

LEGAL DESCRIPTION OF PROPERTY ON WHICH WATER IS TO BE USED

The place of use of this water right is the service area described in the Water System Plan approved by the Washington State Department of Health on May 20, 2001. RCW 90.03.386 may have the effect of revising the place of use of this water right if the criteria in Section RCW 90.03.386(2) are met.

FILE COPY

DESCRIPTION OF PROPOSED WORKS

Three existing wells, known as the City Wells, Kiwanis well and Whitney well, are currently in use and connected to the City of Ellensburg Water Supply System. Five additional proposed wells, currently not constructed, will be located along the existing water transmission line that runs from the City Wells to the water distribution system. These wells will be connected to the existing transmission line.

DEVELOPMENT SCHEDULE

BEGIN PROJECT BY THIS DATE:	COMPLETE PROJECT BY THIS DATE:	WATER PUT TO FULL USE BY THIS DATE:
October 31, 2008	October 31, 2009	October 31, 2020

REPORT

The City of Ellensburg submitted a Change Application requesting additional points of withdrawal and a change in place of use under the Declaration of Groundwater Certificate No. 926 (GWC926-D) on November 2, 1999. The application was accepted and assigned Application No. CG4-GWC926-D. On June 27, 2003 the City of Ellensburg submitted information to amend and support the Change Application. The amendments did not alter the place of use request, but did alter the specific points of withdrawal that are requested. These amendments did not change the original intent of the November 2, 1999 application. Public Notice of the application was given in the Ellensburg Daily Record on August 1 and 8, 2003. No protest was received during the 30-day protest period that ended September 7, 2003.

Attributes of Water Right

Name of Claimant; Name on Certificate:	The City of Ellensburg Water Department
Priority Date:	April 13, 1913
Instantaneous Quantity:	4861 gallons per minute (gpm)
Source:	A well
Annual Quantity:	3850 acre-feet per year (acre-ft/yr)
Point of Withdrawal:	Located within the NE¼NE¼ of Section 13, T. 18 N., R. 17 E.W.M.*
Purpose of Use:	Municipal supply
Period of Use:	Continuous
Place of Use:	The City of Ellensburg, Kittitas County, Washington

*Note: The location of the well differs from the certificate, and the well is actually located in the SE¼SE¼, of Section 12, T. 18 N., R. 17 E.W.M.

Proposed Change

Name of Applicant:	City of Ellensburg, Water/Irrigation Division
Date of Application for Change:	November 2, 1999
Instantaneous Quantity:	4861 gpm
Annual Quantity:	3850 acre-ft/yr
Source:	7 wells
Point of Withdrawal:	Kiwanis Well: being within the NW¼SE¼ of Section 35, T. 18 N., R. 18 E.W.M. Whitney Well: being within the SW¼NE¼ of Section 1, T. 17 N., R. 18 E.W.M. 5 additional wells to be constructed within: SE¼ of Section 12, T. 18 N., R. 17 E.W.M. NE¼ of Section 13, T. 18 N., R. 17 E.W.M. SW¼ of Section 7, T. 18 N., R. 18 E.W.M. NW¼ and the S½ of Section 17, T. 18 N., R. 18 E.W.M. All of Section 18, T. 18 N., R. 18 E.W.M. NE¼ of Section 19, T. 18 N., R. 18 E.W.M. All of Section 20, T. 18 N., R. 18 E.W.M. S½ and the NW¼ of Section 21, T. 18 N., R. 18 E.W.M. W½ and the SE¼ of Section 27, T. 18 N., R. 18 E.W.M. All of Section 28, T. 18 N., R. 18 E.W.M. N½ of Section 34, T. 18 N., R. 18 E.W.M.
Purpose of Use:	Municipal Supply
Period of Use:	Continuous
Place of Use:	The Approved Growth Management Act boundary of the City of Ellensburg.

INVESTIGATION

The following information was obtained from a September 23rd, 2003 site inspection conducted by Department of Ecology (Ecology) staff Melissa Nihsen and Randall Doneen, a technical report prepared by Golder Associates on June 24, 2003, conversations with the applicant, Golder Associates, and Ecology staff.

The existing well under No. GWC 926-D, commonly referred to as the City Wells, was installed in 1913, is approximately 23 feet deep and consists of a concrete casing connected to approximately 200 feet of 24 inch diameter horizontal perforated pipe. According to 2000 aerial photography, the City Wells appears to be located within 750 feet of the Yakima River. For this reason, along with the horizontal components of the well being within the shallow Yakima River alluvial gravel, this source has recently been evaluated as a source of "Groundwater Under the Influence" (GUI) of surface water by the Washington State Department of Health (DOH). If the City Wells is determined to be GUI of surface water in the future, continued use of this source will require significant infrastructure improvement to comply with the federal Surface Water Treatment Rule. The City of Ellensburg (City) has submitted this Change Application to change the point of withdrawal to a series of existing and yet to be constructed wells. The intent of adding these wells is to develop non-GUI sources that utilize a deeper portion of the aquifer to minimize 1) susceptibility of contamination, 2) impacts to surface water, and 3) impacts to other water users.

History of Water Use

In order to make a water right change decision, Ecology must make a tentative determination on the validity and extent of the right. Chapter 90.14.140(2)(d) RCW prescribes that there shall be no relinquishment of any water right that is claimed for municipal supply purposes under Chapter 90.03 RCW.

GWC 926-D was issued under authority of RCW 90.44.090 Certificate of vested rights, on June 3, 1949, based on Declaration of Claim No. 551 by the City of Ellensburg. The attributes of the Certificate are described above in the **Attributes of Water Right** table. The original declaration submitted by the City indicated an annual quantity of 7884 acre-ft/yr. In support of the declaration a letter dated June 25, 1948, submitted by Fred T. Hofman, the City Clerk for the City of Ellensburg, quantifies that 1,253,290,000 gallons (~3846 acre-feet) were pumped from the City Wells during 1947. This letter was likely the basis for the certified annual quantity of 3850 acre-ft/yr. This letter does not provide information on instantaneous quantities; however, Declaration of Groundwater Claim No. 551 approved 4861 gpm.

The June 24, 2003 technical report submitted by Golder Associates (Golder Report) includes historic pumping records from 1979-2001 for the City Wells. This report indicates that 4646 gpm (96% of the certified instantaneous quantity) and 3667 acre-ft/yr (95% of the certified annual quantity) was produced from the well in 1989. Based on the information in the Golder Report and the June 25, 1948 Fred T. Hofman letter, the maximum documented usage under this right is 4646 gpm and 3846 acre-ft/yr.

The Draft March 2000 Water System Update for the City of Ellensburg contains information on the existing water supply and demand, as well as projections for future water demand and how that relates to the existing supply. As of 1998, the total annual quantity pumped from all sources was approximately 4873 acre-ft/yr that is well below the 10550.6 acre-ft/yr identified from existing Ground Water Certificates within the City. These certificates are identified below in Table 1 with the **Other Water Rights Appurtenant to the Property** Section.

Historical population and water use reported in the Water System Plan can indicate the extent that the city has continued to develop water use under its water rights, including GWC 926-D. Historical population data included in the plan begins in 1980 at 11,775 with gradual increases up to 14,230 in 1999. The average number of water customers increased from 3620 in 1994 to 3877 in 1998. The historical water pumped and average daily demand has also increased from 4060 acre-feet/3.6 million gallons per day (mgd) in 1994 to 4873 acre-feet/4.35 mgd in 1998. The gradual increase in population, number of water customers, total water pumped and average daily demand indicate the City has continued to grow and develop under its portfolio of water rights.

Second Engrossed Second Substitute House Bill 1338 (SESSHB 1338)

Recent legislative changes affect municipal water rights. In *Department of Ecology v. Theodoratus*, 135 Wn.2d 582, 957 P.2d 1241, the Washington Supreme Court held in a scenario that involved a non-municipal water supplier that Ecology's administrative practice of issuing Certificates of Water Right prior to full beneficial use was in error. This created uncertainty with respect to the water rights of certificate holders, such as the City of Ellensburg, that received certificates based on system capacity rather than the extent of actual use.

SESSHB 1338 provided clarification and certainty for municipal water rights documented by certificates which were issued based on system capacity. RCW 90.03.330 (3) states that:

> "This sub-Section applies to the water right represented by a Water Right Certificate issued prior to September 9, 2003, for municipal water supply purposes as defined in RCW 90.03.015 where the certificate was issued based on an administrative policy for issuing such certificates once works for diverting or withdrawing and distributing water for municipal supply purposes were constructed rather than after the water had been placed to actual beneficial use. Such a water right is a right in good standing."

The water use history of GWC 926-D indicates full or near full beneficial use under the water right.

Place of Use

Application No. CG4-GWC926-D requests to change the place of use to include the approved Growth Management Act boundary of the City of Ellensburg. However, SESSHB 1338 included a provision specifying how the place of use for a water right for municipal water supply purposes is identified and determined. Under RCW 90.03.386, the place of use for a water right for municipal water supply purposes is the approved service area described in a Water System Plan or Small Water System Management Plan as long as the municipal water supplier is in compliance with those plans including water conservation. Any alteration of the place of use in this manner may not be inconsistent with any comprehensive plans or development regulation adopted under Chapter 36.70A RCW; any other applicable comprehensive plan, land use plan, or development regulation adopted be a city, town, or county; or any watershed plan approved under Chapter 90.82 RCW, or a comprehensive water shed plan adopted under RCW 90.54.040(1).

Given these legislative amendments and discussions with the City of Ellensburg and the DOH, Eastern Region, Drinking Water Section, it has been determined that any place of use adjustments to Application No. G4-GWC926-D should occur under the above-described DOH-administered process. The City of Ellensburg has an approved water system plan dated May 20, 2001, that contains a defined service area. Thus, it is unnecessary for Ecology to consider the City of Ellensburg's request to change the place of use for this water right to "the approved Growth Management Act boundary of the City of Ellensburg." Ecology recognizes that, by operation of RCW 90.03.386, the place of use of this water right is the City of Ellensburg's current DOH-approved service area, so long as the City complies with the requirements of RCW 90.03.386.

Other Water Rights Appurtenant to the Property

Table 1 identifies Ground Water Certificates that are included in City of Ellensburg's Water System Plan.

Table 1: Ground Water Certificates held by the City of Ellensburg

Certificate No.	Source	Qi (gpm)	Qa (af/yr)	Priority date	Place of use
926-D	City wells	4861	3850	1913	Ellensburg
924-D	Anderson well	400	79	1931	Ellensburg
925-D	Memorial Park well	700	565	1932	Ellensburg
3525-A	Airport wells	1050	1675	1959	Municipal Airport
816-A	Rodeo well	700	1130	1947	Ellensburg
G3-20414C	Brooklane well	910	480	1972	CWU campus
G4-25307C	Mount Stuart well	1700	2750	1977	Ellensburg
G4-27814C	Lions Mt. View well	110	21.6	1982	7 acres

On December 21, 1971 the City of Ellensburg entered into a contract with Kittitas Reclamation District (KRD) and the United States Bureau of Reclamation (USBR) that transferred 6,000 acre-ft/yr of water from KRD to the City of Ellensburg. This water was part of KRD's total water contract with USBR that is part of Surface Water Certificate No. 4498. A Certificate of Change issued on August 17, 1972, to USBR for a change in purpose of use, point of diversion, and place of use for the 23.33 cubic feet per second (cfs) and 6,000 acre-ft/yr that is the subject of the City of Ellensburg/KRD/USBR contract.

The validity of this water right is currently being evaluated by the Yakima County Superior Court in *Department of Ecology v. Acquavella*, Yakima County Superior Court No. 77-2-01484-5, the adjudication of surface water rights in the Yakima River Basin. The Referee recommended confirmation of a water right with an annual quantity of 6,000 acre-ft/yr in the Second Supplemental Report of Referee for Subbasin No. 7 (Reecer Creek). Subsequently, Ecology submitted a late exception to the claim requesting re-evaluation of beneficial use of the 6,000 acre-ft/yr. The late exception for re-evaluation of beneficial use was largely due to recent Washington Supreme Court decisions beneficial use requirements for transfers of surface water rights. Rather than stop forward progress toward issuance of a Conditional Final Order for Subbasin No. 7 (Reecer Creek), the Court chose to separate the City of Ellensburg's claim from the Subbasin pathway and place the claim into the major claimant pathway to allow potential resolution of Ecology's exception through mediation. At the time of this report, the City of Ellensburg's portion of this water right is still the subject of settlement discussions between Ecology, KRD, USBR and the City of Ellensburg. The extent and validity of this right, and the future ability for the city to exercise this right will ultimately be determined by Yakima County Superior Court.

The City of Ellensburg owns 308 shares of The Ellensburg Water Company for domestic use from April 1 to October 31. The Ellensburg Water Company was not confirmed for the 410 acres of irrigation that these shares would have represented because they did not provide evidence of irrigation within the City of Ellensburg by these share. The Court did recognize 308 shares held by the City of Ellensburg for domestic use, but no water quantity or irrigated acres were identified for these shares. Any water delivered to the City of Ellensburg under these shares will come from the Ellensburg Water Company's 43,840 acre-ft/yr annual quantity and the instantaneous quantities of 125 cfs from April through August, 100 cfs for September and 63 cfs for October.

HYDROGEOLOGIC SETTING

A licensed Ecology staff Hydrogeologist reviewed and stamped a separate technical memorandum which discusses the hydrogeologic analysis for this application. The hydrogeologic interpretations provided below are extracted from this memorandum.

This section describes in general terms the hydrogeology surrounding the City of Ellensburg, within the Kittitas Valley, Washington. Waitt (1979) describes the Kittitas Valley as "an unusually wide segment of the Yakima River valley near the western edge of the Yakima Basalt Subgroup, [and] is the topographic expression of a broad synclinal basin in the Yakima Basalt Subgroup and the Ellensburg Formation." In this region the Yakima River flows in a southeasterly direction, generally coincident with the synclinal axis. The synclinal feature plunges to the southeast and is bound by anticlinal structures; Naneum Ridge to the north and Manastash Ridge to the south. Within the structurally framed valley, glacial deposits, mainstream and sidestream alluvial deposits, exposures of remnant Thorp Gravels and an occasional thin veneer of loess overlie weakly to moderately indurated sedimentary rocks of the Ellensburg Formation. Grande Ronde basalt forms a bedrock boundary below the Ellensburg Formation, as depicted in cross Section on the USGS 1:100,000 Wenatchee Quadrangle geologic map and seen outcropping to the south in Manastash Ridge and to the north in Naneum Ridge.

Within this region, the uppermost aquifer unit consists of unconsolidated alluvial sediments deposited by the Yakima River. These sediments are generally underlain by the Thorp Gravels which due to cementation tends to be a relatively minor aquifer unit. Below the Thorp sediments and lacking any distinct boundary between the two, the saturated portion of the Ellensburg Formation, a volcaniclastic sedimentary unit, serves as an aquifer which is bound by the basalt below. Driller's water well reports indicate the Ellensburg Formation consists largely of weakly consolidated clays, silts, siltstones, sands, sandstones, gravels and cemented gravels. The compositions of these sediments vary from volcanic ash to pumice to andesite and derive from past volcanic activity and erosion of the Cascade Mountain Range. Cementation, porosity and permeability vary throughout the unit. Well log data suggests that most wells encounter a varying sequence of clays, sands and gravels; however, most wells are perforated into or completed within the coarser, more permeable sand and gravel layers. Sediment layers can pinch out abruptly, grading from clays to sands to gravels, creating zones of high hydraulic continuity juxtaposed with areas of low hydraulic continuity.

Within the Kittitas Valley, the sediment package (alluvium, Thorp Gravels, Ellensburg Formation) thickens from the northwest to the southeast consistent with the synclinal structure's plunge orientation. Well log data from the City of Thorp well and the Ellensburg's Rodeo well further support structural interpretations of a broad SE plunging synclinal structure. For instance, the City of Thorp well, located approximately 2,250 feet N and 200 feet E from the SW corner of Section 12, T. 18 N., R. 17 E.W.M., suggests the sediment package is approximately 700 feet thick at this site. A little over a mile to the NE, on a topographic high remnant of Thorp Gravels and the northern limb of the syncline, the "Williams" well encountered the basalt basement at around 730 feet below the ground surface. However, approximately 8 miles to the SE, in the vicinity of Ellensburg, water wells commonly do not penetrate the full sediment package thickness. Here, the deepest City water well, the "Rodeo well", penetrates to a depth of approximately 1,200 feet below the ground surface without encountering the basalt basement. Here, the basalt basement is speculated by some to be around 4,000 feet (Potts, personal communication, 2004; Bentley, Owens, and Ayers) to 5,000 feet (Golder, 2003) thick. As such, the plunge of the structure and the basement of the overlaying aquifer system appears to dip (slope) from the NW to the SE at approximately 3½ to 4½ degrees (6½ to 8% gradient) from horizontal.

Recharge to the aquifer system is predominantly by precipitation largely occurring in the western and northern regions of the basin. Discharge from the aquifer system is to wells throughout the basin and to surface water primarily in the southern portion of the valley where the sediments thin near the basalt margin and the Yakima River enters a tightly constricted canyon. Water chemistry classification of ground water from Ellensburg's 761 foot deep Whitney well indicate a sodium bicarbonate family of water and suggests a relatively long resident time along the deeper more regional flow paths prior to discharge to surface water.

Discussion of Existing and Proposed Wells

The City of Ellensburg has multiple ground water rights and corresponding wells which collectively constitute their municipal water supply. The City of Ellensburg currently exercises water right No. GWC 926-D from a well located approximately 5 miles northwest of the city limits and 800 feet east of the Yakima River, within the SE¼, SE¼, Section 12, T. 18 N., R. 17 E.W.M. The total certificated water quantity of the right is 3,850 acre-ft/yr, with a maximum instantaneous (Qi) of 4,861 gpm. The City submitted a change application to this right in November 1999, requesting the addition of up to seven points of withdrawal, consisting of 2 existing wells and 5 proposed wells, to their current water system for the reason of increasing efficiency of its municipal water supply system. However, the City recognizes other benefits potentially achieved by a water right change which include addressing public health issues of City Wells being a possible source of GUI and reducing the vulnerability of the City's water supply system by having multiple sources. Therefore, the city is exploring options that would require the least amount of system redesign while still exercising their full certificated quantities of the water right.

The original point of withdrawal, also known as "City Wells", is located approximately 500 feet west and 300 feet north of the SE¼ corner, Section 12, T. 18 N., R. 17 E. The water well report on file with Ecology indicates City Wells was constructed in 1913 and is approximately 23 feet deep. However, a letter, dated June 27th, 2003, from the City of Ellensburg indicates the well is currently only approximately 15 feet deep. Four, perforated, horizontal, 24-inch diameter concrete pipe collectors (totaling approximately 200 feet) connect to the central, shallow, vertical well. The well report does not indicate materials penetrated, however, the Wentachee Quad 1:100,000 geologic map indicates quaternary alluvial materials are

mapped in the area of City Wells. Review of area well logs and area resource protection well logs indicate sands, gravels and cobbles occur from the ground surface up to a depth ranging from 30 to 40 feet below ground surface (bgs). Therefore, City Wells is interpreted to penetrate alluvial materials as evidenced by its depth relative to the thickness of local alluvial deposits and the well's proximity to the river. As such, although the right is designated a ground water right, it has characteristics similar to that of surface water including similarity of head as well as exhibiting apparent direct and immediate communication/interaction with surface water (GeoEngineers, 1999).

Two of the seven proposed wells are existing wells owned by the city and are referred to as the Kiwanis Well, located in the SE¼, Section 35, T. 18 N., R. 18 E.W.M., and as the Whitney Well, located in the NE¼, Section 1, T. 17 N., R. 18 E.W.M.. The remaining five proposed wells have not been drilled at this time; however the City would like to construct these wells along their existing potable water transmission line which is presently connected to City Wells. The City's consulting project Hydrogeologist, Chris Pitre of Golder Associates, has recommended the five proposed wells be constructed within an area which is limited to: a) the S½ of Section 17; b) all of Section 20; c) the S½ and NW¼ of Section 21; d) all of Section 28; e) the NW¼ and S ½ of Section 27; f) the N ½ Sec 34, all within T. 18 N., R. 18 E.W.M. and g) the SE¼, SE¼, Section 12, T. 18 N., R. 17 E.W.M. The described area is preferred since it parallels the City's current water transmission line. Mr. Pitre has suggested there are few wells greater than 300 feet and a relatively low density of Water Right Certificates in the recommended area. The City, via their consultant, has also requested a maximum Qi of 1,500 gpm be applied to the Kiwanis and to the Whitney wells and a maximum Qi of 2,000 gpm be applied to each of the proposed wells.

The existing Kiwanis well, is located approximately 6 miles to the southeast of City Wells, and approximately 300 feet E and 650 feet S of the center of Section 35, T. 18 N., R. 18 E.W.M.. Based on the water well report on file with Ecology, the Kiwanis Well is interpreted to penetrate and withdraw ground water from the Ellensburg Formation materials. The materials, as reported on the well log, include ash, clay, silty sand, sand, sandstone, gravel, and cemented gravel. This well is 20 inches in diameter and completed to a depth of 617 feet bgs with casing installed to 595 feet bgs. The annulus is gravel packed; perforated casing or screens have been installed from approximately 410 feet bgs to 610 feet bgs. At the time of drilling, fall 1987, the static water level was reported to be 39 feet bgs. Rick Bollinger, Assistant Public Works Director for the City of Ellensburg, stated in a phone message on September 24, 2003, that the current water level for the Kiwanis Well, when the pump is shut off, is 40 feet bgs.

A 24-hour pump test was performed on the Kiwanis Well in October 1987 with a recorded well yield of 1,200 gpm and 139 feet of drawdown after 24 hours. Robinson & Noble (1987) approximated the long-term safe yield for the Kiwanis well at around 1,000 gpm. They also evaluated the potential for well interference between the Kiwanis well and the original Mt. Stuart well, estimating additional drawdown to be in the range of 15 to 29 feet if both wells were pumped for one hundred days at rates ranging from 600 to 1,200 gpm. The two wells are located approximately 3,100 feet apart. Personal communications with the City's consultant indicate the Kiwanis well currently produces approximately 800 gpm and has been in use by the City since its development in 1987 to meet peak system demands. Since 1987 to the present, no known complaints of well interference at local non-city wells have been noted. Should Ecology issue a change decision approval, the City plans to redevelop this well to restore/increase well efficiency.

The existing Whitney Well is located approximately 7 miles to the SE of City Wells, and approximately 280 feet east and 90 feet N of the center of Section 1, T. 17 N., R. 18 E.W.M.. Based on the water well report on file with Ecology, the Whitney Well is interpreted to penetrate and withdraw ground water from the Ellensburg Formation materials. The materials, as reported on the well log, include ash, clay, silty sand, sand, sandstone, gravel, cemented gravel, cobbles and boulders. This well is 20 inches in diameter and completed to a depth of 761 feet bgs with casing installed to 757 feet bgs. The annulus is gravel packed from 470 feet to 760 feet bgs and the liner has been perforated from 488 feet to 757 feet bgs. At the time of drilling, spring 1988, the static water level was reported to be 28.75 feet bgs. Rick Bollinger, Assistant Public Works Director for the City of Ellensburg, stated in a phone message on September 24, 2003, that the current static water level for the Whitney well, when the pump is shut off for several days, is 36 feet bgs.

A 6-hour pump test was performed on the Whitney Well in the spring of 1988 with a recorded well yield of 1200 gpm and 165 feet of drawdown after 6 hours. Robinson & Noble (1988) approximated the long-term safe yield for the Whitney well at around 900 gpm. They also reported that the Kiwanis well and Whitney well would experience "mutual drawdown interference" of approximately 15 feet when both wells pumped at rates of around 900 gpm for one hundred days. They further noted that the Mt Stuart well would be affected by pumping at the Whitney well by as much as 10 feet of additional drawdown. The Whitney and Kiwanis wells are approximately 6,900 ft apart; the Whitney and the Mt Stuart wells are approximately 9,700 ft apart. The Whitney well currently produces approximately 800 gpm, and has been in use by the City since its development in 1988 to meet peak system demands. Since 1988 to the present, no known complaints of well interference at local non-city wells have been noted. Should Ecology issue a change decision approval, the City plans to redevelop this well to restore/increase well efficiency.

Related well interference reported by Robinson & Noble was observed during testing between the Memorial Park well and the Rodeo well in 1986. These city wells are located approximately 1,100 feet apart and draw water from the Ellensburg Formation Aquifer. The data demonstrated that after 24 hours of pumping the Rodeo well at a rate of approximately 800 gpm, the non-pumping Memorial Park well displayed 14.4 feet of net interference. Extrapolation of the data indicated that when/if the Rodeo well achieved a stabilized water level (possibly after 10 days of pumping at a rate of 800 gpm), approximately 34 feet of drawdown due to well interference at the Memorial Park well could be expected.

Golder, 2003, suggested that "Interference on the order of 0.1 feet of drawdown is also noted in Airport Wells #1 and #2 when one of the wells is pumping at a rate of 600 gpm." These wells are located approximately 1,200 feet apart and draw water from the Ellensburg Formation Aquifer. However, it should be noted that GeoEngineer's cross Section and aquifer

descriptions in City's Wellhead Protection Plan, 1999, indicate the two wells are screened and completed in two different confined hydrogeologic units within the Ellensburg Formation. As a result, effects by barometric pressure changes cannot be ruled out as a causal agent for the 0.1 foot of drawdown observed. Likewise, Robinson & Noble noted 0.8 feet of drawdown in the Kiwanis Park well when the Whitney Park well was pump tested at a rate of 1,200 gpm for 6.5 hours in 1988. These wells are located approximately 6,900 feet apart and both are screened into the same Ellensburg Formation hydrogeologic unit identified by GeoEngineers, 1999. While it may be possible for a small degree of well interference to occur over this time, distance, pumping rate, and within the same confined aquifer unit, the 0.80 feet of drawdown is still within the range of that which can be caused by barometric pressure changes rather than by pumping effects. As such, the data must be considered with some caution.

The City's proposal would also allow up to five additional wells to be drilled at any location within the above defined preferred area paralleling their existing water transmission line. Since the City already owns the property at and around their City Wells location, but would have to acquire land or easement to drill wells elsewhere in their identified preferred area, it is anticipated that the first well, or wells, drilled may be constructed in the SE¼SE¼, Section 12, T. 18 N., R. 17 E.W.M. As noted earlier, the sediment package is much thinner in this region than it is to the southeast and in the vicinity of Ellensburg. Well densities in this area appear to be representative of the rural and agricultural land use typical to the County with at least eight wells in adjacent sections 13 and 18 drilled to depths of 300 feet or deeper. The City of Thorp well, located in Section 12, is drilled to a depth of 720 feet and displays a flowing artesian head of approximately 11 per square inch (psi) or approximately 25 feet of water above the ground surface. The Thorp well is located approximately 4,500 feet NW of the City Wells location and appears to fully penetrate the entire thickness of the sediment package overlaying the basalt basement. The location of this well is relatively close to the axis of the syncline which forms the valley and approximately 4 miles east of surface exposures of the basalt basement which form the western boundary of the overlaying sedimentary aquifer.

Scant data for the Thorp well was obtained from DOH records, the well log and from discussions with Mr. Gordon Blossom, representing Kittitas County Water District No. 4. Using both Thorp data and City of Ellensburg data to estimate aquifer parameters, several conservative pumping and drawdown scenarios employing the Theis non-equilibrium equation were considered. The efforts accentuated awareness that some caution should be applied to authorizations in this area primarily due to limited data from which to characterize aquifer parameters, a significantly thinner aquifer in this western portion of the aquifer, and the general reliance on ground water wells outside of the Ellensburg City Limits. For example, test data from the Thorp well suggests relatively low Transmissivity values in the vicinity of Thorp compared to that of the Ellensburg area. Using these lower values to evaluate various pumping scenarios suggests that depending on rate and duration of pumping, effects due to withdrawals from a deep well(s) at the City Wells site will likely propagate to within observable ranges (tens of feet of additional drawdown) at the Thorp well.

While some scenarios evaluated suggested that Thorp could experience reduction of head that would result in the need to lower pump levels and increase total system pumping lift, the predicted outcomes fell short of suggesting that Thorp would be prevented from obtaining its current full authorized right. The Thorp well already fully utilizes the entire thickness of the aquifer and would have no recourse to deepen their existing facility if impairing conditions were superimposed. Further, while a casing provision of 300-500 feet at the proposed Ellensburg City Wells site well(s) would afford shallower, partially penetrating wells some protection, it would less likely provide similar protection to the Thorp well.

To the SE of the City Wells site, along Ellensburg's water transmission line and within the described preferred area to drill additional wells, the sediment package hosting the aquifer thickens consistent with increasing depth to the structural basement. Well densities in this area remain representative of the rural and agricultural land use typical to the County with numerous wells that are generally less than 300 feet deep and a few wells which exceed 300 feet. In this region, wells commonly do not utilize the full effective thickness of the aquifer because of the Ellensburg Formation's greater thickness and the aquifer's generally high head. Aquifer parameters estimated from wells drawing water from the multiple water bearing zones may vary widely depending on such factors as total well depth and the presence or absence of and thickness of low-to-high permeable units which a particular well may encounter and develop. Effects of pumping from the confined aquifer(s) in this area would be expected to be somewhat less than the effects predicted for the Thorp area and more likely similar to the effects predicted at the Kiwanis and Whitney wells below because of the anticipated greater aquifer thickness.

Evaluation of the Kiwanis and Whitney wells also included several conservative drawdown scenarios using the data and estimates from the above mention pump tests and reports to approximate aquifer parameters and storage coefficients for a confined system. Results of these efforts fell within the same order as predicted earlier by Robinson & Noble if run over the same period of time. Expanding the evaluation to more closely fit with the water right, suggests that if continuous pumping occurred simultaneously at the Kiwanis and Whitney wells sites, each at an instantaneous rate of 1,500 gpm for a period of 300 days (the approximate time of continuous pumping of two wells at 1,500 gpm to reach the annual quantity of 3,850 acre-ft/yr), aquifer drawdown could approach the range of 15 to 19 percent of the effective available head at the wells as presently constructed at a point approximately 1,000 feet from at least one of the wells.

It should be noted that the above analysis is specifically evaluating well interference potential and does not address the long term yield capabilities related to the overall water budget for the aquifer(s); And, that transferring the existing right from an unconfined setting to a deeper confined setting is similar to adding a new right totaling the certificated quantity of 3850 acre-ft/yr or 4861 gpm to the deeper aquifer. However, with the development of all of the wells requested the total effect would be dispersed across a larger area of the aquifer, effectively reducing the total effect at any one point.

Relationship between the Original Source and Proposed Sources

The original well withdraws ground water stored in the unconfined portion of the alluvial sediments which generally discharges to and is recharged by the Yakima River depending on head relationships along the course of the River. The exchange is an expression of hydraulic continuity between the unconfined unit and the River. Flow within the unconfined aquifer is generally sub-parallel to the flow of the River. The additional wells, both existing and proposed, will withdraw ground water stored from within the deeper and confined portions of the aquifer system, more specifically the Ellensburg Formation. Ground water flow paths within the confined aquifer(s) differ from those of the unconfined portion of the aquifer system as evidenced in the work done by GeoEngineers in the City's Wellhead Protection Plan, 1999. Flow within the deeper Ellensburg aquifer units, in the area of Ellensburg, is from the north-northwest to the south-southeast. Flow within the deep portion of the Ellensburg aquifer in the Thorp area more likely displays a convergence of flow from the west, north, and south due to the more strongly expressed structural influences. Discharge from the deeper Ellensburg Formation aquifer system, while occurring along the deeper more regional flow paths, ultimately discharges to area wells and to the Yakima River where the river enters the tightly constricted canyon reach as evidenced in localized ground water upwelling. Essentially, while the aquifers in this system appear to have some common and some differing sources of recharge, the greatest portion of discharge from the system appears to occur at a common point where the Yakima River flows out of the valley. In this sense, the aquifers discussed in this report may all be considered tributary to the Yakima River and will be treated as part of the "same body of public ground water" (RCW 90.44.130) for the purposes of ground water management (Kirk, personal communication, 2004).

FINDINGS

In accordance with Chapters 90.03 and 90.44 RCW, more specifically RCW 90.03.330(3), Ground Water Certificate No. 926-D is a water right in good standing and eligible for change.

The Thorp well utilizes the entire thickness of the Ellensburg Formation aquifer. A substantial decline in water levels is predicted if Ellensburg was to construct one or more wells intercepting the same geologic unit and pump at the requested quantities in the vicinity of the Thorp well. Ecology has reviewed the construction of the Thorp well and concludes that the Thorp well constitutes "qualifying works" in accordance with WAC 173-150-030(8). Conditions set forth in the recommendations of this report are intended to protect rights of the surrounding area wells, including the Thorp well. Approval of the additional points of withdrawal, subject to the conditions set forth in the recommendations of this report, will not impair other water rights nor be detrimental to the public interest.

RECOMMENDATIONS

Based on the above investigations and findings the author recommends that the requested change in Certificate No. GWC926-D be approved and provisioned as follows:

Purpose of Use

Total water quantities achieved from any combination of existing or future wells shall not exceed the total certificated quantities of 3850 acre-ft/yr or 4861 gpm for continuous municipal supply purposes.

Points of Withdrawal

City Wells: being within the SE¼SE¼ of Section 12, T. 18 N., R. 18 E.W.M.

Kiwanis Well: being within the NW¼SE¼ of Section 35, T. 18 N., R. 18 E.W.M.

Whitney Well: being within the SW¼NE¼ of Section 1, T. 17 N., R.18 E.W.M.

Five additional wells located within:

SE¼SE¼ of Section 12, T. 18 N., R. 17 E.W.M.
S½ of Section 17, T. 18 N., R. 18 E.W.M.
All of Section 20, T. 18 N., R. 18 E.W.M.
S½ and the NW¼ of Section 21, T. 18 N., R. 18 E.W.M.
NW¼ and the S ½ of Section 27, T. 18 N., R. 18 E.W.M.
All of Section 28, T. 18 N., R. 18 E.W.M.
N½ of Section 34, T. 18 N., R. 18 E.W.M.

Place of Use

Under RCW 90.03.386, the place of use of this water right is the service area described in the Water System Plan approved by the Washington State Department of Health on May 20, 2001. RCW 90.03.386 may have the effect of revising the place of use of this water right if the criteria in Section RCW 90.03.386(2) are met.

Construction Schedule

Begin construction by:	October 31, 2008
Complete construction by:	October 31, 2009
Apply water to full beneficial use by:	October 31, 2020

Well Construction and Development Provisions

►If the City Wells site is developed (SE¼, SE½ of Section 12, T. 18 N., R17 E):

Any well(s) drilled within the City Wells site shall comply with the well drilling exclusion in the flood way and with provisions for construction within the 100 year floodplain (WAC-173-160-171(1)).

AND

(1) Confine development to within the alluvial sediments (approximately 30-40 feet thickness)

OR

(2) For development of a well or wells into the Ellensburg Formation Aquifer: Limit the pumping rate from a well or wells to a maximum total of 2,000 gpm, and perform pump test for a target stabilization rate (possibly several days of pumping) with observation wells to include the Thorp well. Ecology technical staff shall cooperatively participate with the City's technical representative in defining stabilization and in planning test requirements with review and comments. Ecology technical staff will also coordinate with the City's project manager to observe the pump test and receive collected samples, test data and reported results. In the case a defined stabilization is not achieved, then pumping rates (maximum Qi) at the City Wells site shall be further reduced and additional well sites to the SE would need to be explored and developed in order to limit effects at any single location.

OR

(3) For development of a well or wells into the Ellensburg Formation Aquifer: Limit the pumping rate from a well or wells to a maximum total of 1,500 gpm, and perform long term monitoring with defined indicators at which production rates would be reduced if aquifer does not stabilize. If the aquifer does not stabilize then pumping rates (maximum Qi) at the City Wells site shall be further reduced and additional well sites to the SE would need to be explored and developed in order to limit effects at any single location. Monitoring sites shall be cooperatively identified by City and Ecology technical staff. Monitoring indicators will be defined by Ecology technical staff with input by the City's project manager following identification of monitoring sites. Long term monitoring of water levels shall be submitted to Ecology for technical staff review on a quarterly basis. The City may also petition Ecology after five years, following well construction and placement into service, to suspend quarterly reporting.

►If well sites other than City Wells site, within the recommended area, are developed:

Limit maximum Qi for the Kiwanis and Whitney Wells to 1,500 gpm each and for the proposed wells to a maximum Qi of 2,000 gpm each. Total water quantities achieved from any combination of existing or future wells shall not exceed the total certificated quantities of 3850 acre-ft/yr or 4861 gpm for water right No. G4-GWC926-D.

►If any proposed well or replacement well is developed into the Ellensburg Formation:

The proposed wells shall be installed with solid (un-perforated, un-slotted, un-screened) casing to a minimum depth of 500 feet below the ground surface unless the City, in consultation with Ecology, elects one of the following options:

OR

1. With Ecology consultation and approval prior to the start of drilling, proposed wells being inside the City's water system service area, where City water is available, may be installed with solid (un-perforated, un-slotted, un-screened) casing to a minimum depth of 300 feet below the ground surface. Approval is subject to reasonable evidence that the proposed casing depth would be sufficiently protective of other ground water users based on the following information to be submitted to Ecology by the City or their technical representative.

    a. A survey of local wells for which impairment is to be avoided.
    b. Review of other available information, including testing results of wells previously installed under this change application; and
    c. Submission to Ecology of a technical memorandum summarizing the findings, analysis of potential impairment, and a recommendation on the depth to which solid casing will be installed.

OR

2. With Ecology consultation and approval prior to the start of drilling, proposed wells being outside the City's water system service area may be installed with solid (un-perforated, un-slotted, un-screened) casing to a minimum depth of 400 feet below the ground surface. Approval is subject to reasonable evidence that the proposed casing depth would be sufficiently protective of other ground water users based on the following information to be submitted to Ecology by the City or their technical representative.

from #1 well June 2010 memo

a. A survey of local wells for which impairment is to be avoided.
b. Review of other available information, including testing results of wells previously installed under this change application.
c. Results of Geophysical logging of a pilot hole if appropriate.
d. Submission to Ecology of a technical memorandum summarizing the findings, analysis of potential impairment, and a recommendation on the depth to which solid casing will be installed.

AND

The proposed wells shall be sealed in compliance with the minimum standards for sealing wells into an unconsolidated formation as described in Chapter 173-160-241WAC.

All water wells constructed within the state shall meet the minimum standards for construction and maintenance as provided under RCW 18.104 (Washington Water Well Construction Act of 1971) and Chapter 173-160 WAC (Minimum Standards for Construction and Maintenance of Water Wells).

In the event the proposed wells encounter artesian flowing pressure, plans for controlling flowing pressures shall be submitted to Ecology prior to well construction for review and comments (WAC 173-250-251). In addition, the well driller shall consult with Regional Well Construction Coordinator a minimum of one week prior to drilling regarding implementation of the plans during construction.

Samples of drill cuttings shall be provided for permanent use to the Central Region Office (CRO) of the Washington State Department of Ecology for stratigraphic logging, from the drilling of the first proposed well. Well #1 Sample collection shall start at ten (10) foot intervals, and at significant changes in lithology, to the bottom of the well. Samples shall be permanently labeled indicating the sample depth and a well identifier. Heavy duty quart sized "zip-lock" type plastic bags labeled with indelible markers are typically adequate for sample collection. Ecology technical staff may be available to pick up samples during well construction site visits; otherwise, samples shall be delivered or shipped to CRO immediately following completion of well construction. Ecology reserves the right to require collection and submittal of samples from any of the additional proposed wells drilled under this authorization, therefore notification to Water Resources technical staff is requested prior to drilling. Well #2

Other Provisions

This authorization shall in no way excuse the permittee from compliance with any applicable federal, state, or local statutes, ordinances, or regulations including those administered by other programs of the Department of Ecology.

The water sources and/or water transmission facilities may not be located entirely upon the land owned by the applicant. Therefore, the applicant is advised that issuance of this change authorization by this department does not convey a right of access to, or other right to use, land which the applicant does not legally possess.

Installation and maintenance of an access port as described in Ground Water Bulletin No. 1 is required. An air line and gage may be installed in addition to the access port.

An approved measuring device shall be installed and maintained for each of the sources identified by this water right in accordance with the rule "Requirements for Measuring and Reporting Water Use", Chapter 173-173 WAC.

Water use data shall be recorded daily. The maximum monthly rate of diversion/withdrawal and the monthly total volume shall be submitted to Ecology by January 31st of each calendar year. Ecology is requiring submittal of monthly meter readings to collect seasonal information for water resource planning, management and compliance.

The following information shall be included with each submittal of water use data: owner, contact name if different, mailing address, daytime phone number, WRIA, /Certificate No., source name, annual quantity used including units, maximum rate of withdrawal including units, monthly meter readings including units, peak monthly flow including units, purpose of use, well tag number, pressurized withdrawal, and period of use. In the future, Ecology may require additional parameters to be reported or more frequent reporting. Ecology prefers web based data entry, but does accept hard copies. Ecology will provide forms and electronic data entry information.

Chapter 173-173 WAC describes the requirements for data accuracy, device installation and operation, and information reporting. It also allows a water user to petition Ecology for modifications to some of the requirements. Installation, operation and maintenance requirements are enclosed as a document entitled "Water Measurement Device Installation and Operation Requirements".

Department of Ecology personnel, upon presentation of proper credentials, shall have access at reasonable times, to the records of water use that are kept to meet the above conditions, and to inspect at reasonable times any measuring device used to meet the above conditions.

A proof inspection will be conducted prior to final Superseding Certificate issuance. The applicant is advised that a Superseding Certificate of water right will issue for only that quantity of water that has been withdrawn and applied to actual beneficial use. Such quantity applied to actual beneficial use shall not exceed the quantity specified in this report of exam and will be calculated based on the best information available to Ecology, including metering data and/or water duty analysis.

Report by: Melissa M. Nihsen — 08.06.04
Melissa Nihsen, Water Resources Program — Date

FINDINGS OF FACT AND DECISION

Upon reviewing the above report, I find all facts, relevant and material to the subject application, have been thoroughly investigated. Furthermore, I find the appropriation as recommended will not be detrimental to existing rights or the public interest.

Therefore, I ORDER the requested additional points of withdrawal be authorized under Ground Water Application No. CS4-GWC926-D, subject to existing rights and provisions specified in the foregoing report.

Signed at Yakima, Washington, this 6th day of August 2004.

Robert F. Barwin, Section Manager
Water Resources Program
Central Region Office

STATE OF WASHINGTON DEPARTMENT OF ECOLOGY YAKIMA, WASHINGTON

NOTICE OF APPLICATION TO ADD UP TO SEVEN POINTS OF WITHDRAWAL AND TO CHANGE THE PLACE OF USE AS AUTHORIZED UNDER GROUND WATER CERTIFICATE NO. 926-D

TAKE NOTICE:

That on November 2, 1999, John Akers on behalf of the CITY OF ELLENSBURG, WA, applied to add up to seven points of withdrawal and to change the place of use as authorized under the abovereferenced certificate.

That said certificate authorizes the withdrawal of 4861 gallons per minute (gpm), 3850 acre feet per year, of water from a well located within the NEI/4NEI/4 of Section 13, T. 18 N., R. 17 E.W.M., Kittitas County.

That said water is authorized for the purpose of municipal supply within the City of Ellensburg, Kittitas County.

That the applicant proposes to add up to seven (7) wells to be located within a well field on lands within the SEI/4 of Section 12 and the NEI/4 of Section 13, T. 18 N., R. 17 E.W.M.; within the SWI/4 of Section 7, the NWI/4 and the S1/2 of Section 17, Section 18, the NEI/4 of Section 19, Section 20, the S1/2 and the NWI/4 of Section 2 1, the W1/2 and the SEI/4 of Section 27, Section 28, the N1/2 of Section 34, and the NW1/4SE1/4 of Section 35, T. 18 N., R. 18 E.W.M; and within the SWI/4NEI/4 of Section 1, T. 17 N., R. 18 E.W.M., all in Kittitas County.

That the applicant proposes to change the place of use authorized under Ground Water Certificate No. 926-D to include the Urban Growth Area of the City of Ellensburg, Kittitas County.

Protests or objections to approval of this application must include a detailed statement of the basis for objections. All letters of protest will become public record. Protests must be accompanied by a two dollar ($2.00) recording fee and filed with the Department of Ecology, 15 W. Yakima Ave., Suite 200, Yakima, WA 98902-3452, within thirty (30) days from August 8, 2003

PUBLISH: August 1 and 8, 2003

AFFIDAVIT OF PUBLICATION

DEPT. OF ECOLOGY Received AUG 19 2003 CENTRAL REGION OFFICE

tate of Washington, County of Kittitas, ss: **Lynda J. Larsen** being first duly sworn on ath, deposes and says: That she is the **Advertising Manager** of the Daily Record, a aily newspaper. That said newspaper is a legal newspaper and has been approved as a gal newspaper by order of the superior court in the county in which it is published and it now and has been for more than six months prior to the date of the publications ereinafter r referred to, published in the English language continually as a newspaper in llensburg, Kittitas County, Washington, and it is now and during all of said time printed an office maintained at the aforesaid place of publication of said newspaper. That the nnexed is a true copy of

NOTICE OF APPLICATION TO ADD UP TO SEVEN POINTS OF WITHRAWAL AND TO CHANGE THE PLACE OF USE AS AUTHORIZED UNDER GROUND WATER CERTIFICATE NO. 926-2

s was published in regular issues (and not in supplement form) of said newspaper once a eek for a period of 2 consecutive week(s), commencing on the following days.

AUGUST 1, 2003
AUGUSE 8, 2003

ll dates inclusive and that such newspaper were regularly distributed to its subscribers uring all of said period. That the full amount of the fee charged for the foregoing ublication is the sum of **$106.58** the rate of $4.35 per column inch for each insertion.

Lynda J. Larsen

ubscribed and sworn to before me this 14 day of August, 2003.

OK TMM 8/20/03 Gina Gibson

GINA GIBSON

Notary Public in and for
The State of Washington
Residing at Ellensburg,
Washington (SEAL)

Notary Public
State of Washington
GINA GIBSON
My Appointment Expires Aug 18, 2003

RECEIVED
NOV - 2 1999
DEPARTMENT OF ECOLOGY
CENTRAL REGION OFFICE

rcd ck# 22500
$70.00 11/2/99 PMK
1 of 7

STATE OF WASHINGTON
DEPARTMENT OF ECOLOGY

Accepted By
Date
Is Field Exam. Required? ☐ YES ☐ NO
Determined By

APPLICATION FOR CHANGE OF WATER RIGHT

☐ PURPOSE ☐ DIVERSION OR WITHDRAWAL
☒ PLACE ☒ ADDITIONAL POINT OR POINTS

NAME: CITY OF ELLENSBURG
Bus. Tel. (509) 962-7101
Home Tel.
Other Tel.

ADDRESS: 414 N. MAIN ST. (CITY): ELLENSBURG (STATE): WA (ZIP CODE): 98926

APPLICATION NUMBER | PERMIT NUMBER | CERTIFICATE NUMBER: G4-926-D

DECREED RIGHT (TITLE OF CASE)

APPROPRIATIONS MADE (GIVE DATE IF PRIOR TO JUNE 7, 1917 IF SURFACE WATER, OR JUNE 7, 1945 IF GROUND WATER)

IS THE WATER RIGHT RECORDED IN YOUR NAME? ☒ YES ☐ NO | IF NO, GIVE NAME RECORDED UNDER

1. RIGHT CONSISTS OF

WATERS USED FROM (STREAM, LAKE, WELL, OR TRENCH, ETC.): WELL
GALLONS PER MINUTE OR CUBIC FEET PER SECOND: 4861 GPM
WATER CURRENTLY USED FOR: MUNICIPAL SUPPLY
TIME OF USE: CONTINUOUS

2. LOCATION OF PRESENT POINT OF DIVERSION OR WITHDRAWAL

ENTER BELOW THE DISTANCES FROM THE NEAREST SECTION OR PROPERTY CORNER TO THE DIVERSION OR WITHDRAWAL.

500' WEST & 310' NORTH OF SE COR. SEC 12-18N-18E

LOCATED WITHIN (SMALLEST LEGAL SUBDIVISION)	SECTION	TOWNSHIP N.	RANGE (E. OR W.) W.M.	COUNTY
SE1/4, SE1/4	12	18	18E	KITTITAS

IF THIS IS WITHIN THE LIMITS OF A RECORDED PLATTED PROPERTY, COMPLETE THIS SECTION

LOT	BLOCK	OF (GIVE NAME OF PLAT OR ADDITION)

3. LEGAL DESCRIPTION OF LANDS WATER IS USED ON

THE CITY OF ELLENSBURG, KITTITAS COUNTY, WASHINGTON.

SECTION	TOWNSHIP N.	RANGE (E. OR W.) W.M.	COUNTY

(ATTACH SEPARATE SHEET IF NECESSARY)

ARE YOU THE LEGAL OWNER OF THE ABOVE DESCRIBED LANDS? ☐ YES ☒ NO | IF NO, EXPLAIN YOUR INTEREST: MUNICIPAL SUPPLIER

REASONS FOR THE PROPOSED CHANGE

FOR INCREASED EFFICIENCY OF THE SUPPLY SYSTEM, AND TO COORDINATE VARIOUS WATER RIGHTS INTO A SINGLE AUTHORIZATION.

A MINIMUM FEE OF $10.00 MUST ACCOMPANY THIS APPLICATION

CONTINUE ON REVERSE SIDE

CHANGE

ECY 040-1-97
Rev. 3/96 * * f

CITY WELL

4. **CHANGE REQUESTED**

CHANGE WATER USE TO	TIME OF USE	GALLONS PER MINUTE OR CUBIC FEET PER SECOND

5. **LOCATION OF PROPOSED POINT OF DIVERSION OR WITHDRAWAL**

ON ACCOMPANYING SECTION MAPS, ACCURATELY MARK AND IDENTIFY EACH POINT OF DIVERSION. SHOW NORTH-SOUTH AND EAST-WEST DISTANCES FROM NEAREST SECTION CORNER OR PROPERTY CORNER. SEE ATTACHED

ALSO, ENTER BELOW THE DISTANCES FROM THE NEAREST SECTION OR PROPERTY CORNER TO THE DIVERSION OR WITHDRAWAL.

SEE ATTACHED

LOCATED WITHIN (SMALLEST LEGAL SUBDIVISION)	SECTION	TOWNSHIP N.	RANGE (E. OR W.) W.M.	COUNTY

6. **IF THIS IS WITHIN THE LIMITS OF A RECORDED PLATTED PROPERTY, COMPLETE THIS SECTION**

LOT	BLOCK	OF (GIVE NAME OF PLAT OR ADDITION)

ARE YOU THE OWNER OF THE LAND ON WHICH THE PROPOSED POINT OF DIVERSION OR WITHDRAWAL IS TO BE LOCATED

☐ YES ☐ NO

LEGAL DESCRIPTION OF LANDS WATER IS USED ON

WATER TO BE SUPPLIED TO ALL LANDS WITHIN THE CITY OF ELLENSBURG URBAN GROWTH AREA BOUNDARY - SEE ATTACHED MAP.

SECTION	TOWNSHIP N.	RANGE (E. OR W.) W.M.	COUNTY

(ATTACH SEPARATE SHEET IF NECESSARY)

ARE YOU THE LEGAL OWNER OF THE ABOVE DESCRIBED LANDS	IF NO, EXPLAIN YOUR INTEREST
☐ YES ☒ NO	MUNICIPAL SUPPLIER

* PLEASE NOTE LEGAL LAND OWNER SIGNATURE AND APPLICANT SIGNATURE ARE BOTH REQUIRED. IF THE LEGAL LAND OWNER AND APPLICANT ARE THE SAME, PLEASE SIGN IN BOTH PLACES. THANK YOU.

LEGAL LANDOWNER (PLEASE PRINT)

Stanley H Bassett
APPLICANT'S SIGNATURE
Stanley H. Bassett, Mayor

LEGAL LANDOWNER SIGNATURE (OWNER OF PROPERTY DESCRIBED IN ITEM NUMBER 3)

LEGAL LANDOWNER'S ADDRESS

S. F. No. 7362—1-49—1M. 20416.

CERTIFICATE RECORD NO. 2 PAGE NO. 926-D UNDER DECLARATION OF CLAIM NO. 551

STATE OF WASHINGTON, COUNTY OF Kittitas

Certificate of Ground Water Right

Issued in accordance with the provisions of Chapter 263, Laws of Washington for 1945, and the rules and regulations of the State Supervisor of Hydraulics thereunder.

THIS IS TO CERTIFY *That* THE CITY OF ELLENSBURG WATER DEPARTMENT

of Ellensburg, Washington *has filed*

in the office of the State Supervisor of Hydraulics of Washington Declaration of Claim No. 551

to withdraw ground waters of the State from a Well,

located within the NE¼ of NE¼ of Sec. 13, Twp. 18 N., Rge. 17 E.W.M.

for the purpose of Municipal supply

The right to the use of said ground waters has been sustained and approved by the Supervisor of Hydraulics in accordance with Chapter 263, Laws of Washington for 1945, and is hereby entered of record in Volume 2 *of Ground Water Certificates at page* 926-D *; the right approved has a priority of* April 13, 1913 *; the amount of water which the Declarant is entitled to withdraw for the aforesaid purpose is limited to the amount actually beneficially used and shall not exceed* 4861 *gallons per minute;* 3850 *acre-feet per year; and is appurtenant to the following described lands or place of use:*

The City of Ellensburg, Kittitas County, Washington.

The right to the use of the ground water aforesaid hereby confirmed is restricted to the lands or place of use herein described, except as provided in Sections 6 and 7, Chapter 122, Laws of 1929.

WITNESS the seal and signature of the State Supervisor of Hydraulics affixed this 3rd *day of* June, *19* 49

Chas J Bothout

State Supervisor of Hydraulics.

Declaration of Claim No. 551

CERTIFICATE OF GROUND WATER RIGHT

Recorded in the office of State Supervisor of Hydraulics, Olympia, Washington, in Book No. 2 *of Ground Water Right Certificates, on page* 926-D *on the* 3rd *day of* June, *19* 49

STATE OF WASHINGTON,
County of Kittitas } *ss.*

I certify that the within was received and duly recorded by me in Volume ..... *of Book of Water Right Certificates, page* ..... *on the* ..... *day of* ....., *19* .....

.....

STATE PRINTING PLANT, OLYMPIA, WASH.

REPORT OF FINDINGS ON GROUND WATER Decl. 551

NAME City of Ellensburg

TYPE OF WORKS: well Date of Examination 3-11-48

Dimensions: 10'x10'x23' Progress of Works completed

QUANTITY Claimed ~~or Applied for~~: 4,861 g.p.m. 7884 acre feet per year

LOCATION NE¼ of NE¼, Sec. 13, Twp. 18 N., Rge. 17 E.W.M.

USE: Municipal supply

Irrigation- acreage: Present _____ Planned _____ Feasible _____

Municipal: Population 7153 as of now

Industrial: _____

Time Pump Will be Operated: daily

Other Water Rights of Applicant: Declarations of Claims Nos. 549 and 550

Proximity to existing works, springs or streams:

Yakima River 250 feet to the West

Water Bearing Zone: _____

RECOMMENDATIONS

Approved for 4,861 g.p.m. 3,850 acre-feet per year, subject to existing water rights. (1 acre-foot = 325,850 gallons)

During 1947, 1,253 million gallons of water were pumped from the infiltration well under this declaration. 3850 acre-feet were produced that year for which amount this filing is made out.

Signed this 12th day of May, 1949

FBR

FRED B. ROBERTS
Ground Water Geologist
Division of Hydraulics

Affidavit of Publication

NOTICE OF DECLARATIONS OF CLAIM OF RIGHT TO WITHDRAW GROUND WATER NOS. 549, 550 and 551.

State of Washington, Office of Supervisor of Hydraulics, Olympia.
To Whom It May Concern:

NOTICE IS HEREBY GIVEN that the City of Ellensburg Water Department, Ellensburg, Washington, on December 29, 1947, filed with the State Supervisor of Hydraulics, Olympia, Washington, three (3) declarations of claim of vested rights existing prior to June 7, 1945 to withdraw public ground waters in Kittitas County, continuously each year for the purpose of municipal supply as follows: Declaration No. 549 to withdraw 400 gallons per minute, 180 acre-feet per year, by means of a pump well located in North "A" Street near the Milwaukee Depot within the City of Ellensburg (Sec. 35, Twp. 18 N., Rge. 18 E.W.M.), with priority (date of first beneficial use of water) of August 1, 1931; and Declaration No. 550 to withdraw 700 gallons per minute, 933 acre-feet per year, by means of a pump well located within Lot 1, Block 61 of Shoudy's Second Addition to the City of Ellensburg (Sec. 1, Twp. 17 N., Rge. 18 E.W.M.), with priority of January 1, 1932; and Declaration No. 551 to withdraw 4861 gallons per minute, 7884 acre-feet per year, by means of a well located within the NE¼ of NE¼ of Sec. 13, Twp. 18 N., Rge. 17 EWM., with priority of April 13, 1913, and Claimant has requested Certificates of Ground Water Rights under such claims. Any person, firm or corporation disputing such claims or protesting that the rights claimed are not vested rights to be recognized under Chap. 263 of the 1945 Session Laws of the State of Washington, may file with the State Supervisor of Hydraulics, at Olympia, Washington, such objections or representations, in writing, as he may desire to make within thirty (30) days after date of last publication, which date is April 3, 1948.

Witness my hand and official seal this 16th day of March, 1948.

RODNEY RYKER,
Supervisor of Hydraulics
By: CHAS. J. BARTHOLET,
Deputy

Pub.: March 27; April 3, 1948.

State of Washington, County of Kittitas, ss:

Lois Taylor being first duly sworn on oath, deposes and says: That she is the principal Clerk of The Ellensburg Daily Record, a daily newspaper, which has been established, published in the English language, and circulated continuously as a daily newspaper in the City of Ellensburg, and in the said County and State, and of general circulation in said County for more than six (6) months prior to the date of the first publication of the Notice hereto attached, and that the said Ellensburg Daily Record was on the 18th day of June, 1941 approved as a legal newspaper by the Superior Court of said Kittitas County, and that the annexed is a true copy Notice of declaration of claims of right to withdraw ground water Nos. 549, 550, 551 as it appeared in the regular and entire issue of said paper itself and not in a supplement thereof for a period of two consecutive (weeks) ~~(times)~~ commencing on the 27th day of March 1948, and ending on the 3rd day of April 1948, and that said newspaper was regularly distributed to its subscribers during all of this period. That the full amount of fee charged for the foregoing publication is the sum of $12.32 which amount has been paid in full, at the rate of $2.00 a hundred words for the first insertion and $1.50 a hundred words for each subsequent insertion.

Lois Taylor

Subscribed and sworn to before me this 14th day of April 1948.

Lifford L. Otis

Notary Public In and For the State of Washington, Residing at Ellensburg, Wn.

S. F. No. 7349—12-45—3M. 10784.

A $5.00 examination fee should ~~xAx$2.00 recording fee should~~ accompany each declaration.

Pump Station

STATE OF WASHINGTON
DEPARTMENT OF CONSERVATION AND DEVELOPMENT
Division of Hydraulics

RECEIVED DEC 29 1947 DIVISION OF HYDRAULICS

Declaration of Ground Water Claim

(Separate claims should be filed for each well, tunnel or infiltration trench)

Declaration No. / 551 Your well No. 4 (If you have more than one)

I, THE City of Ellensburg Water Dept.
(Name of claimant)

of 420 No. Pearl Street, Ellensburg, Washington
(Complete postoffice address)

do hereby make declaration of claim of vested right to ground water by use prior to June 7, 1945, and file the same with the State Supervisor of Hydraulics, in accordance with Section 9, Chapter 263, Laws of 1945 of the State of Washington, and request a Certificate of Ground Water Right thereunder.

1. SOURCE *from which water is withdrawn is* Well Pumps - 3- Shallow (Springs)
(Flowing well, pump well, infiltration trench, or tunnel)

2. LOCATION *is:* Approx 7½ miles Nwest from Ellensburg, Wash;
(Approximate distance and direction from nearest city or town)

and is more particularly described as follows:

(a) Between Snoqualmie Highway + Yakima River
(Give distance and bearing to corner of section or other legal subdivision)

being within NE of NE *of Sec.* 13, *Twp.* 18 *N., Rge.* 17 EWM
(Smallest legal subdivision) (E. or W.)

or (b) *Within limits of recorded platted property, town or city:* ,

in Lot , *Block* *of*
(Name of plat or addition)

(If within city or town, give name) *County of* Kittitas *within* (Leave blank) *area*

(Leave blank) *sub-area* (Leave blank) *zone*

(c) *The location of the well or other works is shown on the accompanying plat, or other adequate maps or drawings.*

(d) *The owner of property on which the works are constructed is:*

The City of Ellensburg (Name) Ellensburg - Wash (Post office address)

3. CONSTRUCTION WORK *was begun on* Feb 1, 1912 (Date); *was completed on* Apr. 12, 1913 (Date)

and the ground water claimed was first used for the purposes set out below on Apr. 13, 1913 (Date);

since which time the water has been used continuously
(Continuously or intermittently)

from April 13, 1913 (Date) *to* Dec 26, 1947 (Date)

4. QUANTITY *of water claimed and used is* 4861 *gallons per minute;* 7884 *acre feet per year.* 3850

Maximum number of days water is used each year:

For irrigation: days.

For other purposes: 365 days.

5. PURPOSE OR PURPOSES *for which water is used* Municipal
(Domestic, irrigation, municipal, manufacturing, industrial, etc.)

5. *(Continued)*

(a) FOR MUNICIPAL SUPPLY: *To supply the city, town or community of* ELLENSBURG *in the county of* KITTITAS, *having a present population of* 7152, *and an estimated population of* 7153 *in 19*47

(b) FOR IRRIGATION: *The land irrigated has a total area of* ..... *acres, and water is used each year for this purpose from* ..... (Date) *to* ..... (Date)

(c) Legal description of property on which water is used for all purposes other than municipal supply:

* Under present operating conditions the normal drawdown is 1 foot, the maximum 6 feet.

6. DESCRIPTION OF WORKS:

(a) WELL: *Depth* 23 *feet. Diameter* 10'X10' ~~inches or~~ *feet. Dug or drilled* ..... *Flowing or pump well* Well is a horizontal or infiltration

IF PUMP WELL: *Type and size of pump is* 1-1600 GPM & 2-2500 GPM

Type and size of motor or engine is 1-100 HP - 2-150 HP each

Depth from ground surface to water level before pumping 11 *feet.*

* *After continuous operation for at least four hours, the measured discharge of pump is* ..... *g.p.m., and the drawdown of water level is* Est. 4 *feet.*

Date of test Not yet completed

IF FLOWING WELL: *Measured discharge* ..... *g.p.m. on* ..... (Date)

Shut-in pressure at ground surface ..... *lbs. per sq. in. on* ..... (Date)

Water is controlled by ..... (Cap, valve, etc.)

CASING: *(Give diameter, commercial specifications and depth below ground surface of each casing size.)*

..... *inch diameter* ..... *from* ..... *to* ..... *feet*

..... *inch diameter* ..... *from* ..... *to* ..... *feet*

..... *inch diameter* ..... *from* ..... *to* ..... *feet*

..... *inch diameter* ..... *from* ..... *to* ..... *feet*

Describe and show depth of shoe, plug, adapter, liner or other details:

PERFORATED CASINGS OR SCREENS:

No casing from ..... to .....
(Number per foot and size of perforations, or describe screen)

..... from ..... to .....

..... from ..... to .....

..... from ..... to .....

LOG OF WELL: *(Describe each stratum or formation clearly, indicate if water bearing, and give thickness and depth as indicated.)*

MATERIAL	Thickness (Feet)	Depth to Bottom (Feet)

(b) INFILTRATION TRENCH: *Covered or open* Covered

Dimensions: Length 500 *ft. Minimum depth* 4 *ft. Maximum depth* 8 *ft.*

Bottom width 4 *ft. Discharge* ..... *g.p.m. Date of test* .....

(c) TUNNEL: *Type of lining* Perforated Concrete Pipe

Dimensions: 24"
(Length, course, and cross sectional size)

Position of water bearing stratum with reference to portal of tunnel .....

.....

Log of tunnel: (Preceding table for log of well may be used, if desired. Give footage from portal and character of materials, as pertinent.)

7. *Ownership of each existing well or other works for withdrawal of ground water within a radius of one-quarter mile and the distance and direction from well or other works being reported herein:*

(Name of owner)	(Direction)	(Distance)
None		

(On accompanying plat or map show location of these existing wells or works.)

8. *Remarks:*

City of Ellensburg, Wash.

Fred P. Hofmann

(Signature of claimant)

STATE OF WASHINGTON,
COUNTY OF Kittitas } ss.

I, the claimant named in the foregoing claim, being first duly sworn, depose and say that I have read the above and foregoing claim to ground water right; that I know the contents thereof; and that to the best of my knowledge, information and belief, the facts therein stated are true and correct.

Fred P. Hofmann

Subscribed and sworn to before me this 26 *day of* Dec *19* 47

Notary Public in and for the State of Washington,

Residing at Ellensburg, Wash.

DIRECTIONS FOR PREPARING DECLARATIONS OF CLAIM

A $5.00 examination fee should accompany each declaration.

1. ~~$2.00 filing and recording fee should accompany each declaration~~

2. Write plainly in ink or use typewriter.

3. Read carefully all questions. Answer only those that apply to your project.

4. In answering Question 2, concerning location, give distance and direction of location of well or other construction works for withdrawal of water from nearest 40 acre corner or other legal subdivision, as

(a) "320 feet north and 1100 feet east from the southwest corner of SE¼ of SW¼ of Sec. 1, Twp. 13 N., Rge. 2 E. W. M.," or

"North 36° 20′ east 400 feet from the northeast corner of NW¼ of SW¼ of Sec. 33, Twp. 12 N., Rge. 3 W. W. M." or

(b) If within limits of incorporated town or city, or recorded plat:
"Lot 4, Block 6 of Churchill's Addition to City of Spokane."

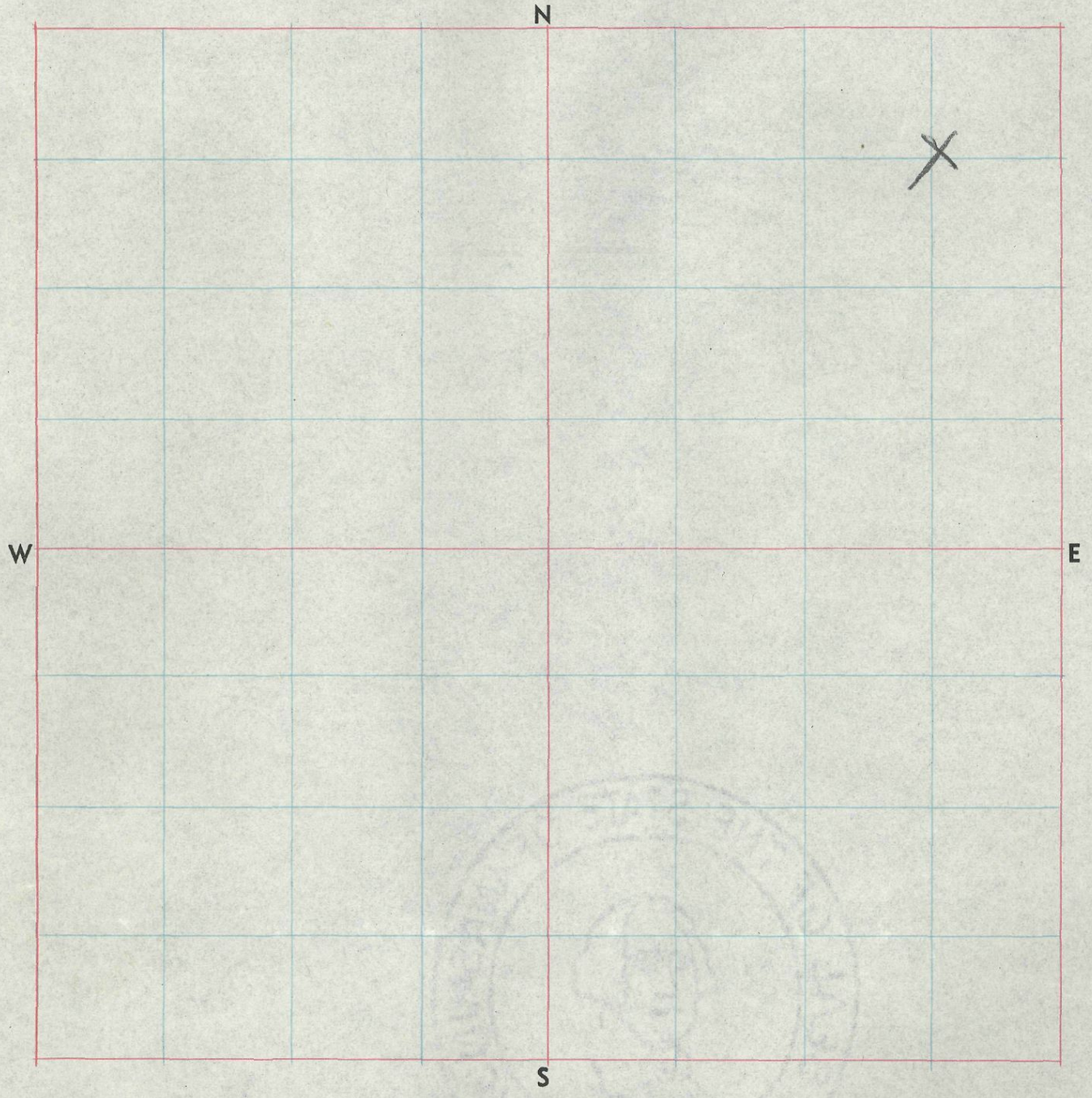
5. Maps, showing location of well or other works and place of use, must be made in triplicate (3) on the enclosed section plats. If for irrigation, show the approximate area irrigated. Show also location of other existing wells or other works for withdrawing ground water within a radius of one-quarter mile.

6. Sign declaration and affidavit on back of form.

S. F. No. 1854-A—3-46—6M. 11378.

SECTION PLAT

Sec. 13 Twp. 18 N. R. 17 E WM.



Show by a cross (X) the location of the well or other works covered by the application or declaration. Show by circle (O) the locations of other wells or works within a quarter of a mile. Also traveling directions from nearest town on main highway.

Scale: 1 inch = 800 feet.

D-551

GROUND WATER

DECLARATION OF CLAIM

PROGRESS SHEET

NAME: Fred T. Hofmann, City Clerk
City of Ellensburg, Water Dept.
420 North Pearl Street
Ellensburg, Washington

DECLARATION NO. 551 CERTIFICATE NO. 926 D

Declaration received 12-29-47 Recording fee received 12-29-47
Statement of Additional Fee sent 1-5-48 $6.00
Returned for completion or correction _____ Received 1-26-48

Amended _____

Cancelled _____

Report: Game _____ Fisheries _____

O.K'd for publication Dec 30-47 by CJB

Notice of Declaration sent 3-16-48

Protests filed _____

Affidavit of Publication received and checked 4-19-48

Time for making protests expires 5-3-48

Examination made Mar 11, 1948 by JBF

O.K'd for Certificate May 12, 1949 by HLP

Statement of filing and recording fee sent 5-25-49 Amount $1.50

Fee received 5-27-49

Ground Water Certificate issued 6-3-49 No. 926 D

Certificate GWC 924-D

Anderson Well

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S. F. No. 7362—1-49—1M. 20416.

CERTIFICATE RECORD NO. 2 PAGE NO. 924-D UNDER DECLARATION OF CLAIM NO. 549

STATE OF WASHINGTON, COUNTY OF Kittitas

Certificate of Ground Water Right

Issued in accordance with the provisions of Chapter 263, Laws of Washington for 1945, and the rules and regulations of the State Supervisor of Hydraulics thereunder.

THIS IS TO CERTIFY *That* THE CITY OF ELLENSBURG WATER DEPARTMENT

of Ellensburg, Washington *has filed*

in the office of the State Supervisor of Hydraulics of Washington Declaration of Claim No. 549

to withdraw ground waters of the State from a Pump Well,

located ~~within~~ on North A Street, near the Milwaukee Railroad Depot, Ellensburg,

(Sec. 35, Twp. 18 N., Rge. 18 E.W.M.)

for the purpose of Municipal supply

The right to the use of said ground waters has been sustained and approved by the Supervisor of Hydraulics in accordance with Chapter 263, Laws of Washington for 1945, and is hereby entered of record in Volume 2 *of Ground Water Certificates at page* 924-D *; the right approved has a priority of* August 1, 1931 *; the amount of water which the Declarant is entitled to withdraw for the aforesaid purpose is limited to the amount actually beneficially used and shall not exceed* 400 *gallons per minute;* 79 *acre-feet per year; and is appurtenant to the following described lands or place of use:*

The City of Ellensburg, Kittitas County, Washington.

In Kennedy Park

The right to the use of the ground water aforesaid hereby confirmed is restricted to the lands or place of use herein described, except as provided in Sections 6 and 7, Chapter 122, Laws of 1929.

WITNESS the seal and signature of the State Supervisor of Hydraulics affixed this 3rd *day of* June, 19 49

Thos. J. Parthaus

State Supervisor of Hydraulics.

Declaration of Claim No. 549

CERTIFICATE OF GROUND WATER RIGHT

Recorded in the office of State Supervisor of Hydraulics, Olympia, Washington, in Book No. 2 *of Ground Water Right Certificates, on page* 924-D *on the* 3rd *day of* June, *19* 49

STATE OF WASHINGTON,
County of Kittitas } *ss.*

I certify that the within was received and duly recorded by me in Volume ..... *of Book of Water Right Certificates, page* ..... *on the* ..... *day of* ....., *19* .....

.....

STATE PRINTING PLANT, OLYMPIA, WASH.

REPORT OF FINDINGS ON GROUND WATER Decl. 549-

NAME City of Ellensburg Water Department

TYPE OF WORKS: well Date of Examination 3-11-48

Dimensions: 8" x 400' Progress of Works complete

QUANTITY Claimed ~~or Applied for~~ 400 g.p.m. 180 acre feet per year

LOCATION North "A" street-- NW¼ of SE¼ of Sec. 35, Twp. 18 N., Rge. 18E.W.M.

USE: municipal supply

Irrigation- acreage: Present _____ Planned _____ Feasible _____

Municipal: Population 7153 as of 1947

Industrial: _____

Time Pump Will be Operated: _____

Other Water Rights of Applicant: Declarations of Claim 550, 551 and Ground Water Application #693

Proximity to existing works, springs or streams: _____

Water Bearing Zone: _____

RECOMMENDATIONS

Approved for 400 g.p.m. 79 acre-feet per year, subject to existing water rights.(1 acre-foot = 325,850 gallons)

The water from this well is used about 60 days according to Mr. Scott, Water Superintendent. At 400 g.p.m. for an estimated 18 hours a day use, 79 acre-feet are produced annually. Mr. S. L. Smith has protested this well on the grounds that the City well, 900 feet to the Southeast and about 10 feet below, lowers the water level in his well when it is pumped. In the past he reports that the city well has drawn the water below the level of his suction pipes which he claims are 15 feet below the level of the ground.

Before the City put in the well, the water level in Smith's well was reported at a maximum of 6½ feet above the floor level with about a 2 foot variation in the artesian level. Afterwards, it was pulled down as explained above.

The well was measured as 76 feet deep from the floor level on April 26, 1949 at 9:00 A.M. The artesian level in his well was 3.0 feet above the floor after the domestic pump had been turned off five minutes.

Interference between Mr. Smith's well and the city well seems to be established. As Mr. Smith's was put in first, injurious interference by the City's pumping should be further investigated by the Division of Hydraulics so that further action may be taken.

Signed this 24th day of May, 1949

FBR

FRED B. ROBERTS
Ground Water Geologist
Division of Hydraulics

LEGAL NOTICE

NOTICE OF DECLARATIONS OF CLAIM OF RIGHT TO WITHDRAW GROUND WATER NOS. 549, 550 and 551.

State of Washington, Office of Supervisor of Hydraulics, Olympia.
To Whom It May Concern:

NOTICE IS HEREBY GIVEN that the City of Ellensburg Water Department, Ellensburg, Washington, on December 29, 1947, filed with the State Supervisor of Hydraulics, Olympia, Washington, three (3) declarations of claim of vested rights existing prior to June 7, 1945 to withdraw public ground waters in Kittitas County, continuously each year for the purpose of municipal supply as follows: Declaration No. 549 to withdraw 400 gallons per minute, 180 acre-feet per year, by means of a pump well located in North "A" Street near the Milwaukee Depot within the City of Ellensburg (Sec. 35, Twp. 18 N., Rge. 18 E.W.M.), with priority (date of first beneficial use of water) of August 1, 1931; and Declaration No. 550 to withdraw 700 gallons per minute, 933 acre-feet per year, by means of a pump well located within Lot 1, Block 61 of Shoudy's Second Addition to the City of Ellensburg (Sec. 1, Twp. 17 N., Rge. 18 E.W.M.), with priority of January 1, 1932; and Declaration No. 551 to withdraw 4861 gallons per minute, 7884 acre-feet per year, by means of a well located within the NE¼ of NE¼ of Sec. 13, Twp. 18 N., Rge. 17 EWM., with priority of April 13, 1913, and Claimant has requested Certificates of Ground Water Rights under such claims. Any person, firm or corporation disputing such claims or protesting that the rights claimed are not vested rights to be recognized under Chap. 263 of the 1945 Session Laws of the State of Washington, may file with the State Supervisor of Hydraulics, at Olympia, Washington, such objections or representations, in writing, as he may desire to make within thirty (30) days after date of last publication, which date is April 3, 1948.

Witness my hand and official seal this 16th day of March, 1948.

RODNEY RYKER,
Supervisor of Hydraulics
By: CHAS. J. BARTHOLET,
Deputy

Pub.: March 27; April 3, 1948.

S. F. No. 7349—12-45—3M. 10784.

ANDERSON WELL

A $2.00 recording fee should accompany each declaration.

STATE OF WASHINGTON
DEPARTMENT OF CONSERVATION AND DEVELOPMENT
Division of Hydraulics

RECEIVED DEC 29 1947 DIVISION OF HYDRAULICS

Declaration of Ground Water Claim

(Separate claims should be filed for each well, tunnel or infiltration trench)

Declaration No. 2 549

Your well No. 1 (If you have more than one)

I, The City of Ellensburg Water Department (Name of claimant)

of 420 No. Pearl Street, Ellensburg, Wash. (Complete postoffice address)

do hereby make declaration of claim of vested right to ground water by use prior to June 7, 1945, and file the same with the State Supervisor of Hydraulics, in accordance with Section 9, Chapter 263, Laws of 1945 of the State of Washington, and request a Certificate of Ground Water Right thereunder.

1. SOURCE *from which water is withdrawn is* PUMP WELL DEEP (Flowing well, pump well, infiltration trench, or tunnel)

2. LOCATION *is:* NORTH A STREET NEAR MILW RR DEPOT (Approximate distance and direction from nearest city or town);

and is more particularly described as follows:

(a) ..... (Give distance and bearing to corner of section or other legal subdivision)

being within NW¼ SE¼ (Smallest legal subdivision) *of Sec.* 35, *Twp.* 18 *N., Rge.* 18 E W.M (E. or W.)

or (b) Within limits of recorded platted property, town or city: ✓ North A Street Near The Milwaukee Depot,

in Lot ....., *Block* ..... *of* Ellensburg (Name of plat or addition)

..... (If within city or town, give name) *County of* KITTITAS *within* ..... (Leave blank) *area*

..... (Leave blank) *sub-area* ..... (Leave blank) *zone*

(c) The location of the well or other works is shown on the accompanying plat, or other adequate maps or drawings.

(d) The owner of property on which the works are constructed is:

THE CITY of ELLENSBURG (Name) 420 No PEARL ST ELLENSBURG (Post office address)

3. CONSTRUCTION WORK *was begun on* DEC 23 1930 (Date); *was completed on* JULY 31, 1931 (Date)

and the ground water claimed was first used for the purposes set out below on AUG 1, 1931 (Date);

since which time the water has been used continuously (Continuously or intermittently)

from AUG 1, 1931 (Date) *to* DEC 26 1947 (Date) 79

4. QUANTITY *of water claimed and used is* 400 ✓ *gallons per minute;* 180 *acre feet per year.*

Maximum number of days water is used each year:

For irrigation: ..... *days.*

For other purposes: 100 *days.*

5. PURPOSE OR PURPOSES *for which water is used* MUNICIPAL

..... (Domestic, irrigation, municipal, manufacturing, industrial, etc.)

5. *(Continued)*

(a) FOR MUNICIPAL SUPPLY: *To supply the city, town or community of* ELLENSBURG *in the county of* KITTITAS, *having a present population of* 7152, *and an estimated population of* 7153 *in 19* 47

(b) FOR IRRIGATION: *The land irrigated has a total area of* ..... *acres, and water is used each year for this purpose from* ..... (Date) *to* ..... (Date)

(c) Legal description of property on which water is used for all purposes other than municipal supply:

6. DESCRIPTION OF WORKS:

(a) WELL: *Depth* 400 *feet. Diameter* 8 *inches or feet. Dug or drilled* DRILLED *Flowing or pump well* PUMP This well has a Free Flow of About 80 GPM

IF PUMP WELL: *Type and size of pump is* POMONA 6" 50 HP.

Type and size of motor or engine is 50 HP.

Depth from ground surface to water level before pumping ~~Quarflows~~ *feet.*

After continuous operation for at least four hours, the measured discharge of pump is ..... *g.p.m., and the drawdown of water level is* 120 *feet.*

Date of test Years Ago

IF FLOWING WELL: *Measured discharge* 80 *g.p.m. on* Aug - 1931 (Date)

Shut-in pressure at ground surface Est. 316 *lbs. per sq. in. on* Aug - 1931 (Date)

Water is controlled by VALVE (Cap, valve, etc.)

CASING: *(Give diameter, commercial specifications and depth below ground surface of each casing size.)*

14 *inch diameter* ..... *from* 1 *to* 300 *feet*

12 *inch diameter* ..... *from* 300 *to* 300 *feet*

10 *inch diameter* ..... *from* 300 *to* 400 *feet*

..... *inch diameter* ..... *from* ..... *to* ..... *feet*

Describe and show depth of shoe, plug, adapter, liner or other details:

PERFORATED CASINGS OR SCREENS:

.....from.....to.....
(Number per foot and size of perforations, or describe screen)

.....from.....to.....

.....from.....to.....

.....from.....to.....

LOG OF WELL: *(Describe each stratum or formation clearly, indicate if water bearing, and give thickness and depth as indicated.)*

MATERIAL	Thickness (Feet)	Depth to Bottom (Feet)

(b) INFILTRATION TRENCH: *Covered or open*.....

Dimensions: Length.....*ft. Minimum depth*.....*ft. Maximum depth*.....*ft.*

Bottom width.....*ft. Discharge*.....*g.p.m. Date of test*.....

(c) TUNNEL: *Type of lining*.....

Dimensions: .....
(Length, course, and cross sectional size)

Position of water bearing stratum with reference to portal of tunnel.....

.....

Log of tunnel: (Preceding table for log of well may be used, if desired. Give footage from portal and character of materials, as pertinent.)

7. *Ownership of each existing well or other works for withdrawal of ground water within a radius of one-quarter mile and the distance and direction from well or other works being reported herein:*

ONE - Smith Construction Co. (Name of owner) About (Direction) (Distance)

500 feet no West from well

(On accompanying plat or map show location of these existing wells or works.)

8. *Remarks:*

City of Ellensburg, Wash.

Fred P. Hofmann
(Signature of claimant)

City Clerk.

STATE OF WASHINGTON,
COUNTY OF Kittas } ss.

I, the claimant named in the foregoing claim, being first duly sworn, depose and say that I have read the above and foregoing claim to ground water right; that I know the contents thereof; and that to the best of my knowledge, information and belief, the facts therein stated are true and correct.

Fred P. Hofmann

Subscribed and sworn to before me this 26 *day of* Dec. 19 47

Notary Public in and for the State of Washington,

Residing at Ellensburg - Wn.

DIRECTIONS FOR PREPARING DECLARATIONS OF CLAIM

1. $2.00 filing and recording fee should accompany each declaration.
2. Write plainly in ink or use typewriter.
3. Read carefully all questions. Answer only those that apply to your project.
4. In answering Question 2, concerning location, give distance and direction of location of well or other construction works for withdrawal of water from nearest 40 acre corner or other legal subdivision, as

(a) "320 feet north and 1100 feet east from the southwest corner of SE¼ of SW¼ of Sec. 1, Twp. 13 N., Rge. 2 E. W. M.," or

"North 36° 20′ east 400 feet from the northeast corner of NW¼ of SW¼ of Sec. 33, Twp. 12 N., Rge. 3 W. W. M." or

(b) If within limits of incorporated town or city, or recorded plat:
"Lot 4, Block 6 of Churchill's Addition to City of Spokane."

5. Maps, showing location of well or other works and place of use, must be made in triplicate (3) on the enclosed section plats. If for irrigation, show the approximate area irrigated. Show also location of other existing wells or other works for withdrawing ground water within a radius of one-quarter mile.

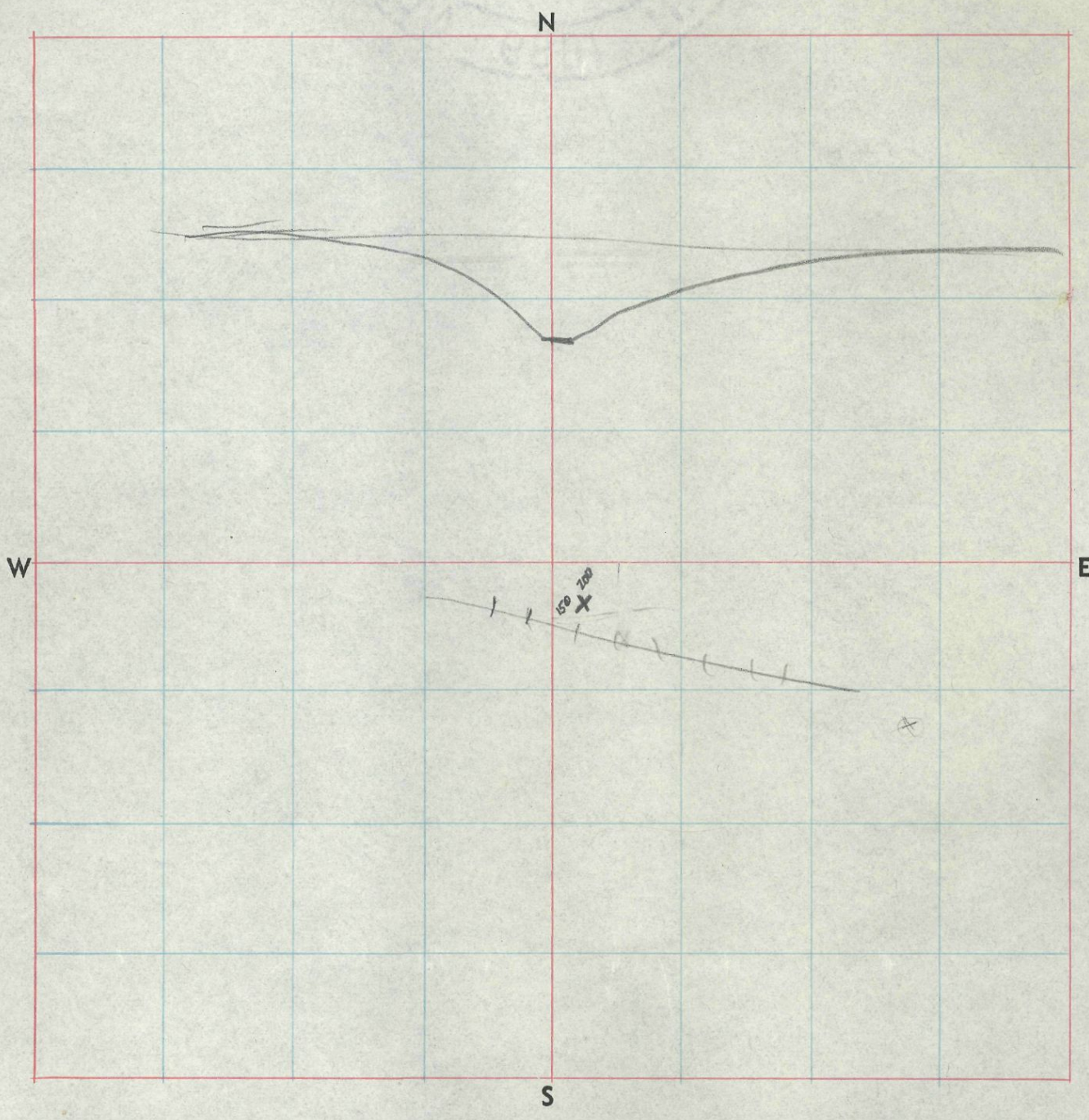
6. Sign declaration and affidavit on back of form.

S. F. No. 1854-A—3-46—6M. 11378.

SECTION PLAT

ANDERSON

Sec. 35 Twp. 18 N. R. 18E WM.



549

Show by a cross (X) the location of the well or other works covered by the application or declaration. Show by circle (O) the locations of other wells or works within a quarter of a mile. Also traveling directions from nearest town on main highway.

Scale: 1 inch = 800 feet.

GROUND WATER

DECLARATION OF CLAIM

PROGRESS SHEET

NAME: Fred T. Hofmann, City Clerk,
City of Ellensburg Water Dept.
~~Mex~~ 420 North Pearl Streeet
Ellensburg, Washington

DECLARATION NO. 549 CERTIFICATE NO. 924 D

Declaration received 12-29-47 Recording fee received 12-29-47

Returned for completion or correction _____ Received _____

Amended _____

Cancelled _____

Report: Game _____ Fisheries _____

O.K'd for publication Dec 30-47 by 64-3

Notice of Declaration sent 3-16-48

Protests filed 3-31-48 by S. L. Smith

Affidavit of Publication received and checked 4-19-48

Time for making protests expires 5-3-48

Examination made Mar. 11, 1948 by FBR

O.K'd for Certificate _____ by C.J.B.

Statement of filing and recording fee sent 5-25-49 Amount $1.50

Fee received 5-27-49

Ground Water Certificate issued 6-3-49 No. 924 D

Certificate GWC 925-D

Memorial Well

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S. F. No. 7362—1-49—1M. 20416.

CERTIFICATE RECORD NO. 2 PAGE NO. 925-D UNDER DECLARATION OF CLAIM NO. 550

STATE OF WASHINGTON, COUNTY OF Kittitas

Certificate of Ground Water Right

Issued in accordance with the provisions of Chapter 263, Laws of Washington for 1945, and the rules and regulations of the State Supervisor of Hydraulics thereunder.

THIS IS TO CERTIFY *That* THE CITY OF ELLENSBURG WATER DEPARTMENT

of Ellensburg, Washington *has filed in the office of the State Supervisor of Hydraulics of Washington Declaration of Claim No.* 550 *to withdraw ground waters of the State from a* Pump Well, *located within* Lot 1, Block 61 of Shoudy's Second Addition to the City of Ellensburg (Sec. 1, Twp. 17 N., Rge. 18 E.W.M.)

for the purpose of Municipal supply

The right to the use of said ground waters has been sustained and approved by the Supervisor of Hydraulics in accordance with Chapter 263, Laws of Washington for 1945, and is hereby entered of record in Volume 2 *of Ground Water Certificates at page* 925-D *; the right approved has a priority of* January 1, 1932 *; the amount of water which the Declarant is entitled to withdraw for the aforesaid purpose is limited to the amount actually beneficially used and shall not exceed* 700 *gallons per minute;* 565 *acre-feet per year; and is appurtenant to the following described lands or place of use:*

The City of Ellensburg, Kittitas County, Washington.

The right to the use of the ground water aforesaid hereby confirmed is restricted to the lands or place of use herein described, except as provided in Sections 6 and 7, Chapter 122, Laws of 1929.

WITNESS the seal and signature of the State Supervisor of Hydraulics affixed this 3rd *day of* June, 19 49

Thos. J. Barthorp

State Supervisor of Hydraulics.

Declaration of Claim No. 550

CERTIFICATE OF GROUND WATER RIGHT

Recorded in the office of State Supervisor of Hydraulics, Olympia, Washington, in Book No. 2 *of Ground Water Right Certificates, on page* 925-D *on the* 3rd *day of* June, *19* 49

STATE OF WASHINGTON,
County of Kittitas } *ss.*

I certify that the within was received and duly recorded by me in Volume ..... *of Book of Water Right Certificates, page* ..... *on the* ..... *day of* ....., *19* .....

.....

STATE PRINTING PLANT, OLYMPIA, WASH.

REPORT OF FINDINGS ON GROUND WATER Decl. 550

NAME City of Ellensburg

TYPE OF WORKS: pump well (deep) Date of Examination 3-11-48

Dimensions: 10" x 303½' Progress of Works completed

QUANTITY Claimed ~~or Applied for~~: 700 g.p.m. 933 acre feet per year

LOCATION Lot 1, Block 61, Shoudy's Second Addition

USE: Municipal supply

Irrigation- acreage: Present _____ Planned _____ Feasible _____

Municipal: Population 7153 as of 1947

Industrial: _____

Time Pump Will be Operated: _____

Other Water Rights of Applicant: Declarations of Claims #549 and 551

Proximity to existing works, springs or streams: _____

Water Bearing Zone: _____

RECOMMENDATIONS

Approved for 700 g.p.m. 565 acre-feet per year, subject to existing water rights. (1 acre-foot = 325,850 gallons)

The well under this declaration furnished 700 g.p.m. and 565 acre-feet annually according to Mr. Scott, Water Superintendent.

Signed this 12th day of May, 1949

Fred B Roberts

FRED B. ROBERTS
Ground Water Geologist
Division of Hydraulics

S. F. No. 7349—12-45—3M. 10784.

A $5.00 examination fee should ~~a $2.00 recording fee should~~ accompany each declaration.

PARK

STATE OF WASHINGTON
DEPARTMENT OF CONSERVATION AND DEVELOPMENT
Division of Hydraulics

RECEIVED DEC 29 1947 DIVISION OF HYDRAULICS

Declaration of Ground Water Claim

(Separate claims should be filed for each well, tunnel or infiltration trench)

Declaration No. 3 550 Your well No. 1 (If you have more than one)

I, THE CITY of ELLENSBURG WATER DEPARTMENT (Name of claimant)

of 420 No. PEARL STREET - ELLENSBURG, WASHINGTON (Complete postoffice address)

do hereby make declaration of claim of vested right to ground water by use prior to June 7, 1945, and file the same with the State Supervisor of Hydraulics, in accordance with Section 9, Chapter 263, Laws of 1945 of the State of Washington, and request a Certificate of Ground Water Right thereunder.

1. SOURCE *from which water is withdrawn is* PUMP WELL DEEP (Flowing well, pump well, infiltration trench, or tunnel)

2. LOCATION *is:* LOT ONE BLOCK 61 SHOUDY'S 2nd Add. ; (Approximate distance and direction from nearest city or town)

and is more particularly described as follows:

(a) ..... (Give distance and bearing to corner of section or other legal subdivision)

being within NW - NW (Smallest legal subdivision) *of Sec.* ONE, *Twp.* 18 *N., Rge.* 18 E W M (E. or W.)

or (b) *Within limits of recorded platted property, town or city:* .....,

✓ *in Lot* 1, *Block* 61 *of* SHoudy's Second Add to (Name of plat or addition)

Ellensburg (If within city or town, give name) *County of* Kittitas *within* (Leave blank) *area*

..... (Leave blank) *sub-area* (Leave blank) *zone*

(c) *The location of the well or other works is shown on the accompanying plat, or other adequate maps or drawings.*

(d) *The owner of property on which the works are constructed is:*

The City of Ellensburg (Name) Ellensburg Wash (Post office address)

3. CONSTRUCTION WORK *was begun on* July 31, 1931; (Date) *was completed on* Nov 30, 1931 (Date)

and the ground water claimed was first used for the purposes set out below on Jan 1, 1932, (Date)

since which time the water has been used Continuously (Continuously or intermittently)

from Jan 1, 1932 (Date) *to* Dec 26, 1947 (Date) 565

4. QUANTITY *of water claimed and used is* 700 *gallons per minute;* 933 *acre feet per year.*

Maximum number of days water is used each year:

For irrigation: ..... *days.*

For other purposes: 300 *days.*

5. PURPOSE OR PURPOSES *for which water is used* municipal

(Domestic, irrigation, municipal, manufacturing, industrial, etc.)

5. *(Continued)*

(a) FOR MUNICIPAL SUPPLY: *To supply the city, town or community of* Ellensburg *in the county of* Kittitas*, having a present population of* 7152*, and an estimated population of* 7153 *in 19*47

(b) FOR IRRIGATION: *The land irrigated has a total area of* ✓ *acres, and water is used each year for this purpose from* (Date) *to* (Date)

(c) Legal description of property on which water is used for all purposes other than municipal supply:

6. DESCRIPTION OF WORKS:

(a) WELL: *Depth* 303'-6" *feet. Diameter* 10 *inches or feet. Dug or drilled* Drilled *Flowing or pump well* 10 gals per min.

IF PUMP WELL: *Type and size of pump is* 8 in Fairbanks Morris

Type and size of motor or engine is 75 H.P.

Depth from ground surface to water level before pumping 11 ~~feet~~.

After continuous operation for at least four hours, the measured discharge of pump is 700 *g.p.m., and the drawdown of water level is* 160 *feet.*

Date of test Dec 1, 1931

IF FLOWING WELL: *Measured discharge* ..... *g.p.m. on* (Date)

Shut-in pressure at ground surface Est. 116 *lbs. per sq. in. on* Jan 1, 1932 (Date)

Water is controlled by Valve (Cap, valve, etc.)

CASING: *(Give diameter, commercial specifications and depth below ground surface of each casing size.)*

12 *inch diameter from* 1 *to* 188'-6½" *feet*

10 *inch diameter from* 188'-6½" *to* 281'-6½" *feet*

inch diameter Balance uncased *from* *to* *feet*

inch diameter from to feet

Describe and show depth of shoe, plug, adapter, liner or other details:

PERFORATED CASINGS OR SCREENS:

80 slots each ¼"x4' to each 20' from 22½' to 281½'
(Number per foot and size of perforations, or describe screen)

..... from ..... to .....

..... from ..... to .....

..... from ..... to .....

LOG OF WELL: *(Describe each stratum or formation clearly, indicate if water bearing, and give thickness and depth as indicated.)*

MATERIAL	Thickness (Feet)	Depth to Bottom (Feet)
Coarse gravel or rock	60	60
Sand- small rocks, sand is wet	20	80
Small rocks, coarse black sand- shows quartz	6	86
sand stone; brown clay; black portions lava rock	19	105
Cement gravel - fine sand - clay & pebbles	10	115
Clay - fine sand, water running over top of hole	19	134
Coarse gravel about 1 ft. thick	15	149
Last clay in above 25 ft. thick Total	149	
Sand - small round rocks - lava & granite	33	182
Water coming over top) - Clay encountered here	6	188
Through the clay - in sand stone, small rocks	18	206
Sand stone 12 gravel 7 ft clay 7 rock &	30	236
Left clay at 255 ft in sand gravel & rock	19	255
Good water strata at 263 - sandstone & rock	8	263
Sandstone with water over top	43½	306½

(b) INFILTRATION TRENCH: *Covered or open*.....

Dimensions: Length.....*ft. Minimum depth*.....*ft. Maximum depth*.....*ft.*

Bottom width.....*ft. Discharge*.....*g.p.m. Date of test*.....

(c) TUNNEL: *Type of lining*.....

Dimensions: .....
(Length, course, and cross sectional size)

Position of water bearing stratum with reference to portal of tunnel.....

.....

Log of tunnel: (Preceding table for log of well may be used, if desired. Give footage from portal and character of materials, as pertinent.)

28
188
97

7. *Ownership of each existing well or other works for withdrawal of ground water within a radius of one-quarter mile and the distance and direction from well or other works being reported herein:*

(Name of owner)	(Direction)	(Distance)
None		

(On accompanying plat or map show location of these existing wells or works.)

8. *Remarks:*

City of Ellensburg, Wash.

Fred P. Hofmann
(Signature of claimant)

City Clerk

STATE OF WASHINGTON,
COUNTY OF Kittitas } ss.

I, the claimant named in the foregoing claim, being first duly sworn, depose and say that I have read the above and foregoing claim to ground water right; that I know the contents thereof; and that to the best of my knowledge, information and belief, the facts therein stated are true and correct.

Fred P. Hofmann

Subscribed and sworn to before me this 26 *day of* Dec, 19 47

Laurence A. Bruce

Notary Public in and for the State of Washington,

Residing at Ellensburg, Wn.

DIRECTIONS FOR PREPARING DECLARATIONS OF CLAIM

A $5.00 examination fee should accompany each declaration.

1. ~~$2.00 filing and recording fee should accompany each declaration.~~

2. Write plainly in ink or use typewriter.

3. Read carefully all questions. Answer only those that apply to your project.

4. In answering Question 2, concerning location, give distance and direction of location of well or other construction works for withdrawal of water from nearest 40 acre corner or other legal subdivision, as

(a) "320 feet north and 1100 feet east from the southwest corner of SE¼ of SW¼ of Sec. 1, Twp. 13 N., Rge. 2 E. W. M.," or

"North 36° 20′ east 400 feet from the northeast corner of NW¼ of SW¼ of Sec. 33, Twp. 12 N., Rge. 3 W. W. M." or

(b) If within limits of incorporated town or city, or recorded plat:
"Lot 4, Block 6 of Churchill's Addition to City of Spokane."

5. Maps, showing location of well or other works and place of use, must be made in triplicate (3) on the enclosed section plats. If for irrigation, show the approximate area irrigated. Show also location of other existing wells or other works for withdrawing ground water within a radius of one-quarter mile.

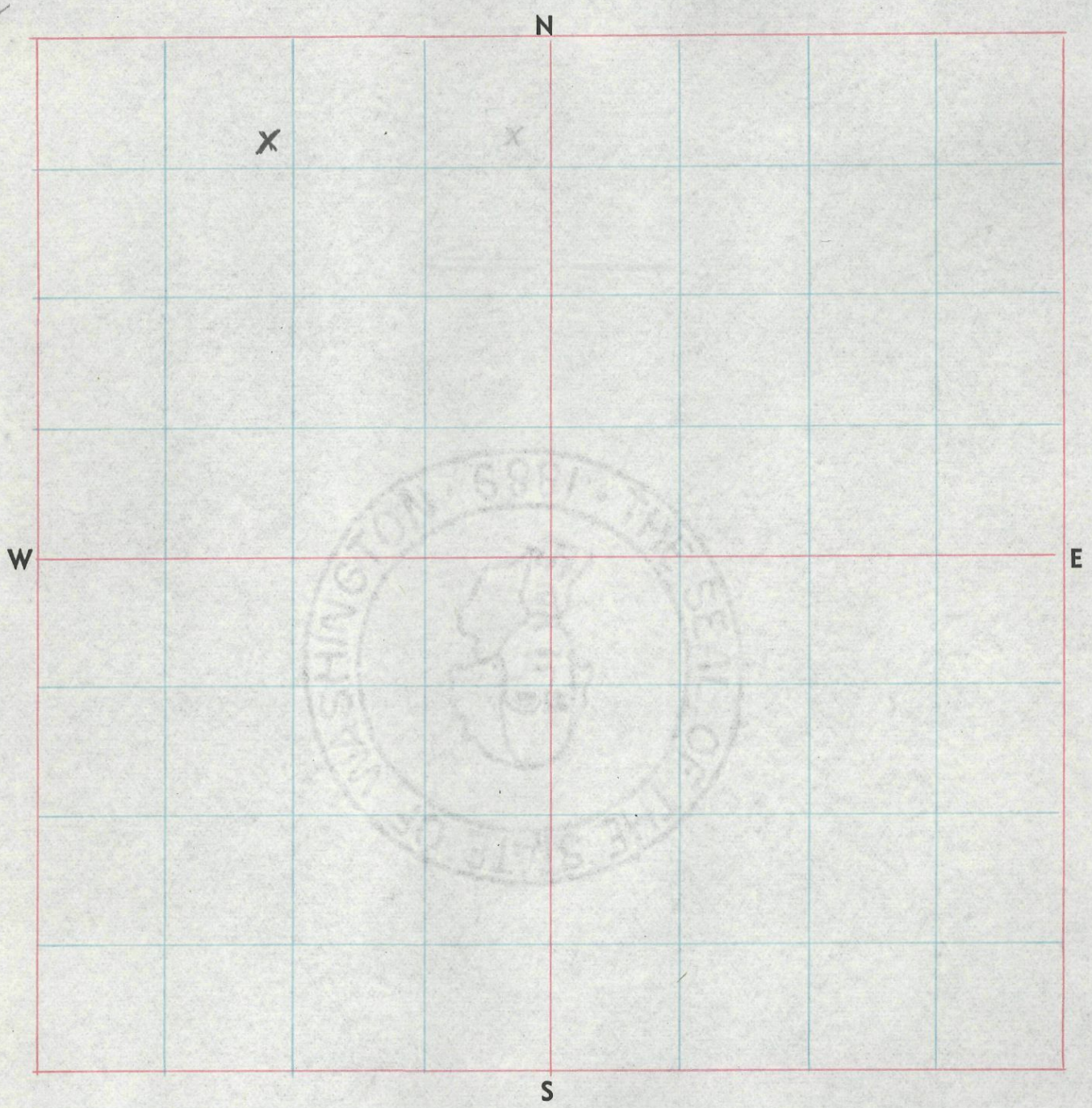
6. Sign declaration and affidavit on back of form.

S. F. No. 1854-B—7-47—6M. 15856.

SECTION PLAT

Sec. 1 Twp. 18 N. R. 18 E W.M.

PARK.



Show by a cross (X) the location of the well or other works covered by the application or declaration. Show by circle (O) the locations of other wells or works within a quarter of a mile. Also traveling directions from nearest town on main highway.

Scale: 1 inch = 800 feet.

nearer 7th between 6th & 7th
& 50 ft from Chestnut D-550
to east.

GROUND WATER

DECLARATION OF CLAIM

PROGRESS SHEET

NAME: Mr. Fred T. Hofmann, City Clerk
City of Ellensburg Water Dept.
420 No. Pearl Street
Ellensburg, Washington

DECLARATION NO. 550 CERTIFICATE NO. 925 D

Declaration received 12-29-47 Recording fee received 12-29-47

Returned for completion or correction _____ Received _____

Amended _____

Cancelled _____

Report: Game _____ Fisheries _____

O.K'd for publication Dec 30 47 by EJB

Notice of Declaration sent 1-20-48 3-16-48

Protests filed _____

Affidavit of Publication received and checked 4-19-48

Time for making protests expires 5-3-48

Examination made Mar 11, 1948 by JBR

O.K'd for Certificate May 17, 1948 by Hof

Statement of filing and recording fee sent 5-25-49 Amount 1.50

Fee received 5-27-49

Ground Water Certificate issued 6-3-49 No. 925 D

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Certificate GWC 816-A

Rodeo Well

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S. F. No. 7361—3-51—3M. 27753.

CERTIFICATE RECORD NO. 2 PAGE NO. 816-A

STATE OF WASHINGTON, COUNTY OF Kittitas

Certificate of Ground Water Right

Issued in accordance with the provisions of Chapter 263, Laws of Washington for 1945, and amendments thereto, and the rules and regulations of the State Supervisor of Water Resources thereunder.

THIS IS TO CERTIFY *That* CITY OF ELLENSBURG, WATER DEPARTMENT

of Ellensburg, Washington, *has made proof to the satisfaction of the State Supervisor of Water Resources of Washington, of a right to the use of the ground waters of a* pump well

located within the NE¼ of NW¼ of Sec. 1, Twp. 17 N., Rge. 18 E.W.M.

for the purpose of municipal supply

under and subject to provisions contained in Ground Water Permit No. 994 *issued by the State Supervisor of Water Resources and that said right to the use of said ground waters has been perfected in accordance with the laws of Washington, and is herby confirmed by the State Supervisor of Water Resources of Washington and entered of record in Volume* 2 *at page* 816-A; *that the right hereby confirmed dates from* December 29, 1947; *that the quantity of ground water under the right hereby confirmed for the purposes aforesaid, is limited to an amount actually beneficially used for said purposes, and shall not exceed* 700 gallons per minute; 1130 acre-feet per year. ~~for irrigation of ..... acres.~~

A description of the lands to which such ground water right is appurtenant, and the place where such water is put to beneficial use, is as follows:

City of Ellensburg, Kittitas County, Washington.

The right to the use of the ground water aforesaid hereby confirmed is restricted to the lands or place of use herein described, except as provided in Sections 6 and 7, Chapter 122, Laws of 1929.

WITNESS the seal and signature of the State Supervisor of Water Resources affixed this 26th *day of* October, *19* 51.

State Supervisor of Water Resources

GINEERING DATA

816

Ground Water Permit No......

CERTIFICATE OF GROUND WATER RIGHT

Recorded in the office of the State Supervisor of Water Resources, Olympia, Washington, in Book No. ..... *of Ground Water Right Certificates, on page* ....., *on the* ..... *day of* ....., *195*.....

STATE OF WASHINGTON,
County of ..... } *ss.*

I certify that the within was received and duly recorded by me in Volume ..... *of Book of Water Right Certificates, at page* ....., *on the* ..... *day of* ....., *19*.....

.....

STATE PRINTING PLANT, OLYMPIA, WASH.

S. F. No. 7355—4-49—1M. 21530.

Proof of Appropriation of Ground Water

Application No. G.W. 994 Permit No. G.W. 994

1. Name of Permittee CITY OF ELLENSBURG
2. Postoffice address ELLENSBURG, WASH.
3. Source of appropriation DRILLED WELL
4. Name or number of works (if any)
5. For what purpose or purposes is water used? MUNICIPAL WATER SUPPLY
6. Give date of beginning of construction 1946
7. Give date of completion of construction work, including water distribution system 1946
8. Give date when ground water was completely applied to proposed use SPRING 1946
9. If used for irrigation:

   Give number of acres described in permit

   Give number of acres actually irrigated
10. LEGAL DESCRIPTION OF PROPERTY ON WHICH WATER IS USED:

11. During what months is water used?
12. Does map filed with your application show correctly the location of well or other works for withdrawal of water, and area of land where water is used?
13. If the dimensions, location or type of structure does not correspond to those described in your permit, state what changes have been made, giving dimensions, etc.
14. Certified record by well driller or other constructor must be attached hereto, as provided by the Ground Water Code.

(Sign certification on reverse side)

RECEIVED
OCT 22 1951
DEPARTMENT OF CONSERVATION & DEVELOPMENT

STATE OF WASHINGTON,
County of Kittitas } ss.

I, Gertrude Hutchens, being first duly sworn, depose and say that I have read the above and foregoing proof of appropriation of ground water; that I know the contents thereof; and that the facts therein stated are true.

IN WITNESS WHEREOF, I have hereunto set my hand this 19 day of Oct., 1951

Gertrude Hutchens

Subscribed and sworn to before me this 19 day of October, 1951

Laurence Clemens
Notary Public.

S. F. No. 7354—8-46—2M. 12682.

STATE OF WASHINGTON
DEPARTMENT OF CONSERVATION AND DEVELOPMENT
DIVISION OF HYDRAULICS

Permit to Appropriate Public Ground Waters of the State of Washington

Book No. 2 of Ground Water Permits, on page 994 under Application No. 693

CITY OF ELLENSBURG, WATER DEPARTMENT

of Ellensburg, Washington

is hereby granted a permit to appropriate the following described public ground waters of the State of Washington, subject to existing rights, and to the limitations and provisions set out herein.

Priority date of this permit is December 29, 1947

Source of the proposed ground water appropriation is Pump Well

within ..... area, ... sub-area

..... zone. Name or number of works is .....

Quantity of water appropriated shall be limited to the amount which can be beneficially applied and not to exceed 700 gallons per minute; 1,130 acre-feet per year, to be used for the following purposes: Municipal supply

.....,

as more definitely set out below.

Location of the well, tunnel, or infiltration trench is .....

.....,

being within the NE¼ of NW¼ of Sec. 1, Twp. 17 N., Rge. 18 E.W.M.,

county of Kittitas

Use, or uses to which water is to be applied:

For municipal supply: 700 gallons per minute; 1130 acre-feet per year,

to supply The City of Ellensburg

For irrigation: ..... gallons per minute; ..... acre-feet per year,

for the irrigation of ..... acres.

For miscellaneous uses: ..... gallons per minute; ..... acre-feet per year,

for .....

LEGAL DESCRIPTION OF PROPERTY ON WHICH WATER IS TO BE USED

City of Ellensburg, Kittitas County, Washington.

DESCRIPTION OF WORKS FROM WHICH WATER IS TO BE WITHDRAWN

The well ~~will be~~ is drilled and have a diameter of 16 inches, and depth of 1208 feet.
(Dug or drilled)

Description of tunnel or infiltration trench:

(Please read carefully provisions below)

Particular specifications required by the Supervisor of Hydraulics for the purpose of preventing waste of public waters:

If it is found that the withdrawal of ground waters allowed in this permit is damaging to the appropriators of ground water in this vicinity holding prior rights, the quantity of water withdrawn under this permit shall be reduced in such amount as to alleviate the damage.

Construction work shall begin on or before Started

and shall thereafter be prosecuted with reasonable diligence and completed on or before

Completed

and complete application of water to proposed use shall be made on or before

December 1, 1950

Given under my hand and the seal of this office at Olympia, Washington, this 9th day of

June, 19 49

Thos J Kerrigan

State Supervisor of Hydraulics.

REPORT OF FINDINGS ON GROUND WATER Appli. 693

NAME City of Ellensburg Water Department

TYPE OF WORKS: pump well (deep) Date of Examination 3-11-49

Dimensions: 16" x 1208' Progress of Works complete

QUANTITY ~~Claimed on~~
Applied for: 700 g.p.m. acre feet per year

LOCATION NE¼ of NW¼ of 1-17-18 E.W.M.

USE: municipal supply

Irrigation- acreage: Present Planned Feasible

Municipal: Population 7200 as of 1947

Industrial:

Time Pump Will be Operated:

Other Water Rights of Applicant: Declarations of Claims Nos. 549, 550 and 551

Proximity to existing works, springs or streams:

Water Bearing Zone:

RECOMMENDATIONS

Approved for 700 g.p.m. 1,130 acre-feet per year, subject to existing water rights.(1 acre-foot = 325,850 gallons)

The water to be used from this well is expected to be a maximum of 700 g.p.m. continuous use to produce 1130 acre-feet a year according to Mr. Scott, Water Superintendent.

A protest of this well was filed April 12, 1948, by E. E. Mundy whose well is 1100 feet Southeast of this one. Mr. Mundy reports that his well was drilled 285 feet in 1940 and has a six inch casing to 200 feet. The well is used for domestic supply for his home and yard.

Before the City well was turned on in 1946 or early 1947, the average static pressure surface was around 20 feet below the ground according to Mr. Mundy In April, 1947, it was reported as 52 feet below the ground surface, which was below the depth of the pump intake pipes. In 1947, these were lowered to 70 feet so if the water surface stays above them, the well will furnish water. However, if this well or other wells pull the surface below this, the water supply will again be gone.

Signed this 12th day of May, 1949

Fred B Roberts

FRED B. ROBERTS
Ground Water Geologist
Division of Hydraulics

Affidavit of Publication

NOTICE OF GROUND WATER RIGHT APPLICATION. No. 693.

State of Washington, Office of Supervisor of Hydraulics, Olympia.

TO WHOM IT MAY CONCERN:

NOTICE IS HEREBY GIVEN that City of Ellensburg Water Department of Ellensburg, Washington, under date of December 29, 1947, filed with the State Supervisor of Hydraulics, Olympia, Washington, an application for a permit to withdraw public ground waters by means of Pump Well situated in City of Ellensburg, in the amount of 700 gallons per minute subject to existing rights continuously, each year for the purpose of municipal supply for city; that the location of the withdrawal works is within NE¼ of NW¼ of Sec. 1, Twp. 17 N., Rge. 18 E.W.M. in City of Ellensburg; in Kittitas County. A map showing the location and plan of said works and the place of the proposed use is on file in the office of the State Supervisor of Hydraulics, Olympia, Washington, together with such other information as is required by law.

Any person, firm or corporation whose right will be injuriously affected by said application may file with the State Supervisor of Hydraulics, at Olympia, Washington, such objections or representations, in writing, as he may desire to make, within thirty (30) days after date of last publication, which date is February 14, 1948.

Witness my hand and official seal this 29th day of January, A. D., 1948.

RODNEY RYKER,
State Supervisor of Hydraulics
By CHAS. J. BARTHOLET,
Deputy

Pub.: 7-14, 1948.

State of Washington, County of Kittitas, ss:

Lois Taylor *being first duly sworn on oath, deposes and says: That* *she* *is the* *principal* *Clerk* *of The Ellensburg Daily Record, a daily newspaper, which has been established, published in the English language, and circulated continuously as a daily newspaper in the City of Ellensburg, and in the said County and State, and of general circulation in said County for more than six (6) months prior to the date of the first publication of the Notice hereto attached, and that the said Ellensburg Daily Record was on the 18th day of June, 1941 approved as a legal newspaper by the Superior Court of said Kittitas County, and that the annexed is a true copy* *Notice of Ground water right application No. 693* *as it appeared in the regular and entire issue of said paper itself and not in a supplement thereof for a period of* *two* *consecutive (weeks) (~~times~~) commencing on the* *7th* *day of* *February* *1948, and ending on the* *14th* *day of* *February* *1948, and that said newspaper was regularly distributed to its subscribers during all of this period. That the full amount of fee charged for the foregoing publication is the sum of $* *8.26* *which amount has been paid in full, at the rate of $2.00 a hundred words for the first insertion and $1.50 a hundred words for each subsequent insertion.*

Lois Taylor

Subscribed and sworn to before me this *14th* *day of* *April* *1948.*

Telford L. Otis

Notary Public In and For the State of Washington, Residing at Ellensburg, Wn.

Rec'd June 28, 1948
FR

S. F. No. 370-B—12-45—2M. 10783.

$5.00 examination fee should accompany each application.

STATE OF WASHINGTON
DEPARTMENT OF CONSERVATION AND DEVELOPMENT
Division of Hydraulics

APPLICATION FOR A PERMIT
To Appropriate Public Ground Waters
OF THE STATE OF WASHINGTON

Application No. G. W. 693

I, CITY OF ELLENSBURG, WATER DEPARTMENT
(Name of applicant)

of 420 No. Pearl St., Ellensburg, Washington
(Complete postoffice address)

do hereby make application for a permit to appropriate the following described public ground waters of the State of Washington, subject to existing rights. This application is made under the provisions of Chap. 263 of the Session Laws of 1945 of the State of Washington and subject to the rules and regulations of the Department of Conservation and Development, Division of Hydraulics.

1. *The source of the proposed appropriation is* Pump Well (Deep)
(Well, tunnel, infiltration trench)

located in Ellensburg
(Give approximate distance and direction from nearest city or town)

Area ..... (Leave blank) *Sub-area* ..... (Leave blank)

Zone ..... (Leave blank)

Applicant's name or number of well or other works, if any Well #3

2. *The quantity of water which applicant intends to apply to beneficial use is* 700 ✓

gallons per minute; 1130 ✓ *acre feet per year.*

3. *The use or uses to which water is to be applied* Municipal

(Domestic supply, irrigation, municipal, manufacturing, industrial use, etc.)

4. *The time during which water will be required each year* Continuously

5. *Location of well or other works for withdrawal of water: In county of* Kittitas

(a) .....
(Give distance and bearing to nearest corner of section or legal subdivision)

being within the NE¼ of NW¼ *of Sec.* 1, *Twp.* 18 17 *N., Rge.* 18 *E. or W.* E.W.M.
(Give smallest legal subdivision)

within City Limits, not platted, near East end of Rodeo Grounds

or (b) If within limits of recorded platted property, town or city: Lot ....., *Block* .....,

of .....
(Give name of plat or addition) (If within town or city, give name)

(c) Show this location on accompanying section plat, in triplicate. Other adequate maps or drawings will be acceptable.

6. *Name and address of owner of land on which well or works are located:*

City of Ellensburg
(Name)

.....
(Address)

7. DESCRIPTION OF WORKS:

(a) Well will ~~be~~ is drilled (Dug or drilled) and have a diameter of 16 inches and an estimated depth of 1208 feet.

(b) Tunnels or trenches to be described: (Attach additional sheets if needed for full description.)

(c) Distribution system to be described:

(d) If pumps are to be used, give size and type:

10" Peerless

(e) Give capacity and type of motor or engine to be used:

125 H.P.

(f) If the location of the well, tunnel, or other works is less than one-fourth mile from a natural stream or stream channel, give the distance to the nearest point on each of such channels and the difference in elevation between the stream bed and the ground surface at the source of development:

(g) Ownership of each existing well or other works from which ground water is withdrawn within a radius of one-quarter mile and the distance and direction from well or other works being reported herein:

(Name)	(Direction)	(Distance)
None		

(On accompanying plat show location of the existing wells or works.)

8. SUPPLY THE FOLLOWING INFORMATION ACCORDING TO USE PROPOSED:

(a) For Municipal Supply: *To supply the city, town, or community of* Ellensburg *in the county of* Kittitas, *having a present population of* ....., *and an estimated population of* 7200 *in 1947*

(b) For Irrigation: *The land to be irrigated has a total area of* ..... *acres.*

(c) Legal Description of Property *on which water is to be used for all purposes other than municipal supply:* (If more space is required, attach separate sheet.)

9. *Construction work will begin on or before* March 12, 1945

10. *Construction work will be completed on or before* Jan. 8, 1946

11. *Water will be put to complete beneficial use on or before* May, 1946

Not necessary to mortgage

x City of Ellensburg
(Signature of applicant)
By Fred J. Hofmann
City Clerk

Signed in the presence of us as witnesses:

Robert H. Lee — Ellensburg, Wash.
(Name) (Address of witness)

....
(Name) (Address of witness)

STATE OF WASHINGTON, }
COUNTY OF THURSTON. } *ss.*

This is to certify that I have examined the foregoing application, together with the accompanying maps and data, and return the same for correction or completion as follows:

.....

.....

In order to retain its priority, this application must be returned to the State Supervisor of Hydraulics, with corrections, on or before ....., *19*.....

WITNESS my hand this ..... *day of* ....., *19*.....

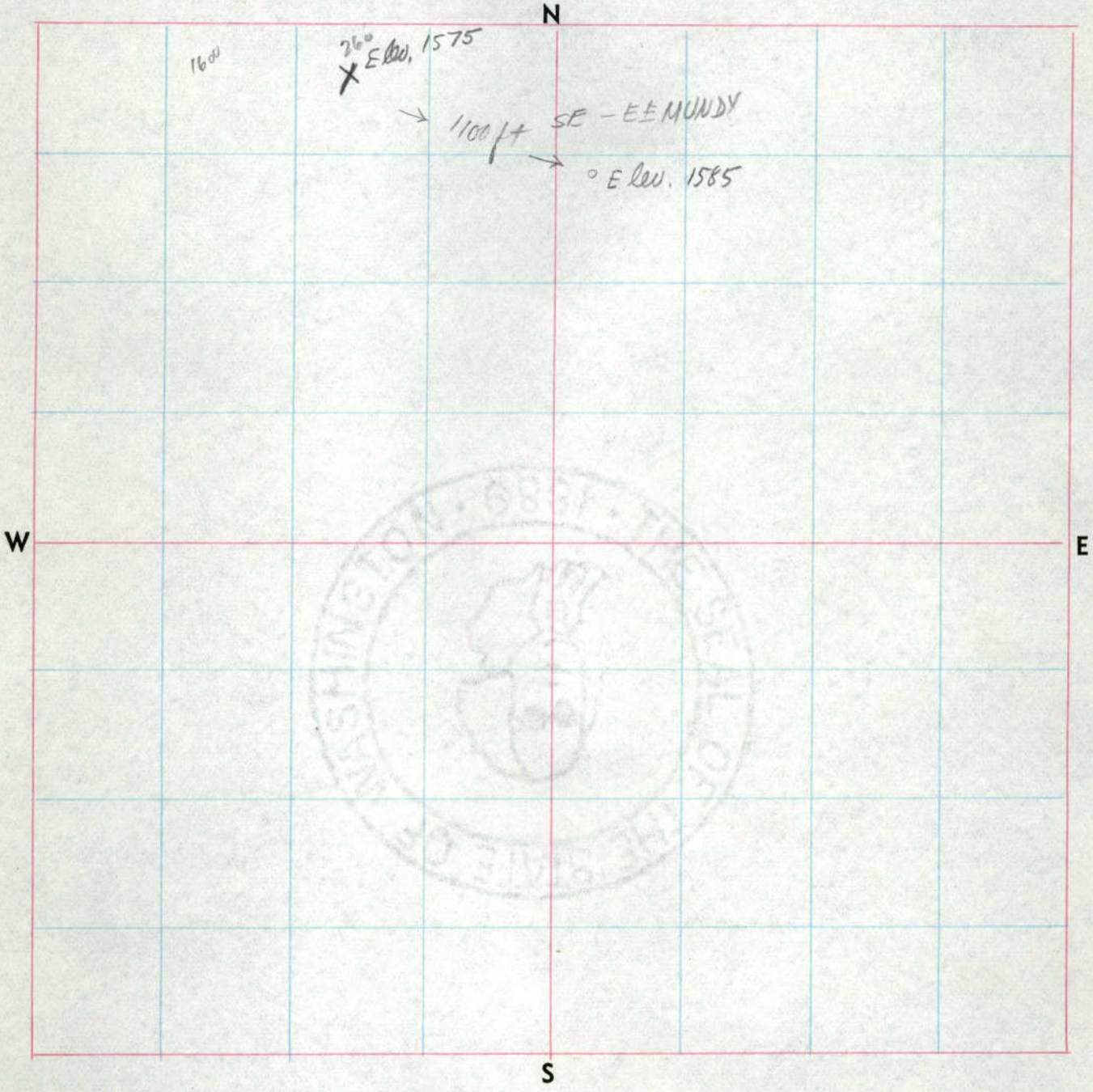
.....
State Supervisor of Hydraulics.

S. F. No. 1854-B—7-47—6M. 15856.

SECTION PLAT

RODEO

Sec. 1 Twp. 17 ~~18~~ N. R. 18 E W.M.



Show by a cross (X) the location of the well or other works covered by the application or declaration. Show by circle (O) the locations of other wells or works within a quarter of a mile. Also traveling directions from nearest town on main highway.

Scale: 1 inch = 800 feet.

In 7th St. + 100 ft west of Alder

PROGRESS SHEET - GROUND WATER APPLICATION

NAME: Mr. Fred T. Hofmann, City Clerk
City of Ellensburg, Water Dept.
Ellensburg, Washington
420 No. Pearl Street.

Assigned to:

G.W. APPLI. NO. 693 PERMIT NO. 994 CERT. NO. 816 A

AMENDED CANCELLED

Decl. rec'd instead of Appli.
Appli. received 12-29-47 Initial $5.00 fee received 12-29-47
Statement of Additional Examination Fee $ Sent
Received

Application returned for completion or correction 12-30-47
Received

TEMPORARY PERMIT: Approved by Issued

PUBLICATION:
O.K'd by JBR Date Jan 28, 1948 Notice sent 1-29-48
Protests filed E.E. Mundy, Apr. 12, 1948

Affidavit received and checked June 28, 1948 Time Expires March 28, 48

GAME REPORT: APPROVED BY DEPT. OF GAME 2-9-48

EXAMINATION:
Made Mar. 11, 1948 by JBR
O.K'd for Permit May 12, 1949 by

Statement of Permit Fee sent 5-25-49 Amount $10.00
Received 5-27-49

PERMIT NO. 994 Issued 6-9-49

BEGINNING OF CONSTRUCTION: Notice sent completed Filed
Extension fee $ Extended to
Extended to

WELL DRILLER'S REPORT: Sent 6-9-49 Filed

COMPLETION OF CONSTRUCTION: Notice sent Filed
Time extended to

COMPLETE APPLICATION OF WATER: Notice sent 6-9-49 Filed
Time extended to

PROOF OF APPROPRIATION: Sent 6-9-49 Filed

Statement of Certificate Fee sent Received

CERTIFICATE OF GROUND WATER RIGHT NO. 816 - A Issued 10-26-51

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Certificate GWC 3525-A

Airport Well Nos. 1, 2, and 3

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Public Works
501 North Anderson Street
Ellensburg WA 98926
Phone (509) 962-7101 FAX (509) 962-7127
email: akersj@ci.ellensburg.wa.us

DEPT OF ECOLOGY
Received
MAR 20 2012
CENTRAL REGION OFFICE

March 16, 2012

WA St. Department of Ecology
Central Regional Office
15 W. Yakima Ave, Suite 200
Yakima, WA 98902-3452

Re: RCW 90.44.100(3) Compliance
for Ellensburg Water Certificate No. 3515-A

Permitting Authority:

Attached is a fully executed compliance form for an additional well under the referenced water right certificate.

If you have questions or require additional information in this matter please feel free to contact me. The City was assisted with hydro-geological services on the well by Mr. Michael Krautkramer with the firm of Robinson Nobel of Tacoma, and Mike is also able to provide information on the well and the City's certification of compliance. Mike can be reached at (253)475-7711.

Thank you in advance for you attention.

Sincerely,

John Akers, P.E.
Public Works Director

DEPARTMENT OF ECOLOGY
State of Washington

WATER RESOURCES PROGRAM
Showing of Compliance with RCW 90.44.100(3)

DEPT OF ECOLOGY
Received
MAR 2 0 2012
CENTRAL REGION OFFICE

Water Right Certificate or Permit Number: 3525-A

Parcel tax identification number: 955292

Landowner(s) name: City of Ellensburg

Part of complying with RCW 90.44.100(3) is for the project proponent to notify the Department of Ecology (Ecology) that the statutory criteria of RCW 90.44.100(3) have been satisfied. Please attach to this document the water well report for the additional or replacement well and any additional information you have to support your affidavit.

Affidavit:

I, John Akers, Public Works Director for the City of Ellensburg, do certify that I caused the well described in the attached water well report to be drilled as an additional or replacement well(s) for use under Water Right Number 3525-A. This notice and attached documents describe and support my assertion that the replacement or additional well(s) complies with RCW 90.44.100(3) (a-g) and RCW 90.44.100(4):

Please check one:

☒ This is an additional well (Attach well log)

☐ This is a replacement well (Attach well log for new well & Decommissioning log for old well)

a. The well is an additional or replacement well(s) that will tap the same body of public ground water as the original well;

b. If a replacement well is constructed, the use of the original well(s) shall be discontinued and the original well(s) shall be properly decommissioned;

c. The combined withdrawal of water from the additional or replacement well(s) and the original well authorized by the water right certificate does not enlarge the water right conveyed by the original water right certificate to the extent the certificate has been developed (perfected) and maintained by use of water;

d. The construction and use-of the additional or replacement well(s) does not interfere with or impair water rights with an earlier priority date;

e. The additional or replacement well(s) is located no closer than the original well to a well or surface water body it might interfere with;

f. A specified manner of construction for the additional or replacement well(s) has been complied with, if required, and the new well was constructed in compliance with chapter 18.104 RCW and chapter 173-160 WAC;

g. The additional or replacement well(s) is located within the area described as the point of withdrawal in the public notice published for the original application for water right, or the most current legal description published for the right. Both the original well and the additional or replacement well(s) are located in NE 1/4 of NW 1/4 of Section 25, T 18N / R 18E (legal description).

LEGAL ✓

BODY OF GW ✓

SHOWING OF COMPLIANCE
ROUTER

Sandy (WRTS)	3/27/12
Avery	5/25/12 AR
Anna (GWIS)	~~AH~~ 5/29/02
Glenda (Archive/Update)	GR 5/29/02

64-*05359 CWRIS (GWC3525A)

Therefore the well is in compliance with the requirements for a statutorily granted amendment to the water right permit or certificate.

I understand the acceptance of this affidavit, and any attachments, by the Department of Ecology shall not be construed as affirming the validity of any water right permit or certificate. The responsibility to comply with RCW 90.44.100(3) is with the water right permit or certificate holder asserting an amendment pursuant to RCW 90.44.100(3).

John Akers — 3-16-12

Name — Date

Acknowledgement:

State of Washington
County of KITTITAS

I certify that I know or have satisfactory evidence that JOHN AKERS *is the person who appeared before me, and said person acknowledged that (he/she) signed this affidavit and acknowledged it to be (his/her)free and voluntary act for the uses and purposes mentioned in the affidavit.*

Dated: 3-16-12

SARAH W. VOSS NOTARY PUBLIC STATE OF WASHINGTON COMMISSION EXPIRES 6-19-15 Seal or Stamp

Sarah W. Voss
(Signature)
ELLENSBURG, WA
Residing in
ADMIN SECRETARY
Title
My appointment expires: 6-19-15

If you have any questions please contact the Water Resources Section of the closest regional office. Please submit copies of new well logs and decommissioned well logs along with this completed and notarized form to the nearest regional office.

Northwest Regional Office
3190 - 160th Avenue SE
Bellevue, WA 98008-5452
(425) 649-7000

Southwest Regional Office
P.O. Box 47775
Olympia, WA 98504-7775
(360) 407-6300

Eastern Regional Office
4601 N. Monroe Street
Spokane, WA 99205-1295
(509) 329-3400

Central Regional Office
15 W. Yakima Ave., Suite 200
Yakima, WA 98902-3452
(509) 575-2597

Vancouver Field Office
2108 Grand Boulevard
Vancouver, WA 98661-4622
(360) 690-7171

Bellingham Field Office
1204 Railroad Ave., Suite 200
Bellingham, WA 98225
(360) 738-6250

WATER WELL REPORT

Original & 1st copy – Ecology, 2nd copy – owner, 3rd copy – driller

Construction/Decommission *("x" in circle)*

● Construction

○ Decommission *ORIGINAL INSTALLATION Notice of Intent Number* _____

CURRENT

Notice of Intent No. W273512

Unique Ecology Well ID Tag No. BCF685

Water Right Permit No. 5359

Property Owner Name City of Ellensburg

Well Street Address Piper road

City Ellensburg County Kittitas

Location NW 1/4-1/4/NW 1/4 Sec 25 Twn 18 R 18 (E/W or WWM) circle one

Lat/Long (s, t, r Still **REQUIRED**) Lat Deg 47 Lat Min/Sec 0274092 Long Deg 120 Long Min/Sec 5311695

Tax Parcel No. 18-18-25068-0021 (955292)

PROPOSED USE: ☐ Domestic ☐ Industrial ■ Municipal ☐ DeWater ☐ Irrigation ☐ Test Well ☐ Other _____

TYPE OF WORK: Owner's number of well (if more than one) _____

■ New well ☐ Reconditioned *Method:* ☐ Dug ☐ Bored ☐ Driven ☐ Deepened ■ Cable ■ Rotary ☐ Jetted

DIMENSIONS: Diameter of well 16 x 12 inches, drilled 771 ft. Depth of completed well 771 ft.

CONSTRUCTION DETAILS

Casing Installed: ■ Welded 16" Diam. from +3 ft. to 335 ft.; ☐ Liner installed 12" Diam. from +4 ft. to 730 ft.; ☐ Threaded _____" Diam. from _____ ft. to _____ ft.

Perforations: ☐ Yes ■ No

Type of perforator used _____

SIZE of perfs _____ in. by _____ in. and no. of perfs _____ from _____ ft. to _____ ft.

Screens: ■ Yes ☐ No ■ K-Pac Location 675

Manufacturer's Name Johnson

Type _____ Model No. _____

Diam. 8 Slot size 0.080 from 715 ft. to 720 ft.

Diam. 8 Slot size 0.080 from 741 ft. to 766 ft.

Gravel/Filter packed: ☐ Yes ■ No ☐ Size of gravel/sand _____

Materials placed from _____ ft. to _____ ft.

Surface Seal: ■ Yes ☐ No To what depth? 20 ft.

Material used in seal bentonite

Did any strata contain unusable water? ☐ Yes ■ No

Type of water? _____ Depth of strata _____

Method of sealing strata off _____

PUMP: Manufacturer's Name _____

Type: _____ H.P. _____

WATER LEVELS: Land-surface elevation above mean sea level 1715 ft.

Static level 167.8 ft. below top of well Date NOV. 28/2010

Artesian pressure _____ lbs. per square inch Date _____

Artesian water is controlled by _____ (cap, valve, etc.)

WELL TESTS: Drawdown is amount water level is lowered below static level

Was a pump test made? ■ Yes ☐ No If yes, by whom? Bach

Yield: 692 gal./min. with 267 ft. drawdown after 72 hrs.

Yield: _____ gal./min. with _____ ft. drawdown after _____ hrs.

Yield: _____ gal./min. with _____ ft. drawdown after _____ hrs.

Recovery data (time taken as zero when pump turned off) (water level measured from well top to water level)

Time	Water Level	Time	Water Level	Time	Water Level

Date of test 12/14 – 12/17

Bailer test _____ gal./min. with _____ ft. drawdown after _____ hrs.

Airtest _____ gal./min. with stem set at _____ ft. for _____ hrs.

Artesian flow _____ g.p.m. Date _____

Temperature of water 60° Was a chemical analysis made? ■ Yes ☐ No

CONSTRUCTION OR DECOMMISSION PROCEDURE

Formation: Describe by color, character, size of material and structure, and the kind and nature of the material in each stratum penetrated, with at least one entry for each change of information. (USE ADDITIONAL SHEETS IF NECESSARY.)

MATERIAL	FROM	TO
topsoil/cobbles	0	10
cemented gravel	10	20
clay	20	30
clay/sandstone	30	45
cemented gravel w/clay	45	52
clay/sandstone	52	95
cement gravel	95	120
clay/sandstone	120	130
sandstone	130	150
sandstone/clay	150	195
cemented gravel	195	210
brown decomposed rock	210	240
Sandstone	240	308
Cemented gravel	308	355
medium-hard cemented grav.	355	362
Sandstone some gravel	362	395
hard cemented gravel	395	410
soft sandstone	410	435
Sandstone grapesized gravel	435	442
Sandstone/gravel	442	450
cemented gravel	450	468
sandstone/gravel	468	500
cemented gravel	500	518
Sandstone/gravel	518	532
Cemented gravel	532	540
Sandstone/gravel	540	575
cemented gravel	575	578
heavy sticky clay	578	585
clay-medium sandgravels	585	600
hard yellow clay	600	605
hard sticky clay	605	612

Start Date 11/18/2010 Completed Date NOV. 28/2011

WELL CONSTRUCTION CERTIFICATION: I constructed and/or accept responsibility for construction of this well, and its compliance with all Washington well construction standards. Materials used and the information reported above are true to my best knowledge and belief.

■ Driller ☐ Engineer ☐ Trainee Name (Print) Mike Bach

Driller/Engineer/Trainee Signature Mike Bach

Driller or trainee License No. _____

Drilling Company Bach Drilling

Address 3340 W. Ison Creek

City, State, Zip Ellensburg WA 98926

Contractor's Registration No MIKEBDC942 R6 Date NOV. 28/2011

If TRAINEE,

Driller's Licensed No. _____

Driller's Signature _____

Ecology is an Equal Opportunity Employer.

ECY 050-1-20 (Rev 3/05) **The Department of Ecology does NOT warranty the Data and/or Information on this Well Report.**

WATER WELL REPORT

Original & 1st copy – Ecology, 2nd copy – owner, 3rd copy – driller

Construction/Decommission *("x" in circle)*

○ Construction

○ Decommission *ORIGINAL INSTALLATION Notice of Intent Number* _____

CURRENT
Notice of Intent No. W273512

Unique Ecology Well ID Tag No. _____

Water Right Permit No. 5359

Property Owner Name City of Ellensburg

Well Street Address Dipcr road

City Ellensburg County Kittitas

Location NW 1/4-1/4 NW 1/4 Sec 25 Twn 18 R 15 EWM or WWM (circle one)

Lat/Long (s, t, r Still **REQUIRED**) Lat Deg 47 Lat Min/Sec 0274092 Long Deg 120 Long Min/Sec 5311695

Tax Parcel No. 18-18-25068-0021 (955292

PROPOSED USE: ☐ Domestic ☐ Industrial ☐ Municipal ☐ DeWater ☐ Irrigation ☐ Test Well ☐ Other _____

TYPE OF WORK: Owner's number of well (if more than one) _____

☐ New well ☐ Reconditioned *Method:* ☐ Dug ☐ Bored ☐ Driven ☐ Deepened ☐ Cable ☐ Rotary ☐ Jetted

DIMENSIONS: Diameter of well _____ inches, drilled _____ ft.

Depth of completed well _____ ft.

CONSTRUCTION DETAILS

Casing Installed: ☐ Welded _____" Diam. from _____ ft. to _____ ft.
☐ Liner installed _____" Diam. from _____ ft. to _____ ft.
☐ Threaded _____" Diam. from _____ ft. to _____ ft.

Perforations: ☐ Yes ☐ No

Type of perforator used _____

SIZE of perfs _____ in. by _____ in. and no. of perfs _____ from _____ ft. to _____ ft.

Screens: ☐ Yes ☐ No ☐ K-Pac Location _____

Manufacturer's Name _____

Type _____ Model No. _____

Diam. _____ Slot size _____ from _____ ft. to _____ ft.

Diam. _____ Slot size _____ from _____ ft. to _____ ft.

Gravel/Filter packed: ☐ Yes ☐ No ☐ Size of gravel/sand _____

Materials placed from _____ ft. to _____ ft.

Surface Seal: ☐ Yes ☐ No To what depth? _____ ft.

Material used in seal _____

Did any strata contain unusable water? ☐ Yes ☐ No

Type of water? _____ Depth of strata _____

Method of sealing strata off _____

PUMP: Manufacturer's Name _____

Type: _____ H.P. _____

WATER LEVELS: Land-surface elevation above mean sea level _____ ft.

Static level _____ ft. below top of well Date _____

Artesian pressure _____ lbs. per square inch Date _____

Artesian water is controlled by _____ (cap, valve, etc.)

WELL TESTS: Drawdown is amount water level is lowered below static level

Was a pump test made? ☐ Yes ☐ No If yes, by whom? _____

Yield: _____ gal./min. with _____ ft. drawdown after _____ hrs.
Yield: _____ gal./min. with _____ ft. drawdown after _____ hrs.
Yield: _____ gal./min. with _____ ft. drawdown after _____ hrs.

Recovery data (time taken as zero when pump turned off) (water level measured from well top to water level)

Time	Water Level	Time	Water Level	Time	Water Level

Date of test _____

Bailer test _____ gal./min. with _____ ft. drawdown after _____ hrs.

Airtest _____ gal./min. with stem set at _____ ft. for _____ hrs.

Artesian flow _____ g.p.m. Date _____

Temperature of water _____ Was a chemical analysis made? ☐ Yes ☐ No

CONSTRUCTION OR DECOMMISSION PROCEDURE

Formation: Describe by color, character, size of material and structure, and the kind and nature of the material in each stratum penetrated, with at least one entry for each change of information. (USE ADDITIONAL SHEETS IF NECESSARY.)

MATERIAL	FROM	TO
[redacted]		
Sticky clay	617	620
hard yellowish clay	620	625
Sand gravel layer	625	628
hard clay	628	630
cement Sand + gravel	630	635
Sandstone	635	730
hard Sandstone	730	750
cemented gravel	750	771

Start Date _____ Completed Date _____

WELL CONSTRUCTION CERTIFICATION: I constructed and/or accept responsibility for construction of this well, and its compliance with all Washington well construction standards. Materials used and the information reported above are true to my best knowledge and belief.

☐ Driller ☐ Engineer ☐ Trainee Name (Print) _____

Driller/Engineer/Trainee Signature _____

Driller or trainee License No. Mike Bach

Drilling Company Bach Drilling

Address 3340 Wilson Creek

City, State, Zip Ellensburg WA 98926

Contractor's Registration No. MTKEBDC942 Date Nov 28/2011

If TRAINEE,
Driller's Licensed No. _____
Driller's Signature _____

Ecology is an Equal Opportunity Employer.

ECY 050-1-20 (Rev 3/05) **The Department of Ecology does NOT warranty the Data and/or information on this Well Report.**

BACHDRILLING.COM

B. P. No. 7551—1-57—325. 67570. SUPERSEDING CERTIFICATE NO. 3510-A

CERTIFICATE RECORD NO. 8 PAGE NO. 3525-A

STATE OF WASHINGTON, COUNTY OF Kittitas

Certificate of Ground Water Right

Issued in accordance with the provisions of Chapter 263, Laws of Washington for 1945, and amendments thereto, and the rules and regulations of the State Supervisor of Water Resources thereunder.

THIS IS TO CERTIFY That CITY OF ELLENSBURG, WASHINGTON

c/o

, has made proof to the satisfaction of the State Supervisor of Water Resources of Washington, of a right to the use of the ground waters of a two (2) wells

Well No.1 No.2
located within NE¼NW¼ and Well within NE¼NE¼

Sec. 25, Twp. 18 N., R. 18E. W. M.,

for the purpose of municipal water supply

under and subject to provisions contained in Ground Water Permit No. 5027 issued by the State Supervisor of Water Resources and that said right to the use of said ground waters has been perfected in accordance with the laws of Washington, and is hereby confirmed by the State Supervisor of Water Resources of Washington and entered of record in Volume 8 at page 3525-A; that the right hereby confirmed dates from July 31, 1959; that the quantity of ground water under the right hereby confirmed for the purposes aforesaid, is limited to an amount actually beneficially used for said purposes, and shall not exceed 1050 gallons per minute; 1675 acre-feet per year for municipal airport.

A description of the lands to which such ground water right is appurtenant, and the place where such water is put to beneficial use, is as follows:

The right to the use of the ground water aforesaid hereby confirmed is restricted to the lands or place of use herein described, except as provided in Sections 6 and 7, Chapter 122, Laws of 1929.

WITNESS the seal and signature of the State Supervisor of Water Resources affixed this 31st day of December, 1959.

W. S. Gowalker
State Supervisor of Water Resources.

U.R. sh

SW¼SW¼, sec.13; SE¼SE¼, sec.14; E½, sec.23; All of section 24, EXCEPT:

1. A strip of land 60 feet wide beginning at the northeast corner of the SW¼SW¼ of said section and running thence east 60 feet; thence south to the north line of the roadway 60 feet wide running along the south side of said SW¼ of said section; thence west 60 feet; and thence north to the point of beginning, as conveyed to the Cascal Investment Company, a corporation, by deed recorded in Book 52 of Deeds, page 161; and

2. A strip of land 60 feet wide extending along the south side of said quarter of quarter section deeded to Ellensburg Airport Company, a corporation, by deed filed for record March 19, 1932, and recorded in Book 53 of Deeds, page 67.

N½N½, sec.25; that portion of N½NE¼, sec.26, which lies north and east and above the right of way of the main canal of the Cascade Irrigation District, all in T.18 N.,R.18 E.W.M.

That portion of the west half of Lots 3 and 4, sec.19, which lies west of the county road; the west half of Lot 1, sec.30, all in T.18 N., R.19 E.W.M.

EXCEPT:
1. Rights of way of county roads:
2. Rights of way of laterals of Kittitas Reclamation District across the SW¼SW¼, sec.13; East half of sec.23; section 24, and a portion of Lot 4, sec.19.

B. P. No. 7231—1-57—321. 47570.

CERTIFICATE RECORD NO. 8 PAGE NO. 3510-A

STATE OF WASHINGTON, COUNTY OF Kittitas

Certificate of Ground Water Right

Issued in accordance with the provisions of Chapter 263, Laws of Washington for 1945, and amendments thereto, and the rules and regulations of the State Supervisor of Water Resources thereunder.

THIS IS TO CERTIFY That CITY OF ELLENSBURG, WASHINGTON

~~of~~ , has made proof

to the satisfaction of the State Supervisor of Water Resources of Washington, of a right to the use of the ~~ground waters of~~ a two (2) wells

Well No.1 / located within NE¼NW¼NW¼ and Well No.2 located within NE¼NE¼NW¼

Sec. 25 , Twp. 18 N., R. 18 E. W. M.,

for the purpose of Municipal water supply

under and subject to provisions contained in Ground Water Permit No. 5027 issued by the State Supervisor of Water Resources and that said right to the use of said ground waters has been perfected in accordance with the laws of Washington, and is hereby confirmed by the State Supervisor of Water Resources of Washington and entered of record in Volume 8 at page 3510-A ;

that the right hereby confirmed dates from July 31, 1959 ; that the quantity of ground water under the right hereby confirmed for the purposes aforesaid, is limited to an amount actually beneficially used for said purposes, and shall not exceed 1050 gallons per minute; 1675 acre-foot per year for municipal airport.

A description of the lands to which such ground water right is appurtenant, and the place where ~~the~~ water is to be put to beneficial use, is as follows:

The right to the use of the ground water aforesaid hereby confirmed is restricted to the lands or place of use herein described, except as provided in Sections 6 and 7, Chapter 122, Laws of 1929.

WITNESS the seal and signature of the State Supervisor of Water Resources affixed this

10th day of December , 1959.

State Supervisor of Water Resources.

ENGINEERING DATA

O.K. SE

SW¼SW¼, sec.13; SE¼SE¼, sec.14; E½, sec.23;
All of section 24, EXCEPT:

1. A strip of land 60 feet wide beginning at the northeast corner of the SW¼SW¼ of said section and running thence east 60 feet; thence south to the north line of the roadway 60 feet wide running along the south side of said SW¼ of said section; thence west 60 feet; and thence north to the point of beginning, as conveyed to the Cascal Investment Company, a corporation, by deed recorded in Book 52 of Deeds, page 161; and

2. A strip of land 60 feet wide extending along the south side of said quarter of quarter section deeded to Ellensburg Airport Company, a corporation, by deed filed for record March 19, 1932, and recorded in Book 53 of Deeds, page 67.

N½N½, sec.25; that portion of N½NE¼, sec.26, which lies north and east and above the right of way of the main canal of the Cascade Irrigation District, all in T.17 N., R. 18 E.W.M.

That portion of the west half of Lots 3 and 4, sec.19, which lies west of the county road; the west half of Lot 1, sec.30; all in T. 18 N., R. 19 E.W.M.

EXCEPT:
1. Rights of way of county roads;
2. Rights of way of laterals of Kittitas Reclamation District across the SW¼SW¼, sec.13; East half of sec.23; section 24, and a portion of Lot 4, sec.19.

S. F. No. 7355—7-57—5M. 49757. O.S.

Proof of Appropriation of Water

RECEIVED DEPARTMENT OF CONSERVATION

DEC 1 1959

A. M. 7 8 9 10 11 12 1 2 3 4 5 6

Application No. 5359 Permit No. 5027

1. Name of Permittee City of Ellensburg
2. Postoffice address 420 North Pearl, Ellensburg, Washington
3. Source of appropriation Wells
4. Name or number of works (if any) Airport wells No. 1 and No. 2
5. For what purpose or purposes is water used? Municipal water supply
6. Give date of beginning of construction 1943 (by U.S. Army)
7. Give date of completion of construction work, including water distribution system 1943 (by U.S. Army)
8. Give date when water was completely applied to proposed use / prior to June 7, 1945 (by U.S.Army)
9. If used for irrigation:

   Give number of acres described in permit

   Give number of acres actually irrigated
10. If used for power: HP actually developed
11. LEGAL DESCRIPTION OF PROPERTY ON WHICH WATER IS USED:

12. During what months is water used? 12 months of year
13. Does map filed with your application show correctly the location of well or point of diversion for withdrawal of water, and area of land where water is used? Yes
14. If the dimensions, location or type of structure do not correspond to those described in your permit, state what changes have been made, giving dimensions, etc. No change
15. Actual measured discharge ~~at diversion~~ of permanent system: 1050 (gpm ~~or cfs~~)

(Sign certification on reverse side)

Issue like permit

STATE PRINTING PLANT OLYMPIA, WASHINGTON

STATE OF WASHINGTON,
County of Kittitas } ss.

I, Benjamin H. Mead, Jr., being first duly sworn, depose and say that I have read the above and foregoing proof of appropriation; that I know the contents thereof; and that the facts therein stated are true, to the best of my knowledge and belief.

IN WITNESS WHEREOF, I have hereunto set my hand this 25th day of November, 19 59

Benjamin H. Mead

Subscribed and sworn to before me this 25th day of November, 19 59

Lorren D. Smith

Notary Public.

S. F. No. 7354—12-58—3M. 55156.

STATE OF WASHINGTON
DEPARTMENT OF CONSERVATION
DIVISION OF WATER RESOURCES

Permit to Appropriate Public Ground Waters of the State of Washington

Book No. 11 of Ground Water Permits, on page 5027 under Application No. 5359

CITY OF ELLENSBURG, WASHINGTON

of

is hereby granted a permit to appropriate the following described public ground waters of the State of Washington, subject to existing rights, and to the limitations and provisions set out herein.

Priority date of this permit is July 31, 1959

Source of the proposed ground water appropriation is two (2) wells

within area, sub-area

zone. Name or number of works is

Quantity of water appropriated shall be limited to the amount which can be beneficially applied and not to exceed 1050 gallons per minute; 1675 acre-feet per year, to be used for the following purposes: municipal water supply

as more definitely set out below.

Location of the well, tunnel, or infiltration trench is Well #1-1160 ft. east and 580 ft. south of northwest corner, sec.25: Well #2-420 ft. south and 2110 ft. east of northwest corner, sec.25

/ Well No.1 being within NE¼NW¼NW¼ and Well No.2- NE¼NE¼NW¼, sec.25, T.18 N.,R.18 E.W.M.

county of Kittitas

Use, or uses to which water is to be applied:

For municipal supply: 1050 gallons per minute; 1675 acre-feet per year,

to supply City of Ellensburg municipal airport.

For irrigation: gallons per minute; acre-feet per year,

for the irrigation of acres.

For miscellaneous uses: gallons per minute; acre-feet per year,

for

LEGAL DESCRIPTION OF PROPERTY ON WHICH WATER IS TO BE USED

SW¼SW¼, sec.13;
SE¼SE¼, sec.14;
E½, sec.23,
All of sec.24, EXCEPT:

1. A strip of land 60 feet wide beginning at the northeast corner of the SW¼SW¼ of said section and running thence east 60 feet; thence south to the north line of the roadway 60 feet wide running along the south side of said SW¼ of said section; thence west 60 feet; and thence north to the point of beginning, as conveyed to the Cascal Investment Company, a corporation, by deed recorded in Book 52 of Deeds, page 161; and

2. A strip of land 60 feet wide extending along the south side of said quarter of quarter section deeded to Ellensburg Airport Company, a corporation, by deed filed for record March 19, 1932, and recorded in Book 53 of Deeds, page 67.

N½N½, sec.25; That portion of N½NE¼, sec.26, which lies north and east and above the right of way of the main canal of the Cascade Irrigation District,
All in T.18 N.,R.18 E.W.M.

That portion of the west half of Lots 3 and 4, sec.19, which lies west of the county road; the west half of Lot 1, sec.30;
All in T.18 N.,R.19 E.W.M.

EXCEPT:
1. Rights of way of county roads;
2. Rights of way of laterals of Kittitas Reclamation District across the SW¼SW¼, sec.13; East half of sec.23; section 24, and a portion of Lot 4, sec.19.

DESCRIPTION OF WORKS FROM WHICH WATER IS TO BE WITHDRAWN

Well #1 has been drilled and has a diameter of 12-inch casing to 290 ft. and 10-inch casing to 580 ft.

The well will be ..... (Dug or drilled) and have a diameter of ..... inches, and depth of ..... 730 ..... feet.

Well #2 has been drilled and has a diameter of 10-inch casing to 326 ft. and 8-inch casing to 420 ft. and a depth of 420 ft.

Description of tunnel or infiltration trench:

(Please read carefully provisions below)

Particular specifications required by the Supervisor of Water Resources for the purpose of preventing waste of public waters:

Construction work shall begin on or before ..... Started .....

and shall thereafter be prosecuted with reasonable diligence and completed on or before ..... Completed .....

and complete application of water to proposed use shall be made on or before ..... November 1, 1960 .....

Given under my hand and the seal of this office at Olympia, Washington, this ..... 13th ..... day of November ....., 19 59.

M B Walker

State Supervisor of Water Resources

ENGINEERING DATA

O.K. ..... Sh .....

Report of Examination on Ground Water

Received date 7-31-59 Date of exam. 10-19-59 Appli. No. 5359

Name City of Ellensburg, Wash. Address

Type of works 2 wells Dimensions Well #1 - 8"x730'
Well #2 - 8"x420'

Progress of works both wells are complete and in use

Quantity applied for 1540 g.p.m. acre-feet per year

Well #1- NE¼NW¼NW¼ and Well #2-NE¼NE¼NW¼

Legal sub. Sec. 25 Twp. 18 N. Rge. 18 E. County Kittitas

Use municipal water supply

Irrigation-acreage: Present Planned Feasible

Municipal: Population 11,000 as of 1980

Industrial

Time pump will be operated continuously

Other water rights appurtenant to this land see below

Proximity to existing works, springs, wells, or streams none apparent within ¼ mile

Area Sub-area Zone

RECOMMENDATIONS

Approved for 1050 g.p.m. 1675 acre-feet per year, subject to existing water rights. (1 acre-foot 325,850 gallons.) The installation of an access port to well as described in attached Ground Water Bulletin No. 1 is recommended.

The following is a list of water rights held by the City of Ellensburg for municipal supply:

G.W. Declaration No. 924 for 400 g.p.m. and 79 acre-feet per year
G.W. Declaration No. 925 for 700 g.p.m. and 565 acre-feet per year
G.W. Declaration No. 926 for 4861 g.p.m. and 3850 acre-feet per year
G.W. Certificate No. 816-A for 700 g.p.m. and 1130 acre-feet per year

The city also claims title to a vested right on Wilson Creek; however, the present and future status of this source with respect to withdrawal is unknown.

Totally, the City of Ellensburg has water rights amounting to 6661 g.p.m. and 4624 acre-feet per year. The water requirement of this city, based on a population of 11,000 and a consumptive use of 350 gallons per person per day would be a total annual withdrawal of 4290 acre-feet. Since the City of Ellensburg holds title to a larger annual withdrawal than is theoretically necessary, permit shall issue as a supplemental right for 1050 g.p.m. and 1675 acre-feet per year.

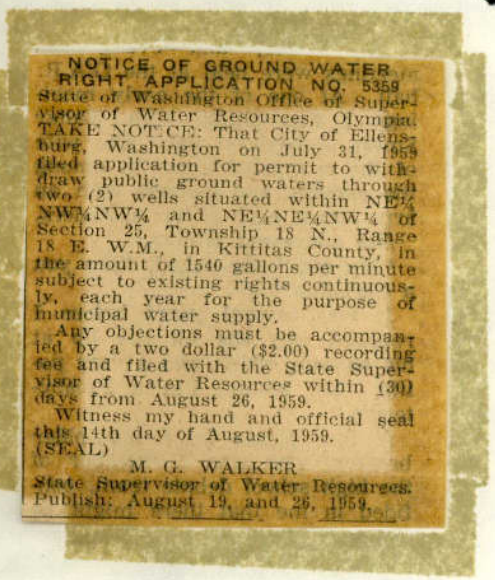
Signed this 29th day of October, 1959.
Division of Water Resources

William R. Smith
WILLIAM R. SMITH, Geologist

$20.00

RECEIVED
DEPARTMENT OF CONSERVATION
SEP 25 1959
A. M. 7 8 9 10 11 12 1 2 3 4 5 6 P. M.

Affidavit of Publication



NOTICE OF GROUND WATER RIGHT APPLICATION NO. 5359

State of Washington Office of Supervisor of Water Resources, Olympia.

TAKE NOTICE: That City of Ellensburg, Washington on July 31, 1959 filed application for permit to withdraw public ground waters through two (2) wells situated within NE¼ NW¼NW¼ and NE¼NE¼NW¼ of Section 25, Township 18 N., Range 18 E. W.M., in Kittitas County, in the amount of 1540 gallons per minute subject to existing rights continuously, each year for the purpose of municipal water supply.

Any objections must be accompanied by a two dollar ($2.00) recording fee and filed with the State Supervisor of Water Resources within (30) days from August 26, 1959.

Witness my hand and official seal this 14th day of August, 1959.

(SEAL)

M. G. WALKER

State Supervisor of Water Resources.

Publish: August 19, and 26, 1959.

State of Washington, County of Kittitas, ss:

James J. McGiffin being first duly sworn on oath, deposes and says: That He is the Publisher of the Ellensburg Daily Record, a daily newspaper. That said newspaper is a legal newspaper and has been approved as a legal newspaper by order of the superior court in the county in which it is published and it is now and has been for more than six months prior to the date of the publications hereinafter referred to, published in the English language continually as a daily newspaper in Ellensburg, Kittitas County, Washington, and it is now and during all of said time was printed in an office maintained at the aforesaid place of publication of said newspaper. That the annexed is a true copy of Water Right Application #5359

as it was published in regular issues (and not in supplement form) of said newspaper once a week for a period of Two consecutive weeks, commencing on the 19th day of August, 1959, and ending on the 26th day of August, 1959, both dates inclusive and that such newspaper was regularly distributed to its subscribers during all of said period. That the full amount of the fee charged for the foregoing publication is the sum of $6.05, which amount has been paid in full, at the rate of $2.40 a hundred words for the first insertion and $1.80 a hundred words for each subsequent insertion.

James J. McGiffin

Subscribed and sworn to before me this 23rd day of September 1959.

Lois Taylor

Notary Public in and for the State of Washington, Residing at Ellensburg, Washington.

(SEAL)

S. F. No. 370-B—11-55—75C. 43714.

[redacted] $10.00 examination fee should accompany each application.

STATE OF WASHINGTON
DEPARTMENT OF CONSERVATION AND DEVELOPMENT
Division of Water Resources

APPLICATION FOR A PERMIT

To Appropriate Public Ground Waters
OF THE STATE OF WASHINGTON

RECEIVED
DEPARTMENT OF CONSERVATION
JUL 31 1959

Application No. G. W. 5359

A. M. 7 8 9 10 11 12 1 2 3 4 5 6 P. M.

I, City of Ellensburg, Washington, a municipal corporation,
(Name of applicant)

of Ellensburg, Washington
(Complete post office address)

do hereby make application for a permit to appropriate the following described public ground waters of the State of Washington, subject to existing rights. This application is made under the provisions of Chap. 263 of the Session Laws of 1945, and amendments thereto of the State of Washington and subject to the rules and regulations of the Department of Conservation and Development, Division of Water Resources.

1. *The proposed appropriation will be from* 2 wells (Airport #1 Well / Airport #2 Well)
(Well, tunnel, infiltration trench)

located 48 miles north of Ellensburg
(Give approximate distance and direction from nearest city or town)

Area ..... (Leave blank) *Sub-area* ..... (Leave blank)

Zone ..... (Leave blank)

Applicant's name or number of well or other works, if any Airport Well #1 / Airport Well #2

2. *The quantity of water which applicant intends to withdraw for beneficial use is* 1. 900 2. 150 ~~1540~~ 1050

gallons per minute; ~~2460~~ 1675 ~~acre feet per year~~.

3. *The use or uses to which water is to be applied* Municipal water supply
(Domestic supply, irrigation, municipal, manufacturing, industrial use, etc.)

4. *The time during which water will be required each year* 1. All year 2. Stand-by continuously

5. *Location of well or other works for withdrawal of water: In county of* Kittitas

(a) 1. 1160' East and 580' south of NW corner Section 25
2. 420' South and 2110' east of NW corner Section 25
(Give distance and bearing from nearest corner of section or legal subdivision)

being within the 1. NE ¼ NW¼ NW¼ 2. NE ¼ NE¼ NW¼ *of Sec.* 25, *Twp.* 18 *N., Rge.* 18 EWM
(Give smallest legal subdivision) (E. or W.)

or (b) *If within limits of recorded platted property, town or city: Lot* ....., *Block* .....,

of .....
(Give name of plat or addition) (If within town or city, give name)

(c) *Show this location on accompanying section plat, in duplicate. Other adequate maps or drawings will be acceptable.*

ok except Y.

6. DESCRIPTION OF WORKS: well #1 - 12" casing to 290' 10" ✓ ✓ 580 ✓

(a) Wells ~~will be~~ have been drilled (Dug or drilled) and have a diameter of 8 inches and an estimated depth of 1. 730 ✓ 2. 420 feet. Well #2 - 10" casing to 326' 8" ✓ ✓ 420'

(b) Tunnels or trenches to be described: (Attach additional sheets if needed for full description.)

(c) Distribution system to be described:

City of Ellensburg and Ellensburg Municipal Airport

(d) If pumps are to be used, give size and type:

1. 900 GPM Deep Well Turbine
2. 150 GPM " " "

(e) Give capacity and type of motor or engine to be used:

1. 60 H.P. - 3 PH - 440 V
2. 15 H.P. - 3 PH - 440 V

(f) If the location of the well, tunnel, or other works is less than one-fourth mile from a natural stream or stream channel, give the distance to the nearest point on each of such channels and the difference in elevation between the stream bed and the ground surface at the source of development:

(g) Ownership of each existing well or other works from which ground water is withdrawn within a radius of one-quarter mile and the distance and direction from well or other works being reported herein:

(Name)	(Direction)	(Distance)
NONE		

SUPPLY THE FOLLOWING INFORMATION ACCORDING TO USE PROPOSED:

7. For Municipal Supply: To supply the city, town, or community of Ellensburg, in the county of Kittitas, having a present population of 8,600, and an estimated population of 11,000, in 19 80.

8. For Irrigation: Number of acres to be irrigated ..... acres.

9. *Legal Description of Property on which water is to be used for all purposes other than municipal supply:*

(Copy legal description from deed)
(If more space is required, attach separate sheet)

Ellensburg Municipal Airport (See attached)

(On accompanying plat show location of the existing wells or works)

10. *What interest do you have in the above described property?* Owner

(Owner, lessee, contract buyer, etc.)

11. *Do you have any other water rights appurtenant to the above described property?* Yes

If so, from what source? Wilson Creek

12. *Construction work ~~will begin~~ began on or before* April 9, 1943

13. *Construction work ~~will be~~ was completed on or ~~before~~ about* 1943 by U. S. Army

14. *Water ~~will be~~ was put to complete beneficial use on or before* June 7, 1943 by U.S. Army. Airport transfered by Federal government to County of Kittitas and by County to City of Ellensburg.

CITY OF ELLENSBURG
BY: Benjamin H Hoff
City Manager (Signature of applicant)

15. *Name and address of owner of land on which well or works are located:*

City of Ellensburg (Name)

420 North Pearl, Ellensburg, Washington (Address)

CITY OF ELLENSBURG
BY: Benjamin H Hoff
City Manager (Signature of legal landowner)

Signed in the presence of us as witnesses:

Mildred J. Paul (Name) — 1112 E. 2nd St, Ellensburg (Address of witness)

Florence L. Taylor (Name) — 1002 C St. (Address of witness)

STATE OF WASHINGTON, COUNTY OF THURSTON. } *ss.*

This is to certify that I have examined the foregoing application, together with the accompanying maps and data, and return the same for correction or completion as follows:

In order to retain its priority, this application must be returned to the State Supervisor of Water Resources, with corrections, on or before ....., *19*.....

WITNESS my hand this ..... *day of* ....., *19*.....

State Supervisor of Water Resources.

The original appropriation was made in about 1943 by the United States and the City of Ellensburg has succeeded to the rights of the government under said appropriation. The City of Ellensburg does not hereby waive any interest or rights it may have under said early appropriation made prior to the effective date of Chapter 263, Laws of Washington for 1945.

City Manager

Progress Sheet—Ground Water Application

11-1-60

NAME City of Ellensburg, 420 N. Pearl Assigned to

G. W. APPLI. NO. 5359 PERMIT NO. 5027 CERT. NO. 3510 3525 A

AMENDED CANCELLED

Application received 7-31-59 Initial $10.00 fee received 8-3-59
Statement of additional examination fee $ Sent Received
Application returned for completion or correction Received

TEMPORARY PERMIT: Approved by Issued

PUBLICATION:
O.K.'d by sh Date 8-13-59 Notice sent 8-14-59
Protests
Filed
Affidavit received and checked 9-25-59 Time expired 9-28-59
Amended notice sent Affidavit received
Time expires

DEPT. OF GAME REPORT

EXAMINATION Made 10-19-59 by WRJ
O.K.'d for permit 11/10/59 by RMR
Statement of permit fee sent 11-2-59 Amount $20.00 Received 11-10-59

PERMIT NO. 5027 ISSUED 11-13-59

BEGINNING OF CONSTRUCTION: Notice sent started Filed
Extension fee $ Extended to
Extended to

WELL DRILLER'S REPORT: Sent 8-14-59 Filed 9-16-59

COMPLETION OF CONSTRUCTION: Notice sent completed Filed
$2.00 extension fee Extended to
To

PROOF OF APPROPRIATION: Sent 11-13-59 Filed 12-1-59
$2.00 extension fee Extended to

Statement of certificate fee sent 11-13-59 $3.00 Received 12-1-59

CERTIFICATE OF GROUND WATER RIGHT NO. 3510 A ISSUED 12-10-59
3525 superseding 12-31-59

STATE PRINTING PLANT OLYMPIA, WASHINGTON

Certificate G4-25307C

Mt. Stuart Well and Illinois Well

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STATE OF WASHINGTON
DEPARTMENT OF ECOLOGY
1250 W Alder St • Union Gap, Washington 98903-0009 • (509) 575-2490

May 26, 2017

City of Ellensburg
Attn: Derek Mayo, City Engineer
501 N. Anderson St.
Ellensburg, WA 98926-3147

RE: Water Right Change Application No. CG4-25307C@1 (KITT-17-01)

Dear Mr. Mayo:

In accordance with RCW 90.80.080 the Department of Ecology (Ecology) has reviewed the Record of Decision (ROD), Report of Examination (ROE), and all comments, protests, objections and other relevant information submitted by the Kittitas County Water Conservancy Board (the Board) for the above referenced application for change.

Ecology has **modified** the decision of the Board and the proposed change/transfer of water right is **approved** under the following conditions:

Summary of Ecology's Final Order

MAXIMUM CUB FT/ SECOND	MAXIMUM GAL/MINUTE	MAXIMUM ACRE-FT/YR	TYPE OF USE, PERIOD OF USE
	1,700	2,750	Municipal, continuous

SOURCE	TRIBUTARY OF (IF SURFACE WATER)
Groundwater	

¼	¼	SECTION	TOWNSHIP	RANGE	WRIA	COUNTY
NW SW	NW NW	35	18 N.	18 E.W.M.	39	Kittitas

AT A POINT LOCATED:
PARCEL NO.

181835022-0005
181835023-0003

LEGAL DESCRIPTION OF PROPERTY ON WHICH WATER IS TO BE USED AS APPROVED BY THE BOARD

The place of use is defined as the service area described in the current City of Ellensburg Water System Plan as approved by the Washington State Department of Health.

PARCEL NO.	¼	¼	SECTION	TOWNSHIP	RANGE
N/A					

DEVELOPMENT SCHEDULE

BEGIN PROJECT BY THIS DATE:	COMPLETE PROJECT BY THIS DATE:	WATER TO PUT TO FULL USE BY THIS DATE:
December 31, 2018	December 31, 2020	December 31, 2037

FILE COPY

Ecology has **MODIFIED** the decision of the Board as follows:

The *Well Construction Provisions* section of the Board's decision is modified to remove the previous (2004) requirement for submittal of drill-cutting samples. The paragraph at the bottom of page 8 of the ROE which describes the required sampling method is struck. No drill cutting samples need be provided to Ecology. All other well construction provisions stand.

YOUR RIGHT TO APPEAL

You have a right to appeal this decision to the Pollution Control Hearings Board (PCHB) within 30 days of the date of receipt of this decision. The appeal process is governed by chapter 43.21B RCW and chapter 371-08 WAC. "Date of receipt" is defined in RCW 43.21B.001(2).

To appeal you must do the following within 30 days of the date of receipt of this decision:

- File your appeal and a copy of this decision with the PCHB (see addresses below). Filing means actual receipt by the PCHB during regular business hours.
- Serve a copy of your appeal and this decision on Ecology in paper form - by mail or in person. (See addresses below.) E-mail is not accepted.

You must also comply with other applicable requirements in chapter 43.21B RCW and chapter 371-08 WAC.

ADDRESS AND LOCATION INFORMATION	
Street Addresses	**Mailing Addresses**
Department of Ecology Attn: Appeals Processing Desk 300 Desmond Drive SE Lacey WA 98503 **Pollution Control Hearings Board** 1111 Israel Road SW, Ste 301 Tumwater WA 98501	**Department of Ecology** Attn: Appeals Processing Desk PO Box 47608 Olympia WA 98504-7608 **Pollution Control Hearings Board** PO Box 40903 Olympia WA 98504-0903

For additional information visit the Environmental Hearings Office Website: http://www.eho.wa.gov
To find laws and agency rules visit the Washington State Legislature Website: http://www.leg.wa.gov/CodeReviser

Trevor Hutton

Trevor Hutton, Section Manager
Water Resources Program
Central Regional Office

TH:MRD:JR/170508
WRTS No. 6800189

Enclosures: Your Right to Be Heard

By Certified Mail: 91 7199 9991 7036 9324 4903

cc: Philip Rigdon, Director Natural Resources Division Yakama Nation
Chery Byers, Kittitas County Water Conservancy Board
Mark Dunbar, Department of Ecology, Central Region Office (ecc)
Chris Pitre, Coho Water Resources

WASHINGTON STATE DEPARTMENT OF ECOLOGY

Board Name: Kittitas County
WATER CONSERVANCY BOARD
Application for Change/Transfer
Record of Decision

FOR ECOLOGY USE ONLY
RECEIVED
Date Stamp
APR 24 2017
Reviewed by:
Dept of Ecology
Central Regional Office

Applicant Name: City of Ellensburg Application Number: KITT-17-01

This record of decision was made by a majority of the board at an open public meeting of the(Board Name) Kittitas County Water Conservancy Board held on (date meeting was held) 4/18/2017. The undersigned board commissioners certify that they each understand the board is responsible "to ensure that all relevant issues identified during its evaluation of the application, or which are raised by any commenting party during the board's evaluation process, are thoroughly evaluated and discussed in the board's deliberations. These discussions must be fully documented in the report of examination." [WAC 173-153-130(5)] The undersigned therefore, certifies that each commissioner, having reviewed the report of examination, knows and understands the content of the report.

☒ **Approval:** The (board name) Water Conservancy Board hereby **grants** conditional approval for the water right transfer described and conditioned within the report of examination on (date report of exam was signed) 4/18/17 and submits this record of decision and report of examination to the Department of Ecology for final review.

☐ **Denial:** The (board name) Water Conservancy Board hereby **denies** conditional approval for the water right transfer as described within the report of examination on (date report of exam was signed) _____ and submits this record of decision to the Department of Ecology for final review.

Signed:

Water Conservancy Board Name: Kittitas County Water Conservancy Board	Date: 4-18-2017
Chair Name: Lenny Morrison	Signature:
(choose one) ☐ Approve ☐ Deny ☐ Abstain ☐ Recuse ☐ Other (please explain)	

Water Conservancy Board Name: Kittitas County Water Conservancy Board	Date: 4/18/17
Title: Board Member Name: Mark Crowley	Signature: Mark Crowley
(choose one) ☒ Approve ☐ Deny ☐ Abstain ☐ Recuse ☐ Other (please explain)	

Water Conservancy Board Name: Kittitas County Water Conservancy Board	Date: 4/18/17
Title: Board Member Name: Jeff Raap	Signature:
(choose one) ☒ Approve ☐ Deny ☐ Abstain ☐ Recuse ☐ Other (please explain)	

Water Conservancy Board Name:	Date:
Title: Name:	Signature:
(choose one) ☐ Approve ☐ Deny ☐ Abstain ☐ Recuse ☐ Other (please explain)	

Water Conservancy Board Name:	Date:
Title: Name:	Signature:
(choose one) ☐ Approve ☐ Deny ☐ Abstain ☐ Recuse ☐ Other (please explain)	

Mailed with all related documents to the Dept of Ecology (send to the Regional office below), and any other interested parties.

DEPARTMENT OF ECOLOGY
State of Washington

Board Name: **Kittitas County Water Conservancy Board**

WATER CONSERVANCY BOARD

Application for Change/Transfer

OF A RIGHT TO THE BENEFICIAL USE OF THE PUBLIC WATERS OF THE STATE OF WASHINGTON

RECEIVED
APR 24 2017
Dept of Ecology
Central Regional Office

REPORT OF EXAMINATION

☐ Surface Water ☒ Ground Water

Date Application Received	**February 21, 2017**	Water Right Document Number (i.e., claim, permit, certificate, etc.)	**G4-25307C**
Water Right Priority Date	June 8, 1977	Board-Assigned Change Application Number	**KITT-17-01**
Name: **City of Ellensburg (Derek Mayo, City Engineer)**		Phone: **(509) 962-7101**	Email: mayod@ci.ellensburg.wa.us
Address (street): **501 North Anderson Street**	City: **Ellensburg**	State: **WA**	Zip: **98926**

Changes Proposed:
☒ Add point of diversion/withdrawal

SEPA:
The board has reviewed the provisions of the State Environmental Policy Act of 1971, Chapter 43.21C RCW and the SEPA rules, chapter 197-11 WAC and has determined the application is: ☒ Exempt ☐ Not Exempt

BACKGROUND AND DECISION SUMMARY

Existing Right (Tentative Determination)

Maximum cub ft/second	-	Maximum gal/minute	**1,700 gpm**				
Maximum acre-ft/yr	**2,750 afy**	Describe Type(s) of use, and period(s) of use	**Municipal, Year-round**				
Source	**Groundwater**			Tributary of (if surface water)	**na**		
At a Point Located: Parcel No.	**18-18-35023-0003**	¼ ¼	**SW**	¼	**NW**	Section	**35**
Township N.	**18**	Range	**18 E**	WRIA	**39**	County	**Kittitas**

LEGAL DESCRIPTION OF PROPERTY ON WHICH WATER IS USED: The service area of the City of Ellensburg defined in the water system plan approved by the Washington State Department of Health (DOH).

Proposed Use

Maximum cub ft/second	-	Maximum gal/minute	**1,700 gpm**				
Maximum acre-ft/yr	**2,750 afy**	Describe Type(s) of use, and period(s) of use	**Municipal, Year-round**				
Source	**Groundwater**			Tributary of (if surface water)	-		
At two Points Located: Parcel No.	**18-18-35023-0003 & 18-18-35022-0005**	¼ ¼	**NW & SW**	¼	**NW**	Section	**35**
Township N.	**18**	Range	**18 E**	WRIA	**39**	County	**Kittitas**

LEGAL DESCRIPTION OF PROPERTY ON WHICH WATER IS USED: The service area of the City of Ellensburg defined in the water system plan approved by the Washington State Department of Health (DOH).

Board's Decision on the Application

Maximum cub ft/second	-	Maximum gal/minute	**1,700 gpm**
Maximum acre-ft/yr	**2,750 afy**	Describe Type(s) of use, and period(s) of use	**Municipal, Year-round**
Source	**Groundwater**	Tributary of (if surface water)	-

At two Points Located: Parcel No.	**18-18-35023-0003 & 18-18-35022-0005**	¼ ¼	**NW & SW**	¼	**NW**	Section	**35**
Township N.	**18**	Range	**18 E**	WRIA	**39**	County	**Kittitas**

LEGAL DESCRIPTION OF PROPERTY ON WHICH WATER IS USED

Type detailed legal description of the place of use: **The service area of the City of Ellensburg as defined in the water system plan approved by the Washington State Department of Health.**

Description of Proposed Works

Two wells withdrawing groundwater from deeper than 300 feet below ground surface. The water will be delivered to the City of Ellensburg distribution system.

Development Schedule

Begin project by this date (At least 75 days after Board's ROD issuance):	**December 31, 2018**
Complete project by this date:	**December 31, 2020**
Complete change & put water to full use by this date:	**December 31, 2037**

Report

BACKGROUND [See WAC 173-153-130(6)(a)]

On **February 21, 2017**.

The **City of Ellensburg** of **Ellensburg**: **Washington** filed an application to add a point of withdrawal under water right number **G4-25307C**. The application was accepted at an open public meeting on **February 21, 2017**, and the board assigned application number KITT-17-01.

Attributes of the water right as currently documented

Name on certificate, claim, permit: **City of Ellensburg**

Water right document number: **G4-25307C**

Priority date: June 8, 1977

Water quantities: Qi (Instant qty): **1,700** Qa (Annual qty): **2,750** acre ft./ year

Source : **Well**

Point of diversion/withdrawal (Distance from ¼¼, Section, Township, Range EWM): **SW ¼, NW ¼ Sec. 35, T18, R18**

Purpose of use: **MU**

Period of use: **Year-round**

Place of use: **The service area of the City of Ellensburg as defined by the water system plan approved by the Washington State Department of Health.**

Existing provisions (family farm act, interruptable, etc.): **A new well must have a solid casing to at least 300 feet below ground surface.** Other provisions are provided below.

History of water use: The City has used this well to provide water to its customers since the well was brought on line in 1978.

Previous changes:

The original water right specified the point of withdrawal to the SW ¼ ¼ ¼ of the SW ¼ ¼ of the NW ¼ of section 35.

A change application to allow the point of withdrawal to include the SW ¼ ¼ of the NW ¼ of section 35 was approved in 2004 by the Washington Department of Ecology.

The current application requests the addition of the point of withdrawal to include the NW ¼ ¼ of the NW ¼ of section 35.

SEPA

The requested water right change is categorically exempt from SEPA under WAC 197-11-800(4) because the rate of withdrawal is less than 2,250 gpm.

The information or conclusions in this section were authored and/or developed by: **Chris Pitre, Coho Water Resources**

COMMENT AND PROTESTS

Public notice of the application was given in The Daily Record on 2/24/2017 and 3/3/2017. The protest period ended on 4/2/2017.

There were no protests received. In addition, no oral or written comments were received at an open public meeting of the board or other means as designated by the board.

The Washington Department of Fish & Wildlife provided a letter on March 14, 2017 stating that they do not oppose the requested change.

The Washington Department of Ecology provided an e–mail on March 24, 2017 stating that the requested change application did not have to be presented to the Yakima Basin Water Transfer Work Group because it did not fall "within the box" of concerns normally addressed by the Group.

The information or conclusions in this section were authored and/or developed by Chris Pitre, Coho Water Resources

INVESTIGATION [See WAC 173-153-130(6)(c)]

The following information was obtained from a site inspection conducted by **Mark Crowley** on 4/5/2017, documentation associated with the 2004 change application, and conversations with the applicant.

Proposed project plans and specifications:

The water right is used to provide drinking water to the citizens of the City of Ellensburg. The water system is approved by the Washington Department of Health as water system 22950M. This water system has a calculated 9,745 connections (population of 18,810).

Purpose of the Requested Change

The original point of withdrawal of the water right was from the SW ¼ ¼ ¼ of the SW ¼ ¼ of the NW ¼ section of Section 35, T18N, R 18E WM. The well produced the authorized 1,700 gallons per minute (gpm) when it was installed in 1978. The well yield has since decreased to approximately 700 gpm. Efforts in 1986 to restore the original well yield were not successful. The City planned to install an additional well to be able to withdraw the full amount allowed by the water right. In order to obtain sufficient separation between the original well and the planned new well to reduce pumping interference between the wells, the water right was changed in 2004 to allow the point of withdrawal to be from the SW ¼ ¼ of the NW ¼ of the same section.

The planned new well site was intended to be on a portion of the Mount Stuart Elementary School property, which is within the SW ¼ ¼ of the NW ¼ of the same section, and was intended to be obtained from the Ellensburg School District. Although the School District was amenable to providing the property for a well site, the property had originally been acquired by the School District with federal funds that did not allow the land to be used for any purpose other than for the School District. No other property was available within the SW ¼ ¼ of the NW ¼ of the same section.

Property is available several hundred feet north, in the NW ¼ ¼ of the NW ¼ of the same section. Hence, this change application requests the addition of the NW ¼ ¼ of the NW ¼ of the same section to the point of withdrawal. The City is currently negotiating with the property owner to acquire land for a new well site.

The City wishes to install a second point of withdrawal under this water right in the NW ¼ ¼ of the NW ¼ of Section 35, and to continue operating the existing well in the SW ¼ ¼ of the NW ¼ of Section 35. The combined operation of both wells will not exceed the quantities authorized under the water right (i.e., the combined production from the existing and new wells will not exceed 1,700 gpm or 2,750 afy).

Assessment of Potential Impairment

The analysis conducted for the 2004 water right change that was approved by the Washington Department of Ecology considered the potential impact of the then requested additional point of withdrawal in Section 35, T18N, R18E on other groundwater users within the same section and all adjacent sections. Because the currently requested additional point of withdrawal is within the same section as considered in the 2004 analysis, the 2004 analysis properly considered potential impacts from the area now being requested for an additional point of withdrawal based on information at that time.

A search in March 2017 of the Washington Department of Ecology's water rights database and on-line well log database of Section 35, T18N, R18E WM and all adjacent sections (i.e., within a greater than 1-mile radius of the requested point of withdrawal) did not indicate any new groundwater rights or groundwater supply wells since the 2004 analysis of potential impairment that needed to be considered in an impairment analysis for the currently requested water right change.

Development Schedule:

Start construction by: December 31, 2018

Complete construction by: December 31, 2020

Place water to beneficial use by: December 31, 2038

Other water rights appurtenant to the property (if applicable)

The City has eight groundwater rights including the Mount Stuart groundwater right G4-25307C that is the subject of this change application (see attached Table 1: Groundwater Rights and Source Capacities). The City also uses a groundwater right owned by Central Washington University (Brooklane Well) to serve customers. All of these groundwater rights are used to provide drinking water to customers within the City's service area.

Public Interest (groundwater only)

The City of Ellensburg is the largest municipal purveyor in Kittitas County, with a service area population of over 15,000 people. The requested additional point of withdrawal supports the public interest for several reasons. The additional point of withdrawal will allow the City to continue to provide a safe and secure supply of water to its service area as required under the Safe Drinking Water Act, the Growth Management Act and other authorities. It is important to restore the lost capacity of the Mount Stuart Well in order to increase redundancy within the City's drinking water system in case of failure of other sources and ensure responsible operation of the City's municipal water supply system.

The request for an additional point of withdrawal is consistent with existing land and water use practices. The change will not increase certificated water withdrawals or net depletions from the groundwater source.

The proposed new additional well is not contrary to the public interest.

Tentative Determination

The water right has not been relinquished. RCW 90.14.140(2)(d) exempts municipal supply water rights from relinquishment.

The water right has not been abandoned. The City has maintained operation of the Mount Stuart Well since the time that the well was first installed in 1978, and has used the well to deliver water under the water right to the municipal water supply system of the City in every year.

The Mount Stuart Well is currently part of the City's supply system for municipal water. The well was constructed during 1977 and 1978 as part of the City's primary water supply system. The City has used water under the certificated right continuously since 1978.

Since that time, the capacity of the well has diminished by more than 50%. The City has been evaluating alternatives to restore the capacity of the well to its full water right volume. Redevelopment of the well was undertaken in 1986 with limited results. The City processed a water right change that was approved by Ecology in 2004.

Geologic, Hydrogeologic, or other scientific investigations (if applicable)

Describe the results of any geologic, hydrogeologic, or other scientific investigations that were considered by the board and how this information contributed to the board's conclusions.

The geology and hydrogeology are well-documented in the previous report of examination of the approved 2004 change application. The original well of the water right and the proposed new well are both to be completed in the Upper Ellensburg Sandstone Formation, with open (screened) intervals between approximately 450-900 feet below ground surface. The two wells will be completed in the same body of groundwater.

The information or conclusions in this section were authored and/or developed by Chris Pitre of Coho Water Resources.

CONCLUSIONS [See WAC 173-153-130(6)(d)]

Tentative determination (validity and extent of the right)

Describe whether, and to what extent, a valid water right exists.

Groundwater right G4-25307C is found to be valid to its full originally issued extent of 1,700 gpm and 2,750 afy.

Relinquishment or abandonment concerns

Describe any relinquishment or abandonment of the water right associated with the water right transfer application as discussed in the investigation section of this report.

Groundwater right G4-25307C is exempt from relinquishment because it is for a municipal purpose of use. The City has continuously used this water right to the maximum capacity possible since the well was installed. The water right has not been abandoned.

Hydraulic analysis

Describe the result, as adopted by the board, of any hydraulic analysis done related to the proposed water right transfer.

The assessment of potential impairment conducted for the 2004 change application is applicable to this request to add the NW ¼ ¼ of the NW ¼ of Section 35, T18N, R18E WM as an additional point of withdrawal to groundwater right G4-25307C. There is no determination of potential impairment from the requested additional point of withdrawal on other groundwater users.

Consideration of comments and protests

Discuss the board's conclusions of issues raised by any comments and protests received.

The Yakima Basin Water Transfer Working Group was informed of this requested change application and acknowledged that it did not require further consideration (see attached e-mail from Mark Dunbar, Ecology, to Chris Pitre, Coho Water Resources, March 24, 2017).

The Washington Department of Fish & Wildlife (WDFW) was also informed of the change and they determined that no new impact would occur as a result of the requested change (see attached letter of March 14, 2017 from Steve Boessow of WDFW).

No other comments or protests were received.

Impairment

Describe how or if the transfer proposal will impair existing rights of others.

Based on the analysis of potential impairment of the 2004 water right change approved by Ecology, and the above documentation, the requested additional point of withdrawal is not predicted to impair existing water rights or surface waters.

Public Interest

If the proposed transfer is authorized pursuant to RCW 90.44.100, describe whether it is detrimental to the public interest. Public interest shall not be considered if the proposed transfer is authorized pursuant to RCW 90.03.380 exclusively.

The requested additional point of withdrawal is not contrary to the public interest. The requested change will allow the City to provide drinking water. It will not increase the consumptive use of the water right other than what is already authorized by the water right.

Other

The board also considered the previous provisions associated with the water right as identified in the background section of this report when making its decision. Provide any other pertinent information relative to the board's conclusions.

The Board maintains all previous provisions associated with this water right to the new point of withdrawal. This includes standard provisions of:

- Maintenance of an access port for the measurement of water levels as described in Ground Water Bulletin No. 1.
- Recording and reporting water level and production information (WAC 173-173).
- Compliance with well construction standards (WAC 173-160).

And the unique provisions for this water right of:

- Installation of solid casing to at least 300 feet below ground surface.
- Providing drill cuttings from every 10 feet to Ecology's Central Regional Office.
- Coordination with Ecology's Regional Well Construction Coordinator at least one week before start of construction.

DECISION [See WAC 173-153-130(6)(e)]

Provide a complete description of the board's decision, fully and comprehensively addressing the entire application proposal.

The Board has found that:

- Groundwater right G4-25307C is valid and a right in good standing to its full original quantities of 1,700 gpm and 2,750 afy. It is exempt from relinquishment and has not been abandoned.
- The requested addition of the point of withdrawal is not predicted to impair other water rights.
- The requested addition of a point of withdrawal is not contrary to the public interest.

The information or conclusions in this section were authored and/or developed by Chris Pitre of Coho Water Resources.

PROVISIONS [See WAC 173-153-130(6)(f)]

The water source and/or water transmission facilities are not wholly located upon land currently owned by the applicant. Issuance of a water right change authorization by this Department does not convey a right of access to, or other right to use, land which the applicant does not legally possess. Obtaining such a right is a private matter between applicant and owner of that land.

The combined operation of the existing Mt. Stuart Well and any additional points of withdrawal will not exceed the authorized water right amounts of 1,700 gpm and 2,750 afy.

(The following provisions are taken from Ecology's approval of the 2004 report of examination.)

This authorization shall in no way excuse the permittee from compliance with any applicable federal, state, or local statutes, ordinances, or regulations including those administered by other programs of the Department of Ecology.

Installation and maintenance of an access port as described in Ground Water Bulletin No. 1 is required. An airline and gage may be installed in addition to the access port.

An approved measuring device shall be installed and maintained for each of the sources identified by this water right in accordance with the rule "Requirements for Measuring and Reporting Water Use", Chapter 173-173 WAC.

The maximum monthly rate of withdrawal and the monthly total volume shall be submitted to Ecology by January 31st of each calendar year. Ecology is requiring submittal of monthly meter readings to collect seasonal information for water resource planning, management and compliance.

The following information shall be included with each submittal of water use data: owner, contact name, mailing address, daytime phone number, WRIA, Certificate No., source name, annual quantity used including units, maximum rate of withdrawal including units, monthly meter readings including units, peak monthly flow including units, purpose of use, well tag number, pressurized withdrawal, and period of use. In the future, Ecology may require additional parameters to be reported or more frequent reporting. Ecology prefers web based data entry, but does accept hard copies. Ecology will provide forms and electronic data entry information.

Chapter 173-173 WAC describes the requirements for data accuracy, device installation and operation, and information reporting. It also allows a water user to petition Ecology for modifications to some of the requirements. Installation, operation and maintenance requirements are enclosed as a document entitled "Water Measurement Device Installation and Operation Requirements".

Department of Ecology personnel, upon presentation of proper credentials, shall have access at reasonable times, to the records of water use that are kept to meet the above conditions, and to inspect at reasonable times any measuring device used to meet the above conditions.

A proof inspection will be conducted prior to final Superseding Certificate issuance. The applicant is advised that a Superseding Certificate of water right will issue for only that quantity of water that has been withdrawn and applied to actual beneficial use. Such quantity applied to actual beneficial use shall not exceed the quantity specified in this report of exam and will be calculated based on the best information available to Ecology, including metering data and/or water duty analysis.

Well Construction Provisions

Well construction shall be completed into the Ellensburg Formation aquifer.

Samples of drill cuttings shall be provided for permanent use to the Central Regional Office (CRO) of the Washington State Department of Ecology for stratigraphic logging. Sample collection shall start at ten (10) feet below the ground surface, continue at ten (10) foot intervals, and at significant changes in lithology, to the bottom of the well. Samples shall be permanently labeled indicating the sample depth and a well identifier. Heavy duty quart sized "zip-lock" type plastic bags labeled with indelible markers are typically adequate for sample collection. Ecology technical staff may be available to pick up samples during well construction site visits: otherwise, samples shall be delivered or shipped to CRO immediately following completion of well construction.

The proposed well shall be installed with solid (un-perforated, un-slotted, un-screened) casing to a minimum depth of 300 feet below the ground surface.

The proposed well shall be sealed in compliance with the minimum standards for sealing wells into an unconsolidated formation as described in Chapter 173-160-241 WAC.

In the event the proposed well is drilled deeper than the original Mt. Stuart well, it is possible that artesian flowing pressure may be encountered and plans for controlling flowing pressures shall be submitted to Ecology prior to well construction for review and comments. In addition, the well driller shall consult with the Regional Well Construction Coordinator a minimum of one week prior to drilling regarding implementation of the plans during construction.

All water wells constructed within the state shall meet the minimum standards for construction and maintenance as provided under RCW 18.104 (Washington Water Well Construction Act of 1971) and Chapter 173-160 WAC (Minimum Standards for Construction and Maintenance of Water Wells).

Development Schedule:

Start construction by: December 31, 2018

Complete construction by: December 31, 2020

Place water to beneficial use by: December 31, 2037

The information or conclusions in this section were authored and/or developed by Chris Pitre of Coho Water Resources.

The undersigned board commissioner certifies that he/she understands the board is responsible "to ensure that all relevant issues identified during its evaluation of the application, or which are raised by any commenting party during the board's evaluation process, are thoroughly evaluated and discussed in the board's deliberations. These discussions must be fully documented in the report of examination." [WAC 173-153-130(5)] The undersigned therefore, certifies that he/she, having reviewed the report of examination, knows and understands the content of this report and concurs with the report's conclusions.

Signed at **Ellensburg,** Washington

This **18** *Date (Day)* day of **April,** *(Month)* **2017** *(Year)*

Name of Board Representative: Lenny Morrison

Name of Water Conservancy Board:

Signature:

AFFIDAVIT OF PUBLICATION

State of Washington, County of Kittitas, ss: Pam Shuart being first duly sworn on oath, deposes and says: That she is the Advertising Manager of The Daily Record, a daily newspaper. That said newspaper is a legal newspaper and has been approved as a legal newspaper by order of the superior court in the County in which it is published and it is now and has been for more than six months prior to the date of the publications hereinafter referred to, published in the English language continually as a newspaper in Ellensburg, Kittitas County, Washington, and it is now and during all of said time printed in an true copy of

PUBLIC WORKS CITY OF ELLENSBURG

BEFORE THE KC WATER CONSE

is published in regular issues (and not in supplement form) of said newspaper once a week for a period of 2 consecutive week(s), commencing on the following days.

02/24/2017 03/03/2017

All dates inclusive and that such newspaper were regularly distributed to its subscribers during all of said period. That the full amount of the fee charged for the foregoing publication is the sum of $210.50 the rate of $8.8 per column inch for each insertion.

Pam Shuart

Subscribed to me this 3rd day of March in the year of 2017

Patsy A Tenney

PATSY A TENNEY
Notary Public in and for
The State of Washington
Residing at Ellensburg,
Washington (SEAL)

Notary Public
State of Washington
PATSY A TENNEY
My Appointment Expires Aug 26, 2017

BEFORE THE KITTITAS COUNTY WATER CONSERVANCY BOARD
***Kittitas County*, WASHINGTON**

Notice of Application to add a point of withdrawal under water right number G3-25307C.

TAKE NOTICE: That on February 21, 2017, the city of Ellensburg in Kittitas County, Washington, filed application number KITT-17-01 with the Kittitas County Water Conservancy Board (the Board) to add a point of withdrawal under water right number G3-25307C.

Certificate No. G3-25307C originally issued in the amount of 1,700 gallons per minute and 2,750 acre feet per year to be used continuously year round for a municipal supply, with a priority date of June 8, 1977. The authorized point of withdrawal point is from two wells located within the SW 1/4 of the NW 1/4 of Sec. 35, T. 18 N., R. 18 E.W.M. The existing purpose and place of use of this water right is for municipal supply within the service area of the city of Ellensburg, Kittitas County.

The application (KITT-17-01) was filed to add an additional point of withdrawal in the NW 1/4 of the NW 1/4 of Sec. 35, T. 18 N., R. 18 E.W.M. There is no change in the quantities of use, consumptive use, period of use, or purpose of use. The existing and proposed points of withdrawal and places of use are located in Kittitas County, Washington, Water Resource Inventory Area 39.

Any protests or objections to the approval of the application may be filed with the Department of Ecology and must include a detailed statement of the basis for objections; protests must be accompanied by a fifty dollar ($50) recording fee filed with the Department of Ecology Cashiering Unit, P.O. Box 47611, Olympia, WA 98504-7611 within thirty (30) days from March 3, 2017.

Any interested party may submit comments, objections, and other information to the Board regarding this application in writing or verbally to the Board. This application will be on the Board's agenda during its regular meeting on April 18, 2017 at 3:00 P.M. at 205 W 5th Ave., Ellensburg, Washington for discussion and possible decision. NOTE: this notice does not constitute notice of a meeting for the purposes of the Open Public Meetings Act, chapter 42.30 RCW. Additionally, the Water Conservancy Board, may receive written comments or information through April 2, 2017 submitted to PO Box 605, Ellensburg, WA 98926.

PUBLISH: February 24 and March 3, 2017

DEPARTMENT OF ECOLOGY
State of Washington

WATER RESOURCES
Application for Change/Transfer of a Water Right

RECEIVED
FEB 24 2017
Dept of Ecology
Central Regional Office

For Ecology Use
(Date Stamp)

KITT-17-01

You must include a $50.00 minimum filing fee with this application for:

(Check all that apply.)
- ☐ Change purpose(s) of use
- ☐ Add purpose(s) of use
- ☐ Change/transfer place of use
- ☐ Change point(s) of diversion/withdrawal
- ☒ Add point(s) of diversion/withdrawal
- ☐ Other (i.e. consolidation, intertie, trust water)

Explain: Add additional point of withdrawal.

No filing fee is required for applications for:
- ☐ Drought
- ☐ Cost Reimbursement
- ☒ Water Conservancy Board

FOR OFFICIAL USE ONLY

DATE APPLICATION RECEIVED 2-24-2017
CHECK NO. 0 FEE $ 0
DATE ACCEPTED 03-16-2017 BY CS
CHANGE NO. C64-25307C@1
COUNTY KITTITAS WRIA 39
SPECIAL AREA
SEPA: ☐ EXEMPT ☐ NOT EXEMPT
ECY CODING: 001-002-WR10285-000011
APP NO. PERMIT NO.
CERT NO. CERT OF CHG NO.

☐ **I have completed a pre-application consultation with Ecology.**

1. Applicant Information

APPLICANT/BUSINESS NAME	PHONE NO.	FAX NO.
City of Ellensburg	(509) 962-7101	(509) 962-7127
ADDRESS Department of Public Works 501 North Anderson Street		
CITY	STATE	ZIP CODE
Ellensburg	WA	98926
EMAIL ADDRESS (IF AVAILABLE) mayod@ci.ellensburg.wa.us (Derek Mayo, City Engineer)		

CONTACT (IF DIFFERENT FROM ABOVE)	PHONE NO.	FAX NO.
Chris Pitre, Coho Water Resources (consultant)	(206) 406-9596	
ADDRESS 123 N. 77th Street		
CITY	STATE	ZIP CODE
Seattle	WA	98103-4605
EMAIL ADDRESS (IF AVAILABLE) chris@cohowr.com		

KITT-17-01

C64-25307C @1

LEGAL LAND OWNER or PART OWNER OF PROPOSED PLACE OF USE	PHONE NO.	FAX NO.
City of Ellensburg	(509) 962-7101	(509) 962-7127
ADDRESS		
501 North Anderson Street		
CITY	STATE	ZIP CODE
Ellensburg	WA	98926
EMAIL ADDRESS (IF AVAILABLE)		
mayod@ci.ellensburg.wa.us (Derek Mayo, City Engineer)		

2. Water Right Information

WATER RIGHT OR CLAIM NUMBER	RECORDED NAME(S)
G3-25307C (Mount Stuart Well)	City of Ellensburg
DO YOU OWN THE RIGHT TO BE CHANGED? ☒ YES ☐ NO IF NO, PROVIDE OWNER(S) NAME and ADDRESS: _____	
HAS THE WATER BEEN USED AS AUTHORIZED IN THE LAST FIVE (5) YEARS? ☒ YES ☐ NO	

- Attach copies of any documentation that shows the historical use of water that has occurred since the right was established.
- If you have a water system plan or conservation plan, please include a copy with your application.

3. Point(s) of Diversion/Withdrawal:

A. Existing

SOURCE	NO.	¼	¼	SEC.	TWP.	RGE.	PARCEL #	WELL TAG #
Mount Stuart Well (Department of Health [DOH] Source # 06)	1	SW	NW	35	18	18	18-18-35023-0003	AFK 920

B. Proposed (if different from 3.A.)

SOURCE	NO.	¼	¼	SEC.	TWP.	RGE.	PARCEL #	WELL TAG #
Mount Stuart Well (DOH Source #06)	1	SW	NW	35	18	18	18-18-35023-0003	AFK 920
Additional Well (anticipated DOH Source #12)	2	NW	NW	35	18	18	18-18-35022-0005	Not yet constructed

C. DO YOU OWN THE EXISTING AND PROPOSED POINT(S) OF DIVERSION/WITHDRAWAL?

EXISTING: ☒ YES ☐ NO PROPOSED: ☒ YES ☐ NO – IF NO, PROVIDE OWNER NAME(S): The City is in the process of acquiring a portion of parcel 18-18-35022-0005 from Winegar Properties LLC for the additonal well site. See Figures 1, 2 and 3.

- Include copies of all associated water well reports.
- If you know the distances from the nearest section corner to the above point(s) of diversion/withdrawal, please include that information in Item No. 6 (remarks) or as an attachment.

4. Purpose of Use:

A. Existing

PURPOSE OF USE	GPM or CFS	ACRE-FT/YR	PERIOD OF USE

Municipal	1,700 gpm	2,750	Y round

B. Proposed (if different from 4.A.)

PURPOSE OF USE	GPM or CFS	ACRE-FT/YR	PERIOD OF USE
SAME			

5. Place of Use:

A. Existing

LEGAL DESCRIPTION OF LANDS WHERE WATER IS PRESENTLY USED:							
The service area of the City of Ellensburg:							
See attached map - Figure 2.							
¼	¼	SEC.	TWP.	RGE.	COUNTY	PARCEL #	# OF ACRES

DO YOU OWN ALL THE LANDS IN THE EXISTING PLACE OF USE? ☐ YES ☒ NO

IF NO, PROVIDE OWNER NAME(S): Various

B. Proposed (if different than 5.A.)

LEGAL DESCRIPTION OF LANDS WHERE NEW USE IS PROPOSED:							
Same as in 5.A							
¼	¼	SEC.	TWP.	RGE.	COUNTY	PARCEL #	# OF ACRES

DO YOU OWN ALL THE LANDS IN THE PROPOSED PLACE OF USE? ☐ YES ☒ NO

IF NO, PROVIDE OWNER NAME(S): Various

- Attach a detailed map of your proposed change/transfer. The map should show existing and proposed point(s) of diversion/withdrawal, place of use and any other features involved with this application.
- If platted property, please include a certified copy of the plat map.

D. Are there any additional water rights or claims related to the same property as the one proposed for change/transfer?

☒ YES ☐ NO – IF YES, PROVIDE THE WATER RIGHT/CLAIM NUMBER(S):

Water Right Number (old certificate number)
G4-*00551S (GWC-926D)
G4-*00549S (GWC-924D)
G4-*00550S (GWC-925D)
G4-*00693C (GWC-816A)
G4-*05359C (GWC-3510A and GWC-3525A)
G4-24355C
G4-25307C
G4-27814N
G3-+20414C.

6. Remarks and Other Relevant Information:

The existing Mt. Stuart Well is located approximately 140 feet east and 240 feet north of the SW corner of the SW 1/4 of the NW 1/4 of Sec. 35, T18N, R18E.

The exact location of the planned additional well within the 1/4 1/4 is not known, and is subject to property acquisition.

The Mount Stuart Well originally produced 1,700 gpm. It now produces 700 gpm. The Mount Stuart well was redeveloped in 1986 without the desired increase in well efficiency. It is unlikely that additional redevelopment will restore the well's capacity. The City has therefore decided to drill a new well (not yet constructed) to exercise the full amount of the water right G3-25307C associated with the Mount Stuart well.

IF FOR SEASONAL OR TEMPORARY, START DATE ___/___/____ END DATE ___/___/____

Certain applications may incur a Real Estate Excise Tax liability for the seller of the water rights. The Department of Revenue has requested notification of potential taxable water right related actions and therefore may be provided with a copy of this request. For further information, contact:

Department of Revenue
Real Estate Excise Tax
PO Box 47477
Olympia, WA 98504-7477

Phone (360) 570-3265

7. Signatures:

I certify that the information above is true and accurate to the best of my knowledge. I understand that in order to process my application, I hereby grant staff from the Department of Ecology or the County Conservancy Board access to the above site(s) for inspection and monitoring purposes. If assisted in preparing this above application, I understand that all responsibility for the accuracy of the information rests with me.

Derek Mayo - City Engineer **Applicant Printed Name – Title**	Derek Mayo **Applicant Signature**	2/21/2017 **(Date: MM/DD/YYYY)**
Derek Mayo - City Engineer **Water Right Holder Printed Name**	Derek Mayo **Water Right Holder Signature**	2/21/2017 **(Date: MM/DD/YYYY)**
Derek Mayo - City Engineer **Land Owner of Existing Place of Use Printed Name**	Derek Mayo **Land Owner of Existing Place of Use Signature**	2/21/2017 **(Date: MM/DD/YYYY)**
Land Owner of Proposed Place of Use Printed Name	**Land Owner of Proposed Place of Use Signature**	**(Date: MM/DD/YYYY)**

***Submit your application to:** DEPARTMENT OF ECOLOGY CASHIERING SECTION PO BOX 47611 OLYMPIA, WA 98504-7611	☐ Central Regional Office 1250 W. Alder Street Union Gap, WA 98903-0009 (509) 575-2490	☐ Eastern Regional Office 4601 N. Monroe Street Spokane, WA 99205-1265 (509) 329-3400
	☐ Northwest Regional Office 3190 – 160th Avenue SE Bellevue, WA 98008-5452 (425) 649-7000	☐ Southwest Regional Office PO Box 47775 Olympia, WA 98504-7775 (360) 407-6300

STATE OF WASHINGTON
DEPARTMENT OF ECOLOGY

REPORT OF EXAMINATION FOR CHANGE
TO APPROPRIATE PUBLIC WATERS OF THE STATE OF WASHINGTON

☐ Surface Water (Issued in accordance with the provisions of Chapter 117, Laws of Washington for 1917, and amendments thereto, and the rules and regulations of the Department of Ecology.)

☒ Ground Water (Issued in accordance with the provisions of Chapter 263, Laws of Washington for 1945, and amendments thereto, and the rules and regulations of the Department of Ecology.)

PRIORITY DATE	APPLICATION NUMBER	PERMIT NUMBER	CERTIFICATE NUMBER
June 8, 1977	CG4-25307C		

NAME
City of Ellensburg

ADDRESS (STREET)	(CITY)	(STATE)	(ZIP CODE)
414 North Main Street	Ellensburg	WA	98926

PUBLIC WATERS TO BE APPROPRIATED

SOURCE
Wells

TRIBUTARY OF (IF SURFACE WATERS)

MAXIMUM CUBIC FEET PER SECOND	MAXIMUM GALLONS PER MINUTE	MAXIMUM ACRE -FEET PER YEAR
	1700	2742

QUANTITY, TYPE OF USE, PERIOD OF USE
Continuously for municipal supply.

LOCATION OF DIVERSION/WITHDRAWAL

APPROXIMATE LOCATION OF DIVERSION--WITHDRAWAL
1. SW¼NW¼ of Section 35, T. 18 N., R. 18 E.W.M (Mt. Stuart Well)
2. SW¼NW¼ of Section 35, T. 18 N., R. 18 E.W.M (proposed well)

LOCATED WITHIN (SMALLEST LEGAL SUBDIVISION)	SECTION	TOWNSHIP N.	RANGE, (E. OR W.) W.M.	W.R.I.A.	COUNTY
	35	18	18 E.	39	Kittitas

RECORDED PLATTED PROPERTY

LOT	BLOCK	OF (GIVE NAME OF PLAT OR ADDITION)

LEGAL DESCRIPTION OF PROPERTY ON WHICH WATER IS TO BE USED

The place of use of this water right is the service area described in the Water System Plan approved by the Washington State Department of Health on May 20, 2001. The place of use of this water right may be revised in the future through the Department of Health-administered water system planning process if the criteria set forth in Section RCW 90.03.386(2) are met.

FILE COPY

DESCRIPTION OF PROPOSED WORKS

A proposed well will be drilled on the Mount Stuart Elementary School property and be screened between approximately 500 and 900 feet below ground surface. This well will be used in conjunction with the existing Mt. Stuart well and be connected to the existing municipal distribution system.

DEVELOPMENT SCHEDULE

BEGIN PROJECT BY THIS DATE:	COMPLETE PROJECT BY THIS DATE:	WATER PUT TO FULL USE BY THIS DATE:
October 1, 2008	October 1, 2009	October 1, 2020

REPORT

BACKGROUND INFORMATION

On November 2, 1999, the City of Ellensburg submitted a change application requesting additional points of withdrawal and a change in place of use under Certificate No. G4-25307C. The application was accepted and assigned identification number CG4-25307C. On July 1, 2003, the City of Ellensburg submitted additional information to amend and support Change Application No. CG4-25307C. The additional information clarifies the place of use request and limits the additional point of withdrawal request to one well.

Attributes of Water Right

Name on Certificate:	City of Ellensburg
Priority Date:	June 8, 1977
Instantaneous Quantity:	1700 gpm
Source:	A well
Annual Quantity:	2750 acre-feet per year (acre-ft/yr)
Point of Withdrawal:	240 feet north and 140 east of the west quarter corner of Section 35, being within Section 35, T. 18 N., R. 18 E.W.M.
Purpose of Use:	Municipal supply
Period of Use:	Continuous
Place of Use:	Within the corporate limits of Ellensburg

Proposed Change

Name of Applicant:	City of Ellensburg
Date of Application for Change:	November 2, 1999 (amended July 1, 2003)
Instantaneous Quantity:	1700 gallons per minute (gpm)
Annual Quantity:	2750 acre-ft/yr
Source:	Two wells
Point of Withdrawal:	1. 240 feet north and 140 east of the west quarter corner of Section 35, being within the SW¼NW¼ of Section 35, T. 18 N., R. 18 E.W.M. 2. within the SW¼NW¼ of Section 35, T. 18 N., R. 18 E.W.M.
Purpose of Use:	Municipal Supply
Period of Use:	Continuous
Place of Use:	The approved Growth Management Act boundary of the City of Ellensburg.

Public Notice of the application was given in the Ellensburg Daily Record on August 1 and 8, 2003. No protests were received during the 30 day protest period that ended September 7, 2003.

INVESTIGATION

The following information was obtained from a September 23, 2003, site inspection conducted by Department of Ecology (Ecology) staff Melissa Nihsen and Randall Doneen, a technical report prepared by Golder Associates on June 24, 2003, and conversations with the applicant, Golder Associates, and Ecology staff.

History of Water Use

The City of Ellensburg receives water from various ground water and surface water sources under an equally diverse number of water right entitlements. Ground Water Permit No. G4-25307P is the most recent water authorization for the city that was issued on February 17, 1978. The permit authorized development of a well for 2000 gpm and 3226 acre-ft/yr to be used continuously for a municipal supply within the corporate limits of Ellensburg.

A proof of appropriation was submitted by the City on May 12, 1980, for a maximum withdrawal rate of 1700 gpm and stating that 555,117,000 gallons (1703 acre-feet) had been withdrawn during 1979.

A certificate issued on May 18, 1982, for 1700 gpm and 2750 acre-ft/yr to be used continuously for a municipal supply within the corporate limits of Ellensburg. It appears that the annual quantity of the certificate was approximated as pumping 1700 gpm continuously for 365 days. Pumping 1700 gm continuously for 365 will only achieve a 2742 acre-feet. According to Figure 3 (Historical Production – Mt. Stuart Well) that was included in the supporting application information prepared by

Golder Associates, the actual maximum annual quantity produced from this well is 1,920 acre-ft/yr. The same figure also shows that from 1979 to 1982 the maximum instantaneous rate of withdrawal from the well was estimated as 1,579 gpm.

During the early 1980's the Mount Stuart well lost 50% of the original pumping capacity. In 1986, the well was redeveloped but this did not achieve the desired results. Figure 3 described above also shows that from 1986 to 2002 the maximum instantaneous withdrawal from the Mount Stuart Well averaged approximately 1000 gpm.

The Draft March 2000 Water System Update for the City of Ellensburg contains information on the existing water supply and demand as well as projections for future water demand and how that relates to the existing supply. As of 1998, the total annual quantity pumped from all sources was approximately 4873 acre-ft/yr. That is well below the 10550.6 acre-ft/yr identified from existing Ground Water Certificates within the city. These certificates are identified below in Table 1 within the **Other Water Rights Appurtenant to the Property Section.**

Historical population and water use reported in the Water System Plan can indicate the extent that the city has continued to develop water use under its water rights, including Certificate No. G4-25307C that was issued in 1982. Historical population data included in the plan begins in 1980 at 11,775 with gradual increases up to 14,230 in 1999. The average number of water customers increased from 3620 in 1994 to 3877 in 1998. The historical total water pumped and average daily demand have also increased from 4060 acre-feet/3.6 millions of gallons per day (mgd) in 1994 to 4873 acre-feet/4.35 mgd in 1998. The significance of this data is that although the City has never put the full quantities of water described on Certificate No. G4-25307C to full beneficial use, the city has continued to grow and develop under its portfolio of water rights.

Second engrossed Second Substitute House Bill 1338 (SESSHB 1338)

Recent legislative changes have occurred under SESSHB 1338 that affect the municipal water right documented by Certificate No. G4-25307. This certificate issued under a former Department of Ecology administrative practice where the certificate was based on completing the construction of works to divert/withdraw and distribution of the water rather than on actual beneficial use of water. In *Department of Ecology v. Theodoratus*, 135 Wn.2d 582, 957 P.2d 1241, the Washington Supreme Court held in a scenario that involved a non-municipal water supplier that Ecology's administrative practice of issuing certificates of water right prior to full beneficial use was in error. The *Theodoratus* decision did not clearly resolve whether Ecology's practice of issuing certificates based on completion of "pumps and pipes," rather than based on the extent of actual beneficial use, was unlawful with respect to water rights for municipal supply purposes. This created uncertainty with respect to the water rights of certificate holders, such as the City of Ellensburg, that received certificates based on system capacity rather than the extent of actual use.

SESSHB 1338 provided clarification and certainty for municipal water rights documented by certificates which were issued based on system capacity. RCW 90.03.330(3) states that:

> "This subSection applies to the water right represented by a water right certificate issued prior to September 9, 2003, for municipal water supply purposes as defined in RCW 90.03.015 where the certificate was issued based on an administrative policy for issuing such certificates once works for diverting or withdrawing and distributing water for municipal supply purposes were constructed rather than after the water had been placed to actual beneficial use. Such a water right is a right in good standing."

Application No. CG4-25307C requests to change the place of use to include the approved Growth Management Act boundary of the City of Ellensburg. However, SESSHB 1338 also included a provision specifying how the place of use for a water right for municipal water supply purposes is identified and determined. Under RCW 90.03.386, the place of use for a water right for municipal supply purposes is the approved service area described in a Water System Plan or Small Water System Management Plan as long as the municipal water supplier is in compliance with those plans including water conservation. Any alteration of the place of use in this manner may not be inconsistent with any comprehensive plans or development regulation adopted under chapter 36.70A RCW; any other applicable comprehensive plan, land use plan, or development regulation adopted by a city, town, or county; or any watershed plan approved under Chapter 90.82 RCW, or a comprehensive water shed plan adopted under RCW 90.54.040 (1).

Given these legislative amendments and discussions with the City of Ellensburg and Department of Health (DOH), Eastern Region, Drinking Water Section, it has been determined that any place of use adjustments to Certificate No. G4-25307C shall occur under the above-described DOH-administered process. The City of Ellensburg has an approved water system plan dated May 20, 2001 that contains a defined service area. Thus, it is unnecessary for Ecology to consider the City of Ellensburg's request, in its application, to change the place of use for this water right to "the approved Growth Management Act boundary of the City of Ellensburg." Ecology recognizes that, by operation of RCW 90.03.386, the place of use of this water right is the City of Ellensburg's current DOH-approved service area, so long as the City complies with the requirements of RCW 90.03.386.

Plans and Specifications

A proposed well will be drilled on the Mount Stuart Elementary School property located in the N½SW¼NW¼ of Section 35, T. 18 N., R. 18 E.W.M. approximately a quarter mile to the northeast of the existing Mount Stuart Well. The screened interval for the well will be determined at the time of drilling and based on the geology encountered. It is anticipated, however, that the screened interval will be similar to the existing Mount Stuart Well, which is between approximately 500 and 900 feet below ground surface. This well will be used in conjunction with the existing Mount Stuart well and be connected to the existing municipal distribution system.

Other Water Rights Appurtenant to the Property

Table 1 identifies ground water certificates that are included in City of Ellensburg's Water System Plan.

Table 1: Ground Water Certificates within the City of Ellensburg

Certificate No.	Source	Qi (gpm)	Qa (acre-ft/yr)	Priority date	Place of use
926-D	City Wells	4861	3850	1913	Ellensburg
924-D	Anderson well	400	79	1931	Ellensburg
925-D	Memorial Park well	700	565	1932	Ellensburg
3525-A	Airport Wells	1050	1675	1959	Municipal Airport
816-A	Rodeo Well	700	1130	1967	Ellensburg
G3-20414C	Brooklane Well	910	480	1972	CWU campus
G4-25307C	Mount Stuart Well	1700	2750	1977	Ellensburg
G4-27814C	Lions Mt. View Well	110	21.6	1982	7 acres

On December 21, 1971, the City of Ellensburg entered into a contract with Kittitas Reclamation District (KRD) and the United States Bureau of Reclamation (USBR) that transferred 6,000 acre-ft/yr of water from KRD to the City of Ellensburg. This water was part of KRD's total water contract with USBR that is part of Surface Water Certificate No. 4498. A Certificate of Change issued on August 17, 1972 to USBR for a change in purpose of use, point of diversion and place of use for the 23.33 cfs and 6,000 acre-ft/yr that is the subject of the City of Ellensburg/KRD/USBR contract.

The validity of this water right is currently being evaluated by the Yakima County Superior in *Department of Ecology v. Acquavella*, Yakima County Superior Court No. 77-2-01484-5, the adjudication of surface water rights in the Yakima River Basin. The Referee recommended confirmation of a water right with an annual quantity of 6,000 acre-ft/yr in the Second Supplemental Report of Referee for Subbasin No. 7 (Reecer Creek). Subsequently, Ecology submitted a late exception to the claim requesting re-evaluation of beneficial use of the 6,000 acre-ft/yr. The late exception for re-evaluation of beneficial use was largely due to recent Washington Supreme Court decisions requiring beneficial use for transfers of surface water rights. Rather than stop forward progress toward issuance of a Conditional Final Order for Subbasin No. 7 (Reecer Creek), the Court chose to separate the City of Ellensburg's claim from the Subbasin pathway and place the claim into the major claimant pathway to allow potential resolution of Ecology's exception through mediation. At the time of this report the City of Ellensburg's portion of this water right is still the subject of settlement discussions between Ecology, KRD, USBR and the City of Ellensburg. The extent and validity of this right, and the future ability for the city to exercise this right, will ultimately be determined by Yakima County Superior Court.

The City of Ellensburg owns 308 shares of The Ellensburg Water Company for domestic use from April 1 to October 31. The Ellensburg Water Company was not confirmed for the 410 acres of irrigation that these shares would have represented because they did not provide evidence of irrigation within the City of Ellensburg by these shares. The Court did recognize 308 shares held by the City of Ellensburg for domestic use, but no water quantity or irrigated acres were identified for these shares. Any water delivered to the City of Ellensburg under these shares will come from The Ellensburg Water Company's 43,840 acre-ft/yr annually quantity and the instantaneous quantities of 125 cfs from April through August, 100 cfs for September and 63 cfs for October.

HYDROGEOLOGIC SETTING

A licensed Ecology staff Hydrogeologist reviewed and stamped a separate technical memorandum which discusses the hydrogeologic analysis for this application. The hydrogeologic interpretations provided below are extracted from this memorandum.

This section describes in general terms the hydrogeology surrounding the City of Ellensburg, within the Kittitas Valley, Washington. Waitt (1979) describes the Kittitas Valley as "an unusually wide segment of the Yakima River valley near the western edge of the Yakima Basalt Subgroup, [and] is the topographic expression of a broad synclinal basin in the Yakima Basalt Subgroup and the Ellensburg Formation." In this area the Yakima River flows in a southeasterly direction, generally coincident with the synclinal axis. The valley is bound by anticlinal structures; Naneum Ridge to the north and Manastash Ridge to the south. Within the valley, mainstream and sidestream glacial and alluvial deposits, exposures of remnant Thorp gravels and an occasional thin veneer of loess overlie weakly to moderately indurated sedimentary rocks of the Ellensburg Formation. Grande Ronde basalt forms a bedrock boundary below the Ellensburg Formation, as depicted in cross section on the USGS 1:100,000 Wenatchee Quadrangle geologic map and seen outcropping to the south in Manastash Ridge.

In this area, the saturated portion of the Ellensburg Formation, a volcaniclastic sedimentary unit, serves as a sedimentary aquifer which is bound by the basalt below. Driller's water well reports on file with Ecology indicate the Formation largely consists of fluvial deposited clays, silts, siltstones, sands, sandstones, gravels and cemented gravels. The compositions of these sediments vary from volcanic ash to pumice to andesite and derive from erosion of the Cascade Mountain Range. Cementation, porosity and permeability vary throughout the unit, all contributing to its heterogeneity. Well log review indicates the thickness of the Ellensburg formation exceeds 1,000 feet in the vicinity of the city; however, total sediment thickness is uncertain. Well log data suggests that most wells encounter a varying sequence of clays, sands and gravels, however, most wells are perforated into or completed within the coarser, more permeable sand and gravel layers. Sediment layers can pinch out abruptly, grading from clays to sands to gravels, creating zones of high hydraulic continuity juxtaposed with areas of low hydraulic continuity. As such, it is recognized that it is appropriate to group the entire formation as a multiple aquifer system which comprises a single body of ground water. Recharge to the aquifer is by precipitation predominantly in the western portion of the basin. Discharge from the aquifer is to wells throughout the basin and to surface

water primarily in the southern portion of the valley where the formation thins near the basalt margin and the Yakima River enters the tightly constricted canyon reach.

Impairment, Qualifying Ground Water Withdrawal Facilities, and Well Interference

There are three concepts that are important when considering whether a withdrawal of water from a well would impair another existing water right. The concepts are defined as follows:

Impairment is an adverse impact on the physical availability of water for a beneficial use that is entitled to protection, i.e. water rights that are both senior and junior in priority to the right the City of Ellensburg seeks to change.

Qualifying ground water withdrawal facilities are defined as those wells which in the opinion of Ecology are adequately constructed. An adequately constructed well is one that (a) is constructed in compliance with well construction requirements; (b) fully penetrates the saturated thickness of an aquifer or withdraws water from a reasonable and feasible pumping lift (WAC 173-150); (c) the withdrawal facilities must be able to accommodate a reasonable variation in seasonal pumping water levels; and (d) the withdrawal facilities including pumping facilities must be properly sized to the ability of the aquifer to produce water.

Well interference may occur when several wells penetrate and withdraw ground water from the same aquifer. Each pumping well creates a drawdown cone. When several wells pump from the same aquifer, well density, aquifer characteristics, and pumping demand may result in individual drawdown cones that intersect and form a composite drawdown cone. At any point in an aquifer, the composite drawdown caused by pumping wells will be greatly influenced by the transmissivity (T) of the aquifer. In aquifers with high Ts, composite drawdown will generally be much less than in aquifers with similar properties but with low Ts. Transmissivity is related to hydraulic conductivity (K) and the saturated thickness (b) of an aquifer by the relationship T=Kb.

An aquifer's hydraulic conductivity (K) is derived from the physical properties of both the fluid and geologic materials that form an aquifer. Once formed, an aquifer's saturated thickness (b) becomes important in evaluating its transmissivity. For regions of similar K in an aquifer, a large saturated thickness will result in a much higher T than a small saturated thickness. As a result, regions of similar K in an aquifer with a large saturated thickness will experience less composite drawdown or well interference than with a small saturated thickness.

Some conditions, however, will increase or steepen composite drawdown in an aquifer. For instance, where characteristics (such as very fine, clay rich, or poorly sorted sediments) of an unconfined aquifer cause significant drawdown relative to the saturated thickness, the composite drawdown will increase as saturated thickness is reduced and T becomes smaller. Additionally, in regions where negative or no-flow boundaries occur, such as near the edges of a valley fill aquifer where it is bounded by bedrock, composite drawdown will be steeper than in the central part (generally the greatest thickness region) of the aquifer. Consequently, it is commonly understood that the greatest composite drawdown or well interference is more likely to occur in regions of low transmissivities, thin saturated thicknesses and near negative or no-flow boundaries than in regions of high transmissivities, large saturated thicknesses, and away from negative or no-flow boundaries.

Discussion of Construction Details for the Mt. Stuart Well, Original Construction Provisions, and Well Interference Potential

The City of Ellensburg has multiple ground water rights and corresponding wells which collectively constitute their municipal water supply. The City of Ellensburg, currently exercises Water Right No. G4-25307C, from a well located in the city limits, near Mt. Stuart Elementary School, within the NW¼, Section 35, T. 18 N., R. 18 E.W.M.. The original well is reported to have decreased to an approximate 50% efficiency over the years, regardless of redeveloping efforts. Change Application No. CG4-25307C proposes to add a new point of withdrawal within the NW¼, Section 35, T. 18 N., R. 18 E.W.M., to their current water system in the hopes of exercising the full certificated quantities of the water right. The total certificated water quantity is 2750 acre-ft/yr, with a maximum instantaneous (Qi) of 1700 gpm.

The original point of withdrawal, also known as the Mt. Stuart well, is located approximately 240 feet north and 140 feet east of the W¼ corner, Section 35, T. 18 N., R. 18 E.W.M. Construction provisions contained in the Temporary Permit, dated July 13, 1977, required that, "In the interests of affording a reasonable amount of protection for existing water rights and to minimize possible regulation against your well in favor of those rights, the following well construction provisions are deemed necessary to attain those goals: Cased and sealed to at least 300 feet."

The water well report provided by the applicant indicates the Mt. Stuart well was constructed with a 30-inch surface seal to a depth of 50 feet below ground surface (bgs), 16-inch steel casing from 0 to 400 feet bgs and 12-inch casing, alternating with 6 screened intervals between 400 to 900 feet bgs. The well's annulus was gravel packed using a tremmie pipe and median size packing materials approximately five times the median size of the aquifer materials in order "to maximize well efficiency and sand control". As such, construction of the Mt. Stuart well did not comply with the sealing requirements and effectively nullified the intent of the casing provision with the gravel pack installation as described in the as-built construction schematics and accompanying report.

It is not, however, the intent of this discussion to recommend repair of the Mt. Stuart well because of the following observations:

- Repair of the original well may not be practical as evidenced by reduced yields in spite of repeated efforts to redevelop the well.
- Adding the new point of withdrawal will effectively reduce the amount of water withdrawn from the original well.
- The well is located inside the City's domestic water system service area.
- Well density in this area includes numerous shallow resource protection wells which are not sources for potable water or beneficial uses.
- No substantial well interference is known to have occurred locally as a result of the original well's nearly 30 years of operation.

It is the intent of this discussion to recommend that:

- No future or additional rights be authorized for transfer to or to be withdrawn from the original (Mt. Stuart) well as presently constructed.
- The proposed well be required to meet the intent of the original casing provisions by installing solid (un-perforated, un-slotted, un-screened) casing to a minimum depth of 300 feet bgs.
- The original sealing provision of 300 ft be waived for the proposed well, requiring instead compliance with the minimum standards for sealing wells into an unconsolidated formation as described in Chapter 173-160-241WAC.

The proposed well has not been drilled at this time; however, it will be located approximately 1300 feet northeast of the original well within the SW¼NW¼ of Section 35, T. 18 N., R. 18 E.W.M.. At this location, the nearest existing wells appear to be the original well (the Mt. Stuart well) to the southwest and an additional City of Ellensburg well (the Anderson well) at about 1300 feet to the southeast. Because of the Ellensburg Formation's great thickness and the aquifer's relatively high head, wells commonly do not utilize the full effective thickness of the aquifer. Aquifer parameters estimated from wells drawing water from the multiple water bearing zones may vary widely depending on such factors as total well depth and the presence/absence/thickness of low-high permeable units which a particular well may encounter and develop.

Evaluating potential well interference effects as a result of the change must take into account that the original right utilized a casing and sealing provision to afford protection to existing rights in the area. The original right issued with the intent that by requiring a minimum of 300 feet of solid casing, the propagation of effects due to pumping at the Mt. Stuart well would be sufficiently damped in the shallow region of the aquifer. Since existing area wells were generally less than 300 feet in depth, the provision was considered sufficiently protective of existing rights. As discussed earlier, well construction of the Mt. Stuart well did not comply with these requirements, however, over time, there have been no known complaints of significant well interference in this area. It is likely both the depth of the screened Section of this well and that materials of low conductivity such as silts and clays occurring above the screened region of the Mt. Stuart well have together produced the intended protection of existing rights in the upper portion of the aquifer. Since, however, holders of existing rights retain the right to deepen their wells within the same body of ground water and create fully qualifying works, it is still necessary to evaluate the nature of pumping effects propagated between wells, assuming a similar depth.

The 24-hour pump test on the Mt. Stuart well in December of 1977 reported an average discharge of 1500 gpm, a maximum drawdown of 240 feet and yielded an estimated transmissivity in the range of 20,000 gpd/ft. Water levels did not stabilize during the test period and the resulting well efficiency was estimated to be only 70%. In February 1978, the static water level as reported on the well log was approximately 27 feet bgs. More recently, Rick Bollinger, Assistant Public Works Director for the City of Ellensburg, stated in a phone message on September 24, 2003, that the current static water level for the Mt. Stuart well, when the pump is shut off for several days, is 38 feet bgs.

Using the data from the 1977 pump test, aquifer parameters derived from other local wells and a range of storage coefficients for a confined system, several conservative drawdown scenarios were considered using the Theis nonequilibrium equation. Results suggest that if continuous pumping occurred at the proposed well at the maximum instantaneous rate allowed for a period of 365 days, drawdown could be in the range of approximately 10-12% of the effective available head at 500 to 1000 feet from the well. If the well is pumped in cycles, or if the well is pumped at less than the maximum Qi, the predicted effect would be reduced. While this suggests that well interference effects may be observed, particularly in similar depth wells or wells which may be deepened consistent with their rights, it does not appear to suggest that interference would be considered significant. Further, with the compliance of the casing provision described above and the generally low density of deep pumping wells, due to the availability of City water, impairment of existing rights as a result of the change appears unlikely.

Relationship between the Original Source and Proposed Sources

In order to add a new well to an existing water right, "the additional or replacement well or wells shall tap the same body of public ground water as the original well or wells," as stated in RCW 90.44.100(2)(a). The additional well is proposed to be located approximately 1250 feet north and 700 feet east of the W¼ corner of Section 35, T. 18 N., R. 18 E.W.M., or approximately 1300 feet northeast of the original authorized Mt. Stuart well. However, since the proposed well is not yet constructed it could potentially be located approximately 1800 feet from the original well and still be within the same ¼¼ section. The original well withdraws ground water stored in the Ellensburg Formation. The proposed well will also withdraw ground water stored in the Ellensburg Formation and will not be separated from the original well site by any hydraulic barrier, such as a fault or fold. Thus, the proposed additional well will tap the same body of public ground water.

Water Transfer Workgroup Review

In an effort to provide information about water right change requests as well as to identify and resolve potential issues with specific requests, applications for change have been provided to the Yakima Basin Water Transfer Work Group (WTWG) for review and discussion. The WTWG, which includes representatives of several stakeholders in the Yakima Basin, evolved out of the involvement of the Conservation Advisory Group (CAG) in reviewing and recommending water right transfer requests during the 2001 drought. The group has no statutory authority related to water rights change applications, but provides additional transparency to the decision making process, as well as an opportunity for stakeholders to identify and resolve issues prior to the time a final decision is made by Ecology.

The City of Ellensburg's water right change application was reviewed by the WTWG and discussion by the group focused on how the new statutory changes under House Bill 1338 would impact Ecology's analysis and decision on the application. The concern raised by the WTWG was the "good standing" that is now conferred to Certificate No. G4-25307 when the history of water use shows the full quantities identified by the certificate have not been put to beneficial use. The specific question/concern posed by the WTWG was whether the combined result of the legislative changes and approval of the Water Right Change Application would result in additional consumptive uses being developed that would impact other water rights, including those dependent on USBR water supply contracts and the Total Water Supply Available (TWSA) that is the measure of how much water is available to serve the contracts.

The request in the case of Application No. CG4-25307C is for an additional point of withdrawal. The potential for impairment of other water rights through well interference in the area from pumping the proposed well has already been addressed above. The question that remains is if authorizing this additional point of withdrawal will allow the city to increase consumptive water use and thus impair other water rights in the Yakima Basin. The intent of adding an additional well is for the city to be able to withdraw the maximum instantaneous and annual quantities identified on the certificate. Authorization of this change application is not the only way the city can achieve these water quantities. Continued efforts at redeveloping the authorized well or developing a replacement well within the same advertised area as the original well could also be employed by the City.

Any additional development under this water right that could results in increased consumptive water use is likely to occur in three different ways:

1). The city could develop new municipal uses on land that previously had no consumptive water use occurring. This scenario is perhaps the least likely due to the extensive development of irrigated agriculture with the UGA boundary of Ellensburg.
2) New industrial water uses with high water consuming processes could be developed on formerly irrigated land or other land that had a smaller consumptive component to it.
3) As the city expands and municipal water uses displace existing irrigation, the irrigation districts could move the water that formerly served that land to new land within the district boundaries, or even propose a change through Chapter 90.03.380 RCW.

All of these potential increases in consumptive use are not the result of adding an additional well. These are the result of the City developing its municipal water right that the Legislature has determined is in good standing. With the exception of an irrigation district that proposes water right changes of place of use under RCW 90.03.380, none of these scenarios would require water right change authorizations from Ecology. There are, however, other review processes that specific land owners and/or the city must comply with as projects are developed.

FINDINGS

The City of Ellensburg has continued to develop under this water right certificate in good faith and with due diligence. The water right identified by Certificate No. G4-25307C in quantities of 1700 gpm and 2742 acre-feet/year is in good standing even though the quantities identified by the certificate have not yet fully been put to beneficial use.

In accordance with Chapters 90.03 and 90.44 RCW, more specifically RCW 90.03.330(3), Ground Water Certificate No. G4-25307C is a water right in good standing.

Approval of the additional point of withdrawal will not impair other water rights and allowing full development under the Certificate is not detrimental to the public interest.

RECOMMENDATIONS

Based on the above investigations and findings the author recommends that the requested change in No. G4-25307C be approved and provisioned as follows:

Purpose of Use and Quantities

1700 gpm and 2742 acre-ft/yr for continuous municipal supply purposes

Point of Withdrawal

Mt. Stuart Well – approximately 240 feet north and 140 feet east of the west quarter corner of Section 35, being within the SW¼NW¼ of Section 35, T. 18 N., R. 18 E.W.M.

Proposed Well – Within the SW¼NW¼ of Section 35, T. 18 N., R. 18 E.W.M.

Place of Use

The place of use of this water right is the service area described in the Water System Plan approved by the Washington State Department of Health on May 20, 2001. The place of use of this water right may be revised in the future through the DOH-administered water system planning process if the criteria set forth in Section RCW 90.03.386(2) are met.

Development Schedule

Begin construction by:	October 1, 2008
Complete construction by:	October 1, 2009
Apply water to full beneficial use by:	October 1, 2020

Provisions

This authorization shall in no way excuse the permittee from compliance with any applicable federal, state, or local statutes, ordinances, or regulations including those administered by other programs of the Department of Ecology.

Installation and maintenance of an access port as described in Ground Water Bulletin No. 1 is required. An air line and gage may be installed in addition to the access port.

An approved measuring device shall be installed and maintained for each of the sources identified by this water right in accordance with the rule "Requirements for Measuring and Reporting Water Use", Chapter 173-173 WAC.

Water use data shall be recorded daily. The maximum monthly rate of diversion/withdrawal and the monthly total volume shall be submitted to Ecology by January 31st of each calendar year. Ecology is requiring submittal of monthly meter readings to collect seasonal information for water resource planning, management and compliance.

The following information shall be included with each submittal of water use data: owner, contact name if different, mailing address, daytime phone number, WRIA, Certificate No., source name, annual quantity used including units, maximum rate of withdrawal including units, monthly meter readings including units, peak monthly flow including units, purpose of use, well tag number, pressurized withdrawal, and period of use. In the future, Ecology may require additional parameters to be reported or more frequent reporting. Ecology prefers web based data entry, but does accept hard copies. Ecology will provide forms and electronic data entry information.

Chapter 173-173 WAC describes the requirements for data accuracy, device installation and operation, and information reporting. It also allows a water user to petition Ecology for modifications to some of the requirements. Installation, operation and maintenance requirements are enclosed as a document entitled "Water Measurement Device Installation and Operation Requirements".

Department of Ecology personnel, upon presentation of proper credentials, shall have access at reasonable times, to the records of water use that are kept to meet the above conditions, and to inspect at reasonable times any measuring device used to meet the above conditions.

A proof inspection will be conducted prior to final Superseding Certificate issuance. The applicant is advised that a Superseding Certificate of water right will issue for only that quantity of water that has been withdrawn and applied to actual beneficial use. Such quantity applied to actual beneficial use shall not exceed the quantity specified in this report of exam and will be calculated based on the best information available to Ecology, including metering data and/or water duty analysis.

Well Construction Provisions

Well construction shall be completed into the Ellensburg Formation aquifer.

Samples of drill cuttings shall be provided for permanent use to the Central Regional Office (CRO) of the Washington State Department of Ecology for stratigraphic logging. Sample collection shall start at ten (10) feet below the ground surface, continue at ten (10) foot intervals, and at significant changes in lithology, to the bottom of the well. Samples shall be permanently labeled indicating the sample depth and a well identifier. Heavy duty quart sized "zip-lock" type plastic bags labeled with indelible markers are typically adequate for sample collection. Ecology technical staff may be available to pick up samples during well construction site visits; otherwise, samples shall be delivered or shipped to CRO immediately following completion of well construction.

The proposed well shall be installed with solid (un-perforated, un-slotted, un-screened) casing to a minimum depth of 300 feet below the ground surface.

The proposed well shall be sealed in compliance with the minimum standards for sealing wells into an unconsolidated formation as described in Chapter 173-160-241WAC.

In the event the proposed well is drilled deeper than the original Mt. Stuart well, it is possible that artesian flowing pressure may be encountered and plans for controlling flowing pressures shall be submitted to Ecology prior to well construction for review and comments. In addition, the well driller shall consult with the Regional Well Construction Coordinator a minimum of one week prior to drilling regarding implementation of the plans during construction.

All water wells constructed within the state shall meet the minimum standards for construction and maintenance as provided under RCW 18.104 (Washington Water Well Construction Act of 1971) and Chapter 173-160 WAC (Minimum Standards for Construction and Maintenance of Water Wells.

Report by: _____ 8-2-2004
Randall Doneen, Water Resources Program Date

FINDINGS OF FACT AND DECISION

Upon reviewing the above report, I find all facts, relevant and material to the subject application, have been thoroughly investigated. Furthermore, I find the appropriation as recommended will not be detrimental to existing rights or the public interest.

Therefore, I ORDER the requested additional point of withdrawal be authorized under Ground Water Application No. CG4-25307C, subject to existing rights and provisions specified in the foregoing report.

Signed at Yakima, Washington, this 4th day of August 2004.

_____
Robert F. Barwin, Section Manager
Water Resources Program
Central Region Office

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CENTRAL REGION OFFICE

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STATE OF WASHINGTON
DEPARTMENT OF ECOLOGY

Accepted By
Date
Is Field Exam. Required? ☐ YES ☐ NO
Determined By

APPLICATION FOR CHANGE OF WATER RIGHT

☐ PURPOSE ☐ DIVERSION OR WITHDRAWAL
☒ PLACE ☒ ADDITIONAL POINT OR POINTS

NAME: CITY OF ELLENSBURG
Bus. Tel (509) 962-7101
Home Tel.
Other Tel.

ADDRESS: 414 N. MAIN ST. (CITY): ELLENSBURG (STATE): WA (ZIP CODE): 98926

APPLICATION NUMBER | PERMIT NUMBER | CERTIFICATE NUMBER: G4-25307C

DECREED RIGHT (TITLE OF CASE)

APPROPRIATIONS MADE (GIVE DATE IF PRIOR TO JUNE 7, 1917 IF SURFACE WATER, OR JUNE 7, 1945 IF GROUND WATER)

IS THE WATER RIGHT RECORDED IN YOUR NAME? ☒ YES ☐ NO | IF NO, GIVE NAME RECORDED UNDER

1. RIGHT CONSISTS OF

WATERS USED FROM (STREAM, LAKE, WELL, OR TRENCH, ETC.): WELL
GALLONS PER MINUTE OR CUBIC FEET PER SECOND: 1700 GPM
WATER CURRENTLY USED FOR: MUNICIPAL SUPPLY
TIME OF USE: CONTINUOUS

2. LOCATION OF PRESENT POINT OF DIVERSION OR WITHDRAWAL

ENTER BELOW THE DISTANCES FROM THE NEAREST SECTION OR PROPERTY CORNER TO THE DIVERSION OR WITHDRAWAL.
140' EAST & 240' NORTH OF THE W. 1/4 COR OF SEC. 35-18N-18E

LOCATED WITHIN (SMALLEST LEGAL SUBDIVISION)	SECTION	TOWNSHIP N.	RANGE (E. OR W.) W.M.	COUNTY
SW1/4, SW1/4, NW1/4	35	18	18E	KITITAS

IF THIS IS WITHIN THE LIMITS OF A RECORDED PLATTED PROPERTY, COMPLETE THIS SECTION

LOT	BLOCK	OF (GIVE NAME OF PLAT OR ADDITION)

3. LEGAL DESCRIPTION OF LANDS WATER IS USED ON

WITHIN THE CORPORATE LIMITS OF ELLENSBURG

SECTION	TOWNSHIP N.	RANGE (E. OR W.) W.M.	COUNTY

(ATTACH SEPARATE SHEET IF NECESSARY)

ARE YOU THE LEGAL OWNER OF THE ABOVE DESCRIBED LANDS? ☐ YES ☒ NO
IF NO, EXPLAIN YOUR INTEREST: MUNICIPAL SUPPLIER

REASONS FOR THE PROPOSED CHANGE

FOR INCREASED EFFICIENCY OF THE SUPPLY SYSTEM AND TO COORDINATE VARIOUS WATER RIGHTS INTO A SINGLE AUTHORIZATION.

A MINIMUM FEE OF $10.00 MUST ACCOMPANY THIS APPLICATION

CONTINUE ON REVERSE SIDE

CHANGE

MOUNT STUART

4. CHANGE REQUESTED

CHANGE WATER USE TO	TIME OF USE	GALLONS PER MINUTE OR CUBIC FEET PER SECOND

5. LOCATION OF PROPOSED POINT OF DIVERSION OR WITHDRAWAL

ON ACCOMPANYING SECTION MAPS, ACCURATELY MARK AND IDENTIFY EACH POINT OF DIVERSION. SHOW NORTH-SOUTH AND EAST-WEST DISTANCES FROM NEAREST SECTION CORNER OR PROPERTY CORNER. SEE ATTACHED

ALSO, ENTER BELOW THE DISTANCES FROM THE NEAREST SECTION OR PROPERTY CORNER TO THE DIVERSION OR WITHDRAWAL.

SEE ATTACHED

LOCATED WITHIN (SMALLEST LEGAL SUBDIVISION)	SECTION	TOWNSHIP N.	RANGE (E. OR W.) W.M.	COUNTY

6. IF THIS IS WITHIN THE LIMITS OF A RECORDED PLATTED PROPERTY, COMPLETE THIS SECTION

LOT	BLOCK	OF (GIVE NAME OF PLAT OR ADDITION)

ARE YOU THE OWNER OF THE LAND ON WHICH THE PROPOSED POINT OF DIVERSION OR WITHDRAWAL IS TO BE LOCATED

☐ YES ☐ NO

LEGAL DESCRIPTION OF LANDS WATER IS USED ON

WATER TO BE SUPPLIED TO ALL LANDS WITHIN THE CITY OF ELLENSBURG URBAN GROWTH AREA BOUNDARY - SEE ATTACHED MAP.

SECTION	TOWNSHIP N.	RANGE (E. OR W.) W.M.	COUNTY

(ATTACH SEPARATE SHEET IF NECESSARY)

ARE YOU THE LEGAL OWNER OF THE ABOVE DESCRIBED LANDS	IF NO, EXPLAIN YOUR INTEREST
☐ YES ☒ NO	MUNICIPAL SUPPLIER

* PLEASE NOTE LEGAL LAND OWNER SIGNATURE AND APPLICANT SIGNATURE ARE BOTH REQUIRED. IF THE LEGAL LAND OWNER AND APPLICANT ARE THE SAME, PLEASE SIGN IN BOTH PLACES. THANK YOU.

LEGAL LANDOWNER (PLEASE PRINT)

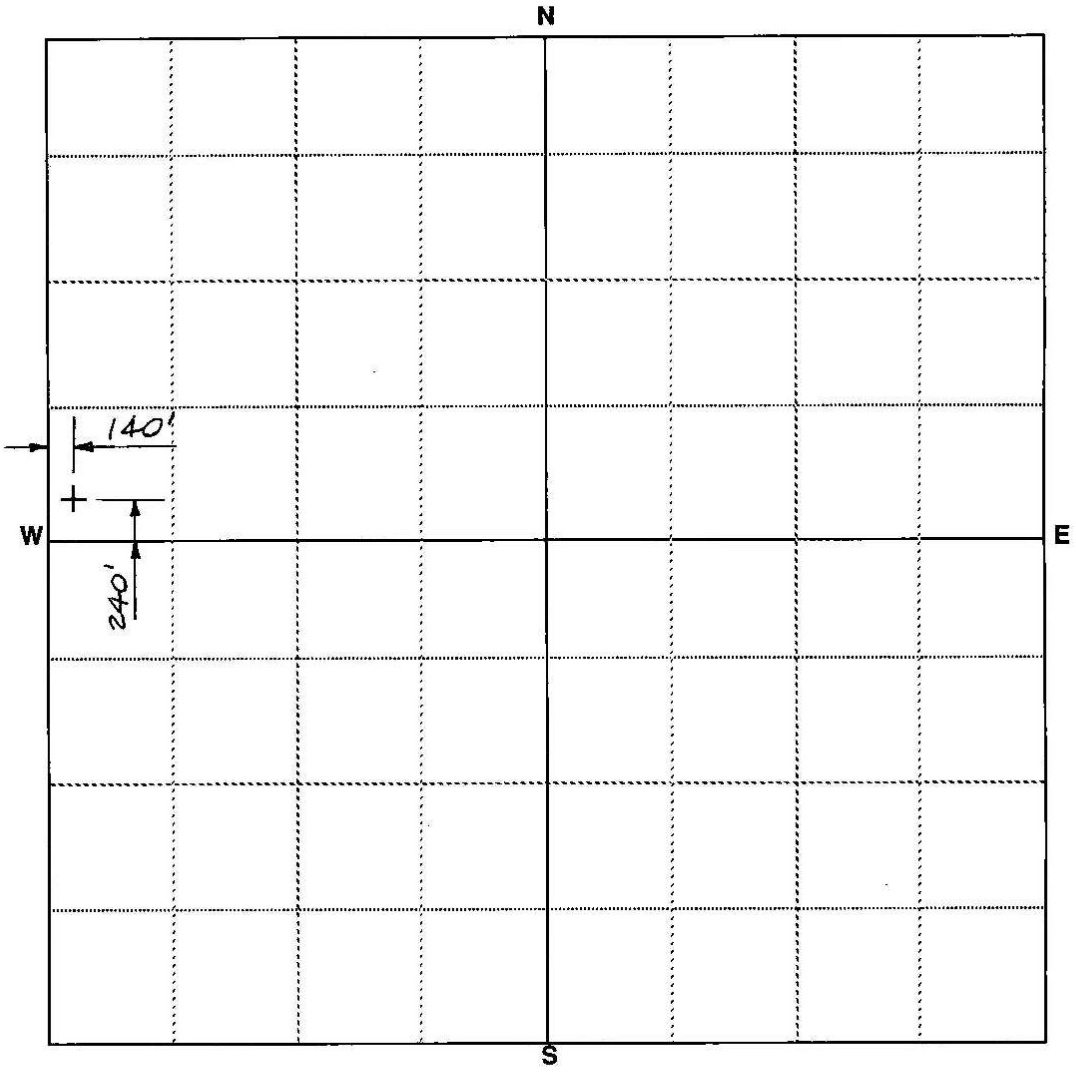
Stanley H. Bassett
APPLICANT'S SIGNATURE
Stanley H. Bassett, Mayor

LEGAL LANDOWNER SIGNATURE (OWNER OF PROPERTY DESCRIBED IN ITEM NUMBER 3)

LEGAL LANDOWNER'S ADDRESS

SECTION MAP

Sec. 35 Twp. 18 N. R. 18 E



Scale: 1 inch = 800 feet (each small square = 10 acres)

Show by a cross (X) the location of point of diversion (surface water source) or point of withdrawal (ground water source). For ground water applications, show by a circle (O) the locations of other wells or works within a quarter of a mile.
Indicate traveling directions from nearest town in space below.

THE WELL IS LOCATED WEST OF MOUNT STUART ELEMENTARY SCHOOL ON 15TH AVENUE IN ELLENSBURG.

Detach here

Fold along scale

FEET 0 400 800 1,200 1,600 2,000 2,400 2,800 3,200 3,600 4,000 4,400 4,800 5,200

Detach this scale at the performation, fold excess paper under or cut off excess by cutting along the scale line. This scale corresponds to the SECTION MAP above. You can read feet directly from this scale to outline property and locate points of diversion or withdrawal on the SECTION MAP. Enclose this map along with the application and $10.00 examination fee.

INSERT MAP

Your water right application will be processed by the Regional Office of the Department of Ecology having jurisdiction in the area in which your water works are located. **Please submit your completed application form, maps, sketches, and $10.00 examination fee to the appropriate Regional Office.**

Northwest Regional Office
3190 - 160th Avenue S.E.
Bellevue, WA 98008-5452
Tel. (206) 649-7000
TDD (206) 649-4259

Central Regional Office
15 West Yakima Avenue, Suite 200
Yakima, Washington 98902-3401
Tel. (509) 575-2490
TDD (509) 454-7673

Southwest Regional Office
PO Box 47775
Olympia, Washington 98504-7775
300 Desmond Drive
Lacey, WA 98503
Tel. (360) 407-6300
TDD (360) 407-6306

Eastern Regional Office
N. 4601 Monroe, Suite 100
Spokane, Washington 99205-1295
Tel. (509) 456-2926
TDD (509) 458-2055

The appropriate Regional Office will be happy to answer any further questions you may have.

Ecology is an Equal Opportunity and Affirmative Action employer. For special accommodation needs please contact the appropriate Regional Office from above.

15
K

STATE OF WASHINGTON
DEPARTMENT OF ECOLOGY

CERTIFICATE OF WATER RIGHT

☐ Surface Water (Issued in accordance with the provisions of Chapter 117, Laws of Washington for 1917, and amendments thereto, and the rules and regulations of the Department of Ecology.)

☒ Ground Water (Issued in accordance with the provisions of Chapter 263, Laws of Washington for 1945, and amendments thereto, and the rules and regulations of the Department of Ecology.)

PRIORITY DATE	APPLICATION NUMBER	PERMIT NUMBER	CERTIFICATE NUMBER
June 8, 1977	G4-25307	G4-25307P	G4-25307C

NAME
CITY OF ELLENSBURG

ADDRESS (STREET)	(CITY)	(STATE)	(ZIP CODE)
420 N. Pearl Street	Ellensburg,	Washington	98926

This is to certify that the herein named applicant has made proof to the satisfaction of the Department of Ecology of a right to the use of the public waters of the State of Washington as herein defined, and under and specifically subject to the provisions contained in the Permit issued by the Department of Ecology, and that said right to the use of said waters has been perfected in accordance with the laws of the State of Washington, and is hereby confirmed by the Department of Ecology and entered of record as shown.

PUBLIC WATER TO BE APPROPRIATED

SOURCE
A well

TRIBUTARY OF (IF SURFACE WATERS)

MAXIMUM CUBIC FEET PER SECOND	MAXIMUM GALLONS PER MINUTE	MAXIMUM ACRE-FEET PER YEAR
	1700	2750

QUANTITY, TYPE OF USE, PERIOD OF USE
To be used continuously for a municipal supply.

LOCATION OF DIVERSION/WITHDRAWAL

APPROXIMATE LOCATION OF DIVERSION—WITHDRAWAL
240 feet north and 140 feet east of the west quarter corner.

LOCATED WITHIN (SMALLEST LEGAL SUBDIVISION)	SECTION	TOWNSHIP N.	RANGE, (E. OR W.) W.M.	W.R.I.A.	COUNTY
SW¼ SW¼ NW¼	35	18	18 E.	35	Kittitas

RECORDED PLATTED PROPERTY

LOT	BLOCK	OF (GIVE NAME OF PLAT OR ADDITION)

LEGAL DESCRIPTION OF PROPERTY ON WHICH WATER IS TO BE USED

Within the corporate limits of Ellensburg.

PROVISIONS

Installation and maintenance of an access port as described in Ground Water Bulletin No. 1 is required. An air line and gage may be installed in addition to the access port.

All water wells constructed within the state shall meet the minimum standards for construction and maintenance as provided under RCW 18.104 (Washington Water Well Construction Act of 1971) and Chapter 173-160 WAC (Minimum Standards for Construction and Maintenance of Water Wells).

The right to the use of the water aforesaid hereby confirmed is restricted to the lands or place of use herein described, except as provided in RCW 90.03.380, 90.03.390, and 90.44.020.

This certificate of water right is specifically subject to relinquishment for nonuse of water as provided in RCW 90.14.180.

Given under my hand and the seal of this office at Yakima, *Washington, this* 18th *day of* May, *19* 82.

Department of Ecology

ENGINEERING DATA

OK /HB

by Russell K. Taylor

RUSSELL K. TAYLOR, REGIONAL MANAGER

1a

FOR COUNTY USE ONLY

STATE OF WASHINGTON
DEPARTMENT OF ECOLOGY

CERTIFICATE OF WATER RIGHT

☐ Surface Water. (Issued in accordance with the provisions of Chapter 117, Laws of Washington for 1917, and amendments thereto and the rules and regulations of the Department of Ecology.)

☒ Ground Water (Issued in accordance with the provisions of Chapter 263, Laws of Washington for 1945, and amendments thereto and the rules and regulations of the Department of Ecology.)

PRIORITY DATE	APPLICATION NUMBER	PERMIT NUMBER	CERTIFICATE NUMBER
July 22, 1977	G4-24353	G4-24353P	G4-24353C

CITY OF ELLENSBURG
ADDRESS (STREET) | CITY | STATE | ZIP CODE
420 North Pearl | Ellensburg | Washington | 98926

This is to certify that the above named applicant has made proof to the satisfaction of the Department of Ecology of a right to the use of the waters of the State of Washington as hereinafter defined, and under and specifically subject to the provisions contained in the Permit issued by the Department of Ecology, and that said right to the use of said waters has been perfected in accordance with the laws of the State of Washington, and is hereby confirmed by the Department of Ecology and entered of record as follows:

PUBLIC WATER TO BE APPROPRIATED

A well.

SOURCE	MAXIMUM RATE OF DIVERSION (GALLONS PER MINUTE)	MAXIMUM WITHDRAWAL QUANTITY (ACRE-FEET PER YEAR)
	50	20.6

To be used from April 1 to October 31, for irrigation of 3 acres.

LOCATION OF DIVERSION/WITHDRAWAL

APPROXIMATE LOCATION OF DIVERSION/WITHDRAWAL

456 feet north and 33 feet west from the east quarter corner of sec. 3.

LOCATED WITHIN SW¼ SE¼	SECTION	TOWNSHIP N.	RANGE E. OR W.	W.M.	CO.
	3	17	18	09	Kittitas

RECORDED PLATTED PROPERTY

LOT | BLOCK | OFFICIAL NAME OF PLAT OR ADDITION

LEGAL DESCRIPTION OF PROPERTY ON WHICH WATER IS TO BE USED

That portion of the S½ of the ... of Sec. 3, T. 17 N., R. 18 W.M., in Kittitas County, Washington, bounded as follows: Beginning at the E¼ corner of said Sec. 3 and using the E line of the NE¼ of Sec. 3 as a reference bearing of N 2°33'38" E; thence N 87°54'30" W a distance of 437.45 feet; thence N 29°55'43" W a distance of 427.68 feet; thence N 2°38'38" W 74.38 feet; thence N 87°36' E a distance of 144.12 feet; thence N 2°24' W a distance of 289.98 feet to the extended N lot line of Lot 8, Block 13, Becker's Addition to the City of Ellensburg; thence N 87°36' E along the N lot line of said Lot 8, a distance of 120 feet to the centerline of Pacific Street; thence N 2°24' W along the centerline of Pacific Street a distance of 88.99 feet to the centerline of Third Avenue and the Ellensburg city limits; thence N 87°36' E along the centerline of Third Avenue and the city limits, a distance of 456 feet to the W lot lines extended of Lots 1 through 10 of Block 16, Electric Addition to the City of Ellensburg, which is the West city limits line and the W lot lines of Lots 1 ... S 2°24' E along the W city limits line and the W lot lines of Lots 1 and 2, Block 14,

RECEIVE
MAY 12 1980
DEPARTMENT OF ECOLOGY
CENTRAL

STATE OF WASHINGTON
DEPARTMENT OF ECOLOGY

PROOF OF APPROPRIATION OF WATER

APPLICATION NUMBER: 64-25307

PERMIT NUMBER: 94-25307P

NAME OF PERMITTEE: CITY OF ELLENSBURG

POST OFFICE ADDRESS: 420 NORTH PEARL STREET | (CITY) ELLENSBURG | (STATE) WASHINGTON | (ZIP CODE) 98926

ACTUAL SOURCE OF APPROPRIATION: WELL

PURPOSE OR PURPOSES WATER IS USED FOR: MUNICIPAL DOMESTIC

DATE WATER WAS COMPLETELY APPLIED TO PERMITTED USE: MAY 22, 1978

IF USED FOR IRRIGATION, NUMBER OF ACRES ACTUALLY IRRIGATED:

IF SOURCE IS A WELL, IS AN ACCESS PORT NOW INSTALLED: [X] YES [ ] NO

MONTHS DURING WHICH WATER IS USED: ~~CONTINUOUS USE (12 MONTHS)~~

PUMP SIZE: 10" DIA. VERTICAL TURBINE - see attachment "A"

ACTUAL AMOUNT WITHDRAWN OR DIVERTED FROM PERMANENT SYSTEM: 555,117,000 GALLONS WITHDRAWN DURING 1979

[X] GPM 1700 MAXIMUM
[ ] CFS

HAVE ALL PROVISIONS AS REQUIRED BY PERMIT BEEN ACCOMPLISHED: [X] YES [ ] NO

IF NO, EXPLAIN:

LEGAL DESCRIPTION OF PROPERTY ON WHICH WATER IS USED (USE ADDITIONAL SHEET IF NECESSARY)

CORPORATE CITY LIMITS OF ELLENSBURG

Proof of all rights currently used 5/19/80

STATE OF WASHINGTON,
County of KITTITAS } ss

I, THOMAS A. CHINN, being first duly sworn, depose and say that I have read the above and foregoing proof of appropriation; that I know the contents thereof; and that the facts therein stated are true.

IN WITNESS WHEREOF, I have hereunto set my hand this 9th day of May, 1980.

Thomas A. Chinn
Signature of Applicant

Subscribed and sworn to before me this 9th day of May, 1980.

Notary Public

ECY-040-1-26 PFA

STATE OF WASHINGTON
DEPARTMENT OF ECOLOGY

PERMIT

TO APPROPRIATE PUBLIC WATERS OF THE STATE OF WASHINGTON

☐ Surface Water (Issued in accordance with the provisions of Chapter 117, Laws of Washington for 1917, and amendments thereto, and the rules and regulations of the Department of Ecology.)

☒ Ground Water (Issued in accordance with the provisions of Chapter 263, Laws of Washington for 1945, and amendments thereto, and the rules and regulations of the Department of Ecology.)

PRIORITY DATE	APPLICATION NUMBER	PERMIT NUMBER	CERTIFICATE NUMBER
June 8, 1977	G4-25307	G4-25307P	

NAME
CITY OF ELLENSBURG

ADDRESS (STREET)	(CITY)	(STATE)	(ZIP CODE)
420 E Pearl Street	Ellensburg,	Washington	98926

The applicant is, pursuant to the Report of Examination which has been accepted by the applicant, hereby granted a permit to appropriate the following described public waters of the State of Washington, subject to existing rights and to the limitations and provisions set out herein.

PUBLIC WATER TO BE APPROPRIATED

SOURCE
A well
TRIBUTARY OF (IF SURFACE WATERS)

MAXIMUM CUBIC FEET PER SECOND	MAXIMUM GALLONS PER MINUTE	MAXIMUM ACRE-FEET PER YEAR
	2000	3226

QUANTITY, TYPE OF USE, PERIOD OF USE
To be used continuously for a municipal supply.

LOCATION OF DIVERSION/WITHDRAWAL

APPROXIMATE LOCATION OF DIVERSION—WITHDRAWAL
240 feet north and 140 feet east of the west quarter corner

LOCATED WITHIN (SMALLEST LEGAL SUBDIVISION)	SECTION	TOWNSHIP N.	RANGE (E. OR W.) W.M.	W.R.I.A.	COUNTY
SW¼ SW¼ NW¼	35	18	18 E.	39	Kittitas

RECORDED PLATTED PROPERTY

LOT	BLOCK	OF (GIVE NAME OF PLAT OR ADDITION)

LEGAL DESCRIPTION OF PROPERTY ON WHICH WATER IS TO BE USED

Within the corporate limits of Ellensburg.

DESCRIPTION OF PROPOSED WORKS

A well 24 inches in diameter and 1200 feet deep; 200 HP vertical turbine pump to be connected to the existing municipal system.

DEVELOPMENT SCHEDULE

BEGIN PROJECT BY THIS DATE:	COMPLETE PROJECT BY THIS DATE:	WATER PUT TO FULL USE BY THIS DATE:
Begun	April 1, 1979	April 1, 1980

PROVISIONS

"The installation of an access port as described in attached Ground Water Bulletin No. 1 shall be required prior to issuance of final certificate of water right. The applicant may, for his own convenience, wish to install an airline and gage in addition to the access port."

Any well constructed under authority of this permit shall meet the minimum standards for construction and maintenance as provided under Chapter 18.104 RCW (Washington Water Well Construction Act of 1971) and Chapter 173-160 WAC (Minimum Standards for Construction and Maintenance of Water Wells).

This permit shall be subject to cancellation should the permittee fail to comply with the above development schedule and/or fail to give notice to the Department of Ecology on forms provided by that Department documenting such compliance.

Given under my hand and the seal of this office at Yakima *Washington, this* 12th *day of* February, 19 78

Department of Ecology

ENGINEERING DATA
OK ..... by Russell K. Taylor
WR

Russell K. Taylor, Regional Manager

STATE OF WASHINGTON
DEPARTMENT OF ECOLOGY

REPORT OF EXAMINATION
TO APPROPRIATE PUBLIC WATERS OF THE STATE OF WASHINGTON

☐ Surface Water (Issued in accordance with the provisions of Chapter 117, Laws of Washington for 1917, and amendments thereto, and the rules and regulations of the Department of Ecology.)

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PRIORITY DATE	APPLICATION NUMBER	PERMIT NUMBER	CERTIFICATE NUMBER
June 8, 1977	G4-25307		

NAME
CITY OF ELLENSBURG

ADDRESS (STREET)	(CITY)	(STATE)	(ZIP CODE)
420 N. Pearl Street	Ellensburg,	Washington	98926

PUBLIC WATERS TO BE APPROPRIATED

SOURCE
A well

TRIBUTARY OF (IF SURFACE WATERS)

MAXIMUM CUBIC FEET PER SECOND	MAXIMUM GALLONS PER MINUTE	MAXIMUM ACRE-FEET PER YEAR
	2000	3226

QUANTITY, TYPE OF USE, PERIOD OF USE
To be used continuously for a municipal supply.

LOCATION OF DIVERSION/WITHDRAWAL

APPROXIMATE LOCATION OF DIVERSION—WITHDRAWAL
240 feet north and 140 feet east of the west quarter corner.

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SW¼ SW¼ NW¼	35	18	18 E.	35	Kittitas

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DEVELOPMENT SCHEDULE

BEGIN PROJECT BY THIS DATE:	COMPLETE PROJECT BY THIS DATE:	WATER PUT TO FULL USE BY THIS DATE:
Begun	April 1, 1979	April 1, 1980

PROVISIONS

The City of Ellensburg presently holds the following water rights of record for a municipal supply:

PRIMARY RIGHTS

Source	File No.	GPM	Acre-feet/Year
Anderson Well	C-924-D	400	79
Park Well	C-925-D	700	565
City Well	C-926-D	4,861	3,850
Rodeo Well	C-816-A	700	1,130
	Sub-Total	6,661	5,624

SUPPLEMENTAL RIGHTS

Airport Wells (2)	C-3525-A	1,050	1,675
USBR Contract*	C-4498 (portion of)	10,500	6,000
River Wells**	S3-00128P	4,500	1,000
	Sub-Total	16,050	8,675
	Total	22,711	

*Contracted for April 1 to October 15 only; S3-00128P supplies water from the Yakima River during the months not covered in the contract.

** Infiltration gallery complex on the Yakima River.

In addition, the city claims vested rights in the Naneum drainage. The quantity is not known since this source has not been used for years. The city also purchases 150 shares of water from the Town Ditch, a private irrigation company. This water is diverted into holding ponds lying atop the infiltration gallery mentioned above, and surcharges the system in the drier summer months.

Long-range development plans include a shift in source from surface waters to ground waters to facilitate compliance with federal water quality standards for municipalities. All surface water rights and contracts may be relinquished if the well permitted on the face of this document, and others, can produce the quantities of water required by the city.

The field examination of your application was performed on January 20, 1977, by William Myers of the Central Washington Region.

The following quantities and provisions are recommended for approval:

The requested instantaneous quantity of 2000 gallons per minute is recommended for approval for the purpose of a continuous municipal supply. Since Ellensburg has a number of water-intensive industries, the normal 250 gallons per day per capita has been raised to 450 gallons in computing the annual quantity necessary for the city with a projected population of 18,000. This then totals 9,073 acre-feet per year. Since this total amount has not been met in previously-granted rights, the annual quantity under this filing will be that which can be pumped continuously from a 2000 gallon per minute well, or 3226 acre-feet per year, and shall be issued as a primary right.

In accordance with the provisions of RCW 90.03.250, 90.44.020 and 90.44.060 of the Washington State Code, applicant was issued a temporary permit to withdraw public ground waters for irrigation purposes. This temporary permit has been in effect since the pendency of the application and will be cancelled upon issuance of the permit.

(Continued)

CITY OF ELLENSBURG G4-25307

PROVISIONS (Continued)

In the interests of affording a reasonable amount of protection for existing water rights and to minimize possible regulation against your well in favor of those rights, the following well construction provisions are deemed necessary to attain those goals:

This well shall be cased and effectively sealed to the depth of 300 feet.

"The installation of an access port as described in attached Ground Water Bulletin No. 1 shall be required prior to issuance of final certificate of water right. The applicant may, for his own convenience, wish to install an airline and gage in addition to the access port."

Use of the waters to be appropriated under this application will be for a public water supply. State Board of Health rules require every owner of a public water supply to obtain written approval from the Assistant Secretary, Division of Health, prior to any new construction or alterations of a public water supply. The applicant is advised to contact the Washington State Division of Health, Public Health Building No. 4, Thurston Airdustrial Center, Olympia, with the regard to the need for compliance.

Signed at Yakima, Washington
this 23 day of January, 1978.

Vicki H. Colgan

VICKI H. COLGAN
Resource Management Division
Department of Ecology

REPORT OF EXAMINATION
TO APPROPRIATE PUBLIC WATERS OF THE STATE OF WASHINGTON

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June 8, 1977	G4-25307		

NAME
CITY OF ELLENSBURG

ADDRESS (STREET)	(CITY)	(STATE)	(ZIP CODE)
420 N. Pearl Street	Ellensburg,	Washington	98926

PUBLIC WATERS TO BE APPROPRIATED

SOURCE
A well

TRIBUTARY OF (IF SURFACE WATERS)

MAXIMUM CUBIC FEET PER SECOND	MAXIMUM GALLONS PER MINUTE	MAXIMUM ACRE-FEET PER YEAR
	2000	3226

QUANTITY, TYPE OF USE, PERIOD OF USE
To be used continuously for a municipal supply.

LOCATION OF DIVERSION/WITHDRAWAL

APPROXIMATE LOCATION OF DIVERSION/WITHDRAWAL
240 feet north and 140 feet east of the west quarter corner

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(Continued)

Page two

CITY OF ELLENSBURG

...raction for existing water ...favor of those rights ...those goals.

CITY OF ELLENSBURG

PROVISIONS (Continued)

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Signed at Yakima, Washington
this 23 day of January, 1978.

Vicki M. Colgan

VICKI M. COLGAN
Resource Management Division
Department of Ecology

jvw

EC
Re

STATE OF WASHINGTON
DEPARTMENT OF ECOLOGY

REPORT OF EXAMINATION
TO APPROPRIATE PUBLIC WATERS OF THE STATE OF WASHINGTON

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June 8, 1977	G4-25307		

NAME
CITY OF ELLENSBURG

ADDRESS (STREET)	(CITY)	(STATE)	(ZIP CODE)
420 N. Pearl Street	Ellensburg,	Washington	98926

PUBLIC WATERS TO BE APPROPRIATED

SOURCE
A well

TRIBUTARY OF (IF SURFACE WATERS)

MAXIMUM CUBIC FEET PER SECOND	MAXIMUM GALLONS PER MINUTE	MAXIMUM ACRE-FEET PER YEAR
	2000	3226

QUANTITY, TYPE OF USE, PERIOD OF USE
To be used continuously for a municipal supply.

LOCATION OF DIVERSION/WITHDRAWAL

APPROXIMATE LOCATION OF DIVERSION—WITHDRAWAL
240 feet north and 140 feet east of the west quarter corner.

LOCATED WITHIN (SMALLEST LEGAL SUBDIVISION)	SECTION	TOWNSHIP N.	RANGE E. OR W.	W.M.	W.R.I.A.	COUNTY
SW¼ SW¼ NW¼	35	18	18 E.		35	Kittitas

RECORDED PLATTED PROPERTY

LOT	BLOCK	OF (GIVE NAME OF PLAT OR ADDITION)

LEGAL DESCRIPTION OF PROPERTY ON WHICH WATER IS TO BE USED

Within the corporate limits of Ellensburg.

DESCRIPTION OF PROPOSED WORKS

A well 24 inches in diameter and 1200 feet deep; 200 HP vertical turbine pump to be connected to the existing municipal system.

DEVELOPMENT SCHEDULE

BEGIN PROJECT BY THIS DATE:	COMPLETE PROJECT BY THIS DATE:	WATER PUT TO FULL USE BY THIS DATE:
Begun	April 1, 1979	April 1, 1980

PROVISIONS

The City of Ellensburg presently holds the following water rights of record for a municipal supply:

PRIMARY RIGHTS

Source	File No.		GPM	Acre-feet/Year
Anderson Well	C-924-D		400	79
Park Well	C-925-D		700	565
City Well	C-926-D		4,861	3,850
Rodeo Well	C-816-A		700	1,130
		Sub-Total	6,661	5,624

SUPPLEMENTAL RIGHTS

Airport Wells (2)	C-3525-A		1,050	1,675
USBR Contract*	C-4498 (portion of)		10,500	6,000
River Wells**	S3-00128P		4,500	1,000
		Sub-Total	16,050	8,675
		Total	22,711	

*Contracted for April 1 to October 15 only; S3-00128P supplies water from the Yakima River during the months not covered in the contract.

** Infiltration gallery complex on the Yakima River.

In addition, the city claims vested rights in the Naneum drainage. The quantity is not known since this source has not been used for years. The city also purchases 150 shares of water from the Town Ditch, a private irrigation company. This water is diverted into holding ponds lying atop the infiltration gallery mentioned above, and surcharges the system in the drier summer months.

Long-range development plans include a shift in source from surface waters to ground waters to facilitate compliance with federal water quality standards for municipalities. All surface water rights and contracts may be relinquished if the well permitted on the face of this document, and others, can produce the quantities of water required by the city.

The field examination of your application was performed on January 20, 1977, by William Myers of the Central Washington Region.

The following quantities and provisions are recommended for approval:

The requested instantaneous quantity of 2000 gallons per minute is recommended for approval for the purpose of a continuous municipal supply. Since Ellensburg has a number of water-intensive industries, the normal 250 gallons per day per capita has been raised to 350 gallons in computing the annual quantity necessary for the city with a projected population of 18,000. This then totals 2,073 acre-feet per year. Since this total amount has not been met in previously-granted rights, the annual quantity under this filing will be that which can be pumped continuously from a 2000 gallon per minute well, or 3226 acre-feet per year, and shall be issued as a primary right.

In accordance with the provisions of RCW 90.03.250, 90.44.020 and 90.44.060 of the Washington State Code, applicant was issued a temporary permit to withdraw public ground waters for irrigation purposes. This temporary permit has been in effect since the pendency of the application and will be cancelled upon issuance of the permit.

(Continued)

CITY OF ELLENSBURG G4-25307

PROVISIONS (Continued)

In the interests of affording a reasonable amount of protection for existing water rights and to minimize possible regulation against your well in favor of those rights, the following well construction provisions are deemed necessary to attain those goals:

This well shall be cased and effectively sealed to the depth of 300 feet.

"The installation of an access port as described in attached Ground Water Bulletin No. 1 shall be required prior to issuance of final certificate of water right. The applicant may, for his own convenience, wish to install an airline and gage in addition to the access port."

Use of the waters to be appropriated under this application will be for a public water supply. State Board of Health rules require every owner of a public water supply to obtain written approval from the Assistant Secretary, Division of Health, prior to any new construction or alterations of a public water supply. The applicant is advised to contact the Washington State Division of Health, Public Health Building No. 4, Thurston Airdustrial Center, Olympia, with the regard to the need for compliance.

Signed at Yakima, Washington
this 23 day of January, 1978.

Vicki M. Colgan

VICKI M. COLGAN
Resource Management Division
Department of Ecology

jvw

State of Washington Department of Ecology

APPLICATION FOR [illegible] MFJ
TO APPROPRIATE PUBLIC WATERS OF THE STATE OF WASHINGTON

☐ SURFACE WATER ☒ GROUND WATER

$10.00 MINIMUM STATUTORY EXAMINATION FEE REQUIRED WITH APPLICATION

(GRAY BOXES FOR OFFICE USE ONLY)

APPLICATION NO.	W.R.I.A.	COUNTY	PRIORITY DATE	TIME	ACCEPTED
42530?	35	Kittitas	6/8/77		N/A

APPLICANT'S NAME: City of Ellensburg — BUSINESS TEL. (509) 962-9863 — HOME TEL.

ADDRESS (STREET): 420 North Pearl St. — (CITY): Ellensburg — (STATE): Washington — (ZIP CODE): 98926

DATE & PLACE OF INCORPORATION IF APPLICANT IS A CORPORATION: N/A

1. SOURCE OF SUPPLY

IF SURFACE WATER

SOURCE (NAME OF STREAM, LAKE, SPRING, ETC.) (IF UNNAMED, SO STATE):

TRIBUTARY:

IF GROUND WATER

SOURCE (WELL, TUNNEL, INFILTRATION TRENCH, ETC.): Well

SIZE AND DEPTH: 16" casing and 12" casing 1200± depth

2. USE

USE TO WHICH WATER IS TO BE APPLIED (DOMESTIC SUPPLY, IRRIGATION, MINING, MANUFACTURING, ETC.): Municipal Supply

ENTER QUANTITY OF WATER REQUESTED USING UNITS OF: CUBIC FEET PER SECOND (CFS) — OR — GALLONS PER MINUTE (GPM): 2000 — ACRE FEET PER YEAR: 2500

(CONTINUOUS Municipal Supply)

TIMES DURING YEAR WATER WILL BE REQUIRED: Daily - year around

IF IRRIGATION, NUMBER OF ACRES: N/A

IF DOMESTIC USE, NUMBER OF UNITS BY TYPE, E.G. 1-HOME, 1-MOBILE HOME, 3-CAMPSITES, ETC.: N/A

IF MUNICIPAL USE, ESTIMATED POPULATION 20 YEARS FROM TODAY: 18,000

DATE PROJECT WAS OR WILL BE STARTED: June 1977

DATE PROJECT WAS OR WILL BE COMPLETED: April 1978

3. LOCATION OF POINT OF DIVERSION/WITHDRAWAL

3A. IF IN PLATTED PROPERTY

LOT	BLOCK	OF (GIVE NAME OF PLAT OR ADDITION)	SECTION	TOWN	RANGE

ALSO, PLEASE ENCLOSE A COPY OF THE PLAT AND MARK THE POINT(S) OF WITHDRAWAL OR DIVERSION

3B. IF NOT IN PLATTED PROPERTY

ON ACCOMPANYING SECTION MAP, ACCURATELY MARK AND IDENTIFY EACH POINT OF DIVERSION. SHOW NORTH-SOUTH AND EAST-WEST DISTANCES FROM NEAREST SECTION CORNER OR PROPERTY CORNER.

ALSO, ENTER BELOW THE DISTANCES FROM THE NEAREST SECTION OR PROPERTY CORNER TO THE DIVERSION OR WITHDRAWAL.

2400' South and 140' East of the N. W. corner of Section 35 T18N R18E

LOCATED WITHIN (SMALLEST LEGAL SUBDIVISION)	SECTION	TOWNSHIP N	RANGE (E. OR W.) W.M.	COUNTY
S.W. ¼, S.W. ¼, N.W. ¼	35	18	18E	Kittitas

4. DO YOU OWN THE LAND ON WHICH THIS SOURCE IS LOCATED IF NOT, INSERT NAME & ADDRESS OF OWNER: Yes

5. LEGAL DESCRIPTION OF PROPERTY ON WHICH WATER IS TO BE USED.

ATTACH A COPY OF THE LEGAL DESCRIPTION OF THE PROPERTY (ON WHICH THE WATER WILL BE USED) TAKEN FROM A REAL ESTATE CONTRACT, PROPERTY DEED OR TITLE INSURANCE POLICY, OR COPY CAREFULLY IN THE SPACE BELOW.

Within the corporate limits of the City of Ellensburg

RECEIVED
JUN 8 1977
DEPARTMENT OF ECOLOGY
CENTRAL REGIONAL OFFICE

ECY 040-1-14(4) (rev. 7-76)

APPLICATION

WHAT IS YOUR INTEREST IN THE PROPERTY ON WHICH WATER IS TO BE USED (PROPERTY OWNER, LESSEE, CONTRACT PURCHASER, ETC.)

Municipal Government

ARE THERE ANY EXISTING WATER RIGHTS RELATED TO THE LAND ON WHICH THE WATER IS TO BE USED (INCLUDING WATER PROVIDED BY IRRIGATION DISTRICTS OR DITCH COMPANIES)? [X] YES [ ] NO

IF YES, FROM WHAT SOURCE (i.e. SURFACE OR GROUND WATER) AND UNDER WHAT AUTHORITY

See attached Schedule A

6. DESCRIPTION OF SYSTEM PROPOSED OR INSTALLED

(FOR EXAMPLE: SIZE OF PUMP, CAPACITY OF PUMP, PUMP MOTOR HORSE POWER, PIPE DIAMETER, NUMBER OF SPRINKLERS, ETC.)

Drilled well 1200' ± with vertical turbine pump and approximately 200 h.p. electric motor.

REMARKS

7. Applicant is currently applying for federal funds for drought relief, and requests issuance of a temporary permit.

IF 10 ACRE-FEET OR MORE OF WATER IS TO BE STORED AND/OR IF THE WATER DEPTH WILL BE 10 FEET OR MORE AT THE DEEPEST POINT, A STORAGE PERMIT MUST BE FILED IN ADDITION TO THIS PERMIT. THESE FORMS CAN BE SECURED, TOGETHER WITH INSTRUCTIONS, FROM THE DEPARTMENT OF ECOLOGY.

SIGNATURES

APPLICANT'S SIGNATURE
R. H. Walker, City Manager

LEGAL LANDOWNER'S SIGNATURE
R. H. Walker, City Manager

420 North Pearl St., Ellensburg, Washington 98926
LEGAL LANDOWNER'S ADDRESS

FOR OFFICE USE ONLY

STATE OF WASHINGTON } ss.
DEPARTMENT OF ECOLOGY }

This is to certify that I have examined this application, together with the accompanying maps and data, and on returning it for correction or completion as follows: .....

.....

.....

In order to retain its priority date, this application must be returned to the Department of Ecology, with corrections, on or before ..... *19*.....

Witness my hand this ..... *day of* ..... *19*.....

.....
Department of Ecology

amined this application
by SEPA and I find that
ot an "action"
ategorically exempt.

SIGNATURE

STATE OF WASHINGTON
DEPARTMENT OF ECOLOGY

PROGRESS SHEET

☐ SURFACE WATER ☐ GROUND WATER

COMPUTER INPUT
☐ APPLICATION
☐ PERMIT
☐ CERTIFICATE
☐ OTHER

Sean

NAME			TELEPHONE NO.
City of Ellensburg			962-9863
ADDRESS	(CITY)	(STATE)	(ZIP CODE)
420 North Pearl St.	Ellensburg,	Washington	98926
ASSIGNED TO		TELEPHONE NO.	DATE ASSIGNED
ADDRESS	(CITY)	(STATE)	(ZIP CODE)

APPLICATION NO. G4253?7	PERMIT NO. G4253077P	CERTIFICATION NO. 42530?C
DATE AMENDED	DATE CANCELLED	W.R.I.A.

APPLICATION

DATE APPLICATION RECEIVED	INITIAL $10.00 FEE RECEIVED ☐ YES ☐ NO	DATE FEE RECEIVED
STATEMENT OF ADDITIONAL EXAMINATION FEE $	DATE SENT	DATE RECEIVED
DATE RETURNED FOR COMPLETION OR CORRECTION	DATE RECEIVED	

TEMPORARY PERMIT

APPROVED BY	DATE ISSUED

PUBLICATION

APPROVED BY	DATE APPROVED	DATE NOTICE SENT
	1/17/77	JUL 2 1911 S

PROTESTED BY AND DATE

DATE AFFIDAVIT RECEIVED	CHECKED BY	TIME EXPIRED	DATE AMENDED NOTICE SENT	DATE AFFIDAVIT RECEIVED	TIME EXPIRED
8/5/77	NJK	9/4/77			

DEPARTMENT OF GAME AND FISHERIES REPORT

APPROVED	PROVISO	PROTEST

EXAMINATION

DATE EXAMINATION MADE	MADE BY	DATE REPORT OF EXAM. WRITTEN	WRITTEN BY	CHECKED BY
1-26-78				
DATE PERMIT FEE REQUESTED	AMOUNT DUE		DATE RECEIVED	
JAN 24 1978	$20.00		1-30-78	

PERMIT

PERMIT APPROVED BY	DATE APPROVED	PERMIT NO.	DATE ISSUED
	2-7-78	G4253077P	FEB 22 1978

BEGINNING OF CONSTRUCTION

DATE NOTICE SENT	DATE FILED	EXTENSION FEE
EXTENDED TO	EXTENDED TO	

WELL DRILLER'S AND/OR CONSTRUCTION REPORT

DATE SENT	DATE FILED
FEB 22 1978	5/24/78

COMPLETION OF CONSTRUCTION

DATE NOTICE SENT	DATE FILED	EXTENSION FEE
FEB 22 1978	4-22-78	
EXTENDED TO	EXTENDED TO	

PROOF OF APPROPRIATION

DATE SENT	DATE FILED	EXTENSION FEE	EXTENDED TO
5-31-78			

DATE CERTIFICATE FEE REQUESTED	AMOUNT DUE	DATE RECEIVED	DATE APPROVED FOR CERTIFICATE	APPROVED BY
5-31-78 4-13-82				

CERTIFICATION

PROOF EXAM. REQUIRED ☒ YES ☐ NO	CERTIFICATE NUMBER	DATE ISSUED
	42530?C	MAY 25 1982

REMARKS

ECY 070-17 PROGRESS

I have examined this application as required by SEPA and find that it is: ☐ not an "action".
☒ categorically exempt.

4/17/77 — DATE — SIGNATURE

STATE OF WASHINGTON
DEPARTMENT OF ECOLOGY

COMPUTER INPUT
☐ APPLICATION
☐ PERMIT
☐ CERTIFICATE
☐ OTHER

PROGRESS SHEET

☐ SURFACE WATER ☐ GROUND WATER

Sean

NAME			TELEPHONE NO.
City of Ellensburg			925-1233 962-9863
ADDRESS	CITY	STATE	ZIP CODE
420 North Pearl St.	Ellensburg,	Washington	98926
ASSIGNED TO		TELEPHONE NO.	DATE ASSIGNED
ADDRESS	CITY	STATE	ZIP CODE

APPLICATION NO.	PERMIT NO.	CERTIFICATION NO.
G4253??	G4253071	42530?C
DATE AMENDED	DATE CANCELLED	W.R.I.A.

APPLICATION

DATE APPLICATION RECEIVED	INITIAL $40.00 FEE RECEIVED ☐ YES ☐ NO	DATE FEE RECEIVED
STATEMENT OF ADDITIONAL EXAMINATION FEE $	DATE SENT	DATE RECEIVED
DATE RETURNED FOR COMPLETION OR CORRECTION	DATE RECEIVED	

TEMPORARY PERMIT

APPROVED BY	DATE ISSUED

PUBLICATION

APPROVED BY	DATE APPROVED	DATE NOTICE SENT
DM	6/17/77	JUL 2 1977 S
PROTESTED BY AND DATE		

DATE AFFIDAVIT RECEIVED	CHECKED BY	TIME EXPIRED	DATE AMENDED NOTICE SENT	DATE AFFIDAVIT RECEIVED	TIME EXPIRED
9/6/77	DNR	9/4/77			

DEPARTMENT OF GAME AND FISHERIES REPORT

APPROVED	PROVISO	PROTEST

EXAMINATION

DATE EXAMINATION MADE	MADE BY	DATE REPORT OF EXAM. WRITTEN	WRITTEN BY	CHECKED BY
1-16-78	[illegible]	1-16-78	[illegible]	DD
DATE PERMIT FEE REQUESTED	AMOUNT DUE		DATE RECEIVED	
JAN 24 1978	$20.00		1-30-78	

PERMIT

PERMIT APPROVED BY	DATE APPROVED	PERMIT NO.	DATE ISSUED
DNR	2-7-78	G4253071	FEB 22 1978

BEGINNING OF CONSTRUCTION

DATE NOTICE SENT	DATE FILED	EXTENSION FEE
	Regular	
EXTENDED TO	EXTENDED TO	

WELL DRILLER'S AND/OR CONSTRUCTION REPORT

DATE SENT	DATE FILED
FEB 22 1978	5/24/78 OK

COMPLETION OF CONSTRUCTION

DATE NOTICE SENT	DATE FILED	EXTENSION FEE
FEB 22 1978	4-22-78	
EXTENDED TO	EXTENDED TO	

PROOF OF APPROPRIATION

DATE SENT	DATE FILED	EXTENSION FEE	EXTENDED TO
5-31-78			
DATE CERTIFICATE FEE REQUESTED	AMOUNT DUE	DATE RECEIVED	DATE APPROVED FOR CERTIFICATE / APPROVED BY
5-31-78 4-13-82			

CERTIFICATION

PROOF EXAM. REQUIRED ☐ YES ☐ NO	CERTIFICATE NUMBER	DATE ISSUED
	G4253?C	MAY 25 1982

REMARKS:

ECY 070-17 PROGRESS

I have examined this application as required by SEPA and find that it is: ☐ not an "action".
☒ categorically exempt.

6/17/77 [signature]
DATE SIGNATURE

STATE OF WASHINGTON
DEPARTMENT OF ECOLOGY

PROGRESS SHEET

☐ SURFACE WATER ☐ GROUND WATER

COMPUTER INPUT
☐ APPLICATION
☐ PERMIT
☐ CERTIFICATE
☐ OTHER

NAME: City of Ellensburg — TELEPHONE NO.: 962-9863
ADDRESS: 420 North Pearl St. — CITY: Ellensburg, — STATE: Washington — (ZIP CODE): 98926
ASSIGNED TO — TELEPHONE NO. — DATE ASSIGNED
ADDRESS — CITY — STATE — (ZIP CODE)

APPLICATION NO. G 425307 — PERMIT NO. G 425307P — CERTIFICATE NO. 42530 C
DATE AMENDED — DATE CANCELLED

APPLICAT
DATE APPLICATION RECEIVED — INITIAL $10.00 FEE RECEIV ☐ YES
STATEMENT OF ADDITIONAL EXAMINATION FEE $ — DATE SENT
DATE RETURNED FOR COMPLETION OR CORRECTION

APPROVED BY

APPROVED BY [signature]
PROTESTED BY AND DATE

DATE AFFIDAVIT RECEIVED 8/5/77
APPROVED

DATE EXAMINATION MADE 1-20-77 — MADE BY [signature]
DATE PERMIT FEE REQUESTED JAN 24 1978 — A
PERMIT APPROVED BY [signature] — DATE APPROVED 3-7-78 — BEGIN
MAIL NOTICE SENT — DATE FILED
EXTENDED TO

WELL DRILLER'S AND/OR C
DATE SENT FEB 22 1978 — DATE FI 5/2
DATE NOTICE SENT FEB 22 1978 — DATE FILED 4-22-78
EXTENDED TO — EXTENDED TO

COMPLETION OF CONSTRUC
PROOF OF APPROPRIATION
DATE SENT 5-31-78 — DATE FILED — EXTENSION FEE
DATE CERTIFICATE FEE REQUESTED 5-31-78 — AMOUNT DUE 4-13-82 — DATE RECEIVED — DATE APPROVED FOR

CERTIFICATION
PROOF EXAM REQUIRED ☐ YES ☐ NO — CERTIFICATE NUMBER 42530 C — DATE ISSU MAY 25
REMARKS

CORRECTION
THIS DOCUMENT HAS BEEN REPHOTOGRAPHED TO ASSURE LEGIBILITY

GAA-59

ECY 070-17

PROGRESS

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Seasonal Certificate G3-20414C

Brooklane Well

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File

STATE OF WASHINGTON
DEPARTMENT OF ECOLOGY

CERTIFICATE OF WATER RIGHT

☐ Surface Water (Issued in accordance with the provisions of Chapter 117, Laws of Washington for 1917, and amendments thereto, and the rules and regulations of the Department of Ecology.)

☒ Ground Water (Issued in accordance with the provisions of Chapter 263, Laws of Washington for 1945, and amendments thereto, and the rules and regulations of the Department of Ecology.)

PRIORITY DATE	APPLICATION NUMBER	PERMIT NUMBER	CERTIFICATE NUMBER
October 25, 1972	G3-20414	G3-20414P	G3-20414C

NAME
CENTRAL WASHINGTON STATE COLLEGE

ADDRESS (STREET)	(CITY)	(STATE)	(ZIP CODE)
	Ellensburg,	Washington	98926

This is to certify that the herein named applicant has made proof to the satisfaction of the Department of Ecology of a right to the use of the public waters of the State of Washington as herein defined, and under and specifically subject to the provisions contained in the Permit issued by the Department of Ecology, and that said right to the use of said waters has been perfected in accordance with the laws of the State of Washington, and is hereby confirmed by the Department of Ecology and entered of record as shown, but is limited to an amount actually beneficially used.

PUBLIC WATER TO BE APPROPRIATED

SOURCE
A well

TRIBUTARY OF (IF SURFACE WATERS)

MAXIMUM CUBIC FEET PER SECOND	MAXIMUM GALLONS PER MINUTE	MAXIMUM ACRE-FEET PER YEAR
	910	480

QUANTITY, TYPE OF USE, PERIOD OF USE
480 acre-feet per year for the irrigation of 154 acres from April 1 to October 31 each year

LOCATION OF DIVERSION/WITHDRAWAL

APPROXIMATE LOCATION OF DIVERSION—WITHDRAWAL
1125 feet south and 1775 feet west of the NE corner of Section 36.

LOCATED WITHIN (SMALLEST LEGAL SUBDIVISION)	SECTION	TOWNSHIP N.	RANGE, (E. OR W.) W.M.	W.R.I.A.	COUNTY
NW¼NE¼	36	18	18 E.	39	Kittitas

RECORDED PLATTED PROPERTY

LOT	BLOCK	OF (GIVE NAME OF PLAT OR ADDITION)
	71	State Addition to the City of Ellensburg No. 1

LEGAL DESCRIPTION OF PROPERTY ON WHICH WATER IS TO BE USED Ellensburg

All that part of COLLEGE ADDITION as recorded in the Kittitas County Auditor and described as follows:

That portion of Block No. 9 of the COLLEGE ADDITION which is bounded by a line commencing at a point located S 89°21'18" W 200.00 feet from the NE corner of Sec. 36 T. 18 N., R. 18 E.W.M. and extending westward along the north boundary Sec. 36 S at 89°21'18" W 400.00 feet to the true point of beginning; thence continuing S 89°21'18" W 400.00 feet along the north boundary of Sec. 36; thence S 40°00'00" W 670.00 feet; thence S 50°00'00" E 150.00 feet; thence S 40°00'00" W 260.00 feet; thence S 89°25'52" W 907.30 feet; thence S 0°34'8" E 333.33 feet; thence N 89°25'52" E 400.00 feet; thence N 0°34'8" W 333.33 feet; thence N 89°25'52" E 244.50 feet; thence S 0°34'8" E 481.00 feet; thence N. 89°20'38" E 617.50 feet; thence N 29°11'24" E 1,308.80 feet; thence N 37°57'45" W 186.77 feet to the true point of beginning, together with, that portion of Block No. 7 of the COLLEGE ADDITION which is bounded by a line commencing at Monument No. 14-C of the COLLEGE ADDITION and extending westward along the centerline of Eighteenth Avenue S 89°20'38" W 366.66 feet; thence S 0°39'22" E 30.00 feet to the south right-of-way of Eighteeneth Avenue and the true point of beginning; thence westward along the south right-of-way of Eighteenth Avenue S 89°20' 38" W 1,466.58 feet; thence S 0°39'22" E 1,058.53 feet; thence S 89°20'38" W 93.00 feet; thence S 1°43'30" E 410.13 feet; thence N 88°36'51" E 120.00 feet; thence N 1°43'30" W 150.00 feet; thence N 89°20'38" E 675.20 feet; thence N 0°39'22" W 120.00 feet; thence N 89°20'38" E 250.00 feet; thence N 45°36'00" E 155.52 feet; thence north 30°00'00" W 115.00 feet; thence N 15°18'00" E 500.00 feet; thence S 87°12'00" E 217.50 feet; thence N 18°33'00" E 275.27 feet; thence N 1°9'14" E 261.96 feet to the true point of beginning, together with that portion of Block No. 6 of the COLLEGE ADDITION which is bounded by a line commencing at SW corner of the NW¼NE¼ Section 36, and extending southward along the centerline of Walnut Street S 1°43'30" E 125.00 feet; thence S 88°36'30" W 30.00 feet to the west right-of-way of Walnut Street and the true point of beginning; thence S 88°36'30" W 215.00 feet; thence S 1°43'30" E 233.00 feet; thence S 88°36'30" W 66.00 feet; thence S 1°43'30" E 220.00 feet; thence S 88°36'30" W 127.00 feet; thence S 1°43'30" E 322.00 feet;

thence N 88°36'30" E 408.00 feet; thence S 1°43'30" E 315.00 feet; thence S 88°36'30" W 240.00 feet; thence S 1°43'30" E 260.00 feet; thence N 88°36'30" E 240.00 feet; thence N 1°43'30" W 1,350.00 feet to the true point of beginning, together with that portion of Block No. 5 of the COLLEGE ADDITION which is bounded by a line commencing at Monument No. 57-C of the COLLEGE ADDITION and extending N 1°46'00" W 40.00 feet to the north right-of-way of Eleventh Avenue and the true point of beginning; thence S 88°14'00" W 1,400.00 feet; thence N 00°52' 37" W 1,070.16 feet; thence N 88°36'51" E 600.00 feet; thence S 00°52'37" E 235.00 feet; thence S 88°36'51" W 257.00 feet; thence S 1°23'09" E 240.00 feet; thence N 88°36'51" E 357.00 feet; thence N 61°00' 00" E 237.00 feet; thence S 56° 30'00" E 627.00 feet; thence S 3°59'10" W 338.73 feet to the true point of beginning, together with the W 400.00 feet of Block No. 2 of the COLLEGE ADDITION, together with that portion of Block No. 3 of the COLLEGE ADDITION which is located SE of a line projected N 28°14'25" E from Monument 47-B of the COLLEGE ADDITION, together with all of Blocks No. 1,4,10 and 13 of the COLLEGE ADDITION.

PROVISIONS

Installation and maintenance of an access port as described in Groundwater Bulletin No. 1 is required. An air line and gage may be installed in addition to the access port.

A suitable measuring device approved by the Department of Ecology shall be installed and maintained in accordance with WAC 508-64-020 through WAC 508-64-040. (Installation operation and maintenance requirements attached hereto.)

The right to the use of the water aforesaid hereby confirmed is restricted to the lands or place of use herein described, except as provided in RCW 90.03.380, 90.03.390, and 90.44.020.

This certificate of water right is specifically subject to relinquishment for nonuse of water as provided in RCW 90.14.180.

Given under my hand and the seal of this office at Yakima *Washington, this* 26th *day of* August, *19* 86.

Department of Ecology

ENGINEERING DATA
OK. RFB
BJ:vaw

by Russell K. Taylor

RUSSELL K. TAYLOR, P.E., REGIONAL MANAGER

FOR COUNTY USE ONLY

RECEIVED
MAY 22 1985
STATE OF WASHINGTON
DEPARTMENT OF ECOLOGY
CENTRAL REGION OF

RECEIVED
MAY - 7 1985

PROOF OF APPROPRIATION OF WATER

APPLICATION NUMBER

PERMIT NUMBER: G3-20414P

NAME OF PERMITTEE

POST OFFICE ADDRESS: Central Washington Univers ty | Ellensburg (CITY) | Washington (STATE) | 98926 (ZIP CODE)

Ellensburg | Washington | 98926

ACTUAL SOURCE OF APPROPRIATION: well

PURPOSE OR PURPOSES WATER IS USED FOR: Irrigation

DATE WATER WAS COMPLETELY APPLIED TO PERMITTED USE: 10 May 1985

IF USED FOR IRRIGATION: NUMBER OF ACRES ACTUALLY IRRIGATED: 154

IF SOURCE IS A WELL, IS AN ACCESS PORT NOW INSTALLED: [X] YES [ ] NO

MONTHS DURING WHICH WATER IS USED

PUMP SIZE: 75 HO

ACTUAL AMOUNT WITHDRAWN OR DIVERTED FROM PERMANENT SYSTEM: 910 [X] GPM [ ] CFS

HAVE ALL PROVISIONS AS REQUIRED BY PERMIT BEEN ACCOMPLISHED: [XX] YES [ ] NO

IF NO, EXPLAIN

LEGAL DESCRIPTION OF PROPERTY ON WHICH WATER IS USED (USE ADDITIONAL SHEET IF NECESSARY)

The area served by the Central Wasington University water system within Section 2, T. 17N., R. 18 E.W.M., and Sections 25, 35, and 36, T. 18N., R. 18 E.W.M.

OK for PA Proof exam required. JMM 6/4/85

STATE OF WASHINGTON,
County of Kittitas } ss.

I, X, being first duly sworn, depose and say that I have read the above and foregoing proof of appropriation; that I know the contents thereof; and that the facts therein stated are true.

IN WITNESS WHEREOF, I have hereunto set my hand this 20th day of May, 19 85.

x Richard E Cowna
Permittee Signature

Subscribed and sworn to before me this 20th day of May, 19 85.

Valerie I. Clerf
Notary Public
residing at Ellensburg

ECY 0040-1-26

P/A

b. No. 7354—(Rev. 6-70).

STATE OF WASHINGTON
DEPARTMENT OF ECOLOGY

Permit to Appropriate Public Waters of the State of Washington

Book No. _____ of Ground Water Permits, on page G3-20414P under Application No. G3-20414

CENTRAL WASHINGTON STATE COLLEGE

of Ellensburg, Washington

is, pursuant to the Report of Examination which has been accepted by the applicant, hereby granted a permit to appropriate the following described public ground waters of the State of Washington, subject to existing rights and to the limitations and provisions set out herein.

Priority date of this permit is October 25, 1972

Source(s) of the proposed ground water appropriation is/~~are~~ A Well

The quantity of water appropriated shall be limited to the amount which can be beneficially applied and not to exceed 1700 gallons per minute; 980 acre-feet per year, to be used for the following purposes: Community domestic supply and irrigation _____, as more definitely set out below.

Approximate location(s) of the point(s) of withdrawal is/are: 1125 feet south and 1775 feet west of the NE corner of Section 36

being within Block 71 of State Addition to the City of Ellensburg No. 1; Ellensburg, Washington within NW¼NE¼ of Sec. 36, Twp. 18 N., Rge. 18 E. W.M., Kittitas County,

The use, or uses, to which water is to be applied:

Community Domestic/~~municipal~~ supply: 1000 gallons per minute; 500 acre-feet per year, during entire year.

Irrigation: 700 gallons per minute; 480 acre-feet per year from April 1 to October 31, each year, for the irrigation of 154 acres.

Other use(s): _____ gallons per minute; _____ acre-feet per year, from _____ to _____ each year, for _____

LEGAL DESCRIPTION OF PROPERTY ON WHICH WATER IS TO BE USED

The area served by the Central Washington State College water system within Section 2, T. 17 N., R. 18 E.W.M. and Sections 25, 35, and 36, T. 18 N., R. 18 E.W.M.

ADDITIONAL LIMITATIONS AND PROVISIONS: The installation and maintenance of an access port as described in Ground Water Bulletin No. * shall be required prior to issuance of final Certificate of Water Right.

A suitable measuring device approved by the Department of Ecology shall be installed and maintained in accordance with WAC 508-64-020 through WAC 508-64-040.

RECEIVED

DESCRIPTION OF PROPOSED WORKS:

The well will be drilled (Dug or drilled) and have a diameter of 12 inches, and depth of 1000 feet.

Description of tunnel or infiltration trench: _____

DEVELOPMENT SCHEDULE:

Construction work shall begin on or before April 1, 1974

and shall thereafter be prosecuted with reasonable diligence and completed on or before April 1, ~~1975~~ 1977 (SEE NOTE BELOW) *

and complete application of water to proposed use shall be made on or before April 1, ~~1976~~ 1978 (SEE NOTE BELOW) *

This permit shall be subject to cancellation should the permittee fail to comply with the above development schedule and/or fail to give notice to the Department of Ecology on forms provided by that Department documenting such compliance.

Given under my hand and the seal of this office at Olympia, Washington, this 8th day of June, 19 73.

JOHN A. BIGGS, *Director*
Department of Ecology

by R. Jerry Bollen
R. JERRY BOLLEN
Assistant Director

ENGINEERING DATA
OK ZF

1-10-74

* PER WENDELL HALL, DIR. AUX. SER., MR. GEORGE FARMER ADVISED HIM TODAY TO CHANGE THE DATES AS SHOWN ABOVE. HE SAID THE DATES WERE TYPED WRONG AND SHOULD CONFORM WITH

S. F. No. 7354—(Rev. 6-70).

STATE OF WASHINGTON
DEPARTMENT OF ECOLOGY

Permit to Appropriate Public Waters of the State of Washington

Book No. ------ of Ground Water Permits, on page 1 under Application No. G3-20414P. G3-20414

CENTRAL WASHINGTON STATE COLLEGE

of Ellensburg, Washington

is, pursuant to the Report of Examination which has been accepted by the applicant, hereby granted a permit to appropriate the following described public ground waters of the State of Washington, subject to existing rights and to the limitations and provisions set out herein.

Priority date of this permit is October 25, 1972

Source(s) of the proposed ground water appropriation is/~~are~~: A Well

The quantity of water appropriated shall be limited to the amount which can be beneficially applied and not to exceed 1700 gallons per minute; 980 acre-feet per year, to be used for the following purposes: Community domestic supply and irrigation, as more definitely set out below.

Approximate location(s) of the point(s) of withdrawal is/are: 1125 feet south and 1775 feet west of the NE corner of Section 36

being within Block 71 of State Addition to the City of Ellensburg No. 1; Ellensburg, Washington within ~~NW¼NE¼~~

of Sec. 36, Twp. 18 N., Rge. 18 E. W.M., Kittitas County,

The use, or uses, to which water is to be applied:

Community Domestic/~~municipal~~ supply: 1000 gallons per minute; 500 acre-feet per year, during entire year.

Irrigation: 700 gallons per minute; 480 acre-feet per year from April 1 to October 31, each year, for the irrigation of 154 acres.

Other use(s): ..... gallons per minute; ..... acre-feet per year, from ..... to ..... each year, for .....

LEGAL DESCRIPTION OF PROPERTY ON WHICH WATER IS TO BE USED

The area served by the Central Washington State College water system within Section 2, T. 17 N., R. 18 E.W.M. and Sections 25, 35, and 36, T. 18 N., R. 18 E.W.M.

ADDITIONAL LIMITATIONS AND PROVISIONS: The installation and maintenance of an access port as described in Ground Water Bulletin No. * shall be required prior to issuance of final Certificate of Water Right.

A suitable measuring device approved by the Department of Ecology shall be installed and maintained in accordance with WAC 508-64-020 through WAC 508-64-040. (NOT REQUIRED AT THIS TIME - D.R. 3-1-76)

DESCRIPTION OF PROPOSED WORKS:

The well will be drilled (Dug or drilled) and have a diameter of 12 inches, and depth of 1000 feet.

Description of tunnel or infiltration trench: _____

DEVELOPMENT SCHEDULE:

Construction work shall begin on or before April 1, 1974

and shall thereafter be prosecuted with reasonable diligence and completed on or before April 1, ~~1975~~ - 1979 B.F. 1-10-74 See Findings 1982, 1983

and complete application of water to proposed use shall be ~~made on or before~~ April 1, ~~1976~~ - 1980 B.F. 1-10-74 See Findings 1983 84

This permit shall be subject to cancellation should the permittee fail to comply with the above development schedule and/or fail to give notice to the Department of Ecology on forms provided by that Department documenting such compliance.

Given under my hand and the seal of this office at Olympia, Washington, this 9th day of June, 19 73

JOHN A. BIGGS, *Director*
Department of Ecology

by R. Jerry Bollen
R. JERRY BOLLEN
Assistant Director

ENGINEERING DATA
OK B.F.

file

STATE OF WASHINGTON
DEPARTMENT OF ECOLOGY

REPORT OF EXAMINATION

TO APPROPRIATE PUBLIC WATERS OF THE STATE OF WASHINGTON UNDER APPLICATION NO. G3-20414

DATE OF APPLICATION October 25, 1972

NAME Central Washington State College

QUANTITY APPLIED FOR 1700 g.p.m. USE comm. domestic supply and irrigation

SOURCE OF APPROPRIATION a well DIMENSIONS 12" x 1000'

LEGAL SUB. NW¼NE¼ SEC. 36 TWP. 18N RGE. 18E COUNTY Kittitas

QUANTITY RECOMMENDED (TOTAL) 1700 gallons per minute; 980 acre feet per year

COMM.DOM. 1000 g.p.m., 500 acre ft. per yr. IRRIG. 700 g.p.m., 480 acre ft. per yr.

The applicant intends to provide a community domestic supply for Central Washington State College at Ellensburg, Washington. They also intend to irrigate 154 acres of lawn, gardens, and shrubery.

The community domestic supply is to be used for family housing, student dormitories and college classrooms. The information furnished by the applicant indicates that they following amounts are sufficient for the community domestic supply:
1000 gallons per minute, 500 acre feet per year, continuously.

The remaining instantaneous quantity is granted for the purpose of irrigation as follows:
700 gallons per minute, 480 acre feet per year for the irrigation of 154 acres from April 1 through October 31, each year, LESS any quantity withdrawn under Ground Water Permit 10275.

The place of use shall be restricted to:
The area served by the Central Washington State College water system within Section 2, Township 17 North, Range 18 East, W.M. and Sections 25, 35, and 36, Township 18 North, Range 18 East, W.M.

The construction schedule for this project is as follows:
Begin construction on or before April 1, 1974,
Complete construction on or before April 1, 1979,
Water will be put to complete beneficial use on or before April 1, 1980.

Use of the waters to be appropriated under this application will be for a public water supply. State Board of Health rules require every owner of a public water supply to obtain written approval from the Assistant Secretary, Division of Health prior to any new construction or alterations of a public water supply. The applicant is advised to contact the Washington State Division of Health, Public Health Building No. 4, Thurston Airdustrial Center, Olympia, with the regard to the need for compliance.

"A suitable measuring device approved by the Department of Ecology shall be installed and maintained in accordance with WAC 508-64-020 through WAC 508-64-040." (Installation, operation and maintenance requirements attached hereto.)

The installation of an access port as described in attached Ground Water Bulletin No. 1 shall be required prior to issuance of final certificate of water right. The applicant may, for his own convenience, wish to install an airline and gage in addition to the access port.

Signed at Spokane, Washington
this 24th day of April, 1973.

/s/ George E. Farmer
GEORGE E. FARMER, Hydraulics Engineer
Resource Management Section
Department of Ecology

Eastern Washington Regional Headquarters East 103 Indiana Avenue Spokane, Washington 99207 Telephone (509) 456-2926

STATE WASHINGTON — INVOICE VOUCHER

AGENCY NAME	AGENCY ORDER NO.	INVOICE DATE	INVOICE NO.

RECEIVED
DIV. OF WATER RESOURCES
'73 FEB 2 PM 3:45

INSTRUCTIONS: SUBMIT THIS FORM IN QUADUPLICATE.

VENDOR OR CLAIMANT
Ellensburg Daily Record FILE
PO Box 248 ROUTE
Ellensburg, Washington 98926

1st insertion NO. WORDS 152 AT 3.20 PER WORD — TOTAL 100 4.86
2nd insertion NO. LINES — AT 2.40 per 100 words PER LINE — TOTAL 3.65
NO COLUMN IN — AT — PER COL IN — TOTAL $8.51

COPY

AFFIDAVIT OF PUBLICATION

STATE OF WASHINGTON, County of Kittitas, ss.

Frank Taylor, being first duly sworn, says that he is the General Manager (PUBLISHER OR MANAGER) of the Ellensburg Daily Record which is a Daily (WEEKLY OR DAILY) newspaper published and issued daily (WEEKLY OR DAILY) regularly at Ellensburg in Kittitas County, State of Washington, and is of general circulation in said county and state; that the Notice of Ground Water Right Appl No.G3-20414 (DESCRIBE NOTICE) of which the one hereto attached is a true and correct copy, was published in said newspaper Once a week for Two weeks, being published Two consecutive times, first publication being on the 24th day of January, 19 73 and the last on the 31st day of January, 19 73

That said notice was published in the regular and entire issue of every number of said newspaper during said period and times of publication; that said notice was published in the newspaper proper and not in a supplement; that the charges herein made are at the regular rates charged for such advertising, and that the same or any part thereof has not been paid.

Frank Taylor

Subscribed and sworn to before me this 31st day of January, 19 73

Notary Public in and for the State of Washington,

Residing at Ellensburg

[redacted]
APPLICATION No. G3-20414
TAKE NOTICE:
That CENTRAL WASHINGTON STATE COLLEGE of Ellensburg, Washington on October 25, 1972 filed application for permit to withdraw public ground waters through a well situated within [redacted], Sec. 24, T.18N., R.18E.W.M. within the City of Ellensburg in Kittitas County, in the amount of 1700 gallons per minute, subject to existing rights, continuously, each year for the purpose of community [redacted] and during irrigation season for irrigation.
Protests or objections to approval of this application must include a detailed statement of the basis for objections; protests must be accompanied by a ten dollars ($10.00) recording fee and filed with the Department of Ecology, Eastern Washington Regional Office, East 103 Indiana Avenue, Spokane, Washington 99207, within thirty (30) days from January 31, 1973.
Publish: Jan. 24 and 31, 1973.

3/7/73
O.K./R.H.B

ACCOUNT CODE							AMOUNT	
FUND	APPROP.	PROGRAM	OBJECT	SUB.			LIQUIDATION	NET INVOICE
25V	03	358 0000	10	0740				85 1

TOTAL AMOUNT PAYABLE THIS VOUCHER

DIV. OR UNIT RECEIVED FOR
DIV. OR UNIT RECEIVED BY
DATE OF RECEIPT
FRT. CHARGE

CHECKED AND APPROVED FOR PAYMENT	DATE	NUMBER	AMOUNT	DISCOUNT	VOUCHER NO.	WARRANT NO.
BY	2/26/73		85 1			

INVOICE

G3-20414

CENTRAL WASHINGTON STATE COLLEGE

Ellensburg, Washington October 25, 1972

a well.

NW¼NE¼, Sec. 36, T.13N.,R.18 E.W.M. within the City of Ellensburg

~~XXXXXXXXXX~~ ~~XXXXXXXXX~~ ~~XXXXXXXXXX~~ ~~XXXXXXXX~~ in Kittitas

~~XXXXX~~ ~~XXXXXXX~~ ~~XXXX~~

1200. ~~XXXXXXXXXXXXX~~ ~~XXXXXXXX~~

continuously. community domestic

supply and during irrigation season for irrigation

19 December 1972

Please direct all correspondence regarding this Application, to: Frederick R. Mott, Division of Engineering/Architecture Rm. 219 General Administration Bldg. - Olympia, Wn. 98504

(SCAN) 234-5490

F. No. 376-B—OS—4-67.

$10.00 examination fee should accompany each application.

STATE OF WASHINGTON
DEPARTMENT OF WATER RESOURCES
Division of Water Management

PRIORITY
Date 10-25-72
Time 1030 AM
Accepted By

APPLICATION FOR A PERMIT

To Appropriate Public Ground Waters OF THE STATE OF WASHINGTON

RECEIVED
OCT 25 1972
1030
DEPARTMENT OF ECOLOGY
SPOKANE REGIONAL OFFICE

Application No. G. W. G 320414

I, CENTRAL WASHINGTON STATE COLLEGE
(Name of applicant)

of ELLENSBURG, WASHINGTON 98926
(Complete post office address)

do hereby make application for a permit to appropriate the following described public ground waters of the State of Washington, subject to existing rights. This application is made under the provisions of Chap. 263 of the Session Laws of 1945, and amendments thereto of the State of Washington and subject to the rules and regulations of the Department of Water Resources.

1. *The proposed appropriation will be from* Well
(Well, tunnel, infiltration trench)

located Ellensburg, Washington
(Give approximate distance and direction from nearest city or town)

Area (Leave blank) *Sub-area* (Leave blank)

Zone (Leave blank)

Applicant's name or number of well or other works, if any

2. *The quantity of water which applicant intends to withdraw for beneficial use is* 1700 *

gallons per minute; 480 *acre feet per year.* **(Tentative-Initial Use)**

3. *The use or uses to which water is to be applied* * Domestic Supply and irrigation (Domestic supply, irrigation, municipal, manufacturing, industrial use, etc.)

4. *The time during which water will be required each year* continuously.

5. *Location of well or other works for withdrawal of water: In county of* Kittitas

1125 ft S. and 1775 ft west of the NE corner of Sec 36

(a) 2100' SW of NE cor. Sec. 36 TWP. 18N; R18E *
(Give distance and bearing from nearest corner of section or legal subdivision)

being within the NW¼ of NE¼ (Give smallest legal subdivision) *of Sec.* 36, *Twp.* 18 *N., Rge.* 18E (E. or W.)

or (b) *If within limits of recorded platted property, town or city: Lot* ———, *Block* 71,

of State addition to the City of Ellensburg No. 1; Ellensburg, Washington.
(Give name of plat or addition) (If within town or city, give name)

(c) *Show this location on accompanying section plat. Other adequate maps or drawings will be acceptable.*

* Well already granted permit for irrigation use @ 400 GPM by application no. 113[illegible] of Ground Water Permits Book No. 21 on pg. 10275 dated September 4, 1970. Copy enclosed.

6. DESCRIPTION OF WORKS:

(a) Well will be drilled (Dug or drilled) and have a diameter of 12 inches and an estimated depth of 1000 feet.

(b) Tunnels or trenches to be described: (Attach additional sheets if needed for full description.)

(c) Distribution system to be described: College-Owned.

(d) If pumps are to be used, give size and type: Vertical Turbine variable flow, 1700 GPM @ 340 ft. head.

(e) Give capacity and type of motor or engine to be used: 225 H.P., 440 volt, 3 phase, 60 HZ, 1800 RPM squirrel cage, NEMA design "B" U frame per ASA Spec. C-70.

(f) If the location of the well, tunnel, or other works is less than one-fourth mile from a natural stream or stream channel, give the distance to the nearest point on each of such channels and the difference in elevation between the stream bed and the ground surface at the source of development:

Stream bears SE 240 ft. with Bed elevation of 1630 ft. well ground surface 1634 ft.

(g) Ownership of each existing well or other works from which ground water is withdrawn within a radius of one-quarter mile and the distance and direction from well or other works being reported herein:

(Name)	(Direction)	(Distance)
(Name)	(Direction)	(Distance)
(Name)	(Direction)	(Distance)

SUPPLY THE FOLLOWING INFORMATION ACCORDING TO USE PROPOSED:

7. For Municipal Supply: To supply the city, town, or community of Cent.Wash.State Col., in the county of Kittitas, having a present population of 7000 students, and an estimated population of 15,000 students in 19 85. See Explanatory Letter.

8. For Irrigation: Number of acres to be irrigated 154 acres. (Initial Phase)

9. *Legal Description of Property on which water is to be used for all purposes other than municipal supply:*

(Copy legal description from deed)
(If more space is required, attach separate sheet)

See attached Map; and description on Letter U.A. Eberhart to Walker, dated August 31, 1972.

see report to Exam for legal. dlf.

(On accompanying plat show location of the existing wells or works)

10. *What interest do you have in the above described property?* Owner

(Owner, lessee, contract buyer, etc.)

11. *Do you have any other water rights appurtenant to the above described property?* Yes

If so, from what source? See Note preceding pages relative to existing Permit #11309.

12. *Construction work will begin on or before* ~~May 1, 1972~~ apr 1, 1974 (See Permit # 11309, noted)

13. *Construction work will be completed on or before* ~~May 1, 1973.~~ apr 1, 1979

14. *Water will be put to complete beneficial use on or before* ~~May 1, 1975.~~ apr 1, 1980

Wendell Hill
(Signature of applicant)

15. *Name and address of owner of land on which well or works are located:*

CENTRAL WASHINGTON STATE COLLEGE
(Name)

ELLENSBURG, WASHINGTON 98926
(Address)

Wendell Hill, Director of Auxiliary Services
(Signature of legal landowner)

Signed in the presence of us as witnesses:

Donna J. Conner
(Name)

Route 1, Box 575, Ellensburg, WA
(Address of witness)

Robert W. Walker
(Name)

Tumbleweed Manor Apts, 7th & Water, Ellensburg, WA
(Address of witness)

STATE OF WASHINGTON,
COUNTY OF THURSTON. } ss.

This is to certify that I have examined the foregoing application, together with the accompanying maps and data, and return the same for correction or completion as follows:

In order to retain its priority, this application must be returned to the Department of Water Resources, with corrections, on or before....., 19.....

WITNESS my hand this.....*day of*....., 19.....

G-20714

Division of Water Management.
Department of Water Resources.

Frederick R. Mott
Division of Engineering/Archi[illegible]e (PHONE 234-5490)
Room 219 General Administrati[illegible]g.
Olympia Washington 98504

Wendell Hill ~ 453-2711 scan
Al Eberhart scan 453-2316

Progress Sheet—Ground Water Application

scan 453-2711 Wendell Hill

NAME Central Washington State College, Ellensburg, Washington 98926 Assigned to

Send copy to engineer - Fred Mott computer copy to Wendell Hill. Engineer

G. W. APPLI. NO. G3-20414 PERMIT NO. G3-20414P CERT. NO. 6320114C A

AMENDED CANCELLED

Application received October 25, 1972 Initial $10.00 fee received October 25, 1972
Statement of additional examination fee $ Sent Received
Application returned for completion or correction Received

TEMPORARY PERMIT: Approved by Issued

PUBLICATION:
O.K.'d by [illegible] Date 12/18/72 Notice sent 12/21/72 recent 2-26-73
Protests
Filed
Affidavit received and checked 3/7/73 R.W.B. Time expired 3/2/73
Amended notice sent Affidavit received
Time expires

DEPT. OF GAME REPORT

EXAMINATION Made A.E.J. by A.E.J.
O.K.'d for permit 6-4-73 by B.T.
Statement of permit fee sent 4-24-73 Amount $ 20.80 Received 7 May 73

PERMIT NO. G3-20414P ISSUED JUN - 8 1973

BEGINNING OF CONSTRUCTION: Notice sent JUN - 8 1973 Filed 7/16/73
Extension fee $ Extended to
Extended to

WELL DRILLER'S REPORT: Sent JUN - 8 1973 Filed not same well as GWP 10275

COMPLETION OF CONSTRUCTION: Notice sent 3-21-83 7/16/73 Filed 4-19-79 3-28-83
$2.00 extension fee Extended to 4/1/82 60 for 2yr extension
To 4/1/83

PROOF OF APPROPRIATION: Sent 4-20-79 3-29-83 Filed
$2.00 extension fee Extended to 4/1/85

Statement of certificate fee sent 4.20.79 $ Received

CERTIFICATE OF GROUND WATER RIGHT NO. 6320114C A ISSUED AUG 26 1986

OK FOR CERT [illegible] RB

Called him 12/11/75 re
950 GPM pump to be installed

TO Dorey
DATE 12-10-75 TIME 10:50 AM

while you were out

M Bob Walker
OF Planner, Physical Plant
Central WA College - Ellensburg
MESSAGE:

URGENT: ☐
Please Call ☒
Returned Your Call ☐
Was Here To See You ☐
Will Call Again ☐
Wants to See You ☐

TELEPHONE NUMBER		
A.C.	Number	Extension
	963-3311	

scan 453-3311

Would like to talk to you regard GWP #G3-20414P (Central WA State College). The college plans to put this well to use for irrigation only.

Mr. Walker is there Monday thru Friday, 8-5 pm.

OF 0028

AH

Seasonal Certificate G4-27814C

Mt. View/Lions Park Well

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STATE OF WASHINGTON
DEPARTMENT OF ECOLOGY

CERTIFICATE OF WATER RIGHT

☐ Surface Water (Issued in accordance with the provisions of Chapter 117, Laws of Washington for 1917, and amendments thereto, and the rules and regulations of the Department of Ecology.)

☒ Ground Water (Issued in accordance with the provisions of Chapter 263, Laws of Washington for 1945, and amendments thereto, and the rules and regulations of the Department of Ecology.)

PRIORITY DATE	APPLICATION NUMBER	PERMIT NUMBER	CERTIFICATE NUMBER
January 26, 1982	G4-27814	G4-27814P	G4-27814C

NAME
CITY OF ELLENSBURG

ADDRESS (STREET)	(CITY)	(STATE)	(ZIP CODE)
420 North Pearl	Ellensburg,	Washington	98926

This is to certify that the herein named applicant has made proof to the satisfaction of the Department of Ecology of a right to the use of the public waters of the State of Washington as herein defined, and under and specifically subject to the provisions contained in the Permit issued by the Department of Ecology, and that said right to the use of said waters has been perfected in accordance with the laws of the State of Washington, and is hereby confirmed by the Department of Ecology and entered of record as shown, but is limited to an amount actually beneficially used.

PUBLIC WATER TO BE APPROPRIATED

SOURCE
A well

TRIBUTARY OF (IF SURFACE WATERS)

MAXIMUM CUBIC FEET PER SECOND	MAXIMUM GALLONS PER MINUTE	MAXIMUM ACRE-FEET PER YEAR
	110	21.6

QUANTITY, TYPE OF USE, PERIOD OF USE
To be used from April 1 to October 31 for the irrigation of 7.0 acres.

LOCATION OF DIVERSION/WITHDRAWAL

APPROXIMATE LOCATION OF DIVERSION—WITHDRAWAL
500 feet west and 1150 feet north of the south quarter corner of Section 1

LOCATED WITHIN (SMALLEST LEGAL SUBDIVISION)	SECTION	TOWNSHIP N.	RANGE (E. OR W.) W.M.	W.R.I.A.	COUNTY
SE¼SW¼	1	17	18 E.	39	Kittitas

RECORDED PLATTED PROPERTY

LOT	BLOCK	OF (GIVE NAME OF PLAT OR ADDITION)
2		St. Andrews Short Plat (P-80-07)

LEGAL DESCRIPTION OF PROPERTY ON WHICH WATER IS TO BE USED

Lot 2 of St. Andrews Short Plat (P-80-07) and all of Block 59 of Santa Anna Addition and vacated portion of Alder Street between Manitoba and Seattle Avenues, being within the E½SW¼ of Section 1, T. 17 N., R. 18 E.W.M.

(SEE REVERSE SIDE)

PROVISIONS

All water wells constructed within the state shall meet the minimum standards for construction and maintenance as provided under RCW 18.104 (Washington Water Well Construction Act of 1971) and Chapter 173-160 WAC (Minimum Standards for Construction and Maintenance of Water Wells).

Installation and maintenance of an access port as described in Ground Water Bulletin No. 1 is required. An air line and gage may be installed in addition to the access port.

This authorization to use public waters of the state is classified as a PUBLICLY OWNED LAND PERMIT in accordance with Chapter 90.66 RCW (Initiative Measure No. 59).

The right to the use of the water aforesaid hereby confirmed is restricted to the lands or place of use herein described, except as provided in RCW 90.03.380, 90.03.390, and 90.44.020.

This certificate of water right is specifically subject to relinquishment for nonuse of water as provided in RCW ~~90 14 180~~

Given under my hand and the seal of this office at Yakima, *Washington, this* 2nd *day of* June, *19* 83.

Department of Ecology

ENGINEERING DATA
OK. M. Leith
mke

by Russell K. Taylor
RUSSELL K. TAYLOR, REGIONAL MANAGER

FOR COUNTY USE ONLY

STATE OF WASHINGTON
DEPARTMENT OF ECOLOGY

PROOF OF APPROPRIATION OF WATER

APPLICATION NUMBER

PERMIT NUMBER
G9-27814P

NAME OF PERMITTEE
CITY OF ELLENSBURG

POST OFFICE ADDRESS (CITY) (STATE) (ZIP CODE)
420 NORTH PEARL ST., ELLENSBURG, WA. 98926

ACTUAL SOURCE OF APPROPRIATION
GROUND WATER

PURPOSE OR PURPOSES WATER IS USED FOR
IRRIGATION OF CITY PARK

DATE WATER WAS COMPLETELY APPLIED TO PERMITTED USE
AUGUST 1982

IF USED FOR IRRIGATION, NUMBER OF ACRES ACTUALLY IRRIGATED
7 ACRES

IF SOURCE IS A WELL, IS AN ACCESS PORT NOW INSTALLED
☒ YES ☐ NO

MONTHS DURING WHICH WATER IS USED
APRIL THRU OCTOBER

PUMP SIZE
7½ H.P.

ACTUAL AMOUNT WITHDRAWN OR DIVERTED FROM PERMANENT SYSTEM
110 ☒ GPM ☐ CFS

HAVE ALL PROVISIONS AS REQUIRED BY PERMIT BEEN ACCOMPLISHED
☒ YES ☐ NO

IF NO, EXPLAIN

LEGAL DESCRIPTION OF PROPERTY ON WHICH WATER IS USED (USE ADDITIONAL SHEET IF NECESSARY)

LOT 2 OF ST. ANDREWS SHORT PLAT (P-80-07) AND ALL OF BLOCK 59 OF SANTA ANNA ADDITION AND VACATED PORTION OF ALDER ST. FROM MANITOBA AVE. TO SEATTLE AVE., BEING WITHIN THE E½SW¼ OF SECTION 1, T. 17 N., R. 18 E. W.M.

ACCEPT PA
RECEIPT PAC
ISSUE CERT PER ATTACHED
DRAFT WITH REDUCED GPM 440 GPM
ACRES
AWW 5-4-83

MAY - 3

STATE OF WASHINGTON,
County of KITTITAS } ss.

I, C. DOUGLAS WRIGHT, being first duly sworn, depose and say that I have read the above and foregoing proof of appropriation; that I know the contents thereof; and that the facts therein stated are true.

IN WITNESS WHEREOF, I have hereunto set my hand this 2 day of MAY, 1983.

C. Douglas Wright
Permittee Signature

Subscribed and sworn to before me this 2ND day of MAY, 1983.

Notary Public

ECY 0040-1-26 P/A

file

STATE OF WASHINGTON
DEPARTMENT OF ECOLOGY

PERMIT

TO APPROPRIATE PUBLIC WATERS OF THE STATE OF WASHINGTON

☐ Surface Water (Issued in accordance with the provisions of Chapter 117, Laws of Washington for 1917, and amendments thereto, and the rules and regulations of the Department of Ecology.)

☒ Ground Water (Issued in accordance with the provisions of Chapter 263, Laws of Washington for 1945, and amendments thereto, and the rules and regulations of the Department of Ecology.)

PRIORITY DATE	APPLICATION NUMBER	PERMIT NUMBER	CERTIFICATE NUMBER
January 26, 1982	G4-27814	G4-27814P	

NAME
CITY OF ELLENSBURG

ADDRESS (STREET)	(CITY)	(STATE)	(ZIP CODE)
420 North Pearl	Ellensburg	Washington	98926

The applicant is, pursuant to the Report of Examination which has been accepted by the applicant, hereby granted a permit to appropriate the following described public waters of the State of Washington, subject to existing rights and to the limitations and provisions set out herein.

PUBLIC WATER TO BE APPROPRIATED

SOURCE
A well

TRIBUTARY OF (IF SURFACE WATERS)

MAXIMUM CUBIC FEET PER SECOND	MAXIMUM GALLONS PER MINUTE	MAXIMUM ACRE-FEET PER YEAR
	110	26.3

QUANTITY, TYPE OF USE, PERIOD OF USE
To be used from April 1 to October 31 for the irrigation of 8.5 acres.

LOCATION OF DIVERSION/WITHDRAWAL

APPROXIMATE LOCATION OF DIVERSION-WITHDRAWAL
500 feet west and 1150 feet north of the south quarter corner of Section 1

LOCATED WITHIN (SMALLEST LEGAL SUBDIVISION)	SECTION	TOWNSHIP N.	RANGE, (E. OR W.) W.M.	W.R.I.A.	COUNTY
SE¼SW¼	1	17	18 E.	39	Kittitas

RECORDED PLATTED PROPERTY

LOT	BLOCK	OF (GIVE NAME OF PLAT OR ADDITION)
2		St. Andrews Short Plat (P-80-07)

LEGAL DESCRIPTION OF PROPERTY ON WHICH WATER IS TO BE USED

Lot 2 of St. Andrews Short Plat (P-80-07) and all of Block 59 of Santa Anna Addition and vacated portion of Alder Street between Manitoba and Seattle Avenues, being within the E½SW¼ of Section 1, T. 17 N., R. 18 E.W.M.

DESCRIPTION OF PROPOSED WORKS

A dug well, 20 to 25 feet deep with a 7½ horsepower pump operating seven sprinklers at one time.

DEVELOPMENT SCHEDULE

BEGIN PROJECT BY THIS DATE:	COMPLETE PROJECT BY THIS DATE:	WATER PUT TO FULL USE BY THIS DATE:
Begun	Complete	October 1, 1984

PROVISIONS

All water wells constructed within the state shall meet the minimum standards for construction and maintenance as provided under RCW 18.104 (Washington Water Well Construction Act of 1971) and Chapter 173-160 WAC (Minimum Standards for Construction and Maintenance of Water Wells).

Installation and maintenance of an access port as described in Ground Water Bulletin No. 1 is required. An air line and gage may be installed in addition to the access port.

This authorization to use public waters of the state is classified as a PUBLICLY OWNED LAND PERMIT in accordance with Chapter 90.66 RCW (Initiative Measure No. 59).

This permit shall be subject to cancellation should the permittee fail to comply with the above development schedule and/or fail to give notice to the Department of Ecology on forms provided by that Department documenting such compliance.

Given under my hand and the seal of this office at Yakima, *Washington, this* 8th *day of* April, 19 83.

Department of Ecology

by Russell K. Taylor

RUSSELL K. TAYLOR, REGIONAL MANAGER

ENGINEERING DATA

OK... (illegible)

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STATE OF WASHINGTON
DEPARTMENT OF ECOLOGY

file

REPORT OF EXAMINATION
TO APPROPRIATE PUBLIC WATERS OF THE STATE OF WASHINGTON

☐ Surface Water (Issued in accordance with the provisions of Chapter 117, Laws of Washington for 1917, and amendments thereto, and the rules and regulations of the Department of Ecology.)

☒ Ground Water (Issued in accordance with the provisions of Chapter 263, Laws of Washington for 1945, and amendments thereto, and the rules and regulations of the Department of Ecology.)

PRIORITY DATE	APPLICATION NUMBER	PERMIT NUMBER	CERTIFICATE NUMBER
January 26, 1982	G4-27814		

NAME
CITY OF ELLENSBURG

ADDRESS (STREET)	(CITY)	(STATE)	(ZIP CODE)
420 North Pearl	Ellensburg,	Washington	98926

PUBLIC WATERS TO BE APPROPRIATED

SOURCE
A well

TRIBUTARY OF (IF SURFACE WATERS)

MAXIMUM CUBIC FEET PER SECOND	MAXIMUM GALLONS PER MINUTE	MAXIMUM ACRE-FEET PER YEAR
	110	26.3

QUANTITY, TYPE OF USE, PERIOD OF USE
To be used from April 1 to October 31 for the irrigation of 8.5 acres.

LOCATION OF DIVERSION/WITHDRAWAL

APPROXIMATE LOCATION OF DIVERSION—WITHDRAWAL
500 feet west and 1150 feet north of the south quarter corner of Section 1

LOCATED WITHIN (SMALLEST LEGAL SUBDIVISION)	SECTION	TOWNSHIP N.	RANGE, E. OR W. W.M.	W.R.I.A.	COUNTY
SE¼SW¼	1	17	18 E.	39	Kittitas

RECORDED PLATTED PROPERTY

LOT	BLOCK	OF (GIVE NAME OF PLAT OR ADDITION)
2		St. Andrews Short Plat (P-80-07)

LEGAL DESCRIPTION OF PROPERTY ON WHICH WATER IS TO BE USED

Lot 2 of St. Andrews Short Plat (P-80-07) and all of Block 59 of Santa Anna Addition and vacated portion of Alder Street between Manitoba and Seattle Avenues, being within the SE¼SW¼ of Section 1, T. 17 N., R. 18 E.W.M.

DESCRIPTION OF PROPOSED WORKS

A dug well, 20 to 25 feet deep with a 7½ horsepower pump operating seven sprinklers at one time.

DEVELOPMENT SCHEDULE

BEGIN PROJECT BY THIS DATE:	COMPLETE PROJECT BY THIS DATE:	WATER PUT TO FULL USE BY THIS DATE:
Begun	Complete	October 1, 1984

REPORT

Background

On January 26, 1982, the City of Ellensburg filed an application to appropriate public ground waters. The application was accepted, assigned number G4-27814 and public notice was made. The 30-day protest period expired with no protests being received.

Investigation

The City of Ellensburg has requested 110 gallons per minute (gpm) from a well for the irrigation of 8.5 acres. The area being irrigated is Mountain View Park with lawn and landscaping actually being irrigated.

The source of water is a dug well, 20 to 25 feet deep. It captures shallow occurring ground waters in the sedimentary aquifer just below land surface. The well is located half a mile east of Wilson Creek, which is the nearest surface water source. The city has installed a 7½ horsepower pump and operates 7 sprinklers each rated at 15 gpm at one time.

The water requirement for irrigation in this area is 3.09 acre-feet per year per acre irrigated.

There are no other water wells in the area.

Conclusions

Based on the foregoing information, the following conclusions are made:

Water is available for the beneficial use of irrigation. Because of the distance between the well and Wilson Creek, the proposed appropriation will have no affect on the creek, therefore, there should be no impairment of existing rights. Granting a permit is not contrary to the public interest.

Recommendations

The requested instantaneous quantity of 110 gpm and an annual quantity of 26.3 acre-feet per year are recommended for approval for the irrigation of 8.5 acres from April 1 to October 31.

All water wells constructed within the state shall meet the minimum standards for construction and maintenance as provided under RCW 18.104 (Washington Water Well Construction Act of 1971) and Chapter 173-160 WAC (Minimum Standards for Construction and Maintenance of Water Wells).

Installation and maintenance of an access port as described in Ground Water Bulletin No. 1 is required. An air line and gage may be installed in addition to the access port.

This authorization to use public waters of the state is classified as a PUBLICLY OWNED LAND PERMIT in accordance with Chapter 90.66 RCW (Initiative Measure No. 59).

REPORT BY: Becky Johnson DATE: 4/1/83

APPROVED BY: Doug Clauning, Regional Supervisor DATE: 4/1/83

ake

Affidavit of Publication

RECEIVED
MAR - 5 1982
DEPARTMENT OF ECOLOGY

NOTICE OF APPLICATION TO APPROPRIATE PUBLIC WATERS STATE OF WASHINGTON DEPARTMENT OF ECOLOGY

TAKE NOTICE: That CITY OF ELLENSBURG of Ellensburg, Washington on January 25, 1982, under Application No. G1-27811 filed for permit to appropriate public waters, subject to existing rights, from a well in the amount of 140 gallons per minute each year, for irrigation of city park from April through September. The source of the proposed appropriation is located within Lot 2 of E. Andrews short plat (P-80-47) all of Block 30 in Santa Anna Addition being within the E½W¼ of Section 1, Township 17 N., Range 18E W.M., in Kittitas County. Protests or objections to approval of this application must include a detailed statement of the basis for objections; protests must be accompanied by a two dollar ($2.00) recording fee and filed with the Department of Ecology, at the address shown below, within thirty (30) days from March 3, 1982. State of Washington Department of Ecology 3601 W. Washington Yakima, WA 98903 PUBLISH: Feb. 24, March 3, 1982

State of Washington, County of Kittitas, ss:

John Ludtka being first duly sworn on oath, deposes and says: That he is the Editor/Publisher of the Daily Record, a daily newspaper. That said newspaper is a legal newspaper and has been approved as a legal newspaper by order of the superior court in the county in which it is published and it is now and has been for more than six months prior to the date of the publications hereinafter referred to, published in the English language continually as a daily newspaper in Ellensburg, Kittitas County, Washington, and it is now and during all of said time was printed in an office maintained at the aforesaid place of publication of said newspaper. That the annexed is a true copy of Application to Appropriate Public Water #G1-27811

as it was published in regular issues (and not in supplement form) of said newspaper once a week for a period of two consecutive weeks, commencing on the 24th day of February, 19 82, and ending on the 3rd day of March, 19 82, both dates inclusive and that such newspaper was regularly distributed to its subscribers during all of said period. That the full amount of the fee charged for the foregoing publication is the sum of $ 22.71, which amount has been paid in full, at the rate of $2.00 per column inch for the first insertion and $1.95 per column inch for each subsequent insertion.

John Ludtka

Subscribed and sworn to before me this 4th day of March, 19 82.

Notary Public in and for the State of Washington. Residing at Ellensburg, Washington.
(SEAL)

STATE OF WASHINGTON
DEPARTMENT OF ECOLOGY

NOTICE OF APPLICATION TO APPROPRIATE PUBLIC WATERS

TAKE NOTICE:

That CITY OF ELLENSBURG

of Ellensburg, Washington on January 26, 1982, under

Application No. G4-27814 filed for permit to appropriate public waters, subject to existing rights,

from a well

in the amount of 110 gallons per minute

each year, for irrigation of city park from April through September

The source of the proposed appropriation is located within Lot 2 ~~All of Block 59~~, St. Andrews of all of Block 59 short plat (P-80-07) Santa Anna Addition being within the E½SW¼

of Section 1, Township 17 N., Range 18 E. W.M., in Kittitas County.

Protests or objections to approval of this application must include a detailed statement of the basis for objections; protests must be accompanied by a two dollar ($2.00) recording fee and filed with the Department of Ecology, at the address shown below, within thirty (30) days from

(Last date of publication to be entered above by publisher)

...Washington
...Ecology
...ington
...203

#Per conversation w/Mike Douglas Wright
City of Ellensburg → 12-5-82 EP

NOTICE

ECY 040-4-1
Rev. 2-79

State of Washington
Department of Ecology

APPLICATION FOR PERMIT
TO APPROPRIATE PUBLIC WATERS OF THE STATE OF WASHINGTON

☐ SURFACE WATER ☒ GROUND WATER

$10.00 MINIMUM STATUTORY EXAMINATION FEE REQUIRED WITH APPLICATION

(GRAY BOXES FOR OFFICE USE ONLY)

APPLICATION NO	W.R.I.A.	COUNTY	PRIORITY DATE	TIME	ACCEPTED
G 427811	39	Kittitas	1-26-82	—	EP

APPLICANT'S NAME – PLEASE PRINT: City of Ellensburg — BUSINESS TEL: 962-9863 — HOME TEL:

ADDRESS (STREET)	(CITY)	(STATE)	(ZIP CODE)
420 North Pearl	Ellensburg	Washington	98926

DATE & PLACE OF INCORPORATION IF APPLICANT IS A CORPORATION:

1. SOURCE OF SUPPLY

IF SURFACE WATER	IF GROUND WATER
SOURCE (NAME OF STREAM, LAKE, SPRING, ETC.) (IF UNNAMED, SO STATE)	SOURCE (WELL, TUNNEL, INFILTRATION TRENCH, ETC.)
	a Well
TRIBUTARY	SIZE AND DEPTH
	20 Feet Deep 48" Diameter

2. USE

USE TO WHICH WATER IS TO BE APPLIED (DOMESTIC SUPPLY, IRRIGATION, MINING, MANUFACTURING, ETC.)

Irrigation of City Park

ENTER QUANTITY OF WATER REQUESTED USING UNITS OF	CUBIC FEET PER SECOND CFS	OR	GALLONS PER MINUTE	ACRE FEET PER YEAR
			110 GPM	30.0

TIMES DURING YEAR WATER WILL BE REQUIRED: April - September

irrigation of city park from April through Sept.

IF IRRIGATION, NUMBER OF ACRES	IF DOMESTIC USE, NUMBER OF UNITS BY TYPE, E.G. 1-HOME, 1-MOBILE HOME 2-CAMPSITES, ETC	IF MUNICIPAL USE, ESTIMATED POPULATION 20 YEARS FROM TODAY
8.5		

DATE PROJECT WAS OR WILL BE STARTED	DATE PROJECT WAS OR WILL BE COMPLETED
1/1/82	1/1/84

3. LOCATION OF POINT OF DIVERSION/WITHDRAWAL

3A. IF IN PLATTED PROPERTY

LOT	BLOCK	OF (GIVE NAME OF PLAT OR ADDITION)	SECTION	TOWN	RANGE	ALSO, PLEASE ENCLOSE A COPY OF THE PLAT AND MARK THE POINT(S) OF WITHDRAWAL OR DIVERSION
2	59	St. Andrews Short Plat (P-80-07)	1	17N	18E	
All	of	Santa Anna Addition				

being within the E1/2 SW1/4 of → Kittitas County

3B. IF NOT IN PLATTED PROPERTY

ON ACCOMPANYING SECTION MAPS, ACCURATELY MARK AND IDENTIFY EACH POINT OF DIVERSION SHOW NORTH-SOUTH AND EAST-WEST DISTANCES FROM NEAREST SECTION CORNER OR PROPERTY CORNER

ALSO ENTER BELOW THE DISTANCES FROM THE NEAREST SECTION OR PROPERTY CORNER TO THE DIVERSION OR WITHDRAWAL

LOCATED WITHIN (SMALLEST LEGAL SUBDIVISION)	SECTION	TOWNSHIP N	RANGE (E OR W) W M	COUNTY

4. DO YOU OWN THE LAND ON WHICH THIS SOURCE IS LOCATED IF NOT, INSERT NAME & ADDRESS OF OWNER

Yes

5. LEGAL DESCRIPTION OF PROPERTY ON WHICH WATER IS TO BE USED

ATTACH A COPY OF THE LEGAL DESCRIPTION OF THE PROPERTY (ON WHICH THE WATER WILL BE USED) TAKEN FROM A REAL ESTATE CONTRACT, PROPERTY DEED OR TITLE INSURANCE POLICY OR COPY CAREFULLY IN THE SPACE BELOW

Lot 2 of St Andrews Short Plat (P-80-07) and all of Block 59 of Santa Anna Addition

and vacated portion of Alder Street between Manitoba and Seattle Avenue.

ECY 040-1-14
Rev 1/80

WHAT IS YOUR INTEREST IN THE PROPERTY ON WHICH WATER IS TO BE USED (PROPERTY OWNER, LESSEE, CONT PURCHASER, ETC.)

Property Owner

ARE THERE ANY EXISTING WATER RIGHTS RELATED TO THE LAND ON WHICH THE WATER IS TO BE USED (INCLUDING WATER PROVIDED BY IRRIGATION DISTRICTS OR DITCH COMPANIES) ☒ YES ☐ NO

IF YES, FROM WHAT SOURCE (i.e. SURFACE OR GROUND WATER) AND UNDER WHAT AUTHORITY

Ellensburg Water Co., surface water

6. **DESCRIPTION OF SYSTEM PROPOSED OR INSTALLED**

(FOR EXAMPLE: SIZE OF PUMP, CAPACITY OF PUMP, PUMP MOTOR HORSE POWER, PIPE DIAMETER, NUMBER OF SPRINKLERS, ETC.)

Pump will have a 7½ horsepower motor with a capacity of 110 gpm at 70 psi. It will supply 9 lines, one at a time, with 7 sprinkler heads on each line. Each sprinkler head is rated at 15 gpm.

7. REMARKS

IF 10 ACRE-FEET OR MORE OF WATER IS TO BE STORED AND/OR IF THE WATER DEPTH WILL BE 10 FEET OR MORE AT THE DEEPEST POINT, A STORAGE PERMIT MUST BE FILED IN ADDITION TO THIS PERMIT. THESE FORMS CAN BE SECURED, TOGETHER WITH INSTRUCTIONS, FROM THE DEPARTMENT OF ECOLOGY

SIGNATURES

Thomas J. Chini
APPLICANT'S SIGNATURE

Thomas J. Chini
Director of Public Works
LEGAL LANDOWNER'S SIGNATURE

City of Ellensburg
LEGAL LANDOWNERS NAME (PLEASE PRINT)

420 North Pearl
Ellensburg, WA 98926
LEGAL LANDOWNER'S ADDRESS

FOR OFFICE USE ONLY

STATE OF WASHINGTON }
DEPARTMENT OF ECOLOGY } ss

This is to certify that I have examined this application together with the accompanying maps and data, and am returning it for correction or completion as follows: .....

.....

.....

In order to retain its priority date, this application must be returned to the Department of Ecology, with corrections, on or before ..... 19.....

Witness my hand this .....*day of* ..... 19.....

.....
Department of Ecology

ECY 040-1-14
Rev. 1/80

I have examined this application as required by SEPA and find that it is: [ ] not an action.

1-27-82 E Peterson
DATE / SIGNATURE

STATE OF WASHINGTON
DEPARTMENT OF ECOLOGY

PROGRESS SHEET

☐ SURFACE WATER ☑ GROUND WATER

COMPUTER INPUT
☐ APPLICATION
☐ PERMIT
☐ CERTIFICATE
☐ OTHER

NAME			TELEPHONE NO.
City of Ellensburg			962-9863
ADDRESS	(CITY)	(STATE)	(ZIP CODE)
420 N. Pearl	Ellensburg	WA	98926
ASSIGNED TO		TELEPHONE NO.	DATE ASSIGNED
ADDRESS	(CITY)	(STATE)	(ZIP CODE)

APPLICATION NO.	PERMIT NO.	CERTIFICATION NO.
G1-27814	G1-27814P	G1-27814C
DATE AMENDED	DATE CANCELLED	W.R.I.A. 39

APPLICATION

DATE APPLICATION RECEIVED	INITIAL $10.00 FEE RECEIVED	DATE FEE RECEIVED
1-26-82	☑ YES ☐ NO	1-26-82
STATEMENT OF ADDITIONAL EXAMINATION FEE $	DATE SENT	DATE RECEIVED
DATE RETURNED FOR COMPLETION OR CORRECTION	DATE RECEIVED	

TEMPORARY PERMIT

APPROVED BY	DATE ISSUED

PUBLICATION

APPROVED BY	DATE APPROVED	DATE NOTICE SENT
EP	1-27-82	FEB 11 1982
PROTESTED BY AND DATE		

DATE AFFIDAVIT RECEIVED	CHECKED BY	TIME EXPIRED	DATE AMENDED NOTICE SENT	DATE AFFIDAVIT RECEIVED	TIME EXPIRED
3-5-82	KJF	4-3-82			

DEPARTMENT OF GAME AND FISHERIES REPORT

APPROVED	PROVISO	PROTEST

EXAMINATION

DATE EXAMINATION MADE	MADE BY	DATE REPORT OF EXAM. WRITTEN	WRITTEN BY	CHECKED BY
Dwy	BD	3/28/83	BD	AD
DATE PERMIT FEE REQUESTED		AMOUNT DUE	DATE RECEIVED	
APR - 4 1983		$5.00		

PERMIT

PERMIT APPROVED BY	DATE APPROVED	PERMIT NO.	DATE ISSUED
L	4-7-83	G1-27814P	APR 12 1983

BEGINNING OF CONSTRUCTION

DATE NOTICE SENT	DATE FILED	EXTENSION FEE
	Begun	
EXTENDED TO	EXTENDED TO	

WELL DRILLER'S AND/OR CONSTRUCTION REPORT

DATE SENT	DATE FILED
APR 13 1983	5-3-83

COMPLETION OF CONSTRUCTION

DATE NOTICE SENT	DATE FILED	EXTENSION FEE
	Complete	
EXTENDED TO	EXTENDED TO	

PROOF OF APPROPRIATION

DATE SENT	DATE FILED	EXTENSION FEE	EXTENDED TO
APR 13 1983	5-3-83		
DATE CERTIFICATE FEE REQUESTED	AMOUNT DUE	DATE RECEIVED	DATE APPROVED FOR CERTIFICATE	APPROVED BY
	5/4	5-3-83	5-4-83	MW

CERTIFICATION

PROOF EXAM. REQUIRED	CERTIFICATE NUMBER	DATE ISSUED
☐ YES ☑ NO	G1-27814C	JUN 7 1983
REMARKS		

ECY 040-1-80

PROGRESS

Long Form Claim G4-050887CL

City Well

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CITY OF ELLENSBURG

420 NORTH PEARL STREET
ELLENSBURG, WASHINGTON 98926

Office of: City Engineer

December 20, 1973

Department of Ecology
Water Right Claim Registration
P. O. Box 829
Olympia, Washington 98504

Dear Mrs. Harlan:

Please find enclosed a water right claim to correct one which was previously filed as No. 005766, September 13, 1971.

The corrected instrument indicates Range 17 instead of Range 18, which was erroneously described before.

Very truly yours,

Richard R. Fischer

Richard R. Fischer
Engineering Technician

CITY OF ELLENSBURG
IN THE HEART OF WASHINGTON

STATE OF WASHINGTON
DEPARTMENT OF ECOLOGY
WATER RIGHT CLAIMS REGISTRATION

WATER RIGHT CLAIM

RECEIVED
DEPARTMENT OF ECOLOGY
DEC 26 73 063791
CASH ___ OTHER ___ NONE ___

1. NAME CITY OF ELLENSBURG
ADDRESS 420 N. PEARL ST.
ELLENSBURG, WASH. ZIP CODE 98926

2. SOURCE FROM WHICH THE RIGHT TO TAKE AND MAKE USE OF WATER IS CLAIMED: GROUND WATER (SURFACE OR GROUND WATER)
W.R.I.A. 39 (LEAVE BLANK)

A. IF GROUND WATER, THE SOURCE IS A WELL

B. IF SURFACE WATER, THE SOURCE IS ___

3. THE QUANTITIES OF WATER AND TIMES OF USE CLAIMED:

A. QUANTITY OF WATER CLAIMED 6,600 GPM PRESENTLY USED 6600 GPM
~~CUBIC FEET PER SECOND~~ GALLONS PER MINUTE)

B. ANNUAL QUANTITY CLAIMED 10,709 PRESENTLY USED 10,709
(ACRE FEET PER YEAR)

C. IF FOR IRRIGATION, ACRES CLAIMED ___ PRESENTLY IRRIGATED ___

D. TIME(S) DURING EACH YEAR WHEN WATER IS USED: ENTIRE YEAR

4. DATE OF FIRST PUTTING WATER TO USE: MONTH APRIL 13 YEAR 1913

5. LOCATION OF THE POINT(S) OF DIVERSION/WITHDRAWAL: 510 FEET WEST AND 250
FEET NORTH FROM THE S.E. CORNER OF SECTION 12
BEING WITHIN SE ¼ OF SECTION 12 T. 18 N., R. 17 E (E~~AST~~) W.M.
IF THIS IS WITHIN THE LIMITS OF A RECORDED PLATTED PROPERTY, LOT ___ BLOCK ___ OF
(GIVE NAME OF PLAT OR ADDITION)

6. LEGAL DESCRIPTION OF LANDS ON WHICH THE WATER IS USED:
THE CITY OF ELLENSBURG, KITTITAS, WASHINGTON
COUNTY KITTITAS

7. PURPOSE(S) FOR WHICH WATER IS USED: MUNICIPAL SUPPLY

8. THE LEGAL DOCTRINE(S) UPON WHICH THE RIGHT OF CLAIM IS BASED: APPROPRIATION

DO NOT USE THIS SPACE

THE FILING OF A STATEMENT OF CLAIM DOES NOT CONSTITUTE AN ADJUDICATION OF ANY CLAIM TO THE RIGHT TO USE OF WATERS AS BETWEEN THE WATER USE CLAIMANT AND THE STATE OR AS BETWEEN ONE OR MORE WATER USE CLAIMANTS AND ANOTHER OR OTHERS. THIS ACKNOWLEDGEMENT CONSTITUTES RECEIPT FOR THE FILING FEE.

DATE RETURNED THIS HAS BEEN ASSIGNED WATER RIGHT CLAIM REGISTRY NO.

J 074050887

DIRECTOR, DEPARTMENT OF ECOLOGY

I HEREBY SWEAR THAT THE ABOVE INFORMATION IS TRUE AND ACCURATE TO THE BEST OF MY KNOWLEDGE AND BELIEF.

X Stewart Allen, Mayor

DATE 12-21-73

IF CLAIM FILED BY DESIGNATED REPRESENTATIVE, PRINT OR TYPE FULL NAME AND MAILING ADDRESS OF AGENT BELOW

City of Ellensburg
420 N. Pearl Street
Ellensburg, Washington 98926

☐ ADDITIONAL INFORMATION RELATING TO WATER QUALITY AND/OR WELL CONSTRUCTION IS AVAILABLE

A FEE OF $2.00 MUST ACCOMPANY THIS WATER RIGHT CLAIM

RETURN ALL THREE COPIES WITH CARBONS INTACT ALONG WITH YOUR FEE TO DEPARTMENT OF ECOLOGY
WATER RIGHT CLAIMS REGISTRATION
OLYMPIA, WASHINGTON 98504

ORIGINAL DWR

YAKIMA RIVER WELL

Long Form Claim G4-005767CL

Anderson Well

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STATE OF WASHINGTON
DEPARTMENT OF WATER RESOURCES
DIVISION OF WATER MANAGEMENT

WATER RIGHT CLAIM

RECEIVED
DEPARTMENT OF ECOLOGY
SEP 13 71007674
CASH ___ OTHER ✓ NONE ___

1. NAME CITY OF ELLENSBURG

ADDRESS 420 N. PEARL ST

ELLENSBURG, WASH. ZIP CODE 98926

2. SOURCE FROM WHICH THE RIGHT TO TAKE AND MAKE USE OF WATER IS CLAIMED: GROUND WATER (SURFACE OR GROUND WATER)

W.R.I.A. 39 (LEAVE BLANK)

A. IF GROUND WATER, THE SOURCE IS A WELL

B. IF SURFACE WATER, THE SOURCE IS —

3. THE QUANTITIES OF WATER AND TIMES OF USE CLAIMED:

A. QUANTITY OF WATER CLAIMED 440 G.P.M. (~~CUBIC FEET PER SECOND OR~~ GALLONS PER MINUTE) PRESENTLY USED 440 G.P.M.

B. ANNUAL QUANTITY CLAIMED 713 (ACRE FEET PER YEAR) PRESENTLY USED 713

C. IF FOR IRRIGATION, ACRES CLAIMED — PRESENTLY IRRIGATED —

D. TIME(S) DURING EACH YEAR WHEN WATER IS USED: ENTIRE YEAR

4. DATE OF FIRST PUTTING WATER TO USE: 1 MONTH AUGUST YEAR 1931

5. LOCATION OF THE POINT(S) OF DIVERSION/WITHDRAWAL: 489.75 FEET SOUTH AND 415.83 FEET EAST FROM THE CENTER 1/4 CORNER OF SECTION 35

BEING WITHIN S.E. 1/4 OF SECTION 35 T. 18 N. R. 18 (E. ~~OR W.~~) W.M.

IF THIS IS WITHIN THE LIMITS OF A RECORDED PLATTED PROPERTY, LOT — BLOCK — OF —
(GIVE NAME OF PLAT OR ADDITION)

6. LEGAL DESCRIPTION OF LANDS ON WHICH THE WATER IS USED:

THE CITY OF ELLENSBURG, KITTITAS, WASHINGTON

COUNTY KITTITAS

7. PURPOSE(S) FOR WHICH WATER IS USED: MUNICIPAL SUPPLY

8. THE LEGAL DOCTRINE(S) UPON WHICH THE RIGHT OF CLAIM IS BASED: APPROPRIATION

DO NOT USE THIS SPACE

THE FILING OF A STATEMENT OF CLAIM DOES NOT CONSTITUTE AN ADJUDICATION OF ANY CLAIM TO THE RIGHT TO USE OF WATERS AS BETWEEN THE WATER USE CLAIMANT AND THE STATE OR AS BETWEEN ONE OR MORE WATER USE CLAIMANTS AND ANOTHER OR OTHERS. THIS ACKNOWLEDGEMENT CONSTITUTES RECEIPT FOR THE FILING FEE.

DATE RETURNED REGISTRY NUMBER

SEP 13 71005767 < THIS HAS BEEN ASSIGNED WATER RIGHT CLAIM REGISTRY NO.

John F. Fiddler
ASSISTANT DIRECTOR DIVISION OF WATER MANAGEMENT-DEPARTMENT OF WATER RESOURCES

I HEREBY SWEAR THAT THE ABOVE INFORMATION IS TRUE AND ACCURATE TO THE BEST OF MY KNOWLEDGE AND BELIEF

X Stewart Allen

DATE ___

IF CLAIM FILED BY DESIGNATED REPRESENTATIVE PRINT OR TYPE FULL NAME AND MAILING ADDRESS OF AGENT BELOW

Stewart Allen, Mayor
420 No. Pearl, Ellensburg

☐ ADDITIONAL INFORMATION RELATING TO WATER QUALITY AND/OR WELL CONSTRUCTION IS AVAILABLE

A FEE OF $2.00 MUST ACCOMPANY THIS WATER RIGHT CLAIM

ORIGINAL
CAP

RETURN ALL THREE COPIES WITH CARBONS INTACT ALONG WITH YOUR FEE TO
DEPARTMENT OF WATER RESOURCES
DIVISION OF WATER MANAGEMENT
UNION AVE BUILDING OLYMPIA, WASHINGTON 98504

Anderson Well

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Long Form Claim G4-005763CL

Memorial Well

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STATE OF WASHINGTON
DEPARTMENT OF WATER RESOURCES
DIVISION OF WATER MANAGEMENT

WATER RIGHT CLAIM

RECEIVED
SEP 13 71 005763
CASH ___ OTHER ___ NONE ___

1. NAME CITY OF ELLENSBURG
ADDRESS 420 NORTH PEARL ST
ELLENSBURG, WASHINGTON ZIP CODE 98926

2. SOURCE FROM WHICH THE RIGHT TO TAKE AND MAKE USE OF WATER IS CLAIMED: GROUND WATER (~~SURFACE OR~~ GROUND WATER)
W.R.I.A. 39 (LEAVE BLANK)

A. IF GROUND WATER, THE SOURCE IS A WELL

B. IF SURFACE WATER, THE SOURCE IS —

3. THE QUANTITIES OF WATER AND TIMES OF USE CLAIMED:
A. QUANTITY OF WATER CLAIMED 1,000 G.P.M. (~~CUBIC FEET PER SECOND OR~~ GALLONS PER MINUTE) PRESENTLY USED 1,000 G.P.M.
B. ANNUAL QUANTITY CLAIMED 1620 A.F. (ACRE FEET PER YEAR) PRESENTLY USED 1,620 A.F.
C. IF FOR IRRIGATION, ACRES CLAIMED — PRESENTLY IRRIGATED —
D. TIME(S) DURING EACH YEAR WHEN WATER IS USED: ENTIRE YEAR

4. DATE OF FIRST PUTTING WATER TO USE: 1 MONTH JANUARY YEAR 1932

5. LOCATION OF THE POINT(S) OF DIVERSION/WITHDRAWAL: 367.21 FEET SOUTH AND 1,607.58 FEET WEST FROM THE NORTH ¼ CORNER OF SECTION 1
BEING WITHIN NW ¼ OF SECTION 1 T. 17 N. R. 18 (~~E~~ W) W.M.
IF THIS IS WITHIN THE LIMITS OF A RECORDED PLATTED PROPERTY ~~LOT~~ BLOCKS 61 & 60 OF
& RIGHT OF WAY OF VACATED POPLAR ST.; SHOUDYS 2ND ADDITION
(GIVE NAME OF PLAT OR ADDITION)

6. LEGAL DESCRIPTION OF LANDS ON WHICH THE WATER IS USED
THE CITY OF ELLENSBURG, KITTITAS, WASHINGTON
COUNTY KITTITAS

7. PURPOSE(S) FOR WHICH WATER IS USED: MUNICIPAL SUPPLY

8. THE LEGAL DOCTRINE(S) UPON WHICH THE RIGHT OF CLAIM IS BASED: APPROPRIATION

DO NOT USE THIS SPACE

THE FILING OF A STATEMENT OF CLAIM DOES NOT CONSTITUTE AN ADJUDICATION OF ANY CLAIM TO THE RIGHT TO USE OF WATERS AS BETWEEN THE WATER USE CLAIMANT AND THE STATE OR AS BETWEEN ONE OR MORE WATER USE CLAIMANTS AND ANOTHER OR OTHERS. THIS ACKNOWLEDGEMENT CONSTITUTES RECEIPT FOR THE FILING FEE.

DATE RETURNED REGISTRY NUMBER
SEP 13 71 005763 < THIS HAS BEEN ASSIGNED WATER RIGHT CLAIM REGISTRY NO.

Glen H. Lindley
ASSISTANT DIRECTOR DIVISION OF WATER MANAGEMENT-DEPARTMENT OF WATER RESOURCES

I HEREBY SWEAR THAT THE ABOVE INFORMATION IS TRUE AND ACCURATE TO THE BEST OF MY KNOWLEDGE AND BELIEF

X Stewart Allen

DATE
IF CLAIM FILED BY DESIGNATED REPRESENTATIVE PRINT OR TYPE FULL NAME AND MAILING ADDRESS OF AGENT BELOW

Stewart Allen, Mayor
420 No. Pearl, Ellensburg, Wash.

☐ ADDITIONAL INFORMATION RELATING TO WATER QUALITY AND/OR WELL CONSTRUCTION IS AVAILABLE

A FEE OF $2.00 MUST ACCOMPANY THIS WATER RIGHT CLAIM

RETURN ALL THREE COPIES WITH CARBONS INTACT ALONG WITH YOUR FEE TO DEPARTMENT OF WATER RESOURCES DIVISION OF WATER MANAGEMENT UNION AVE. BUILDING

ORIGINAL

Municipal Supply Well

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Long Form Claim G4-005765CL

Rodeo Well

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STATE OF WASHINGTON
DEPARTMENT OF WATER RESOURCES
DIVISION OF WATER MANAGEMENT

WATER RIGHT CLAIM

RECEIVED
DEPARTMENT OF ECOLOGY
SEP 13 71 007670
DASH ___ OTHER ✓ NONE ___

1. NAME CITY OF ELLENSBURG
ADDRESS 420 N. PEARL ST.
ELLENSBURG, WASH. ZIP CODE 98926

2. SOURCE FROM WHICH THE RIGHT TO TAKE AND MAKE USE OF WATER IS CLAIMED: GROUND WATER (SURFACE OR GROUND WATER)
W.R.I.A. 39 (LEAVE BLANK)

A. IF GROUND WATER, THE SOURCE IS A WELL

B. IF SURFACE WATER, THE SOURCE IS —

3. THE QUANTITIES OF WATER AND TIMES OF USE CLAIMED:

A. QUANTITY OF WATER CLAIMED 1,000 GPM PRESENTLY USED 1000 G.P.M. (GALLONS PER MINUTE)

B. ANNUAL QUANTITY CLAIMED 1,620 PRESENTLY USED 1,620 (ACRE FEET PER YEAR)

C. IF FOR IRRIGATION, ACRES CLAIMED — PRESENTLY IRRIGATED —

D. TIME(S) DURING EACH YEAR WHEN WATER IS USED. ENTIRE YEAR

4. DATE OF FIRST PUTTING WATER TO USE: 29 MONTH DECEMBER YEAR 1947

5. LOCATION OF THE POINT(S) OF DIVERSION/WITHDRAWAL. 213.32 FEET SOUTH AND 602.51 FEET WEST FROM THE NORTH 1/4 CORNER OF SECTION 1
BEING WITHIN NW 1/4 OF SECTION 1 T. 17 N. R. 18 (E~~or W~~) W.M.
IF THIS IS WITHIN THE LIMITS OF A RECORDED PLATTED PROPERTY, LOT — BLOCK — OF
(GIVE NAME OF PLAT OR ADDITION)

6. LEGAL DESCRIPTION OF LANDS ON WHICH THE WATER IS USED:
THE CITY OF ELLENSBURG, KITTITAS, WASHINGTON
COUNTY KITTITAS

7. PURPOSE(S) FOR WHICH WATER IS USED: MUNICIPAL SUPPLY

8. THE LEGAL DOCTRINE(S) UPON WHICH THE RIGHT OF CLAIM IS BASED: APPROPRIATION

DO NOT USE THIS SPACE
THE FILING OF A STATEMENT OF CLAIM DOES NOT CONSTITUTE AN ADJUDICATION OF ANY CLAIM TO THE RIGHT TO USE OF WATERS AS BETWEEN THE WATER USE CLAIMANT AND THE STATE OR AS BETWEEN ONE OR MORE WATER USE CLAIMANTS AND ANOTHER OR OTHERS. THIS ACKNOWLEDGEMENT CONSTITUTES RECEIPT FOR THE FILING FEE.
DATE RETURNED REGISTRY NUMBER
SEP 13 71 005765 < THIS HAS BEEN ASSIGNED WATER RIGHT CLAIM REGISTRY NO.
John H. Fiddler
ASSISTANT DIRECTOR DIVISION OF WATER MANAGEMENT-DEPARTMENT OF WATER RESOURCES

I HEREBY SWEAR THAT THE ABOVE INFORMATION IS TRUE AND ACCURATE TO THE BEST OF MY KNOWLEDGE AND BELIEF
X Stewart Allen
DATE
IF CLAIM FILED BY DESIGNATED REPRESENTATIVE PRINT OR TYPE FULL NAME AND MAILING ADDRESS OF AGENT BELOW.
Stewart Allen, Mayor
420 No. Pearl, Ellensburg, Wa.
☐ ADDITIONAL INFORMATION RELATING TO WATER QUALITY AND/OR WELL CONSTRUCTION IS AVAILABLE

A FEE OF $2.00 MUST ACCOMPANY THIS WATER RIGHT CLAIM
ORIGINAL
RETURN ALL THREE COPIES WITH CARBONS INTACT ALONG WITH YOUR FEE TO DEPARTMENT OF WATER RESOURCES DIVISION OF WATER MANAGEMENT [illegible] Redec W-11

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Long Form Claim G4-026703CL

Unknown Well

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STATE OF WASHINGTON
DEPARTMENT OF ECOLOGY
WATER RIGHT CLAIMS REGISTRATION

WATER RIGHT CLAIM

RECEIVED
DEPARTMENT OF ECOLOGY
APR-4 7303624 6
CASH ___ OTHER ✓ NO. ___

1. NAME CITY OF ELLENSBURG

ADDRESS 420 N. PEARL ST.

ELLENSBURG, WASH ZIP CODE 98926

2. SOURCE FROM WHICH THE RIGHT TO TAKE AND MAKE USE OF WATER IS CLAIMED: GROUND WATER (SURFACE OR GROUND WATER)

W.R.I.A. 39 (LEAVE BLANK)

A. IF GROUND WATER, THE SOURCE IS A WELL

B. IF SURFACE WATER, THE SOURCE IS ———

3. THE QUANTITIES OF WATER AND TIMES OF USE CLAIMED:

A. QUANTITY OF WATER CLAIMED 300 GPM (CUBIC FEET PER SECOND OR GALLONS PER MINUTE) PRESENTLY USED 0

B. ANNUAL QUANTITY CLAIMED 480 (ACRE FEET PER YEAR) PRESENTLY USED 0

C. IF FOR IRRIGATION, ACRES CLAIMED ——— PRESENTLY IRRIGATED ———

D. TIME(S) DURING EACH YEAR WHEN WATER IS USED: CONTINUOUSLY

4. DATE OF FIRST PUTTING WATER TO USE. MONTH DEC. YEAR 1959

5. LOCATION OF THE POINT(S) OF DIVERSION/WITHDRAWAL: 2500 FEET WEST AND 50 FEET NORTH FROM THE S.E. CORNER OF SECTION 24

BEING WITHIN SE ¼ OF SECTION 24 T. 18 N., R. 18 (E. ~~W.~~) W.M.

IF THIS IS WITHIN THE LIMITS OF A RECORDED PLATTED PROPERTY, LOT ——— BLOCK ——— OF

(GIVE NAME OF PLAT OR ADDITION)

6. LEGAL DESCRIPTION OF LANDS ON WHICH THE WATER IS USED:

SW ¼, SW ¼ SEC 13; SE ¼, SE ¼ SEC 14; E ½ SEC 23; ALL SEC 24 (TWP 18N, R18E.W.M.) EXC RIGHTS OF WAY. POR OF W ½ LOTS 3 & 4, SEC 19 WHICH LIE WEST OF COUNTY RD; W ½ LOT 1, SEC 30 (TWP 18N, R19 E.W.M) EXC RIGHTS OF WAY COUNTY KITTITAS

7. PURPOSE(S) FOR WHICH WATER IS USED: MUNICIPAL SUPPLY

8. THE LEGAL DOCTRINE(S) UPON WHICH THE RIGHT OF CLAIM IS BASED: WATER RIGHTS

CLAIM FILED JAN 6, 1960

DO NOT USE THIS SPACE

THE FILING OF A STATEMENT OF CLAIM DOES NOT CONSTITUTE AN ADJUDICATION OF ANY CLAIM TO THE RIGHT TO USE OF WATERS AS BETWEEN THE WATER USE CLAIMANT AND THE STATE OR AS BETWEEN ONE OR MORE WATER USE CLAIMANTS AND ANOTHER OR OTHERS. THIS ACKNOWLEDGEMENT CONSTITUTES RECEIPT FOR THE FILING FEE:

DATE RETURNED THIS HAS BEEN ASSIGNED WATER RIGHT CLAIM REGISTRY NO.

APR 4 1973 026703

DIRECTOR - DEPARTMENT OF ECOLOGY

I HEREBY SWEAR THAT THE ABOVE INFORMATION IS TRUE AND ACCURATE TO THE BEST OF MY KNOWLEDGE AND BELIEF

X Stewart Allen

DATE April 3, 1973

IF CLAIM FILED BY DESIGNATED REPRESENTATIVE, PRINT OR TYPE FULL NAME AND MAILING ADDRESS OF AGENT BELOW.

City of Ellensburg
420 North Pearl Street
Ellensburg, Washington 98926

☒ ADDITIONAL INFORMATION RELATING TO WATER QUALITY AND/OR WELL CONSTRUCTION IS AVAILABLE.

A FEE OF $2.00 MUST ACCOMPANY THIS WATER RIGHT CLAIM

RETURN ALL THREE COPIES WITH CARBONS INTACT ALONG WITH YOUR FEE TO:
DEPARTMENT OF ECOLOGY
WATER RIGHT CLAIMS REGISTRATION
OLYMPIA WASHINGTON 98504

ORIGINAL DWR

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Long Form Claim G4-026704CL

Airport Wells

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STATE OF WASHINGTON
DEPARTMENT OF ECOLOGY
WATER RIGHT CLAIMS REGISTRATION

WATER RIGHT CLAIM

RECEIVED
DEPARTMENT OF ECOLOGY
APR -4 73036247
CASH ___ OTHER ✓ NONE ___

1. NAME CITY OF ELLENSBURG

ADDRESS 420 N. PEARL ST.

ELLENSBURG, WASH. ZIP CODE 98926

2. SOURCE FROM WHICH THE RIGHT TO TAKE AND MAKE USE OF WATER IS CLAIMED: GROUND WATER (SURFACE OR GROUND WATER)

W.R.I.A. 39 (LEAVE BLANK)

A. IF GROUND WATER, THE SOURCE IS A WELL

B. IF SURFACE WATER, THE SOURCE IS —

3. THE QUANTITIES OF WATER AND TIMES OF USE CLAIMED:

A. QUANTITY OF WATER CLAIMED 1200 GPM (CUBIC FEET PER SECOND OR GALLONS PER MINUTE) PRESENTLY USED 0

B. ANNUAL QUANTITY CLAIMED 1920 (ACRE FEET PER YEAR) PRESENTLY USED 0

C. IF FOR IRRIGATION, ACRES CLAIMED — PRESENTLY IRRIGATED —

D. TIME(S) DURING EACH YEAR WHEN WATER IS USED: CONTINUOUSLY

4. DATE OF FIRST PUTTING WATER TO USE: MONTH DEC. YEAR 1959

5. LOCATION OF THE POINT(S) OF DIVERSION/WITHDRAWAL: 1200 FEET EAST AND 600 FEET SOUTH FROM THE NW CORNER OF SECTION 25

BEING WITHIN NW 1/4 OF SECTION 25 T. 18 N., R. 18 (E. ~~or W.~~) W.M.

IF THIS IS WITHIN THE LIMITS OF A RECORDED PLATTED PROPERTY, LOT — BLOCK — OF —

(GIVE NAME OF PLAT OR ADDITION)

6. LEGAL DESCRIPTION OF LANDS ON WHICH THE WATER IS USED:

SW 1/4, SW 1/4 SEC 13; SE 1/4, SE 1/4 SEC 14; E 1/2 SEC 23; ALL SEC 24 (TWP 18 N, R 18 E. W.M.) EXC RIGHTS OF WAY. POR OF W 1/2 LOTS 3 & 4, SEC 19 WHICH LIE WEST OF COUNTY RD; W 1/2 LOT 1, SEC 30 (TWP 18 N, R 19 E. W.M.) EXC RIGHTS OF WAY COUNTY KITTITAS

7. PURPOSE(S) FOR WHICH WATER IS USED: MUNICIPAL SUPPLY

8. THE LEGAL DOCTRINE(S) UPON WHICH THE RIGHT OF CLAIM IS BASED: WATER RIGHTS

CLAIM FILED JAN 6, 1960

DO NOT USE THIS SPACE

THE FILING OF A STATEMENT OF CLAIM DOES NOT CONSTITUTE AN ADJUDICATION OF ANY CLAIM TO THE RIGHT TO USE OF WATERS AS BETWEEN THE WATER USE CLAIMANT AND THE STATE OR AS BETWEEN ONE OR MORE WATER USE CLAIMANTS AND ANOTHER OR OTHERS. THIS ACKNOWLEDGEMENT CONSTITUTES RECEIPT FOR THE FILING FEE.

DATE RETURNED ___ THIS HAS BEEN ASSIGNED WATER RIGHT CLAIM REGISTRY NO.

APR 1 7 1973 026704

DIRECTOR, DEPARTMENT OF ECOLOGY

I HEREBY SWEAR THAT THE ABOVE INFORMATION IS TRUE AND ACCURATE TO THE BEST OF MY KNOWLEDGE AND BELIEF.

X Stewart Allen

DATE April 3, 1973

IF CLAIM FILED BY DESIGNATED REPRESENTATIVE PRINT OR TYPE FULL NAME AND MAILING ADDRESS OF AGENT BELOW.

City of Ellensburg
420 North Pearl Street
Ellensburg, Washington 98926

☒ ADDITIONAL INFORMATION RELATING TO WATER QUALITY AND/OR WELL CONSTRUCTION IS AVAILABLE.

A FEE OF $2.00 MUST ACCOMPANY THIS WATER RIGHT CLAIM

ORIGINAL DWR

RETURN ALL THREE COPIES WITH CARBONS INTACT ALONG WITH YOUR FEE TO.
DEPARTMENT OF ECOLOGY
WATER RIGHT CLAIMS REGISTRATION
P O BOX 829 OLYMPIA WASHINGTON 98504

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Application G4-29206A

Kiwanis Well

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State of Washington
Department of Ecology

APPLICATION FOR PERMIT
TO APPROPRIATE PUBLIC WATERS OF THE STATE OF WASHINGTON

☐ SURFACE WATER ☒ GROUND WATER

RECEIVED
FEB 9 1987
DEPARTMENT OF ECOLOGY
CENTRAL REGION OFFICE

$10.00 MINIMUM STATUTORY EXAMINATION FEE REQUIRED WITH APPLICATION

(GRAY BOXES FOR OFFICE USE ONLY)

APPLICATION NO.	W.R.I.A.	COUNTY	PRIORITY DATE	TIME	ACCEPTED
G429206	39	KITTITAS	2-19-87		BP

APPLICANT'S NAME — PLEASE PRINT
City of Ellensburg

Bus. Tel. 509-962-9863
Home Tel.
Other Tel. SCAN 543-1233

ADDRESS (STREET)	(CITY)	(STATE)	(ZIP CODE)
420 North Pearl Street	Ellensburg	Washington	98926

DATE & PLACE OF INCORPORATION IF APPLICANT IS A CORPORATION
Municipal Corporation 11/26/1883

1. SOURCE OF SUPPLY

IF SURFACE WATER	IF GROUND WATER
SOURCE (NAME OF STREAM, LAKE, SPRING, ETC.) (IF UNNAMED, SO STATE) N/A	SOURCE (WELL, TUNNEL, INFILTRATION TRENCH, ETC.) A Well
TRIBUTARY	SIZE AND DEPTH 20", 16", and 12" casing to approximately 1,000 feet.

2. USE

USE TO WHICH WATER IS TO BE APPLIED (DOMESTIC SUPPLY, IRRIGATION, MINING, MANUFACTURING, ETC.)
Municipal supply for residential, commercial, and industrial use.

ENTER QUANTITY OF WATER REQUESTED USING UNITS OF:	CUBIC FEET PER SECOND (CFS)	OR	GALLONS PER MINUTE (GPM)	ACRE FEET PER YEAR
			1,500	1,200

CONTINUOUS MUNICIPLE SUPPLY

TIMES DURING YEAR WATER WILL BE REQUIRED
Year around on demand

IF IRRIGATION, NUMBER OF ACRES	IF DOMESTIC USE, NUMBER OF UNITS BY TYPE, E.G. 1-HOME, 1-MOBILE HOME, 2-CAMPSITES, ETC.	IF MUNICIPAL USE, ESTIMATED POPULATION 20 YEARS FROM TODAY
N/A	N/A	21,000

DATE PROJECT WAS OR WILL BE STARTED	DATE PROJECT WAS OR WILL BE COMPLETED
3/1/87	7/31/88

3. LOCATION OF POINT OF DIVERSION/WITHDRAWAL

3A. IF IN PLATTED PROPERTY

LOT	BLOCK	OF (GIVE NAME OF PLAT OR ADDITION)	SECTION	TOWN	RANGE	ALSO, PLEASE ENCLOSE A COPY OF THE PLAT AND MARK THE POINT(S) OF WITHDRAWAL OR DIVERSION
		N/A				

3B. IF NOT IN PLATTED PROPERTY

ON ACCOMPANYING SECTION MAPS, ACCURATELY MARK AND IDENTIFY EACH POINT OF DIVERSION. SHOW NORTH-SOUTH AND EAST-WEST DISTANCES FROM NEAREST SECTION CORNER OR PROPERTY CORNER.

ALSO, ENTER BELOW THE DISTANCES FROM THE NEAREST SECTION OR PROPERTY CORNER TO THE DIVERSION OR WITHDRAWAL.

LOCATED WITHIN (SMALLEST LEGAL SUBDIVISION)	SECTION	TOWNSHIP N.	RANGE (E. OR W.) W.M.	COUNTY
780' south and 410' east of center of	35	18	18	Kittitas

NW 1/4 SE 1/4 35, T18, R18 COMMONLY KNOWN AS KIWANIS PARK

4. DO YOU OWN THE LAND ON WHICH THIS SOURCE IS LOCATED. IF NOT, INSERT NAME & ADDRESS OF OWNER

Yes

5. LEGAL DESCRIPTION OF PROPERTY *ON WHICH WATER IS TO BE USED*

ATTACH A COPY OF THE LEGAL DESCRIPTION OF THE PROPERTY (ON WHICH THE WATER WILL BE USED) TAKEN FROM **A REAL ESTATE CONTRACT, PROPERTY DEED OR TITLE INSURANCE POLICY.** OR, COPY CAREFULLY IN THE SPACE BELOW.

Water will be used within the corporate limits of the City of Ellensburg. Attached is a map of the City. Attached is a deed of the property we own on which we will drill the well.

ECY 040-1-14
REV. 1/85

WHAT IS YOUR INTEREST IN THE PROPERTY ON WHICH THE WATER IS TO BE USED (PROPERTY OWNER, LESSEE, CONTRACT PURCHASER, ETC.)

Municipal Corporation

ARE THERE ANY EXISTING WATER RIGHTS RELATED TO THE LAND ON WHICH THE WATER IS TO BE USED (INCLUDING WATER PROVIDED BY IRRIGATION DISTRICTS OR DITCH COMPANIES.) ☒ YES ☐ NO

IF YES, FROM WHAT SOURCE (i.e. SURFACE OR GROUND WATER) AND UNDER WHAT AUTHORITY

Surface and ground water - The City has some existing rights and two private irrigation districts (Cascade and Ellensburg Water Company) provide irrigation water to some lands within the City.

6. DESCRIPTION OF SYSTEM PROPOSED OR INSTALLED

(FOR EXAMPLE: SIZE OF PUMP, CAPACITY OF PUMP, PUMP MOTOR HORSE POWER, PIPE DIAMETER, NUMBER OF SPRINKLERS, ETC.)

It is intended to drill a well starting with 20" casing to approximately 1,000 feet. The exact quantity of water found is of course unknown. Pump and motor size will depend on available water and pumping head. An estimate might be 1,500 gpm vertical turbine pump with a 200 HP 3-phase electric motor.

REMARKS

7.

IF 10 ACRE-FEET OR MORE OF WATER IS TO BE STORED AND/OR IF THE WATER DEPTH WILL BE 10 FEET OR MORE AT THE DEEPEST POINT, A STORAGE PERMIT MUST BE FILED IN addition TO THIS PERMIT. THESE FORMS CAN BE SECURED, TOGETHER WITH INSTRUCTIONS, FROM THE DEPARTMENT OF ECOLOGY.

SIGNATURES

Thomas J. Chini — APPLICANT'S SIGNATURE — Director of Public Wks

City of Ellensburg
LEGAL LANDOWNERS NAME (PLEASE PRINT)

D.G. Williams — LEGAL LANDOWNER'S SIGNATURE (OWNER OF PROPERTY DESCRIBED IN ITEM NUMBER 5) — City Manager

420 North Pearl Street, Ellensburg, WA 98926
LEGAL LANDOWNER'S ADDRESS

FOR OFFICE USE ONLY

STATE OF WASHINGTON
DEPARTMENT OF ECOLOGY } *ss.*

This is to certify that I have examined this application together with the accompanying maps and data, and am returning it for correction or completion as follows: .....

.....

.....

In order to retain its priority date, this application must be returned to the Department of Ecology, with corrections, on or before....., *19*.....

Witness my hand this.....*day of*....., *19*.....

.....
Department of Ecology

ECY 040-1-14
Rev. 1/85

KIWANIS PARK

PUGET SOUND TITLE INSURANCE COMPANY

THIS SPACE RESERVED FOR RECORDER'S USE:

Filed for Record
Date 7-21-65 at 10:58 A.M. P.M.
By City of Ellg
Marion Darter, Kittitas County Auditor

Filed for Record at Request of

Name City of Ellensburg

Address 420 N. Pearl Street

City and State Ellensburg, Wash. 98926

322692

Form 467- 1-REV

Statutory Warranty Deed

THE GRANTORS Wayne A. Chandler and Susan Lee Chandler, husband and wife

for and in consideration of Ten Dollars ($10.00) and other valuable considerations

in hand paid, conveys and warrants to The City of Ellensburg, Washington, a Municipal Corporation

the following described real estate, situated in the County of Kittitas State of Washington: That portion of the NW¼ of the SE¼ of Section 35, Township 18 North, Range 18 East of the Willamette Meridian, which is described as follows: A tract of land bounded by a line beginning at a point 297 feet east and 604.3 feet south of the northwest corner of said quarter of quarter section, and running thence south 175.7 feet; thence east 433 feet; thence north 98 feet to the southerly boundary line of the right of way of the Chicago, Milwaukee, St. Paul and Pacific Railroad Co.; thence northwesterly, along said south boundary line of said right of way, 119 ft.; and thence west 333.2 feet to the point of beginning: EXCEPT : a tract of land conveyed to Kittitas County, by deed dated May 16, 1912, recorded in Book 25 of Deeds, Page 60, described as follows: Commencing at a pt. 780 ft. S. and 297 ft. E. of the NW corner of said ¼ of ¼ Sec.; thence E 3.9 ft; thence N 213.7 ft; and thence southwesterly to point of beginning; AND EXCEPT; any portion of said tract which lies within the boundaries of the right of way of "A" Street in the City of Ellensburg, and a 20 foot strip along the north boundary line of this tract deeded to the City of Ellensburg as a portion of Kiwanis Park, by deed dated December 21, 1956, recorded in Book 99 of Deeds, page 502, records of said County.

Subject to all easements, reservations, restrictions, and rights-of-way apparent or of record.

REAL ESTATE EXCISE TAX
EXEMPT
KITTITAS COUNTY TREASURER
BY L. Veenhuis

Dated this 7th day of July, 1965.

Wayne A. Chandler (SEAL)

Susan Lee Chandler (SEAL)

STATE OF WASHINGTON,
County of Kittitas } ss.

FEB 1 9 1981

On this day personally appeared before me Wayne A. Chandler and Susan Lee Chandler, husband and wife to me known to be the individuals described in and who executed the within and foregoing instrument, and acknowledged that they signed the same as their free and voluntary act and deed, for the uses and purposes therein mentioned.

GIVEN under my hand and official seal this 7th day of July, 1965.

Notary Public in and for the State of Washington, residing at Ellensburg

G129206

VOL 119 PAGE 408

64-29206

proposed well site

City of Ellensburg

Kiwanis Park Well Sit

SCALE 1"=1000'

DRG. NO. 78-088-1

KITTITAS COUNTY ASSESSOR
OFFICIAL MAP

64-29206

City of Ellensburg
Kiwanis Park well Sub

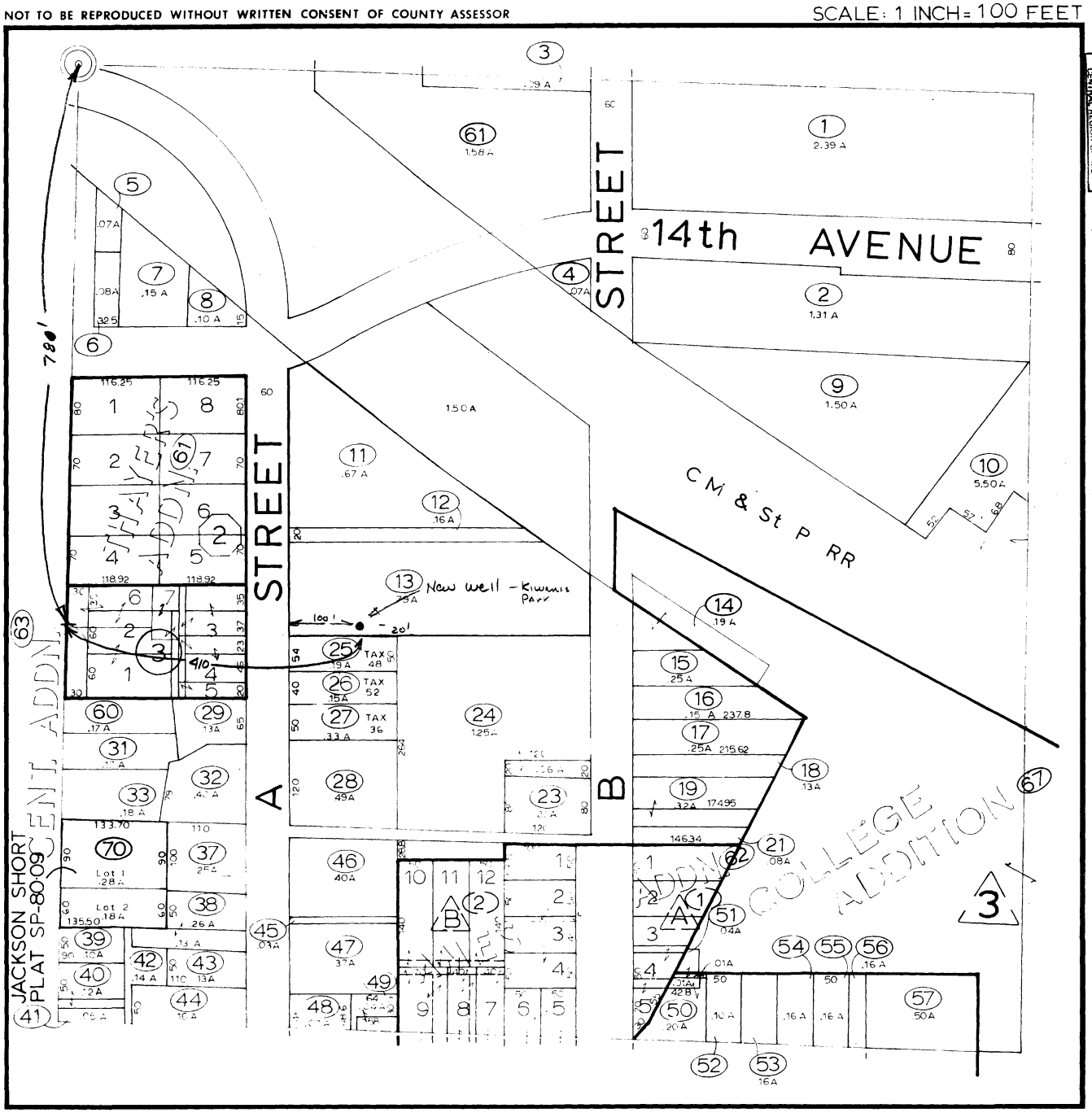
NW 4 SE 4
35·18·18

NOT TO BE REPRODUCED WITHOUT WRITTEN CONSENT OF COUNTY ASSESSOR

SCALE: 1 INCH = 100 FEET

RECEIVED
FEB 19 1987
DEPARTMENT OF ECOLOGY
CENTRAL REGION OFFICE

6429266



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Application G4-29308A

Whitney Well

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State of Washington
Department of Ecology

APPLICATION FOR PERMIT
TO APPROPRIATE PUBLIC WATERS OF THE STATE OF WASHINGTON

☐ SURFACE WATER ☒ GROUND WATER

RECEIVED
JAN 12 1987
DEPARTMENT OF ECOLOGY
REGION OFFICE

$10.00 MINIMUM STATUTORY EXAMINATION FEE REQUIRED WITH APPLICATION

(GRAY BOXES FOR OFFICE USE ONLY)

APPLICATION NO.	W.R.I.A.	COUNTY	PRIORITY DATE	TIME	ACCEPTED
G 429308	39	KITTITAS	6-12-87		BP

APPLICANT'S NAME — PLEASE PRINT
CITY OF ELLENSBURG

Bus. Tel. 509-962-9863
Home Tel.
Other Tel. SCAN 543-1233

ADDRESS (STREET)	(CITY)	(STATE)	(ZIP CODE)
420 NORTH PEARL STREET	ELLENSBURG	WA	98926

DATE & PLACE OF INCORPORATION IF APPLICANT IS A CORPORATION
MUNICIPAL CORPORATION NOV. 26, 1883

1. SOURCE OF SUPPLY

IF SURFACE WATER	IF GROUND WATER
SOURCE (NAME OF STREAM, LAKE, SPRING, ETC.) (IF UNNAMED, SO STATE)	SOURCE (WELL, TUNNEL, INFILTRATION TRENCH, ETC.) A WELL
TRIBUTARY	SIZE AND DEPTH 20", 16", AND 12" CASING TO APPROXIMATELY 1,000 DEPTH

2. USE

USE TO WHICH WATER IS TO BE APPLIED (DOMESTIC SUPPLY, IRRIGATION, MINING, MANUFACTURING, ETC.)
CONTINUOUS MUNICIPAL SUPPLY FOR RESIDENTIAL, COMMERCIAL, AND INDUSTRIAL USE

ENTER QUANTITY OF WATER REQUESTED USING UNITS OF:	CUBIC FEET PER SECOND (CFS)	OR	GALLONS PER MINUTE (GPM)	ACRE FEET PER YEAR
			1500	1200

TIMES DURING YEAR WATER WILL BE REQUIRED
YEAR AROUND ON DEMAND

IF IRRIGATION, NUMBER OF ACRES	IF DOMESTIC USE, NUMBER OF UNITS BY TYPE, E.G. 1-HOME, 1-MOBILE HOME, 2-CAMPSITES, ETC.	IF MUNICIPAL USE, ESTIMATED POPULATION 20 YEARS FROM TODAY
N/A	N/A	21,000

DATE PROJECT WAS OR WILL BE STARTED	DATE PROJECT WAS OR WILL BE COMPLETED
8/1/87	11/1/88

3. LOCATION OF POINT OF DIVERSION/WITHDRAWAL

3A. IF IN PLATTED PROPERTY

LOT	BLOCK	OF (GIVE NAME OF PLAT OR ADDITION)	SECTION	TOWN	RANGE	ALSO, PLEASE ENCLOSE A COPY OF THE PLAT AND MARK THE POINT(S) OF WITHDRAWAL OR DIVERSION
		N/A				

3B. IF NOT IN PLATTED PROPERTY

ON ACCOMPANYING SECTION MAPS, ACCURATELY MARK AND IDENTIFY EACH POINT OF DIVERSION. SHOW NORTH-SOUTH AND EAST-WEST DISTANCES FROM NEAREST SECTION CORNER OR PROPERTY CORNER.

ALSO, ENTER BELOW THE DISTANCES FROM THE NEAREST SECTION OR PROPERTY CORNER TO THE DIVERSION OR WITHDRAWAL.

250' EAST AND 110' NORTH OF THE CENTER OF SECTION 1, T17N, R18E, W.M.

LOCATED WITHIN (SMALLEST LEGAL SUBDIVISION)	SECTION	TOWNSHIP N.	RANGE (E. OR W.) W.M.	COUNTY
SW 1/4, SW 1/4, NE 1/4	1	17	18E	KITTITAS

4. DO YOU OWN THE LAND ON WHICH THIS SOURCE IS LOCATED. IF NOT, INSERT NAME & ADDRESS OF OWNER

Yes

5. LEGAL DESCRIPTION OF PROPERTY *ON WHICH WATER IS TO BE USED*

ATTACH A COPY OF THE LEGAL DESCRIPTION OF THE PROPERTY (ON WHICH THE WATER WILL BE USED) TAKEN FROM **A REAL ESTATE CONTRACT, PROPERTY DEED OR TITLE INSURANCE POLICY.** OR, COPY CAREFULLY IN THE SPACE BELOW.

WATER WILL BE USED WITHIN THE CORPORATE LIMITS OF THE CITY OF ELLENSBURG. ATTACHED IS A MAP OF THE CITY. ATTACHED IS A DEED OF THE PROPERTY ON WHICH WE WILL DRILL THE WELL.

ECY 040-1-14
Rev. 1/85

WHAT IS YOUR INTEREST IN THE PROPERTY ON WHICH WATER IS TO BE USED (PROPERTY OWNER, LESSEE, CONTRACT PURCHASER, ETC.)

MUNICIPAL CORPORATION

ARE THERE ANY EXISTING WATER RIGHTS RELATED TO THE LAND ON WHICH THE WATER IS TO BE USED (INCLUDING WATER PROVIDED BY IRRIGATION DISTRICTS OR DITCH COMPANIES.) ☒ YES ☐ NO

IF YES, FROM WHAT SOURCE (i.e. SURFACE OR GROUND WATER) AND UNDER WHAT AUTHORITY

SURFACE AND GROUND WATER - THE CITY HAS SOME EXISTING RIGHTS, AND TWO PRIVATE IRRIGATION DISTRICTS (CASCADE AND ELLENSBURG WATER COMPANY) PROVIDE IRRIGATION WATER TO SOME LANDS WITHIN THE CITY.

6. DESCRIPTION OF SYSTEM PROPOSED OR INSTALLED

(FOR EXAMPLE: SIZE OF PUMP, CAPACITY OF PUMP, PUMP MOTOR HORSE POWER, PIPE DIAMETER, NUMBER OF SPRINKLERS, ETC.)

IT IS INTENDED TO DRILL A WELL, STARTING WITH 20" CASING TO APPROXIMATELY 1,000 FEET. THE EXACT QUANTITY OF WATER TO BE FOUND IS OF COURSE UNKNOWN. PUMP AND MOTOR SIZE WILL DEPEND ON AVAILABLE WATER AND PUMPING HEAD. AN ESTIMATE MIGHT BE 1500 GPM VERTICAL TURBINE PUMP WITH A 200 HP, 3-PHASE ELECTRIC MOTOR.

REMARKS

7.

IF 10 ACRE-FEET OR MORE OF WATER IS TO BE STORED AND/OR IF THE WATER DEPTH WILL BE 10 FEET OR MORE AT THE DEEPEST POINT, A STORAGE PERMIT MUST BE FILED IN addition TO THIS PERMIT. THESE FORMS CAN BE SECURED, TOGETHER WITH INSTRUCTIONS, FROM THE DEPARTMENT OF ECOLOGY.

SIGNATURES

APPLICANT'S SIGNATURE

THOMAS J. CHINI, DIRECTOR OF PUBLIC WORKS

CITY OF ELLENSBURG

LEGAL LANDOWNERS NAME (PLEASE PRINT)

LEGAL LANDOWNER'S SIGNATURE (OWNER OF PROPERTY DESCRIBED IN ITEM NUMBER 5)

D. G. WILLIAMS, CITY MANAGER

420 NORTH PEARL STREET, ELLENSBURG, WA 98926

LEGAL LANDOWNER'S ADDRESS

FOR OFFICE USE ONLY

STATE OF WASHINGTON
DEPARTMENT OF ECOLOGY } *ss.*

This is to certify that I have examined this application together with the accompanying maps and data, and am returning it for correction or completion as follows: .....

.....

.....

In order to retain its priority date, this application must be returned to the Department of Ecology, with corrections, on or before....., 19.....

Witness my hand this.....*day of*....., 19.....

.....
Department of Ecology

ECY 040-1-14
Rev. 1/85

WHITNEY
PARK
WELL SITE

CITY OF
ELLENSBURG

6429308

THE GRANTORS E. E. MUNDY and CAROLYN MUNDY, his wife,

WHITNEY PARK

for and in consideration of One ($1.00) and other valuable consideration - DOLLARS in hand paid, convey and warrant to CITY OF ELLENSBURG, a municipal corporation

the following described Real Estate:

That portion of the Southwest Quarter of the Northeast Quarter and of the Northwest Quarter of the Southeast Quarter of Section One (1), Township Seventeen (17) North, Range Eighteen (18) East of the Willamette Meridian, in the County of Kittitas, State of Washington, which is described as follows:

A tract of land bounded by a line beginning at a point on the north-south center line of said section which is 2275.3 feet south of the north quarter corner of said section, and running thence south along the said north-south center line 520.33 feet to the north boundary line of Capital Avenue; thence east along the north boundary line of Capital Avenue 670.0 feet; thence north, parallel with and 670.0 feet east of the north-south center line of said section, 520.33 feet; and thence ~~south~~ WEST 670.0 feet to the point of beginning.

Subject to the rights of way for two irrigation ditches known as Old Dominion Ditch and MacDougall-Dreyer Ditch.

Together with six (6) shares of stock in the Ellensburg Water Company.

Subject to the right of the grantors to construct a power line along the west boundary line of the above conveyed property immediately east of the said Ditches.

That the said grantee agrees to immediately build and maintain a line fence between the property herein conveyed and the adjoining property owned by the grantors, said fence to be of barbed wire consisting of three wires and posts approximately 20 feet apart. That the said barb wire will be furnished by the grantors.

That within a reasonable time, or a period not to exceed two years, the grantee will replace said barbed wire fence by constructing between the said property herein conveyed and the adjoining property owned by the grantors, a link or cyclone type fence to be at least six feet high with metal type posts. That said fence will be maintained by the grantee and/or its assigns so long as the grantee and/or its assigns shall maintain a playground on the property herein conveyed. That should said playground be abandoned, the grantee shall have the privilege of replacing said link type fence with a standard 4 wire barb wire fence with wooden posts set one rod apart.

That this property is purchased for park and play ground purposes and in the event the grantee abandons such use the same shall not be used by the grantee or its assigns for industrial, warehouse, or other use that may be prejudicial to the adjoining property of the grantors and/or their assigns.

That if the property herein conveyed be sold by the said grantee and/or its assigns for residential purposes, houses erected thereon must be at a cost of not less than Five Thousand ($5,000.00) Dollars except in event a zoning ordinance be established thereon by the grantee said zoning ordinance will prevail.

Situated in the County of Kittitas, State of Washington.

Dated this 23d day of May, 1947.

WITNESSES:

E. E. Mundy

Carolyn Mundy

G 429308

CITY OF ELLENSBURG

420 NORTH PEARL STREET
ELLENSBURG, WASHINGTON 98926

June 10, 1987

RECEIVED
JUN 12 1987
DEPARTMENT OF ECOLOGY
CENTRAL REGION OFFICE

State of Washington
Department of Ecology
3601 West Washington
Yakima, WA 98903-1164

Dear Sir or Madame:

Enclosed is an application for a permit to appropriate public waters along with the $10 fee and pertinent maps.

If you need any added information, please let me know.

Sincerely,

Thomas J. Chini
Director of Public Works

Enclosures

G429308

CITY OF ELLENSBURG
IN THE HEART OF WASHINGTON

64-29308

well site 50'E and 100'N of center section

CENTER OF SEC 1 T17N R18E

City of Ellensburg

SCALE 1"=1000'

DRG. NO. 78-088-1

G429308

64-29308

Application G4-33267A

Illinois Well

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DEPARTMENT OF ECOLOGY
State of Washington

WATER RESOURCES PROGRAM
Application for a New Water Right Permit

For Ecology Use (Date Stamp)

I am applying for a:

☒ New groundwater right permit
☐ New surface water right permit

☐ Short-term water right permit (less than 4 months, non-recurring)
Dates the water will be needed:
FROM: ____/____/____
TO: ____/____/____

☒ Cost reimbursement
☐ Drought (see Attachment A)

Required submittals:

- A $50 filing fee. This fee is not required for drought or cost reimbursement applications.
- A map showing the proposed point(s) of diversion/withdrawal and place(s) of use.
- A copy of the legal description of property where the water will be used (taken from a real estate contract, property deed, or title insurance policy).
- If platted property, a complete copy of the plat map.

Date of pre-application consultation with Ecology: October 15, 2020

1. Applicant Information (Complete all applicable boxes)

APPLICANT/BUSINESS NAME: City of Ellensburg, Derek Mayo, City Engineer	PHONE NO: (509) 962-7101	OTHER NO:
ADDRESS: 501 North Anderson Street		
CITY: Ellensburg	STATE: WA	ZIP: 98926
EMAIL ADDRESS (IF AVAILABLE): mayod@ci.ellensburg.wa.us		

CONTACT NAME (IF DIFFERENT FROM ABOVE): Chris Pitre, Principal, LG, LHG, Coho Water Resources	PHONE NO: (206) 406-9596	OTHER NO: **(206) 276-2293**
RELATIONSHIP TO APPLICANT: Hydrogeologist		
ADDRESS: 123 N 77th St.		
CITY: Seattle	STATE: WA	ZIP: 98103
EMAIL ADDRESS (IF AVAILABLE): chris@cohowr.com		

FOR ECOLOGY USE	**ECY CODING: 001-001-WR1-0285-000011** APPLICATION NO:_____ DOC ID NO._____ SEPA: EXEMPT/NOT EXEMPT FEE PAID:_____ CHECK NO:_____
DATE RETURNED _____ BY_____ PRIORITY DATE _____ BY_____ WRIA:_____	
PRE-APPLICATION INTERVIEWER:	

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JAN 04 2020
Dept of Ecology
Central Regional Office

2. Project Description

Attach a report with responses to the following required information, and reference the section number in your responses.

Section	Required information	Reference(s)
2.1	Provide a brief narrative explaining the general nature and intent of the proposed water use.	
2.2	If the proposed water use will include a diversion from a new or permitted reservoir, list any associated water rights, and the means of withdrawal.	
2.3	Attach a copy of any SEPA checklists or environmental analyses related to this project with this application.	
2.4	Describe how you will measure and control the rate and volume of your diversion or withdrawal.	

3. Purpose(s) and Period of Use

List all purposes for which water will be applied to a beneficial use, and provide the quantity required for each.

Purpose(s) of Use	Rate (check one box only) ☐ Cubic Feet per Second (CFS) ☒ Gallons per Minute (GPM)	Acre-Feet per Year (AF/YR)	Number of acres proposed to be irrigated	Period of Use (Continuous, or identify dates of proposed use)
Municipal	3,200 (additive)	3,200 (non-additive)		Continuous
TOTAL:	3,200 additive	3,200 (non-additive)		

Section	Required information	Reference(s)
3.1	For domestic water supply systems proposals with **fewer than 15 residential connections,** provide: • Projected number of connections to be served • Type of connections (e.g., home, recreational cabin)	
3.2	For domestic water supply systems proposals with **more than 15 residential connections,** provide: • Present population to be served water • Estimated future population to be served (20 year projection) • Whether you have a Water System Plan approved by the Washington	RCW 90.03.015

Section	Required information	Reference(s)
	State Department of Health, Drinking Water Division, and the date of plan approval. • Water System Identification Number • Name of water system	
3.3	**For stockwater purposes,** provide the number of animals and type of stock, and daily water requirements per animal.	
3.4	**For other farm uses,** describe all proposed uses.	
3.5	**For agricultural irrigation,** calculate the acreage in which you have a controlling interest, including only: • Acreage irrigated under water rights acquired after December 8, 1977, • Acreage proposed to be irrigated under this application, and • Acreage proposed to be irrigated under other pending application(s). • Is the combined acreage under existing rights greater than 6,000 acres? • Do you have a controlling interest in a Family Farm Development Permit? If yes, provide the permit number.	RCW 90.66
3.6	**For hydropower uses,** indicate: • Total feet of head • Proposed capacity in kilowatts • Describe works • Indicate all uses to which power is to be applied • FERC License Number	RCW 90.03.260
3.7	**For industrial/mining uses,** describe the type of industrial/mining operations, and the method of supplying and utilizing water.	
3.8	**For other uses,** describe your use in detail.	

4. Point of Diversion/Withdrawal (complete A or B)

A) Points of Diversion (SURFACE WATER ONLY – Legal Descriptions)

☐ SPRING ☐ CREEK ☐ RIVER ☐ LAKE ☐ OTHER:

SOURCE	TRIBUTARY TO:	QTR QTR	QTR	SEC	TWP	RGE	PARCEL NO.	GPS/ LAT-LONG
N/A								

DO YOU OWN THE POINT OF DIVERSION? ☐ YES ☐ NO

B) Points of Withdrawal (GROUNDWATER ONLY– Legal Descriptions)

SOURCE: ☒ WELL ☐ OTHER

EXISTING WELL: ☒ YES ☐ NO

SOURCE	WELL NO.	WELL TAG NO.	QTR QTR	QTR	SEC	TWP	RGE	PARCEL NO.	GPS/ LAT-LONG
Illinois Well (see attached)									

DO YOU OWN THE POINT OF WITHDRAWAL? ☒ YES ☐ NO

5. Water Storage

Section	Required information	Reference(s)
5.1	If you will be storing 10 acre-feet or more of water and/or if the water depth will be 10 feet or more at the deepest point and some portion of the storage will be above grade, you must also complete an "*Application for Permit to Construct a Reservoir*," and a "*Dam Construction or Decommissioning Permit Application*."	WAC 173-175 WAC 508-12-260
5.2	If applicable, describe your proposed impoundment, including the volume and maximum depth.	
5.3	If you are proposing an Aquifer Storage and Recovery project, complete **Attachment B**.	

6. Place of Use

QTR QTR	QTR	SEC	TWP	RGE	COUNTY	PARCEL NO.	NO. OF IRRIGATED ACRES

Outline the area to be irrigated on your attached map, if applicable.

LEGAL LANDOWNER OF PROPOSED PLACE OF USE (IF DIFFERENT THAN APPLICANT)	PHONE NO.	ALT PHONE NO.
ADDRESS		
CITY	STATE	ZIP CODE
EMAIL ADDRESS (IF AVAILABLE)		

Attach additional sheets as necessary.

7. Related Water Rights (if applicable)

Section	Required information	Reference(s)
7.1	List any other water rights (applications, permits, certificates, or claims) related to this application. Include any rights that overlap the place of use.	
7.2	Explain how the water rights listed above have been exercised.	

8. System Design and Operation

Section	Required information	Reference(s)
8.1	Provide a description of the proposed water supply system from the point of diversion or withdrawal to the proposed place of use.	
8.2	Provide preliminary design plans and specifications for the proposed use, including diversion or withdrawal and conveyance facilities, if applicable, and the proposed flow rate and volume design capacity.	
8.3	Provide the projected system efficiency.	
8.4	**For surface water diversions,** describe how your plans comply with WDFW fish screening requirements.	RCW 77.57

DEVELOPMENT SCHEDULE

Section	Required information	
8.5	Provide a general timeline that includes the steps needed to begin the project, complete the project, and put the water to full beneficial use.	
8.6	Identify and discuss other land-use or environmental permits required and the timeline to obtain those permits.	

9. Hydrogeologic Analysis

We strongly recommend that applicants consult with Ecology in a pre-application meeting prior to conducting *any* hydrogeologic work, to determine the scope of data required for processing this application.

Section	Required information	Reference(s)
9.1	Describe the hydrogeologic setting. Identify all groundwater bodies and surface water bodies involved.	
9.2	Describe geographic recharge and discharge areas, seasonal variations, and interrelationships between surface water and groundwater, and between aquifers. Identify barriers to flow and hydrologic boundaries, if known.	

Section	Required information	Reference(s)
9.3	If available, attach Water Well Report, well diameter and depth, and any pump test data.	
9.4	Describe, if available, the following characteristics of the aquifer and cite the source of that information: • Aquifer transmissivity • Aquifer storage coefficient and specific yield • Saturated thickness • Aquitard leakage • A detailed description of groundwater-flow boundaries • Water-level hydrographs for wells • Associated water-quality information	

If your proposed water use impacts or impairs a protected water source or an existing water right, you will need to discuss mitigation options in **Attachment C** with the appropriate regional office.

10. Driving Directions

Section	Required information	Reference(s)
10.1	Site address, and detailed driving directions to the project site.	

11. Maps and Other Documentation

Section	Required information	
11.1	Attach detailed map(s) clearly indicating the following: • The proposed places of use for all rights related to this application. If any overlapping water rights for the place of use, or multiple rights that share the same point(s) of diversion/withdrawal exist, provide one map depicting all of the historic points of diversion, means of conveyance, and places of use. Identify related rights as such by water right number. • The county parcel numbers for the proposed place of use, unless the place of use is for a large service area such as that served by an irrigation district or municipal water system. Identify the name of the irrigation district or the water system, if applicable. • The proposed locations of the point(s) of diversion/withdrawal. • The names, informal or formal, used to identify each point of diversion/withdrawal (e.g., Well No. 1, River Well, S01, Smith Dam, etc.). • A grid layer referencing Section, Township, and Range of the area. • The location of the water delivery system and other such features relevant to your proposed application (e.g., mainlines, reservoirs, booster pumps, etc.)	

12. Signatures

I certify that the information provided in this application is true and accurate to the best of my knowledge. I understand that in order to process my application, I grant staff from the Department of Ecology access to the site for inspection and monitoring purposes. Even though the employees of the Department of Ecology may have assisted me in the preparation of the above application, all responsibility for the accuracy of the information rests with me, the applicant.

Print Name (Applicant or authorized representative)	Signature	Date
Ryan Lyyski, Dir. of Public Works & Utilities		Nov. 9, 2020
Ryan Lyyski, Dir. of Public Works & Utilities		Nov. 9, 2020
Ryan Lyyski, Dir. of Public Works & Utilities		Nov. 9, 2020

Print Name (Legal Owner or Part Owner Place of Use)

Signature

Date

Print Name (Legal Owner or Part Owner Place of Use)

For additional information, contact the Ecology regional office where your project is located:

Region	Counties served	Mailing Address	Phone
Central	Benton, Chelan, Douglas, Kittitas, Klickitat, Okanogan, Yakima	1250 W Alder St Union Gap, WA 98903	509-575-2490
Eastern	Adams, Asotin, Columbia, Ferry, Franklin, Garfield, Grant, Lincoln, Pend Oreille, Spokane, Stevens, Walla Walla, Whitman	4601 N Monroe Spokane, WA 99205	509-329-3400
Northwest	Island, King, Kitsap, San Juan, Skagit, Snohomish, Whatcom	3190 160th Ave SE Bellevue, WA 98008	425-649-7000
Southwest	Clallam, Clark, Cowlitz, Grays Harbor, Jefferson, Mason, Lewis, Pacific, Pierce, Skamania, Thurston, Wahkiakum	PO Box 47775 Olympia, WA 98504	360-407-6300

ADA Requests

To request ADA accommodation including materials in a format for the visually impaired, call Ecology Water Resources Program at 360-407-6872. People with impaired hearing may call Washington Relay Service at 711. People with speech disability may call TTY at 877-833-6341.

Attachment C: Mitigation Plan

Section	Required information	Reference(s)
C.1	Identify the source of supply for the proposed mitigation water.	
C.2	Estimate the consumptive quantity of water for the proposed use. Describe the methodology used to support your estimate.	
C.3	Describe how the proposed mitigation would offset the impacts of the proposed withdrawal or diversion.	
C.4	Describe the measures that will be taken to ensure mitigation will be maintained for the duration of the water right authorization.	
C.5	Provide copies of any agreements between you and other parties regarding mitigation for impacts, if applicable.	
C.6	Describe the benefits and costs, including environmental effects, of any water impoundment or other resource management technique that is included as a component of the application.	RCW 90.03.255 RCW 90.44.055
C.7	**For surface water**, analyze whether there will be any increased water supply from the impoundment or technique, including recharge of groundwater, as a means of making water available or otherwise offsetting diversion impacts.	
C.8	**For groundwater**, analyze whether there will be any increased water supply from the impoundment or technique, including recharge of groundwater, as a means of making water available or otherwise offsetting the impact of the diversion of surface water.	
C.9	If you intend to offset your new use, describe how and when non-consumptive water returns to groundwater or surface water, and explain how this volume was estimated. Specifically describe how the quantity, timing and location of return flow would change if the proposed permit is approved.	WAC 173-500-050(5) WAC 173-500-050(9) POL 1020

Coho Water Resources
Integrated Water Resource Management

Distribution List

Date: December 29, 2020
Coho Proj: ELL-09.1

Re: **CITY OF ELLENSBURG GROUNDWATER RIGHT APPLICATION PACKAGE**

Distribution list (Illinois Well Installation and Testing report hardcopy sent to Cashiering Section only):

Washington Department of Ecology

- Stacie Belenski, Ecology Headquarters, Cashiering, Section, sbel461@ecy.wa.gov
  P.O. Box 47611
  Olympia, Washington 98504-7611
- Candis Graf, Cost Reimbursement, cagr461@ecy.wa.gov
  707 S. 45th Avenue
  Yakima, WA 98908
- Trevor Hutton, Water Resources Section Supervisor
- Christopher Kossik, CRO Ecology, Permit Writer, ckos461@ecy.wa.gov

  (via Candis Graf)

Yakama Nation

- Danielle Squeochs, Hydrogeologist squd@yakamafish-nsn.gov
  PO Box 151
  Toppenish, WA 98948

City of Ellensburg

- Ryan Lyyski, Director of Public Works, lyyskir@ci.ellensburg.wa.us
- Derek Mayo, City Engineer, mayod@ci.ellensburg.wa.us

  Public Works Department
  City of Ellensburg
  501 North Anderson Street
  Ellensburg, WA 98926

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Central Regional Office

Coho Water Resources, LLC
123 North 77th Street
Seattle, Washington
(206) 406-9596
www.cohowr.com

Department of Ecology
DEC 30 2020
Water Resources Program

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City of Ellensburg
Groundwater Right Application Package

December 26, 2020

Coho Water Resources
Integrated Water Resource Management

Ellensburg
WASHINGTON

Coho Water Resources
Integrated Water Resource Management

December 24, 2020
ELL-09.1

Central Regional Office (CRO)
Washington Department of Ecology
1250 West Alder Street
Union Gap, WA 98903-0009

Attn: Trevor Hutton, Water Resources Section Manager (CRO)
thut461@ecy.wa.gov

RE: CITY OF ELLENSBURG GROUNDWATER WATER RIGHT PRE-APPLICATION & APPLICATION (ILLINOIS WELL)

Dear Mr. Hutton:

Attached is an application package for a groundwater right for the City of Ellensburg (City). The City requests that this application be processed through Washington Department of Ecology's (Ecology) streamlined cost re-imbursement program by Coho Water Resources (Coho) according to RCW 90.03.265(5)(d).

Pre-Application: The application package includes pre-application materials related to our call at 8 a.m., October 15, 2020. The City has consulted with the Yakama Nation at technical and policy levels about this application (see attached letter).

Application: The application is to allow the use of the Illinois Well that was installed by the City for municipal water supply in 2019. Only additive instantaneous quantity is requested. The annual quantity will be non-additive to other City water rights, and is therefore water balance neutral.

Public Notice: We request your review of the attached draft public notice and authorization to proceed with publication.

Phase 1 Assessment: A draft Phase 1 Assessment has been prepared and will be provided to Ecology in the coming weeks. It addresses the appropriation procedure for co-processing senior applications within the same source of supply (RCW 90.03.265(1)(a)). That requirement does not apply to an application for a new

Coho Water Resources, LLC
123 N 77th St
Seattle, Washington 98103
www.cohowr.com

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appropriation that would not diminish the water available to earlier pending applicants for new appropriations from the same source of supply (RCW 90.03.265(1)(b)).

Cost Reimbursement: Upon submittal of the Phase 1 Assessment to Ecology, the City will be ready to enter into a cost reimbursement agreement with Ecology. Chris Pitre will follow up with Candis Graf to facilitate establishing a contract between Ecology and the City.

We remain available to answer any questions and, if desired, to present and jointly review the technical analysis and conduct a field visit. We will continue to provide support to you and your staff, as requested.

Respectfully,

Coho Water Resources, LLC

Chris Pitre
(206) 406-9596
chris@cohowr.com

cc:

Hardcopy (including Attachment 6) and electronic:

Stacie Belenski, Ecology Headquarters, Cashiering Unit, sbel461@ecy.wa.gov

Electronic:

Danielle Squeochs, Yakama Nation, squd@yakamafish-nsn.gov

Candis Graf, CRO Ecology, Cost Reimbursement Point of Contact, cagr461@ecy.wa.gov

Christopher Kossik, CRO Ecology, Permit Writer, ckos461@ecy.wa.gov

Ryan Lyyski, Dir. Public Works & Utilities, City of Ellensburg, lyyskir@ci.ellensburg.wa.us

Derek Mayo, City Engineer, City of Ellensburg, mayod@ci.ellensburg.wa.us

Attachments:

1. Letter from the City of Ellensburg to the Yakama Nation (1 page).
2. Pre-application Form (5 pages + 4 maps).
3. Application (8 pages).
4. Supporting information (9 pages + 4 figures + 2-page Attachment C)
5. Plat map (perpetual easement; 6 pages).
6. Illinois Well Installation & Testing report (posted to on-line Dropbox folder).
7. Draft public notice (1 page; plus a separate Microsoft Word document).

CITY OF ELLENSBURG

Office of the City Manager

501 North Anderson, Ellensburg, WA 98926
(509) 962-7221 - Telephone (509) 962-7143 - Fax

July 21, 2020

Phil Rigdon (Via Email)
Department of Natural Resources Deputy Director
Yakama Nation, prigdon@yakama.com

Dear Mr. Rigdon,

This e-mail presents the courtesy of informing you and the Yakama Nation of the City of Ellensburg's intent to submit a groundwater right application in the coming weeks to the Washington Department of Ecology. Further formal notifications will be made through government-to-government consultation by Ecology, and as a fishery manager. This application will request a modification of the City's existing groundwater rights to allow pumping of groundwater at greater rates during peak municipal water demand (i.e., additive instantaneous pumping rate – also known as "Qi").

The total volume of groundwater that the City is allowed to pump will remain the same (i.e., non-additive annual volume – also known as "Qa").

The net effect of this groundwater right application is to provide more flexibility in the operation of the City's drinking water system without increasing the total quantity pumped in any calendar year.

Technical analysis will be conducted to inform a decision by Ecology, with input from stakeholders including the Yakama Nation. Findings that we anticipate are needed to allow approval of the application include, among other points:

1) No reduction of the Total Water Supply Available;
2) No adverse impacts to tributaries of the Yakima River; and,
3) No adverse impacts to other groundwater users.

The City's consultant (Chris Pitre, Coho Water Resources) discussed with your staff (Danielle Squeochs, July 9) the City's intent to submit a water right application. Chris will keep your staff Danielle and Stuart Crane informed of developments (all cc'ed on this e-mail), including providing a copy of the application package when it is submitted to Ecology.

We are happy to answer any questions you may have. Please feel free to contact myself, our Public Works and Utilities Director (Ryan Lyyski, 509-962-7230), or our consultant (Chris Pitre, 206-406-9596).

Warmest regards,

John Akers, City Manager

C: Danielle Squeochs, Hydrologist, Yakama Nation, squd@yakamafish-nsn.gov
Stuart Crane, Water Resources Program, Agricultural Engineer, Yakama Nation, Stuart_Crane@Yakama.com
Ryan Lyyski, Public Works and Utilities Director, City of Ellensburg, lyyskir@ci.ellensburg.wa.us
Chris Pitre, Hydrogeologist Consultant, Coho Water Resources, chris@cohowr.com

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ADDITIONAL SUPPORTING INFORMATION
for
ILLINOIS WELL GROUNDWATER RIGHT FOR THE CITY OF ELLENSBURG

Sections in this document parallel sections in the water right application. The end of this document includes:

- List of figures.
- Citations.
- Figures

This document was prepared by Coho Water Resources (Coho).

1. Applicant Information

Applicant:

Ryan Lyyski, Public Works Director
City of Ellensburg
501 North Anderson Avenue
Ellensburg, Washington 989

(509) 962-7138
lyyskir@ci.ellensburg.wa.us

Contact:

Chris Pitre
Coho Water Resources
123 N 77th St.
Seattle, WA 98103

(206) 406-9596
chris@cohowr.com

2. Project Description

2.1. Nature & Intent of Proposed Water Use

The requested groundwater will be used for municipal water supply.

2.2. Diversion from a Reservoir

The proposed water use will not include diversion from a new or permitted reservoir.

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Central Regional Office

2.3. SEPA

Public notice of a State Environmental Policy Act (SEPA) checklist has been prepared and is being processed by the City of Ellensburg.

2.4. Measure & Control of Withdrawal

Operation of the pumps is managed with a Supervisory Control And Data Acquisition (SCADA) system. The following data is measured on a real-time basis:

- Time that pumps are turned on and off.
- Pumping rate (gallons per minute [gpm])
- Cumulative volume pumped.

The City will report on an annual basis (by January 31 of the following year) the total annual withdrawal volume and maximum instantaneous withdrawal rate.

3. Purpose and Period of Use (Municipal – Section 3.2)

The water will be used year-round for municipal purpose of use with the following attributes (Table 3.2):

Table 3.2: Water system information.

Attribute	Attribute Value
Present population served (2020)	19,960 (DOH sentry) (20,897; RH2, 2020)
Estimated future population to be served (2040)	34,573 (RH2)
Date of approved drinking water system plan	November 2013 (Gray and Osborne; RH2, 2020)
Water System identification Number	22950
Water System Name	Ellensburg Water Department

4. Point of Withdrawal (B)

The proposed point of withdrawal is the Illinois Well (Table 4B; Figures 1 and 2):

Table 4B: Proposed point of withdrawal.

Source	Well No.	Well Tag No.	QTR QTR	QTR	SEC	TWP	RGE (W.M.)	PARCEL NO.	LAT-LONG
Illinois Well	S12	AAR 986	NW	NW	35	18 N	18 E	See below.	-120.556, 47.011

Kittitas County Tax Parcel # 11711 Map # 18-18-35022-0005
Easement recorded under AFN 2017-113-00008
Not platted.

5. Water Storage

The City will not be storing water in a reservoir or constructing a dam, other than infrastructure storage (Table 5).

Table 5: Storage Facilities Summary

Reservoir	Approximate Location	Pressure Zone	Year Constructed	Construction Type	Capacity (MG)	Diameter (feet)	Base Elev. (feet)	Overflow Elev. (feet)
Craig Hill Reservoir	1301 Craig Ave	1740 Zone	1960	Steel	4.0	103.5	1,676.5	1,740.0
Airport Reservoir	1147 Bowers Rd	1824 Zone	2000	Steel	1.1	43	1,722.0	1,824.0

6. Place of Use

The place of use is the service area as described in the water system plan approved by the Washington State Department of Health (Figure 3; Gray & Osborne, 2013; RH2, 2020).

7. Related Water Rights

7.1. List of Water Rights

Related water rights are:

- Groundwater Right Number (old certificate number; associated wells)
  - G4-*00551S (GWC-926D; City Wells, Route 10, Hayward, Kiwanis, Whitney)
  - G4-*00549S (GWC-924D; Anderson)
  - G4-*00550S (GWC-925D; Memorial)
  - G4-*00693C (GWC-816A; Rodeo)
  - G4-*05359C (GWC-3510A and GWC-3525A; Airport Wells)
  - G4-24355C (WWTP)
  - G4-25307C (Mount Stuart)
  - G4-27814N (Lions Mount View)
  - G3-+20414C (Central Washington University [CWU]).
- Surface Water Right Number
  - S4-84605-J (shares in the Ellensburg Water Company)
  - S4-83580-J (in trust with the Bureau of Reclamation)
  - S4-83651J (Mill Ditch Co.)

There may be additional privately-held water rights that overlap the place of use but of which the City is not aware.

7.2. How the Water Rights are Exercised

Groundwater rights provide municipal water supply to the service area of the City of Ellensburg. The surface water rights were recently confirmed through the Acquavella court proceedings and the City is developing a plan to incorporate them into the City's municipal water supply.

---

8. System Design and Operation

8.1. Proposed Water Supply System

A water main will be constructed from the recently-installed Illinois Well, north to connect to an existing water main on Helena Avenue into the City's municipal drinking water

supply system, to be distributed throughout the City's water service area (Figures 3 and 4)

8.2. Preliminary Design

The well was tested at a rate of 3,200 gallons per minute (gpm). The well is anticipated to be outfitted with a variable frequency drive pump to allow varying pumping rate according to variations in seasonal demand. A maximum rate of 3,200 gpm is anticipated. An average rate of 2,500 gpm is anticipated. A well house will be constructed around the well in compliance with Washington Department of Health criteria.

8.3. Projected Water System Efficiency

Distribution System Leakage is estimated to be approximately 8.8% (Table 4-4 of Gray and Osborne, 2013). The City continues to conduct water system audits and improving system efficiency.

8.4. Fish Screening

Not applicable. This is a groundwater application.

8.5. General Timeline

A general timeline to complete the project is:

- Install and test the well. Completed.
- Engineering design. In progress.
- Public notice for State Environmental Policy Act (SEPA) and water right application. December 2020.
- Water right approval. February 2021.
- Washington State Department of Health. June 2021
- Construction (pump. well house, and water main construction). Possibly the summer of 2021. To account for potential delays, summer of 2022.

8.6. Environmental Permits

Once a water right number is assigned to this application, a State Environmental Policy Act (SEPA) checklist will be submitted. Public notices for both the SEPA and water right application are anticipated to be published concurrently.

9. Hydrogeologic Analysis

9.1. Hydrogeologic Setting

The Illinois Well is located in the Central Kittitas Valley. The well is screened between approximately 450 feet below ground surface (bgs) and 1,000 feet bgs within the sedimentary Upper Ellensburg Formation. The Upper Ellensburg Formation is a sedimentary valley fill underlain and surrounded by Columbia River Basalt. The Upper Ellensburg Formation is considered one body of groundwater and has significant anisotropy. There is a thin veneer of alluvial sediments at surface across the Kittitas Valley.

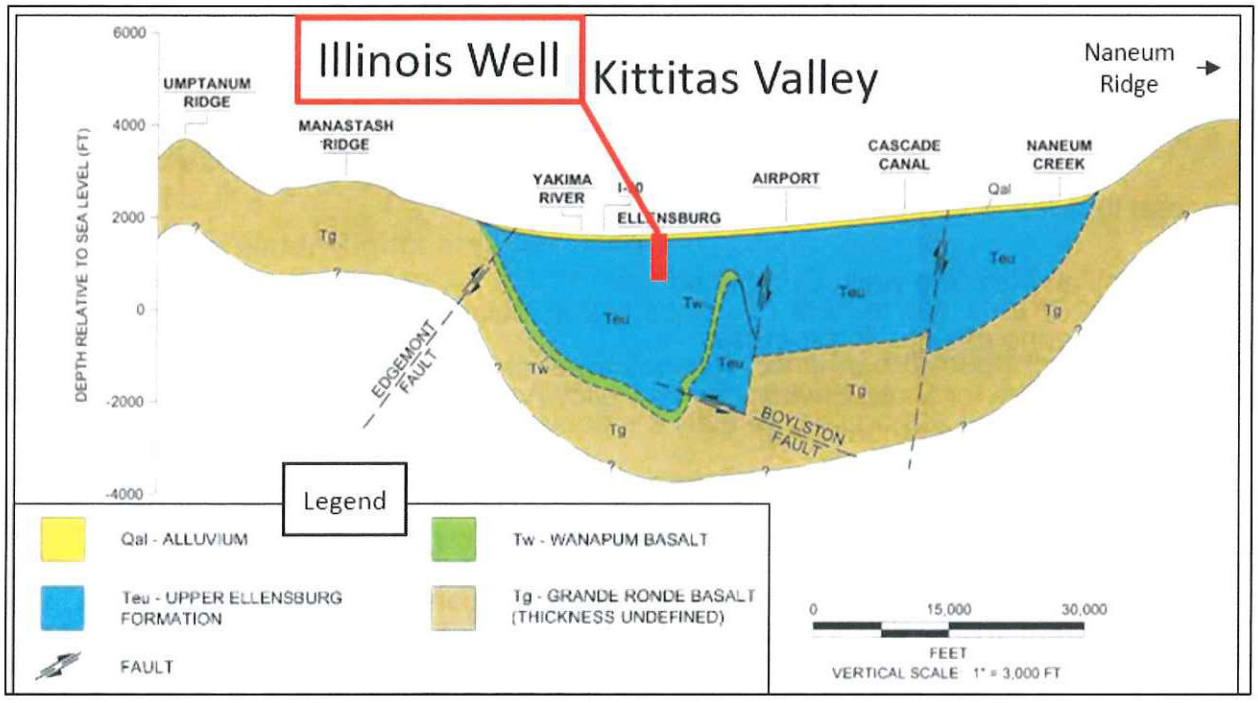


Figure 5: Hydrogeologic setting. (After Owens, 1995)

Nearby surface water bodies include (Figure 1):

- The Yakima River
- Town Canal Ditch
- Mercer Creek
- Currier Creek

9.2. Aquifer Dynamics

The primary recharge to the aquifer is in the basalt uplands surrounding the valley. Some recharge may occur over the valley floor from precipitation and/or irrigation practices. Discharge is generally to the Yakima River and is expected to be focussed near the mouth of the Yakima Canyon where the Yakima River exits the Kittitas Valley. Seasonal water level variation is on the order of 20 feet (Figure 6). Tributaries entering the Kittitas Valley are anticipated to be losing reaches across alluvial fans under natural conditions. These tributaries are likely to be gaining reaches during the summer from irrigation.

Pumping test of the Illinois Well at a rate of approximately 3,000 gpm and 35 hours revealed no response in shallow wells (Coho, 2020). The duration of pumping cycles during operating the Illinois Well will typically be 12 hours. Impacts from pumping the Illinois Well on surface water bodies is expected to be muted and spread out over the year. Because this water right application is only for additive instantaneous quantity, and non-additive annual quantity to the City's existing water rights, no adverse impacts are anticipated to accrue to surface water bodies from the exercise of the requested water right. Further analysis will be presented by Coho in support of the draft Report of Examination and in consultation with the Yakama Nation and fisheries managers.

There are faults in the valley that appear to create no-flow boundaries within the aquifer, particularly in the vicinity of the Bower Airfield (Airport Wells). Pumping test of the Illinois Well did not identify any flow boundaries.

9.1. Water Well Report & Pumping Tests

See Attachment 6 (Coho, 2020).

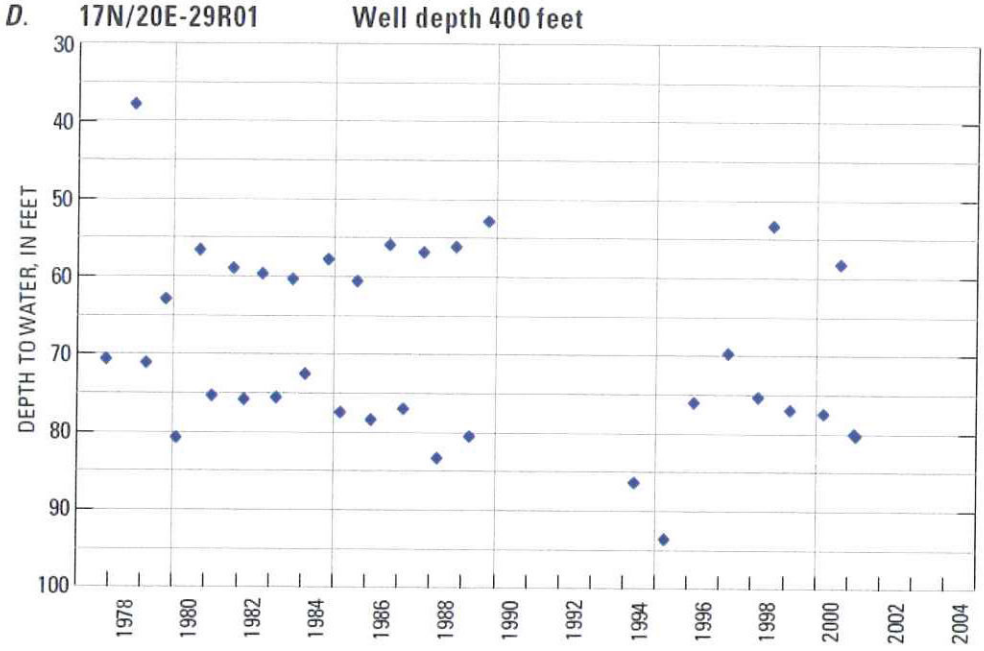


Figure 25. Examples of groundwater level hydrographs with stable or small declines, Yakima River basin, Washington.

Figure 6: Seasonal groundwater level fluctuation.
(Figure 25 D of Vaccaro and others, 2009).

9.2. Aquifer Properties

Please see Coho (2020) for complete details.

- **Transmissivity**: 4,000 square feet per day (ft^2/d; 30,000 gallons per day per foot [gpd/ft]).
- **Aquifer storage coefficient**: 0.0004 (Coho, 2020)
- **Saturated thickness**: >1,000 feet
- **Aquitard leakage**: r/B'= 0.1
- **Groundwater flow boundaries**: None identified.
- **Water-level hydrographs**: See Coho (2020) and https://pubs.usgs.gov/sir/2009/5152/
- **Water Quality**: Water quality meets all drinking water criteria. No concentrations of iron and manganese of concern. See Coho (2002) for complete water quality analysis.

There are no anticipated adverse impacts or impairment of existing water rights.

10. Driving Directions

From I-90 and Canyon Road:

- Go north approximately two miles north to University Way.
- Turn left (west), go one block to Water Street, turn right (north).
- Go north approximately ¾ of a mile.
- Turn left (west) onto Illinois Street. Go approximately ¼ mile to the end of the street.
- Turn right (north) onto Trails Edge Drive.
- Take the next left (west) on Christy Ave. Go to the end. You have arrived.

11. Maps and Other Documentation

Included maps are:

- Figure 1 Project location.
- Figure 2 Point of withdrawal.
- Figure 3 Place of use.
- Figure 4 Proposed water supply system.
- Figure 5 Hydrogeologic setting (within the document).
- Figure 6 Seasonal groundwater level fluctuation. (within the document).

12. Citations

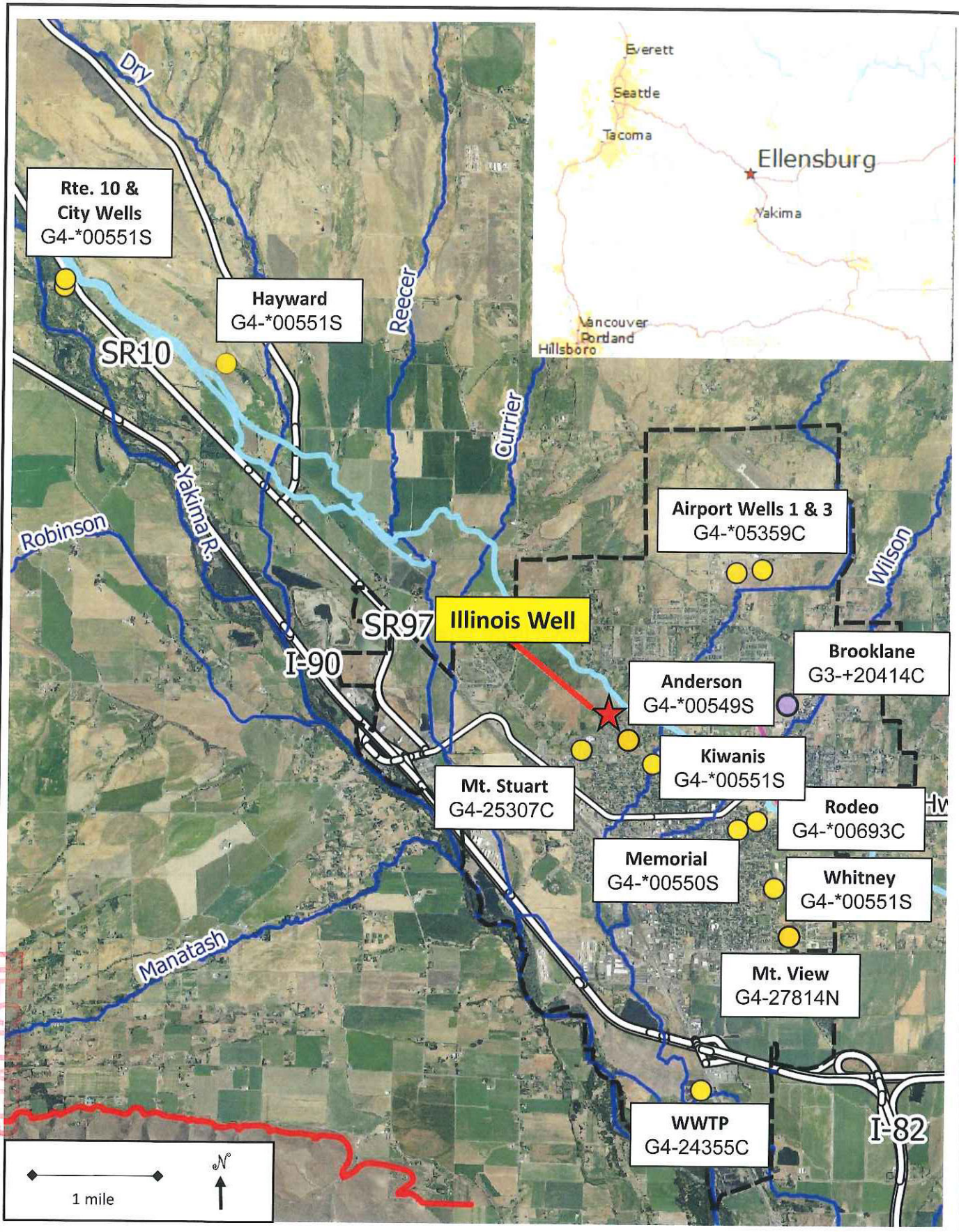
Coho Water Resources, 2020. Illinois Well Installation and Testing. March 2020.

Gray and Osborne, 2013. City of Ellensburg Water System Plan – Approved.

Owens, R.R., 1995. The Hydrogeology of the Kittitas Valley, Washington. M.S. thesis, Central Washington University.

RH2, 2020. City of Ellensburg Water System Plan – In preparation.

Vaccaro, J.J., Jones, M.A., Ely, D.M., Keys, M.E., Olsen, T.D., Welch, W.B., and Cox, S.E., 2009, Hydrogeologic framework of the Yakima River basin aquifer system, Washington: U.S. Geological Survey Scientific Investigations Report 2009–5152, 106 p. https://pubs.usgs.gov/sir/2009/5152/



Stream
KRD canal
EWC canal
Pressure zone divide
Urban Growth Area

Wells:
City well
CWU well

Figure 1
Project location, & associated groundwater rights
City of Ellensburg
Illinois Well

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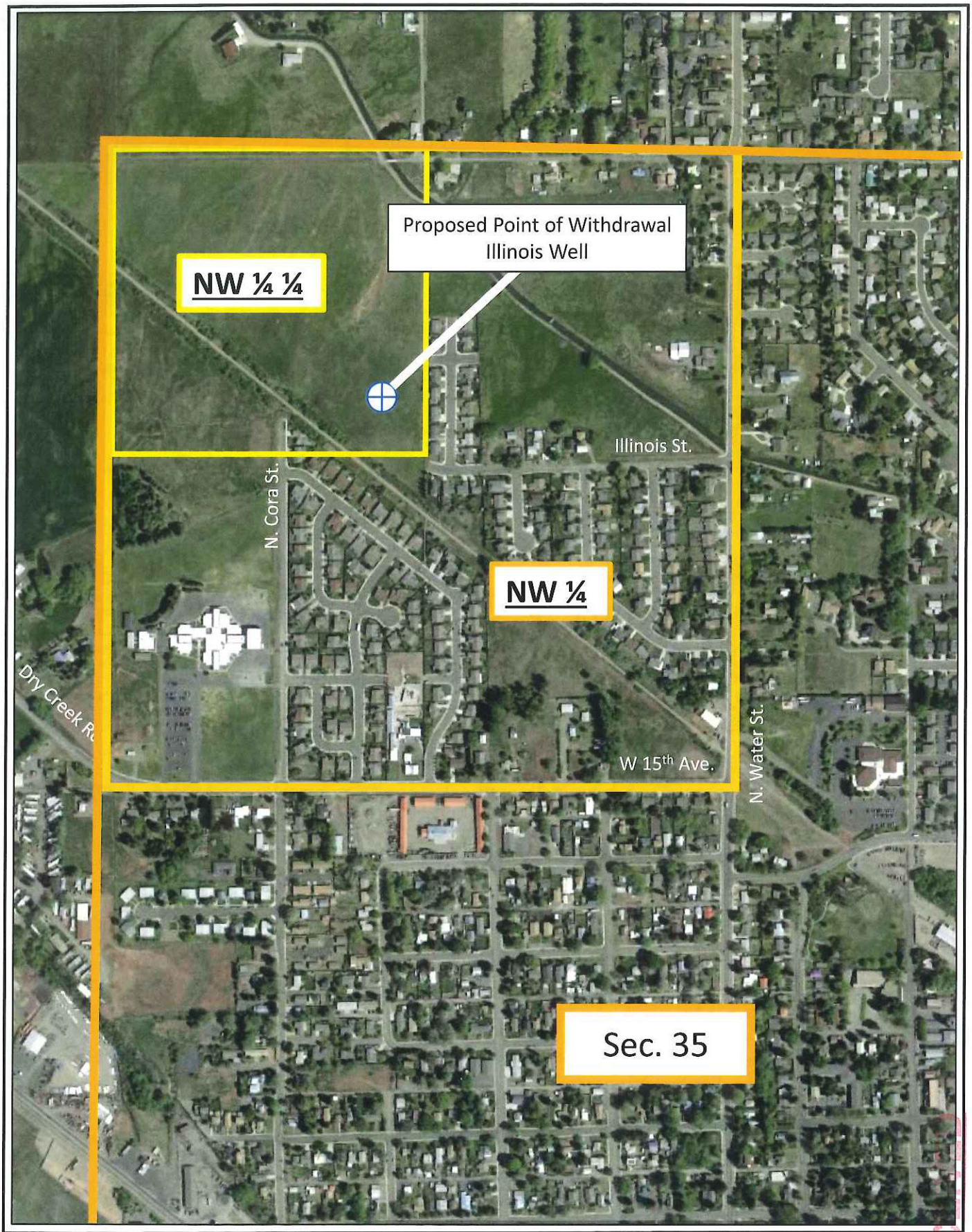

~1,000 feet

Locations approximate.
T18N, R18E

Figure **2**
Proposed Point of Withdrawal

Illinois Well Water Right Application
City of Ellensburg

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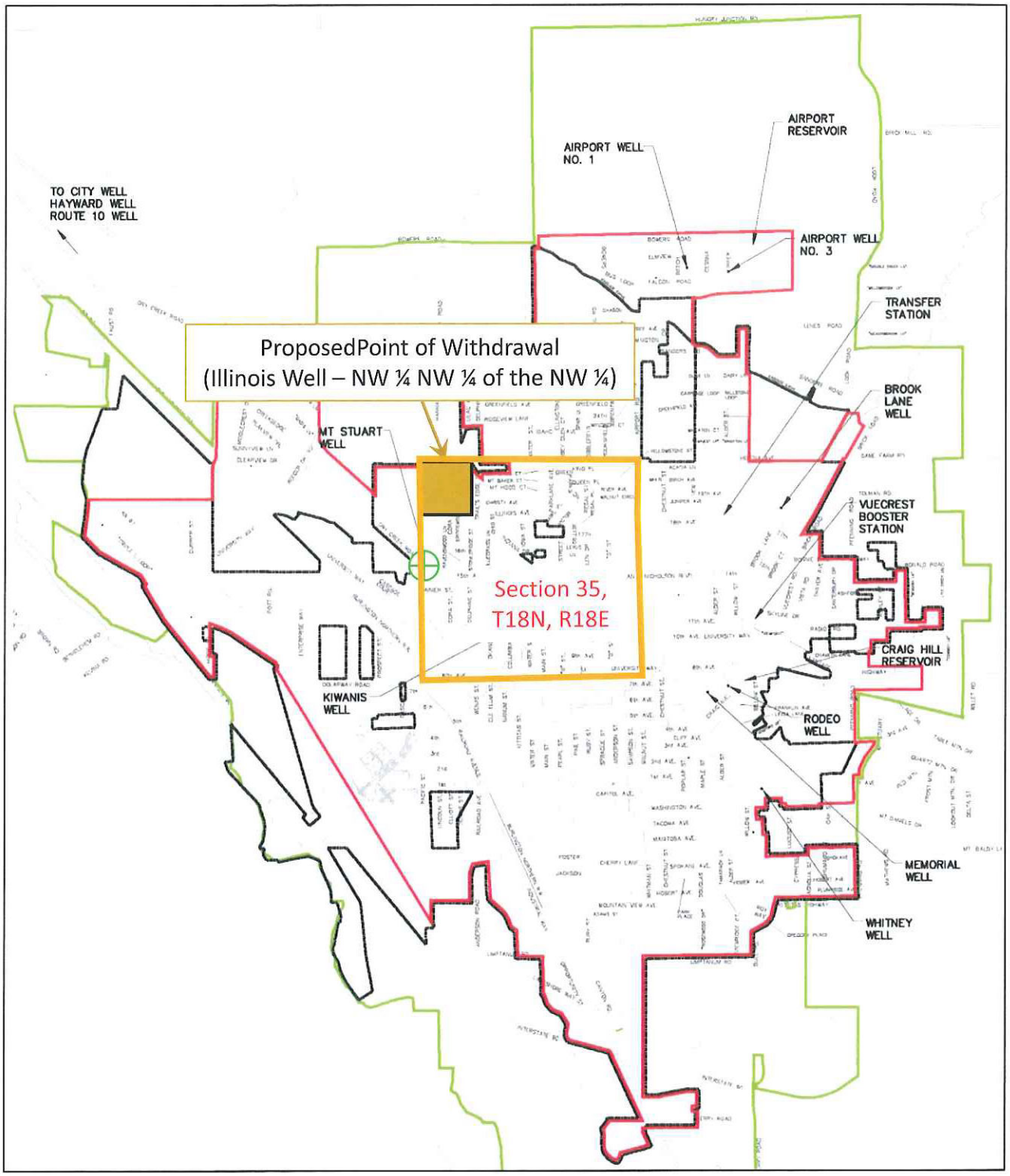

Legend:

- City limits
- Existing service area
- Urban Growth Area, retail service area, future water service area and water rights place of use.

1 mile

N

Base map from the City of Ellensburg water system plan (Gray & Osborne, 2013)

The place of use is the service area of the City of Ellensburg.;

Figure **3**

Place of Use

Illinois Well Water Right Application
City of Ellensburg

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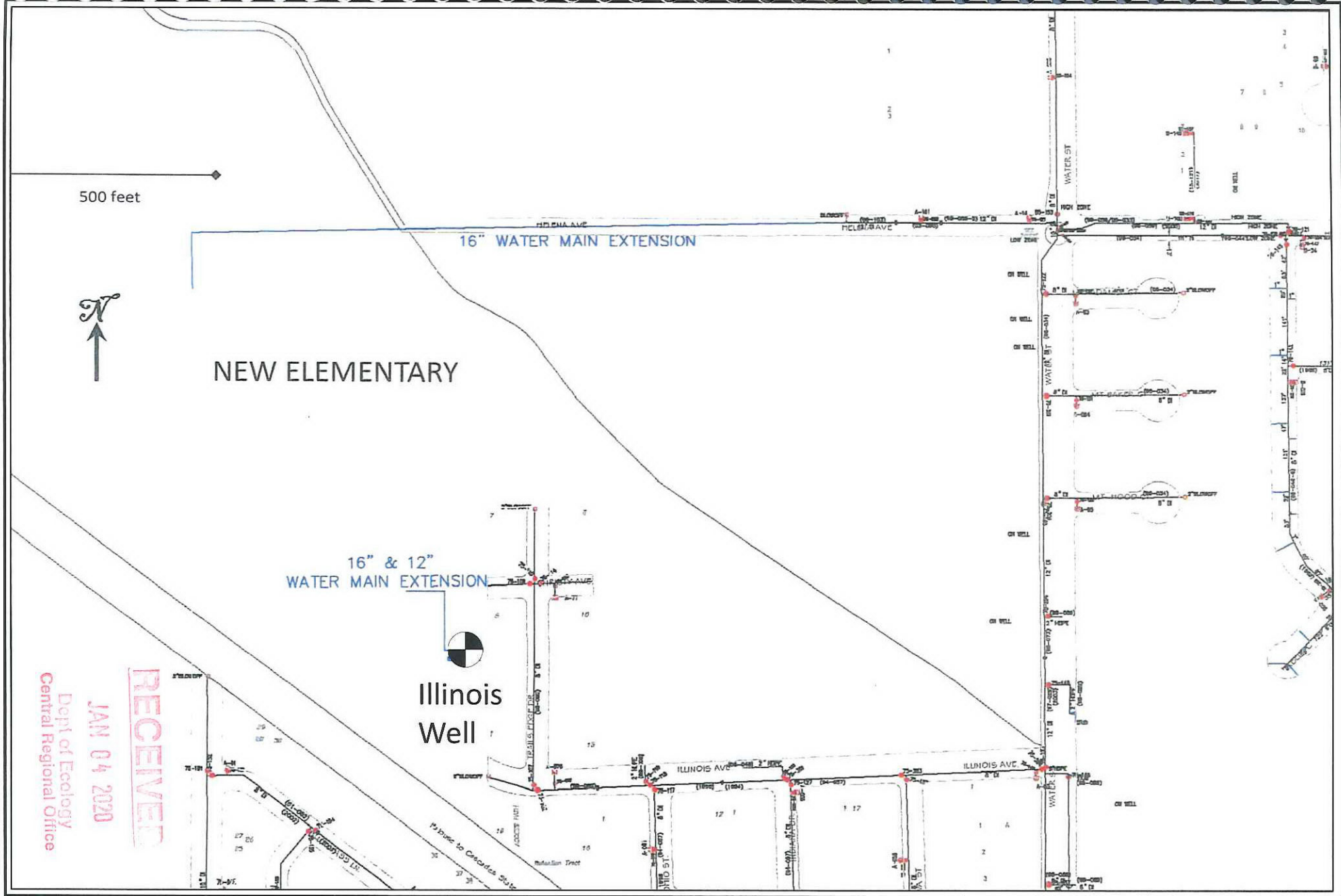

Base map provided by the City of Ellensburg.
This figure to be used in conjunction with Figure 3.

Figure **4**
Proposed water supply system

City of Ellensburg Illinois Well

ATTACHMENT C: MITIGATION PLAN

C.1: Source of mitigation water.

The annual quantity allowed to be withdrawn under the following groundwater rights will be diminished by the same volume that is withdrawn under the requested groundwater right:

Groundwater Right Number (old certificate number; associated wells)

- G4-*00551S (GWC-926D; City Wells, Route 10, Hayward, Kiwanis, Whitney)
- G4-*00549S (GWC-924D; Anderson)
- G4-*00550S (GWC-925D; Memorial)
- G4-*00693C (GWC-816A; Rodeo)
- G4-*05359C (GWC-3510A and GWC-3525A; Airport Wells)
- G4-24355C (WWTP)
- G4-25307C (Mount Stuart)
- G4-27814N (Lions Mount View)

C.2: Consumptive use.

There will be no change in the consumptive use of currently allowed groundwater withdrawn under the existing or requested groundwater rights.

C.3: Offset of impacts.

Groundwater withdrawal under the existing or requested groundwater rights is from the same Upper Ellensburg Formation sandstone aquifer. The mitigation will be drop-for-drop.

C.4: Maintenance of mitigation.

The annual quantities from each existing and future source will be reported through Ecology's on-line portal.

Approved measuring devices will be installed and maintained for sources that are used by the City, and identified by the associated water right in accordance with the rule "Requirements for Measuring and Reporting Water Use", WAC 173-173, which describes the requirements for data accuracy, device installation and operation, and information reporting.

Water use will be measured monthly and reported in acre feet. Water use data will be reported for each calendar year to Ecology annually by January 31 of the following year.

C.5: Agreements.

Not applicable.

C.6: Benefits and costs.

Approving this groundwater right application provides operational flexibility to the City in the operation of the drinking water system. It provides and increases the redundancy, resilience, reliability and robustness of the drinking water supply. This application does not increase the allowed consumptive use of water. The Illinois Well is already constructed. It was hoped to produce on the order of 1,000 gpm. It actually produces more than 3,000 gpm (it was tested for one and a half days at 3,200 gpm). The ability to operate the Illinois Well to its full capacity will defer the need by the City to install additional infrastructure and result in lower water rates.

C.7: Increased water supply from surface water project (not applicable).

C.8: Increased water supply from a groundwater project.

There will be no change in the water supply as a result of approving the requested groundwater right.

C.9: Return of non-consumptive water.

Return of non-consumptive water will remain the same under existing and proposed conditions, through the waste water treatment plant and to the Yakima River. Of the water withdrawn under the requested water right, the same volume of allowed withdrawal will not be exercised under existing groundwater rights.

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Central Regional Office

04/24/2018 02:10:43 PM 201804240017
$79.00 Page 1 of 6
Easement ELLENSBURG CITY PW
Kittitas County Auditor

After recording return to:

Public Works Department
City of Ellensburg
501 N Anderson St
Ellensburg, WA 98926

REVIEWED BY
KITTITAS COUNTY TREASURER
DEPUTY Amy McIske
DATE 4/24/18

DOCUMENT TITLE:	PERPETUAL UTILITY EASEMENT
GRANTOR:	Winegar Properties, LLC, a Washington limited liability company.
GRANTEE:	City of Ellensburg, a Washington municipal corporation.

LEGAL DESCRIPTION <Easement Area>: Ptn. NW ¼, NW ¼, Sec. 35, T 18 N, R 18 E, WM, more particularly as described in Exhibit A as the "20' Utility Easement" and shown in Exhibit B.

PERPETUAL UTILITY EASEMENT

THIS NON-EXCLUSIVE PERPETUAL UTILITY EASEMENT (hereinafter referred to as the "Utility Easement" is made, declared and established this 13th day of April, 2018, by and between the CITY OF ELLENSBURG, Grantor and the CITY OF ELLENSBURG, a Washington municipal corporation, Grantee (collectively referred to as the "Declarants").

WHEREAS, the Grantor owns the real property situated in Kittitas County, State of Washington, which is legally described above; and

WHEREAS, the Grantor dedicates the Utility Easement to the CITY OF ELLENSBURG, a municipal corporation; and

WHEREAS, the CITY OF ELLENSBURG, a municipal corporation, desires to establish and reserve unto itself a non-exclusive, perpetual easement for utility purposes,

NOW, THEREFORE, for and in consideration of the benefits contained and derived hereunder, and for other good and valuable consideration, the receipt and sufficiency of which Grantor hereby acknowledges, Grantor, for and on behalf of itself and its successors in interest and assigns, does hereby convey, grant, declare, reserve unto itself, and establish the following easement for the benefit of Grantee:

1. PERPETUAL UTILITY EASEMENT

1.1 Location. The Grantor hereby conveys, grants, declares, reserves, and establishes an non-exclusive, perpetual easement over, across, and under the parcel as previously described (the "Easement Area").

1.2 Use. The Declarants acknowledge and agree the Utility Easement exists for the benefit of Grantee's various public street and utility construction and use and burdens Grantor's property. The Utility Easement is to be used by the Grantee, and its successors and assigns together with other grantees for the purposes of locating, constructing, operating, utilizing, repairing, maintaining, improving, removing, and enlarging the public utility systems, and any and all associated facilities or appurtenances necessary to the foregoing. Following the initial construction of all or a portion of its systems, Grantee may, from time to time, construct such additional facilities as it may require for such systems. Grantee shall have the right of access over and across the above-described parcel to enable Grantee to exercise its rights hereunder. Further, Grantee reserves the right to convey, grant,

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Central Regional Office

or declare private utility easements within the Easement area, with the same access rights thereto over and across the above-described parcel, when Grantee determines the same to be in the public interest.

1.3 Maintenance of the Utility Easement. If and when the Grantee maintains, repairs, or improves the Utility Easement or the infrastructure within the Utility Easement for any reason, the Grantee, at the conclusion of said maintenance, repair, or improvement of said infrastructure located on the Utility Easement shall have the obligation of returning any unused surface area of the easement to the condition it was in prior to the maintenance, repair, or improvement which resulted in a disturbance of the surface. The cost of returning the surface to its prior condition shall be the sole and separate responsibility and obligation of the Grantee.

1.4 Clearing and maintenance. Grantee shall have the right to remove, trim or cut any brush, trees, shrubs or other vegetation standing or growing upon or adjacent to said facilities which in the opinion of the Grantee constitutes an obstruction to the maintenance, repair or improvement of, or a danger to, said facilities. Grantee shall also have the right to control, on a continuing basis and by any prudent and reasonable means, the establishment and growth of brush, trees, shrubs or other vegetation in the Easement area. In addition, Grantee shall have only non-exclusive use of the property as described in the easement, together with the rights of the Grantor and other Grantees

Any plantings or improvements that exist in or on the easement area shall be subject to removal by the City, without penalty to the City, at such time as a public street or utility system is constructed in the easement area. Further, the granting of this easement shall not absolve the owners of the property of any requirements or responsibilities which attach to this property toward the cost of street or utility construction in the easement area, as contained in the Ellensburg City Code and adopted physical improvement standards.

The Grantee hereby warrants that access in the easement will be maintained. By making the easement area available the Grantor further confirms that no permanent above ground structures will be located on the easement. Further, the owners of the property shall keep all permanent structures set back from the perimeter of the easement area a distance equal to that as contained in the zoning classification for the property in order to insure that no conflicts arise between the permanent improvements on the remainder of the property not subject to the easement, and future construction of the public street or utilities.

2. AGREEMENTS BETWEEN GRANTOR AND GRANTEE. The rights, title, privileges, and authority hereby granted shall continue and be in full force until such time as the Grantee, its successors or assigns, shall permanently remove said facilities and/or appurtenances from said property, or shall otherwise permanently abandon said facilities, at which time all such rights, title, privileges, and authority hereby granted shall terminate, and Grantee, at the request of Grantor, shall execute a document evidencing such termination and clearing title of this easement.

It is understood that at such time as the parent parcel is subdivided, a parcel will be created coincident with this easement boundary and immediately dedicated to the City of Ellensburg Water Department at plat recording.

3. EASEMENT RUNS WITH THE LAND. The easement granted herein, the restrictions established herein, and the covenants on the part of the Declarants, shall run with the land described herein and shall bind and be obligatory upon the parties and their respective successors and assigns, tenants, subtenants, licensees, and invitees.

4. SUCCESSORS AND ASSIGNS. Declarants shall have the right to assign, apportion or otherwise transfer any or all of its rights, benefits, privileges and interests arising in or under the easement conveyed, granted and reserved herein. Without limiting the generality of the foregoing, the rights and obligations of the declarants shall inure to the benefit of and be binding upon their respective successors and assigns.

5. TITLES AND HEADINGS. Titles and headings are for descriptive purposes only and do not control or alter the meaning of this agreement or any provision thereunder as set forth herein

6. **INDEMNIFICATION**. The Grantee shall defend and indemnify Grantor against any liability for damage to persons or property arising from the public's use of the easement under this agreement. The Grantee shall not be required to indemnify Grantors for any such liability arising out of the negligent or wrongful acts of the Grantor or the employees or agents of the Grantor.

CITY OF ELLENSBURG, GRANTOR

By: Gary Winegar member
Winegar Properties, LLC

CITY OF ELLENSBURG, GRANTEE

By: Derek Mayo
Derek Mayo, City Engineer

STATE OF WASHINGTON)
) ss.
County of Kittitas)

On this day personally appeared before me, the undersigned Notary Public, in and for the State of Washington, duly commissioned and sworn, GARY WINEGAR, Authorized Signatory for Winegar Properties, LLC, as GRANTOR, who executed the within and foregoing instrument, and acknowledge the said instrument to be the free and voluntary act and deed of said property, for the uses and purposes therein mentioned, and on oath stated that he was authorized to execute said instrument.

Dated this 13th day of April, 2018.

Notary Signature: Beth A Leader

Printed Name: Beth Leader
Notary Public in and for the State of Washington, residing at Ellensburg
My Commission Expires: 7-13-21

STATE OF WASHINGTON)
) ss.
County of Kittitas)

On this day personally appeared before me, the undersigned Notary Public, in and for the State of Washington, duly commissioned and sworn, Derek Mayo, the City Engineer of the CITY OF ELLENSBURG, as GRANTEE, a Washington municipal corporation, who executed the within and foregoing instrument, and acknowledge the said instrument to be the free and voluntary act and deed of said city, for the uses and purposes therein mentioned, and on oath stated that he was authorized to execute said instrument.

Dated this 13th day of April, 2018.

Notary Signature: Beth A Leader

Printed Name: Beth A. Leader
Notary Public in and for the State of Washington, residing at Ellensburg
My Commission Expires: 7-13-21

EXHIBIT A

CRUSE
& ASSOCIATES
PROFESSIONAL LAND SURVEYORS

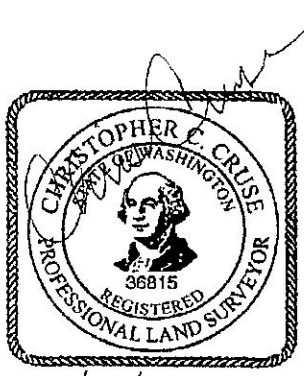
CITY OF ELLENSBURG UTILITY EASEMENT
1/26/18

20' Utility Easement

An easement across a portion of the Northwest Quarter of the Northwest Quarter of Section 35, Township 18 North, Range 18 East, W.M., in the County of Kittitas, State of Washington, lying 20 feet northerly of, adjacent to and abutting the following described line:

Beginning at the southeast corner of the Perpetual Roadway & Utility Easement described by instrument recorded under AFN 201711300009, and delineated on that certain survey recorded in Book 41 of Surveys, page 86, under AFN 201801090012, records of Kittitas County, State of Washington; thence N 00°11'11" W, along the east boundary of said Perpetual Roadway & Utility Easement, 7.00 feet; thence S 89°53'30" W, parallel with and 7.00 feet northerly of the south boundary of said Perpetual Roadway & Utility Easement, 225.00 feet to the west boundary of said Perpetual Roadway & Utility Easement and the true point of beginning for said described line; thence continuing S 89°53'30" W, 396.18 feet to the east boundary of the Utility Easement described by instrument recorded under AFN 200605230002, records of said county, and the end of said described line.

The sideline of said easement to be lengthened or shortened to intersect said Perpetual Roadway & Utility Easement to the east, and said Utility Easement to the west.



2/6/2018

217 E. FOURTH • P.O. BOX 959 • ELLENSBURG, WA 98926 • (509) 962-8242

EXHIBIT

UTILITY EASEMENT
SEC. 35, T. 18 N., R. 18 E., W.M.

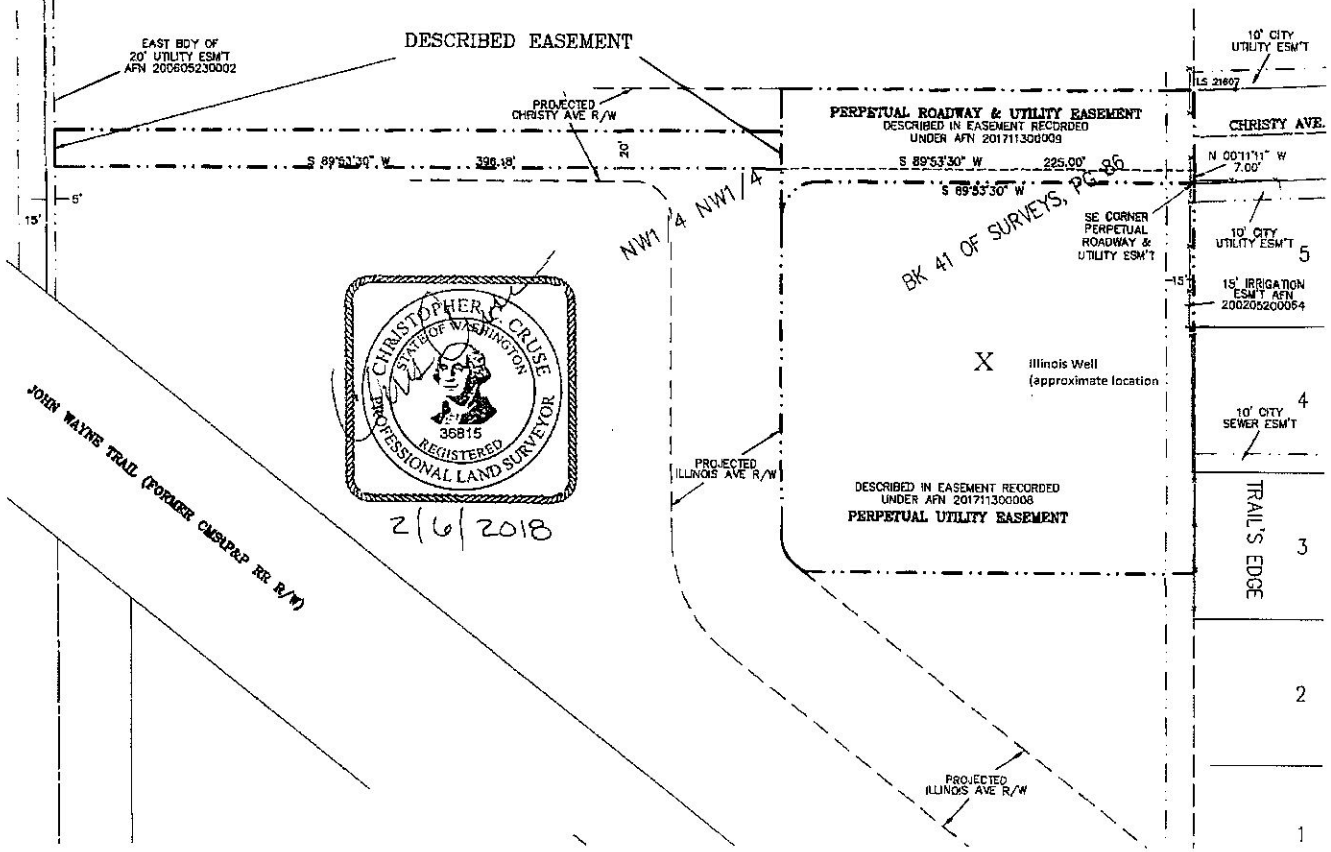


EXHIBIT B

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JAN 04 2020
Dept of Ecology
Central Regional Office

Coho Water Resources
Integrated Water Resource Management

Illinois Well

Installation and Testing

March 2020

(posted on-line to Dropbox)

Ellensburg
WASHINGTON

RECEIVED
JAN 04 2020
Dept of Ecology
Central Regional Office

STATE OF WASHINGTON
DEPARTMENT OF ECOLOGY
OLYMPIA, WASHINGTON

NOTICE OF APPLICATION TO APPROPRIATE PUBLIC WATERS

TAKE NOTICE: That the City of Ellensburg , WA, on December __, 2020, under Application No. G4-____, applied to appropriate public waters, subject to existing rights, from a well in the amount of 3,200 gallons per minute and 3,200 acre feet each year, for the purpose of municipal use. The proposed source is located within the NW ¼-¼ of the NW ¼, Section 35, Township 18 North, Range 18 East W.W.M. The proposed place of use is the water service area of the City of Ellensburg, Kittitas County.

Protests or objections to approval of this application must include a detailed statement of the basis for objections. All letters of protest will become public record. Fees must be paid by check or money order and are nonrefundable. Protests must be accompanied by a $50 recording fee payable to the Department of Ecology, Cashiering Unit, PO Box 47611, Olympia WA 98504-7611, within 30 days from (second date of publication).

Adjudicated Certificate S4-84605-J

Ellensburg Water Company

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CLAIMANT NAME:	**Ellensburg Water Company**	COURT CLAIM NO. 00194 (A)01751 (A)03075 (A)03079

Certificate Number: S4-84605-J

Subbasin: MC Major Claimants

Source: Yakima River

Use: Irrigation of 9,749.33 acres, domestic purposes and stock water

Period of Use: April 1 through October 31

Quantity: 125 cubic feet per second April through August inclusive; 100 cubic feet per second in September; and 63 cubic feet per second in October; and 43,840 acre-feet per year for irrigation and domestic purposes, and 200 acre-feet per year for stock water purposes

Priority Date: **April 25, 1885**

Point of Diversion: 3,200 feet south and 1,850 feet west from the northeast corner of Section 12, being within the NE¼NW¼SE¼ of Section 12, T. 18 N., R. 17 E.W.M.

Place of Use: EWC 301, as modified, and EWC 304, which identified both the exclusions and the area within the City of Ellensburg and Central Washington University (maps) and EWC 313 (written).

ELLENSBURG WATER COMPANY

P.O. Box 982 • Ellensburg, WA 98926
Mobile Phone 509 925-5498

CERTIFICATE

No [redacted]

For 4 Shares

Issued to

~~Carl D. Robbins~~

City of Ellensburg

Dated 4-29 1969

FROM WHOM TRANSFERRED

Carl D. Robbins

Dated May 9 1961

No. Original Certificate	No. Original Shares	No. of Shares Transferred
1543	4	4

Received Certificate No. .....

For ..... Shares

this ..... day of 19

CERTIFICATE

No [redacted]2278

For 4 Shares

Issued to

City of Ellensburg

5th Plat

Ellensburg

Dated February 15 1982

FROM WHOM TRANSFERRED

St. Andrews Church

Dated 19

No. Original Certificate	No. Original Shares	No. of Shares Transferred
~~2214~~ 1267 814	9 1	2 1 1

Received Certificate No. .....

For ..... Shares

this ..... day of 19

Mailed

ELLENSBURG WATER COMPANY

P.O. Box 982 • Ellensburg, WA 98926
Mobile Phone 509 925-5498

RE-ISSUED DUE TO LOST CERTIFICATE

CERTIFICATE

No. 1751

For 150 Shares
Issued to
City of Ellensburg

Dated 4-29 1969

FROM WHOM TRANSFERRED

City of Ellensburg

Dated 3/28 1968

NO. ORIGINAL CERTIFICATE	NO. ORIGINAL SHARES	NO. OF SHARES TRANSFERRED
1721	150	150

Received CERTIFICATE No. 1721
For Lost cert #1721 Shares
this day of 19

CERTIFICATE

No. 1678

For 150 Shares
Issued to
City of ELLENSBURG

Dated 2/24 1967

FROM WHOM TRANSFERRED

Dated 19

NO. ORIGINAL CERTIFICATE	NO. ORIGINAL SHARES	NO. OF SHARES TRANSFERRED

Received CERTIFICATE No.
For Shares
this 24 day of Feb 1967
Returned to Qty

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Adjudicated Certificate S4-83603-J

Ronald T. and Robin L. Anderson

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STATE OF WASHINGTON
DEPARTMENT OF ECOLOGY
1250 W Alder St • Union Gap, WA 98903-0009 • (509) 575-2490

9/4/2019

Alliance Investment Group of Ellensburg
1206 Dolarway STE 206
Ellensburg, WA 98926-8392
Sub Basin 7

Re: Certificate No. S4-83603-J

Enclosed for your records is your recorded Certificate. Please retain this for your files.

If you have any questions, please contact the Water Resources Help Desk at (509) 575-2597.

Sincerely,

Nancy S. Beecher
Water Resources Program
Central Regional Office

NB/190906
WRTS No. 4766089

Enclosure: Recorded Certificate
Focus On Water Right Relinquishment

07/30/2019 02:46:24 PM 201907300068
Page: 1 of 3
$105.50
Water Right WA STATE DEPT OF ECOLOGY
Kittitas County Auditor

RECEIVED
SEP 03 2019

REVIEWED BY
KITTITAS COUNTY TREASURER
DEPUTY Kathy Markwell
DATE July 30, 2019

Return Name and Address:

WA State Dept. of Ecology

Central Regional Office

1250 W. Alder Street

Union Gap, WA 98903-0009

PLEASE PRINT OR TYPE INFORMATION:

Document Title: Certificate of Adjudicated Water Right
Certificate Number: S4-83603-J
Grantor(s) 1. WA State Dept. of Ecology
Grantee(s) 1. Ronald T. Anderson 2. Robin L. Anderson
Legal description (abbreviated) Section 34, T. 18 N., R. 18 E.W.M.
Reference Number(s) of documents assigned or released:
Assessor's Property Tax Parcel/Account Number(s): 836133, 510536
The Auditor/Recorder will rely on the information provided on the form. The staff will not read the document to verify the accuracy or completeness of the indexing information.

Dept of Ecology
Central Regional Office

State of Washington
Department of
Ecology

CERTIFICATE OF ADJUDICATED WATER RIGHT

This certificate of adjudicated water right is issued pursuant to the Final Decree made and entered by the Superior Court of the State of Washington in and for Yakima County on the 9th day of May 2019 in the case of State of Washington, Department of Ecology v. James J. Acquavella, et al., County Cause No. 77-2-01484-5 . This water right is subject to and will be administered according to the Final Decree, which under Paragraph 8 incorporates all orders and opinions entered in the case. In the event of a conflict between this Certificate and the Final Decree, the Final Decree shall govern.

WATER RIGHT HOLDER:	**MAILING ADDRESS:**
Ronald T. Anderson Robin L. Anderson	Ronald T. Anderson 1501 N Pott Road Ellensburg, WA 98926-8806

CERTIFICATE NUMBER:	**COURT CLAIM NUMBER:**	**PRIORITY DATE:**
S4-83603-J	00637	May 20, 1885
SUBBASIN NUMBER:	**SUBBASIN NAME:**	**CFO DATE:**
07	Reecer Creek	October 25, 2001

Source

Yakima River

Quantity

0.225 cubic foot per second; 88.36 acre-feet per year

Purpose of Use

Irrigation of 9 acres

Period of Use

April 1 through October 15

Point of Diversion

300 feet north and 1200 feet east of the center of Section 29, being within the SE¼SW¼NE¼ of Section 29, T. 18 N., R. 18 E.W.M.

Place of Use

The SW¼NE¼SW¼ of Section 34, T. 18 N., R. 18 E.W.M.

Provisions and Limitations of Use

The right to the use of a water right established under the laws of the State of Washington and confirmed hereby is restricted to the lands or place of use, purpose(s) of use, and to the other specified terms and conditions herein described, unless approved for change as provided in RCW 90.03.380 or other statute.

This certificated water right may be subject to relinquishment for nonuse of water as provided in Chapter 90.14 RCW.

Given under my hand and the seal of this office at Union Gap, Washington, this 29th day of July, 2019.

Maia Bellon, Director
Department of Ecology

DEPARTMENT OF ECOLOGY
STATE OF WASHINGTON

Trevor Hutton

DATA REVIEW
OK LB

Trevor Hutton, Section Manager
Central Regional Office
Water Resources Program

To request ADA accommodation including materials in a format for the visually impaired, call Ecology Water Resources Program at 360-407-6872. Persons with impaired hearing may call Washington Relay Service at 711. Persons with speech disability may call TTY at 877-833-6341.

Adjudicated Certificate S4-83651-J

Mill Ditch Company, Inc.

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STATE OF WASHINGTON
DEPARTMENT OF ECOLOGY
1250 W Alder St • Union Gap, WA 98903-0009 • (509) 575-2490

9/19/2019

City of Ellensburg
501 N. Anderson St
Ellensburg, WA 98926
Sub Basin 7

Re: Certificate No. S4-83651-J

Enclosed for your records is your recorded Certificate. Please retain this for your files.

If you have any questions, please contact the Water Resources Help Desk at (509) 575-2597.

Sincerely,

Nancy S. Beecher

Nancy S. Beecher
Water Resources Program
Central Regional Office

NB/190956
WRTS No. 4766709

Enclosure: Recorded Certificate
Focus On Water Right Relinquishment

RECEIVED
SEP 23 2019
PUBLIC WORKS

08/15/2019 03:07:20 PM 201908150050
$105.50 Page: 1 of 3
Water Right WA STATE DEPT OF ECOLOGY
Kittitas County Auditor

Return Name and Address:

WA State Dept. of Ecology

Central Regional Office

1250 W. Alder Street

Union Gap, WA 98903-0009

REVIEWED BY
KITTITAS COUNTY TREASURER
DEPUTY
DATE 8/15/2019

RECEIVED
SEP 18 2019
Dept of Ecology
Central Regional Office

PLEASE PRINT OR TYPE INFORMATION:

Document Title: Certificate of Adjudicated Water Right

Certificate Number: S4-83651-J

Grantor(s)

1. WA State Dept. of Ecology

Grantee(s)

1. Mill Ditch Company, Inc.

Legal description (abbreviated)

Section 3, T. 17 N., R. 18 E.W.M.

Reference Number(s) of documents assigned or released:

Assessor's Property Tax Parcel/Account Number(s):

Multiple parcels (ditch company)

The Auditor/Recorder will rely on the information provided on the form. The staff will not read the document to verify the accuracy or completeness of the indexing information.

RECEIVED
SEP 18 2019
Dept of Ecology
Central Regional Office

State of Washington
Department of
Ecology

CERTIFICATE OF ADJUDICATED WATER RIGHT

This certificate of adjudicated water right is issued pursuant to the Final Decree made and entered by the Superior Court of the State of Washington in and for Yakima County on the 9th day of May 2019 in the case of State of Washington, Department of Ecology v. James J. Acquavella, et al., County Cause No. 77-2-01484-5 . This water right is subject to and will be administered according to the Final Decree, which under Paragraph 8 incorporates all orders and opinions entered in the case. In the event of a conflict between this Certificate and the Final Decree, the Final Decree shall govern.

WATER RIGHT HOLDER:	**MAILING ADDRESS:**
Mill Ditch Company, Inc.	Mill Ditch Company, Inc. 1206 Dolarway Road, Suite 206 Ellensburg, WA 98926

CERTIFICATE NUMBER:	**COURT CLAIM NUMBER:**	**PRIORITY DATE:**
S4-83651-J	00626	May 6, 1893
SUBBASIN NUMBER:	**SUBBASIN NAME:**	**CFO DATE:**
07	Reecer Creek	October 25, 2001

Source

Yakima River

Quantity

1.14 cubic feet per second, 375 acre-feet per year

Purpose of Use

Stock watering

Period of Use

Continuous

Point of Diversion

300 feet north and 1200 feet east from the center of Section 29, being within the SE¼SW¼NE¼ of Section 29, T. 18 N., R. 18 E.W.M.

Place of Use

Section 3, T. 17 N., R. 18 E.W.M.

Provisions and Limitations of Use

The right to the use of a water right established under the laws of the State of Washington and confirmed hereby is restricted to the lands or place of use, purpose(s) of use, and to the other specified terms and conditions herein described, unless approved for change as provided in RCW 90.03.380 or other statute.

This certificated water right may be subject to relinquishment for nonuse of water as provided in Chapter 90.14 RCW.

Given under my hand and the seal of this office at Union Gap, Washington, this 14th day of August, 2019.

DEPARTMENT OF ECOLOGY
STATE OF WASHINGTON

Maia Bellon, Director
Department of Ecology

Trevor Hutton

DATA REVIEW
OK LB

Trevor Hutton, Section Manager
Central Regional Office
Water Resources Program

To request ADA accommodation including materials in a format for the visually impaired, call Ecology Water Resources Program at 360-407-6872. Persons with impaired hearing may call Washington Relay Service at 711. Persons with speech disability may call TTY at 877-833-6341.

Adjudicated Certificate S4-83580-J

City of Ellensburg

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STATE OF WASHINGTON
DEPARTMENT OF ECOLOGY
1250 W Alder St • Union Gap, WA 98903-0009 • (509) 575-2490

2/25/2020

City of Ellensburg
Velikanje Halverson
PO Box 22550
Yakima, WA 98907-2550
Sub Basin MC

Re: Certificate No. S4-83580-J

Enclosed for your records is your recorded Certificate. Please retain this for your files.

If you have any questions, please contact the Water Resources Help Desk at (509) 575-2597.

Sincerely,

Nancy S. Beecher
Water Resources Program
Central Regional Office

NB/2002126

Enclosure: Recorded Certificate
Focus On Water Right Relinquishment

01/27/2020 04:43:59 PM 202001270065
$105.50 Page: 1 of 3
Water Right DEPT OF ECOLOGY
Kittitas County Auditor

Return Name and Address:
WA State Dept. of Ecology
Central Regional Office
1250 W. Alder Street
Union Gap, WA 98903-0009

REVIEWED
JAN 27 2020
KITTITAS COUNTY TREASURER
INITIALS:

PLEASE PRINT OR TYPE INFORMATION:

Document Title: Certificate of Adjudicated Water Right

Certificate Number: S4-83580-J

Grantor(s)

1. WA State Dept. of Ecology

Grantee(s)

1. Ellensburg; City of

Legal description (abbreviated)

Land served by the Ellensburg Municipal Water System in the Ellensburg urban area.

Reference Number(s) of documents assigned or released:

Assessor's Property Tax Parcel/Account Number(s):

Multiple parcels (municipal)

The Auditor/Recorder will rely on the information provided on the form. The staff will not read the document to verify the accuracy or completeness of the indexing information.

State of Washington
Department of
Ecology

CERTIFICATE OF ADJUDICATED WATER RIGHT

This certificate of adjudicated water right is issued pursuant to the Final Decree made and entered by the Superior Court of the State of Washington in and for Yakima County on the 9th day of May 2019 in the case of State of Washington, Department of Ecology v. James J. Acquavella, et al., County Cause No. 77-2-01484-5 . This water right is subject to and will be administered according to the Final Decree, which under Paragraph 8 incorporates all orders and opinions entered in the case. In the event of a conflict between this Certificate and the Final Decree, the Final Decree shall govern.

WATER RIGHT HOLDER:	**MAILING ADDRESS:**
Ellensburg; City of	Ellensburg; City of Velikanje Halverson PO Box 22550 Yakima, WA 98907-2550

CERTIFICATE NUMBER:	**COURT CLAIM NUMBER:**	**PRIORITY DATE:**
S4-83580-J	02085	May 10, 1905
SUBBASIN NUMBER:	**SUBBASIN NAME:**	**CFO DATE:**
MC	Major Claimants	

Source

Yakima River

Quantity

23.33 cubic feet per second, 6,000 acre-feet per year

Purpose of Use

Municipal water supply purposes

Period of Use

April 20 through October 15

Point of Diversion

The SW¼SE¼ of Section 3 and the W½NE¼ of Section 10, T. 17 N., R. 18 E.W.M.

Place of Use

Land served by the Ellensburg Municipal Water System in the Ellensburg urban area.

Provisions and Limitations of Use

Water use under this right shall be consistent with the contract signed between the City of Ellensburg, Kittitas Reclamation District and United States, Department of Interior, Bureau of Reclamation, on December 21, 1971, and specifically the schedule of water delivery on page 11 of that contract and the right shall issue to the United States Bureau of Reclamation as trustee for the City of Ellensburg and its water users.

The right to the use of a water right established under the laws of the State of Washington and confirmed hereby is restricted to the lands or place of use, purpose(s) of use, and to the other specified terms and conditions herein described, unless approved for change as provided in RCW 90.03.380 or other statute.

This certificated water right may be subject to relinquishment for nonuse of water as provided in Chapter 90.14 RCW.

Given under my hand and the seal of this office at Union Gap, Washington, this 24th day of January, 2020.

Laura Watson, Director
Department of Ecology

DEPARTMENT OF ECOLOGY
STATE OF WASHINGTON

Trevor Hutton

DATA REVIEW
OK LB

Trevor Hutton, Section Manager
Central Regional Office
Water Resources Program

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WRIA 39
Kittitas County

STATE OF WASHINGTON
DEPARTMENT OF ECOLOGY

RECEIVED APR 2 0 1990 DEPARTMENT OF ECOLOGY CENTRAL REGION

Accepted By
Date 5/4/90
Is Field Exam. Required? ☐ YES ☐ NO
Determined By

APPLICATION FOR CHANGE OF WATER RIGHT

☐ PURPOSE ☐ DIVERSION OR WITHDRAWAL
☐ PLACE ☒ ADDITIONAL POINT OR POINTS

NAME: City of Ellensburg
Bus. Tel. 509-962-7233
Home Tel.
Other Tel.

ADDRESS: 420 North Pearl (CITY): Ellensburg (STATE): WA (ZIP CODE): 98926

APPLICATION NUMBER | PERMIT NUMBER | CERTIFICATE NUMBER: 4498 + Change Cert. 1-3-3

DECREED RIGHT (TITLE OF CASE)

APPROPRIATIONS MADE (GIVE DATE IF PRIOR TO JUNE 7, 1917 IF SURFACE WATER, OR JUNE 7, 1945 IF GROUND WATER)

IS THE WATER RIGHT RECORDED IN YOUR NAME? ☒ YES ☐ NO | IF NO, GIVE NAME RECORDED UNDER

1. **RIGHT CONSISTS OF**

WATERS USED FROM (STREAM, LAKE, WELL, OR TRENCH, ETC.): Yakima River
GALLONS PER MINUTE OR CUBIC FEET PER SECOND: 23.33 CFS
WATER CURRENTLY USED FOR: Municipal Water Supply
TIME OF USE: April 20 - October 15

2. **LOCATION OF PRESENT POINT OF DIVERSION OR WITHDRAWAL**

ENTER BELOW THE DISTANCES FROM THE NEAREST SECTION OR PROPERTY CORNER TO THE DIVERSION OR WITHDRAWAL.
East bank of Yakima River

LOCATED WITHIN (SMALLEST LEGAL SUBDIVISION)	SECTION	TOWNSHIP N.	RANGE (E. OR W.) W.M.	COUNTY
SW 1/4, SE 1/4, SEC 3 & N 1/2, NE 1/4 SEC	10	17	18E	Kittitas

IF THIS IS WITHIN THE LIMITS OF A RECORDED PLATTED PROPERTY, COMPLETE THIS SECTION

LOT	BLOCK	OF (GIVE NAME OF PLAT OR ADDITION)

3. **LEGAL DESCRIPTION OF LANDS WATER IS USED ON**

Lands served by the Ellensburg municipal water system within the Ellensburg urban area, Kittitas County, WA.

SECTION	TOWNSHIP N.	RANGE, (E. OR W.) W.M.	COUNTY

(ATTACH SEPARATE SHEET IF NECESSARY)

ARE YOU THE LEGAL OWNER OF THE ABOVE DESCRIBED LANDS ☒ YES ☐ NO | IF NO, EXPLAIN YOUR INTEREST

REASONS FOR THE PROPOSED CHANGE
To provide irrigation water for City park land which was developed adjacent to the Yakima River.

A MINIMUM FEE OF $10.00 MUST ACCOMPANY THIS APPLICATION

CONTINUE ON REVERSE SIDE

CHANGE

ECY 040-1-97
Rev. 1/85 QX A-209
3

4. **CHANGE REQUESTED**

CHANGE WATER USE TO	TIME OF USE	GALLONS PER MINUTE OR CUBIC FEET PER SECOND
No Change	No Change	No Change

5. Added **LOCATION OF PROPOSED POINT OF DIVERSION OR WITHDRAWAL**

ON ACCOMPANYING SECTION MAPS, ACCURATELY MARK AND IDENTIFY EACH POINT OF DIVERSION. SHOW NORTH-SOUTH AND EAST-WEST DISTANCES FROM NEAREST SECTION CORNER OR PROPERTY CORNER.

ALSO, ENTER BELOW THE DISTANCES FROM THE NEAREST SECTION OR PROPERTY CORNER TO THE DIVERSION OR WITHDRAWAL.

825' West and 700' South of the center of Section 3

LOCATED WITHIN (SMALLEST LEGAL SUBDIVISION)	SECTION	TOWNSHIP N.	RANGE (E. OR W.) W.M.	COUNTY
NW 1/4 - NE 1/4 - SW 1/4	3	17N	18E	Kittitas

IF THIS IS WITHIN THE LIMITS OF A RECORDED PLATTED PROPERTY, COMPLETE THIS SECTION

LOT	BLOCK	OF (GIVE NAME OF PLAT OR ADDITION)

ARE YOU THE OWNER OF THE LAND ON WHICH THE PROPOSED POINT OF DIVERSION OR WITHDRAWAL IS TO BE LOCATED

☐ YES ☐ NO

6. **LEGAL DESCRIPTION OF LANDS WATER IS TO BE USED ON**

No Change

SECTION	TOWNSHIP N.	RANGE, (E. OR W.) W.M.	COUNTY

(ATTACH SEPARATE SHEET IF NECESSARY)

ARE YOU THE LEGAL OWNER OF THE ABOVE DESCRIBED LANDS	IF NO, EXPLAIN YOUR INTEREST
☒ YES ☐ NO	

APPLICANT'S SIGNATURE

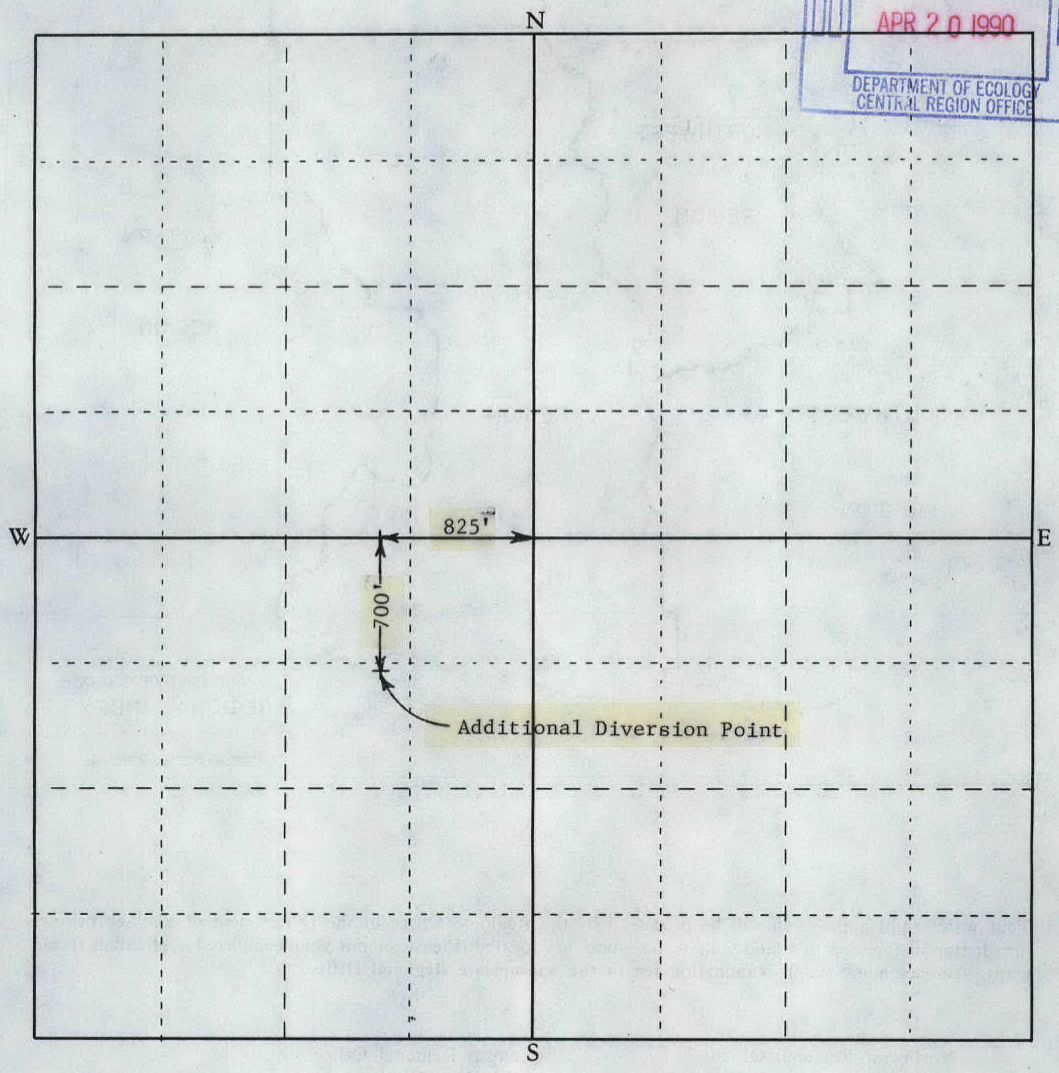
City of Ellensburg
By: Thomas J. Chini
Director of Public Works

Top of Page

SECTION MAP

Sec. 3 Twp. 17 N. R. 18E

RECEIVED
APR 20 1990
DEPARTMENT OF ECOLOGY
CENTRAL REGION OFFICE



Scale: 1 inch = 800 feet (each small square = 10 acres)

Show by a cross (X) the location of point of diversion (surface water source) or point of withdrawal (ground water source). For ground water applications, show by a circle (O) the locations of other wells or works within a quarter of a mile.

Indicate traveling directions from nearest town in space below.

From Interstate 90, and Ellensburg So. Interchange (Canyon Rd) drive North 2700' to Dammon Rd., West on Dammon Rd. 3500' to Dike Rd. and entrance to Irene Rinehart Riverfront Park. North on Dike Rd. 3700', cross Reecer and continue to North end of parking lot and the pump house location.

Detach here

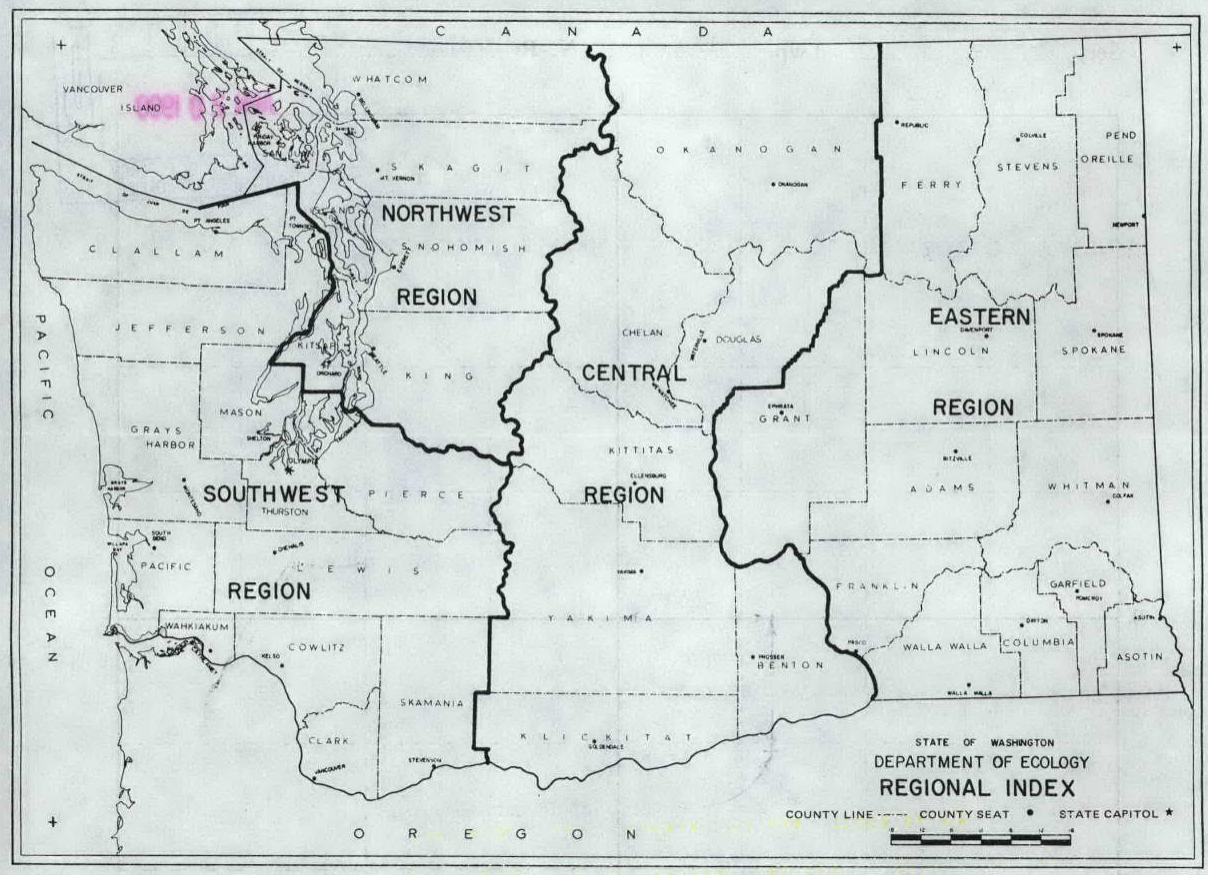
Fold along scale

FEET 0 400 800 1,200 1,600 2,000 2,400 2,800 3,200 3,600 4,000 4,400 4,800 5,200

(3)

Detach this scale at the perforation, fold excess paper under or cut off excess by cutting along the scale line. This scale corresponds to the SECTION MAP above. You can read feet directly from this scale to outline property and locate points of diversion or withdrawal on the SECTION MAP. Enclose this map along with the application and $10.00 examination fee.

Bottom of Page



Your water right application will be processed by the Regional Office of the Department of Ecology having jurisdiction in the area in which your water works are located. **Please submit your completed application form, maps, sketches and $10.00 examination fee to the appropriate Regional Office.**

Northwest Regional Office
4350 150th Avenue N.E.
Redmond, Washington 98502 - 5301
Tel. (206) 885-1900

Central Regional Office
3601 West Washington
Yakima, Washington 98903 - 1164
Tel. (509) 575-2491

Southwest Regional Office
7272 Cleanwater Lane
Olympia, Washington 98504 - 6811
Tel. (206) 753-2353

Eastern Regional Office
N. 4601 Monroe, Suite 100
Spokane, Washington 99205 - 1295
Tel. (509) 456-2926

The appropriate Regional Office will be happy to answer any further questions you may have.

CERTIFICATE OF CHANGE OF POINT OF DIVERSION, PURPOSE AND PLACE OF USE OF WATER

In accordance with the provisions of Chapter 117, Laws of Washington for 1917, and amendments thereto and rules thereunder, of the State Director of Ecology.

THIS IS TO CERTIFY That the United States of America, acting through the Department of the Interior, Bureau of Reclamation, Regional Office, Region 1, Boise, Idaho, has complied with all of the requirements of the Revised Code of Washington 90.03.380 and is hereby granted the right to change the point of diversion, purpose and place of use of waters of the Yakima River, tributary of Columbia River, in the maximum amount of 23.33 cubic feet per second, 6,000 acre-feet per year, from April 20 through October 15, inclusive, each year, being a portion of the amount of 1,320 c.f.s., as granted under Surface Water Certificate No. 4498 issued by the State Supervisor of Water Resources on January 18, 1952.

That the use of such water is for the purposes of irrigation, domestic supply and power on lands within the Kittitas Reclamation District and that water was diverted at the intake of the Kittitas Reclamation District canal located within SE¼NW¼, Section 11, Township 20 North, Range 13 East W.M.

That it has changed said point of diversion to points on or in proximity to the easterly bank of the Yakima River and within the SW¼SE¼ of Sec. 3 and the W½NE¼ of Sec. 10, T. 17 N., R. 18 E.W.M.

The purpose of use of said 23.33 c.f.s., 6,000 acre-feet per year, has been changed to municipal water supply.

The place of use of said 23.33 c.f.s., 6,000 acre-feet per year, has been changed to lands served by the Ellensburg municipal water system within the Ellensburg urban area, Kittitas County, Washington.

This right to change the point of diversion, purpose and place of use of waters, as indicated above, is subject to the following special provision:

"It is the intent that this certificate issue pursuant to and consistent with the Exchange, Amendatory and Repayment Contract, United States of America, Kittitas Reclamation District and City of Ellensburg, Contract No. 14-06-100-7216 dated December 21, 1971. Provisions of this Contract, as relate to this change in point of diversion, purpose and place of use, are hereby incorporated into this certificate by this reference."

Given under my hand and seal of this office at Olympia, Washington, this 17 day of August, 1972.

R. Jerry Bollen

R. JERRY BOLLEN
Assistant Director
Office of Operations

RECORDED:
Volume 1-3, page 3,
of Certificates of Change.

APPLICATION FOR CHANGE OF POINT OF DIVERSION, PURPOSE OF USE AND PLACE OF USE OF WATER

To the Department of Ecology, State of Washington:

The United States of America, acting through the Department of the Interior, Bureau of Reclamation, respectfully represents:

1. That the United States of America enjoys rights to use of the waters of the Yakima River under an appropriation authorized by the Act of the State Legislature approved March 4, 1905; decreed in the Judgment entered under Civil Action No. 21, Kittitas Reclamation District, et al, vs. Sunnyside Valley Irrigation District, et al, District Court of the United States for the Eastern District of Washington, Southern Division on January 31, 1945; and confirmed by Certificate of Water Right No. 4498 issued by the State Supervisor of Water Resources on January 18, 1952.

2. That such right is in the amount of 1,320 cubic feet per second, limited to an annual diversion of 342,000 acre feet.

3. That the use of such water is for the purposes of irrigation and domestic uses incidental thereto.

4. That the United States of America wishes to change the point of diversion, place of use and purpose of use of such waters in the amount of 6,000 acre feet at a maximum, to be diverted between April 20 and October 15, inclusive, of each year. These changes are to be subject to and limited by the following schedule:

Maximum Delivery Schedule

Month	Acre Feet
April 20 to 30	120
May	1,020
June	1,260
July	1,260
August	1,200
September	780
October 15	360
	6,000

Instantaneous delivery rate not to exceed 23.33 CFS. (10,500 g.p.m.)

5. That the point of diversion established under this right is the headworks of the main canal of the Kittitas Reclamation District located in Section 11, Township 20 North, Range 13 East, Willamette Meridian.

6. That the United States of America wishes to change said point of diversion in the amounts indicated above to points on or in proximity to the easterly bank of the Yakima River and within the SE¼ of Section 3 and the NE¼ of Section 10, all within Township 17 North, Range 18 East, W. M., Kittitas County. Said points are located approximately 49 miles below the present point of diversion.

7. That the water right is established for and the water is being applied to irrigation and domestic purposes on lands located within the Kittitas Reclamation District.

8. That the United States of America desires to change the place of use of said waters to that area served by the City of Ellensburg municipal water system, which may generally be described as the Ellensburg Urban Area.

9. That the United States of America desires to change the purpose of use of said waters to municipal supply.

10. That the United States of America contends such changes can be made without detriment or injury to existing rights as provided in 90.03.380 Revised Code of Washington.

11. This application is intended to replace the one submitted by the Kittitas Reclamation District in January 1968, as amended, which application is still being maintained in your Department's files in proper standing, the replacement to take place at such time as this application is successfully processed and the certificate of change issued.

12. This application is one of two involved in an exchange of water rights under an exchange contract among the United States of America, Kittitas Reclamation District, and the City of Ellensburg dated December 21, 1971. Under that contract, the City of Ellensburg, subject to the approval of the State of Washington of the change of point of diversion and place of use and the issuance to the Kittitas Reclamation District of a certificate therefor based upon an application filed by the City in January 1968, the other one referred to above, is transferring as power water in connection with the operation of the Wippel Pumping Plant by the District 70 c.f.s. of the direct flow nonconsumptive appropriative power generating water right held by the City for use by the District during the irrigation season within the dates set forth in that application in a total amount during said period each year of not to exceed 25,000 acre feet. Therefore, the two applications should be processed and the certificates of change

issued simultaneously and if, for any reason, one of the certificates is not issued, neither should be issued.

Dated this _____ day of _____, 1972.

UNITED STATES OF AMERICA

By _____
Regional Director, Region 1
Bureau of Reclamation
Department of the Interior

APPLICATION FOR CHANGE OF POINT OF DIVERSION, PURPOSE OF USE AND PLACE OF USE OF WATER

Ecology

To The Department of ~~Water Resources~~, State of Washington:

United States of America, acting through the Department of the Interior,

The ~~Kittitas Reclamation District acting through its duly authorized represen-~~

Bureau of Reclamation

~~tative, C. L. Sterling, Secretary-Manager~~, respectfully represents:

United States of America

1. That the ~~Kittitas Reclamation District~~ enjoys rights to use of the waters of the Yakima River under an appropriation ~~of the United States Bureau of Reclamation~~ authorized by the Act of the State Legislature approved March 4, 1905; decreed in the Judgment entered under Civil Action No. 21, Kittitas Reclamation District, et al, vs. Sunnyside Valley Irrigation District, et al, District Court of the United States for the Eastern District of Washington, Southern Division; and confirmed by Certificate of Water Right No. 4498 issued by the State Supervisor of Water Resources on January 18, 1952.

2. That such right is in the amount of 1,320 cubic feet per second, limited to an annual diversion of 342,000 acre feet.

3. That the use of such water is for the purposes of irrigation and domestic uses incidental thereto.

4. That on November 7, 1967, the Kittitas Reclamation District entered into an agreement with the City of Ellensburg providing for a transfer of interest in a portion of said right to the City in exchange for specified considerations. A copy of this Agreement is attached as Exhibit A and by this reference is made a part of this application.

5. That ~~in compliance with the terms of this Agreement the Kittitas Reclamation District~~ the United States of America wishes to change the point of diversion, place of use and purpose of use of such waters in the amount of ~~10,770~~ 6,000 acre feet at a maximum, to be diverted between April 20 and October 15, inclusive, of each year. These changes are to be subject to and limited by the following schedule:

Maximum Delivery Schedule

Month	Percentage	Acre Feet		Ave. Flow (CFS)(1)
April 20 to 30	~~3.7~~	~~400~~	120	~~10.4~~
May	~~15.8~~	~~1,698~~	1,020	~~27.6~~
June	~~18.3~~	~~1,970~~	1,260	~~33.2~~
July	~~22.1~~	~~2,387~~	1,260	~~30.9~~
August	~~21.1~~	~~2,270~~	1,200	~~37.0~~
September	~~14.4~~	~~1,550~~	780	~~26.1~~
October 15	~~4.6~~	~~495~~	360	~~10.7~~
	~~100.0~~	~~10,770~~	6,000	

23.33

(1) Instantaneous delivery rate not to exceed ~~70.0~~ CFS. (10,500 g.p.m.)

6. That the point of diversion established under this right is the headworks of the main canal of the Kittitas Reclamation District located in Section 11, Township 20 North, Range 13 East, Willamette Meridian.

7. That the ~~Kittitas Reclamation District~~ United States of America wishes to change said point of diversion in the amounts indicated above to ~~the following points: (a) In Section 33~~ points on or in proximity to the easterly bank of the Yakima River and within the SE¼ of Section 3 and the NE¼ of Section 10, all within Township 17 North, Range 18 East W.M., Kittitas County. ~~Township 18 North, Range 18 E. W.M., near the Delarway Road crossing of the Yakima River and (b) in Section 10, Township 17 North, Range 18 E. W.M., near the Sehaake Road crossing of the Yakima River~~. Said points are located approximately ~~45 miles and~~ 49 miles, ~~respectively~~, below the present point of diversion.

8. ~~That the intakes in question are shown on attached Exhibit B, which by this reference is herein incorporated and made a part of this application~~.

9. That the water right is established for and the water is being applied to irrigation and domestic purposes on lands located within the Kittitas Reclamation District.

10. That the ~~Kittitas Reclamation District~~ United States of America desires to change the place of use of said waters to that area served by the City of Ellensburg municipal water system, which may generally be described as the Ellensburg Urban Area.

11. That the ~~Kittitas Reclamation District~~ United States of America desires to change the purpose of use of said waters to municipal supply.

United States of America

12. That the ~~Kittitas Reclamation District~~ contends such changes can be made without detriment or injury to existing rights as provided in 90.03.380 Revised Code of Washington.

~~Dated this~~ 2nd ~~day of January, 1968.~~

G. L. Sterling
~~Secretary-Manager~~
~~Kittitas Reclamation District~~

APPLICATION FOR CHANGE OF POINT OF DIVERSION, PURPOSE OF USE AND PLACE OF USE OF WATER

To The Department of Water Resources, State of Washington:

The Kittitas Reclamation District acting through its duly authorized representative, G. L. Sterling, Secretary-Manager, respectfully represents:

1. That the Kittitas Reclamation District enjoys rights to use of the waters of the Yakima River under an appropriation of the United States Bureau of Reclamation authorized by the Act of the State Legislature approved March 4, 1905; decreed in the Judgment entered under Civil Action No. 21, Kittitas Reclamation District, et al, vs. Sunnyside Valley Irrigation District, et al, District Court of the United States for the Eastern District of Washington, Southern Division; and confirmed by Certificate of Water Right No. 4498 issued by the State Supervisor of Water Resources on January 18, 1952.

2. That such right is in the amount of 1,320 cubic feet per second, limited to an annual diversion of 342,000 acre feet.

3. That the use of such water is for the purposes of irrigation and domestic uses incidental thereto.

4. That on November 7, 1967, the Kittitas Reclamation District entered into an agreement with the City of Ellensburg providing for a transfer of interest in a portion of said right to the City in exchange for specified considerations. A copy of this Agreement is attached as Exhibit A and by this reference is made a part of this application.

5. That in compliance with the terms of this Agreement the Kittitas Reclamation District wishes to change the point of diversion, place of use and purpose of use of such waters in the amount of 10,770 acre feet at a maximum, to be diverted between April 20 and October 15, inclusive, of each year. These changes are to be subject to and limited by the following schedule:

Maximum Delivery Schedule

Month	Percentage	Acre Feet	Ave. Flow (CFS)(1)
April	3.7	400	18.4
May	15.8	1,698	27.6
June	18.3	1,970	33.2
July	22.1	2,387	38.9
August	21.1	2,270	37.0
September	14.4	1,550	26.1
October	4.6	495	16.7
	100.0	10,770	

(1) Instantaneous delivery rate not to exceed 70.0 CFS.

6. That the point of diversion established under this right is the headworks of the main canal of the Kittitas Reclamation District located in Section 11, Township 20 North, Range 13 East, Willamette Meridian.

7. That the Kittitas Reclamation District wishes to change said point of diversion in the amounts indicated above to the following points: (a) In Section 33, Township 18 North, Range 18 E. W.M., near the Dolarway Road crossing of the Yakima River and (b) in Section 10, Township 17 North, Range 18 E. W.M., near the Schaake Road crossing of the Yakima River. Said points are approximately 45 miles and 49 miles, respectively, below the present point of diversion.

8. That the intakes in question are shown on attached Exhibit B, which by this reference is herein incorporated and made a part of this application.

9. That the water right is established for and the water is being applied to irrigation and domestic purposes on lands located within the Kittitas Reclamation District.

10. That the Kittitas Reclamation District desires to change the place of use of said waters to that area served by the City of Ellensburg municipal water system, which may generally be described as the Ellensburg Urban Area.

11. That the Kittitas Reclamation District desires to change the purpose of use of said waters to municipal supply.

12. That the Kittitas Reclamation District contends such changes can be made without detriment or injury to existing rights as provided in 90.03.380 Revised Code of Washington.

Dated this 3rd day of January, 1968.

G. L. Sterling
Secretary-Manager
Kittitas Reclamation District

PROGRESS SHEET - APPLICATION FOR CHANGE

CERTIFICATE No.

NAME: Kittitas Reclamation District
P. O. Box 276
Ellensburg, Washington

ATTENTION: Mr. Gale Sterling, Secretary-Manager

Appurtenant to Water Right Certificate No. 4498

PURPOSE OF APPLICATION CHANGE POINT OF DIVERSION, PURPOSE AND PLACE OF USE OF WATER

Application received 1-4-68 Fee paid $10 1-8-68

Returned for completion or correction _____

returned _____

PUBLICATION: O.K'd by _____ Date _____ Notice sent 1-26-68

Protests 3-8-68 by Roza Irrig. Dist. Withdrawn 1-29-70
3-8-68 Sunnyside Valley Irrig. Dist. Withdrawn 8-5-68
3-8-68 by Yakima-Tieton Irrig. Dist. Withdrawn 1-29-70
3-8-68 by Kennewick Irrig. Dist withdrawn 1-29-70

Affidavit received and checked 3-12-68 Time expires 3-7-68

EXAMINATION: Made _____ by _____

CERTIFICATE: O.K'd for issue by _____ Date _____

Statement of fee mailed _____ Amount $5 _____

Fee received _____

Certificate of Change Issued _____ No. _____

S. F. No. 369—3-51—75C. 27755.

CERTIFICATE RECORD NO. 9, PAGE NO. 4498

STATE OF WASHINGTON, COUNTY OF Kittitas

Cert. of Change #I-3-3

CERTIFICATE OF SURFACE WATER RIGHT

(In accordance with the provisions of Chapter 117, Laws of Washington for 1917, and amendments thereto, and the rules and regulations of the State Supervisor of Water Resources thereunder.)

This is to certify that THE UNITED STATES OF AMERICA, BUREAU OF RECLAMATION *of* Yakima, *State of* Washington, *has made proof to the satisfaction of the State Supervisor of Water Resources of Washington, of a right to the use of the waters of* Yakima River, *a tributary of* Columbia River, *with point or points of diversion within the* SE¼ of NW¼ of *Sec.* 11, *Twp.* 20 *N., R.* 13 E., *W. M., under and subject to provisions contained in* Appropriation *Permit No.* 1719 *issued by the State Supervisor of Water Resources, and that said right to the use of said waters has been perfected in accordance with the laws of Washington, and is hereby confirmed by the State Supervisor of Water Resources of Washington and entered of record in Volume* 9, *at Page* 4498, *on the* 18th *day of* January, *19* 52 *that the priority date of the right hereby confirmed is* May 10, 1905; *that the amount of water under the right hereby confirmed, for the following purposes is limited to an amount actually beneficially used and shall not exceed*

1,320 cubic feet per second for the purposes of irrigation, domestic supply and power.

A description of the lands under such right to which the water right is appurtenant, and the place where such water is put to beneficial use, is as follows:

Lands within the Kittitas Reclamation District, State of Washington.

The right to the use of the water aforesaid hereby confirmed is restricted to the lands or place of use herein described, except as provided in Sections 6 and 7, Chapter 122, Laws of 1929.

WITNESS the seal and signature of the State Supervisor of Water Resources affixed this 18th *day of* January, *19* 52.

Chas X Babcock

State Supervisor of Water Resources.

ENGINEERING DATA

O.K. MGW

S. F. No. 380—9-50—2M. 26077.

Kittitas

RECEIVED
JAN 3 1950
DEPARTMENT OF
CONSERVATION & DEVELOPMENT

PROOF OF APPROPRIATION OF WATER

Application No. 3202 Permit No. 1719

1. *Name of applicant* The United States of America, acting through the Regional Director, Region 1, Bureau of Reclamation, under authority of the Secretary of the Interior, pursuant to the Federal Reclamation Laws.

2. *Postoffice address* Box 937, Boise, Idaho

3. *Source of appropriation* Yakima River *tributary of* Columbia River

4. *For what purpose or purposes is water used?* Irrigation and incidental domestic uses, as well as power for irrigation pumping.

5. *Give date of beginning of construction* 1926

6. *Give date of completion of construction work* 12/31/33

7. *When was all the water completely applied to proposed use?* 1934 and subsequent years.

8. *Fill in the following carefully, according to use. If for irrigation, fill in the number of acres described in permit and the number of acres actually irrigated (Water should be applied to the full number of acres to be irrigated before certificate can issue). If for power, give location of power plant and the theoretical horsepower described in permit. If for domestic supply, municipal, manufacturing or other uses, simply give the description of place of use.*

FOR IRRIGATION

LEGAL DESCRIPTION OF PROPERTY ON WHICH WATER IS USED	FOR IRRIGATION FILL IN FOLLOWING	
	No. Acres Described in Permit	No. Acres Actually Irrigated
Lands within the Kittitas Reclamation District.		

FOR POWER

LOCATION OF POWER PLANT	FOR POWER FILL IN FOLLOWING	
	H. P. Described in Permit	H. P. Actually Developed

FOR ALL OTHER USES

LEGAL DESCRIPTION OF PLACE OF USE

9. *Does map filed with your permit show correctly the location of diverting work and area of land where water is used?* Yes *If not, state wherein such map is in error*

10. *If the dimensions of your ditch or dam do not correspond to those described in your permit and the plans and specifications now on file in the office of the State Supervisor of Hydraulics, state what changes have been made, giving dimensions of ditch or other distributing works.*

(OVER)

OK
Entered
1-23

REMARKS:

STATE OF ~~WASHINGTON~~, IDAHO
County of ADA } ss.

I, H. T. Nelson, being first duly sworn, depose and say that I have read the above and foregoing proof of appropriation of water; that I know the contents thereof; and that the facts therein stated are true.

IN WITNESS WHEREOF, I have hereunto set my hand this 29th day of December, 19 51

H. T. Nelson
Regional Director, Region 1
Bureau of Reclamation

Subscribed and sworn to before me this 29th day of December, 19 51

R. H. Harris
Notary Public.

MY COMMISSION EXPIRES: 6/18/53

PERMIT

This is to certify that I have examined the foregoing application and do hereby grant the same, subject to the following limitations and conditions. ~~If for irrigation, this appropriation shall be subject to such reasonable rotation system as may be ordered by the State Supervisor of Hydraulics~~

That such waters will be used for irrigation only, and may be used subject to existing rights.

The amount of water appropriated shall be limited to the amount which can be applied to beneficial use and not to exceed ----------1320-------- *cubic feet per second, or its equivalent in case of rotation.*

The priority date of this permit is May 29th, 1926.

Actual construction work shall begin on or before irrigation works now under construction *and shall thereafter be prosecuted with reasonable diligence and be completed on or before*

January 1st, 1934

Complete application of the water to the proposed use shall be made on or before January 1st, 1943

Given under my hand and the seal of this office at Olympia, Washington, this 15th *day of* June, *19* 31.

Chas. J. Bartholet

State Supervisor of Hydraulics.

Application No. 8202

Permit No. 1719

PERMIT

To Appropriate Public Waters of the State of Washington

Filed by United States of America, Bureau of Reclamation

County of Kittitas

This instrument was first received in the office of the State Supervisor of Hydraulics, Olympia, Washington, on the 29th *day of* May, *19* 26, *at* ..... *o'clock* ..... *M.*

Approved June 15th, 1931

Recorded in Book No. 7 *of Permits, on Page* 1719.

CHAS. J. BARTHOLET

State Supervisor of Hydraulics.

JAY THOMAS, PUBLIC PRINTER

Before your certificate of water right is issued it will be necessary for you to file with the State Supervisor of Hydraulics a copy of each of the following reports:

1st. Progress reports (in case temporary permit is issued).
2nd. Affidavit of publication of notice of water right application.
3rd. Notice of beginning of construction.
4th. Notice of prosecution of work with diligence.
5th. Notice of completion of construction.
6th. Notice of application of water to a beneficial use.
7th. Proof of appropriation of water.

Upon a satisfactory showing that the appropriation has been perfected as provided by statute the State Supervisor of Hydraulics will issue a water right certificate.

(Blanks will be furnished by the office of State Supervisor of Hydraulics)

MUNICIPAL SUPPLY—

16. *To supply the city of* ..... (Name) ....., ...*County, having a present population of*.....

and an estimated population of.....*in 19*.....

(*a*) *Estimated present requirement*.....

(*b*) *Estimated future requirement* .....

17. *Construction work will begin on or before*.....

18. *Construction work will be completed on or before*.....

Duplicate maps of the proposed ditch or other works, prepared in accordance with the rules of the State Supervisor of Hydraulics accompany this application.

..... (Name of applicant)

.....

.....

Signed in the presence of us as witnesses:

(1) ..... (Name), ... (Address of witness)

(2) ..... (Name), ... (Address of witness)

Remarks: .....

.....

.....

.....

.....

.....

.....

STATE OF WASHINGTON,
COUNTY OF THURSTON. } ss.

This is to certify that I have examined the foregoing application together with the accompanying maps and data, and return the same for correction or completion, as follows: .....

.....

.....

.....

In order to retain its priority, this application must be returned to the State Supervisor of Hydraulics, with corrections, on or before....., *19*.....

WITNESS my hand this.....*day of*....., *19*.....

.....

State Supervisor of Hydraulics.

PERMIT

This is to certify that I have examined the foregoing application and do hereby grant the same, subject to the following limitations and conditions. ~~If for irrigation, this appropriation shall be subject to such reasonable rotation system as may be ordered by the State Supervisor of Hydraulics~~

That such waters will be used for irrigation only, and may be used subject to existing rights.

The amount of water appropriated shall be limited to the amount which can be applied to beneficial use and not to exceed ------1320-------- *cubic feet per second, or its equivalent in case of rotation. The priority date of this permit is* May 29th, 1926.

Actual construction work shall begin on or before irrigation works now under construction *and shall thereafter be prosecuted with reasonable diligence and be completed on or before* January 1st, 1934

Complete application of the water to the proposed use shall be made on or before January 1st, 1943

Given under my hand and the seal of this office at Olympia, Washington, this 15th *day of* June, *19* 31.

Conditions Accepted:

Permittee.

CHAS. J. BARTHOLET
State Supervisor of Hydraulics.

Application No. 3202 *Permit No.* 1719

PERMIT

To Appropriate Public Waters of the State of Washington

Filed by United States of America, Bureau of Reclamation *County of* Kittitas

This instrument was first received in the office of the State Supervisor of Hydraulics, Olympia, Washington, on the 29th *day of* May, *19* 26, *at* ..... *o'clock* ..... *M.*

Approved June 15th, 1931

CHAS. J. BARTHOLET
State Supervisor of Hydraulics.

Before your certificate of water right is issued it will be necessary for you to file with the State Supervisor of Hydraulics a copy of each of the following reports:

1st. Progress reports (in case temporary permit is issued).
2nd. Affidavit of publication of notice of water right application.
3rd. Notice of beginning of construction.
4th. Notice of prosecution of work with diligence.
5th. Notice of completion of construction.
6th. Notice of application of water to a beneficial use.
7th. Proof of appropriation of water.

Upon a satisfactory showing that the appropriation has been perfected as provided by statute the State Supervisor of Hydraulics will issue a water right certificate.

(Blanks will be furnished by the office of State Supervisor of Hydraulics.)

1719

MUNICIPAL SUPPLY—

16. *To supply the city of* ..... (Name) ....., ...*County, having a present population of* ..... *and an estimated population of* .....*in 19*.....

(*a*) *Estimated present requirement* .....

(*b*) *Estimated future requirement* .....

17. *Construction work will begin on or before* .....

18. *Construction work will be completed on or before* .....

Duplicate maps of the proposed ditch or other works, prepared in accordance with the rules of the State Supervisor of Hydraulics accompany this application.

.....
(Name of applicant)

.....

.....

Signed in the presence of us as witnesses:

(1) ..... (Name), ... (Address of witness)

(2) ..... (Name), ... (Address of witness)

Remarks: .....

.....

.....

.....

.....

.....

.....

STATE OF WASHINGTON,
COUNTY OF THURSTON. } ss.

This is to certify that I have examined the foregoing application together with the accompanying maps and data, and return the same for correction or completion, as follows: .....

.....

.....

.....

In order to retain its priority, this application must be returned to the State Supervisor of Hydraulics, with corrections, on or before ....., *19*.....

WITNESS my hand this .....*day of* ....., *19*.....

.....
State Supervisor of Hydraulics.

PERMIT

This is to certify that I have examined the foregoing application and do hereby grant the same, subject to the following limitations and conditions: ~~If for irrigation, this appropriation shall be subject~~

~~to such reasonable regulation as may be ordered by the State Supervisor of Hydraulics in order~~
~~and subject to existing rights~~

The State of Washington, by the issuance of this permit, does not recognize or accord to the United States the right or privilege of determining as between different units or projects, and of apportioning in accordance with such determination, water or rights initiated or acquired under and by virtue of the acts of the legislature of the State of Washington, approved March 8th, 1905 and March 9th, 1929, respectively, (Chap. 88, Laws of 1905 and Chap. 85, Laws of 1929); nor does the United States in accepting and acting under this permit waive or abandon its claimed right and privilege to determine such rights and priorities and to apportion water in accordance with such determination, but the right and privilege of the United States to determine such rights and priorities and to apportion water in accordance with such determination shall be such as may be determined by the courts in appropriate proceedings.

January 1st, 1934

Complete application of the water to the proposed use shall be made on or before

January 1st, 1943 Extended to 1-1-48 1-1-53

Given under my hand and the seal of this office at Olympia, Washington, this 14th *day of* August, *19* 31

Chas. J. Bartholet
State Supervisor of Hydraulics.

Application No. 5202

Permit No. 1719

PERMIT
To Appropriate Public Waters of the State of Washington

Filed by United States of America, Bureau of Reclamation

County of Kittitas

This instrument was first received in the office of the State Supervisor of Hydraulics, Olympia, Washington, on the 16th *day of* October, *19* 30, *at* 2:00 *o'clock* P. M.

Approved August 14th, 1931

Recorded in Book No. 7 *of Permits, on Page* 1719.

CHAS. J. BARTHOLET
State Supervisor of Hydraulics.

JAY THOMAS, PUBLIC PRINTER

Before your certificate of water right is issued it will be necessary for you to file with the State Supervisor of Hydraulics a copy of each of the following reports:

1st. Progress reports (in case temporary permit is issued).
2nd. Affidavit of publication of notice of water right application.
3rd. Notice of beginning of construction.
4th. Notice of prosecution of work with diligence.
5th. Notice of completion of construction.
6th. Notice of application of water to a beneficial use.
7th. Proof of appropriation of water.

Upon a satisfactory showing that the appropriation has been perfected as provided by statute the State Supervisor of Hydraulics will issue a water right certificate.

(Blanks will be furnished by the office of State Supervisor of Hydraulics)

Form 10

STATE OF WASHINGTON
DEPARTMENT OF CONSERVATION AND DEVELOPMENT
Division of Hydraulics

AMENDED

APPLICATION FOR A PERMIT
To Appropriate Public Waters of the State of Washington

Application No. 3202 *Permit No.* 1719

I, the United States of America, Bureau of Reclamation
((Name of applicant)

of Yakima (Postoffice), *County of* Yakima,

State of Washington, *do hereby make application for a permit to appropriate the following described public waters of the State of Washington subject to existing rights:*

If the applicant is a corporation, give date and place of incorporation .....

1. *The source of the proposed appropriation is* Yakima River (Name of stream)

tributary of Columbia River

2. *The amount of water which the applicant intends to apply to beneficial use is* 1320 *cubic feet per second.*

3. *The use to which the water is to be applied is* irrigation, domestic and power for irrigation (Irrigation, power, mining, manufacturing, domestic supplies, etc.)

4. *Time during which water will be required each year* .....

5. *The approximate point of diversion is located* ..... (Give distance and bearing to section corner)

being within the ..... (Give smallest legal subdivision) *of Sec.* ....., *Tp.* ..... *N., R.* ..... *W. M.,* (No. E. or W.)

in the county of .....

6. *The* ..... (Main ditch, canal, or pipe line) *to be* ..... *ft. or miles in length, terminating*

in the ..... (Smallest legal subdivision) *of Sec.* ....., *Tp.* ..... *N. R.,* ..... *W. M.,* (No. E. or W.)

the proposed location being shown on the accompanying map.

7. *The name of the ditch, canal or other works is* Kittitas Division - Yakima Project

8. *Estimated cost of development necessary to utilize fully the appropriation herein asked for* $ .....

9. *Does the stream from which you wish to appropriate water flow through the tract of land on which the water is to be used?* .....

10. *Do you own the required right-of-way for the proposed works?* .....

DESCRIPTION OF WORKS.

DIVERSION WORKS—

11. (a) *Height of diversion dam* ..... *feet; length on top* ..... *feet; length at bottom* ..... *feet; material to be used and character of construction*

(Loose rock, concrete, masonry, rock and brush, timber crib, etc., wasteway over or around dam)

(b) *Description of headgate* .....
(Timber, concrete, etc.; number and size of openings)

When storage works are contemplated a storage permit must be filed in addition to the above. These forms can be secured, together with instructions, by addressing the State Supervisor of Hydraulics, Olympia, Washington.

Kittitas Division,
Yakima Project.

AMENDED APPLICATION FOR A PERMIT

TO APPROPRIATE PUBLIC WATERS OF THE STATE OF WASHINGTON

RECEIVED
AUG 17 1931
DIVISION OF
HYDRAULICS

* * *

As an amendment to Application No. 3202, heretofore filed by the United States for the Kittitas Division, Yakima Project.

* * *

The United States of America, acting through its agent, J. S. Moore, Acting Superintendent of the Bureau of Reclamation, Department of the Interior, pursuant to the provisions of the Act of Congress of June 17, 1902 (32 Stat., 388), known as the Federal Reclamation Law, does hereby make application for a permit to appropriate the following described public waters of the State of Washington.

1. The source of the proposed appropriation is the Yakima River, a tributary of the Columbia River.

2. The amount of water which the applicant intends to apply to beneficial use is 1320 cubic feet per second.

3. The use to which the water is to be applied is irrigation, domestic and power.

4. Time during which water will be required each year, April 1 to September 30, inclusive, and October 21st to 31st, inclusive.

5. The approximate point of diversion is located 3150 feet S. 38° E. of NW Cor. Sec. 11, T. 20 N., R. 13 E., being within the SE¼ NW¼ of Sec. 11, T. 20 N., R. 13 E.W.M., in the County of Kittitas.

6. The main and north branch canals to be 78 miles in length, terminating in the NE¼ of Sec. 4, T. 16 N., R. 19 E.W.M., the proposed location being shown on the accompanying map.

7. The name of the ditch, canal or other works is Kittitas Canal.

8. (a) Estimated cost of development necessary to utilize fully the appropriation herein asked for, $9,000.000.

(b) Do you own the required right of way? Yes.

DESCRIPTION OF WORKS

DIVERSION WORKS:

9. (a) Height of diversion dam, 65 feet; length on top,

200 ft.; length at bottom, 60 ft.; material to be used and character of construction, concrete overflow dam with a 64 ft. x 14.5 ft. movable crest.

(b) Description of headgate: Concrete intake with two 12 ft. x 11 ft. radial gates.

CANAL SYSTEM:

10. (a) Give approximate dimensions at each point of canal where materially changed in size, stating miles from headgate: At headgate: Width on top (at water line), 36 ft.; width on bottom, 12 ft.; depth of water, 9.75 ft.; grade .35 feet fall per one thousand feet; concrete lined; Q - 1320.

Table below gives points at which the carrying capacity of the canal changes materially. Canal sections may vary considerably between these points, being earth, lined, tunnel, flume, pipe, etc.

10	Miles from Headgates	Top Width	Bottom Width	Water Depth	Grade	Type	Capacity
b	.8	64	30.0	11.35	.00009	Earth	1320
c	8.5	36	12.0	9.59	.0003	Lined	1275
d	13.5	62	30.0	10.69	.0001	Earth	1250
e	17.0	62	30.0	10.50	.0001	Earth	1210
f	22.5	33	12.0	8.58	.0004	Lined	1180
g	24.0	33	11.0	8.70	.0004	Lined	1145
h	25.0	29	10.0	7.61	.0005	Lined	925
i	26.3					Pipe	925
j	27.0	30	10.0	7.85	.0005	Lined	925
k	35.0	50	28.0	7.45	.00017	Earth	775

INFORMATION ACCORDING TO USE PROPOSED

IRRIGATION

11. The land to be irrigated has a total area of 72,000 irrigable acres, described as follows:

T. 20 N. R. 13 E., 14, 15 and 16 E.
T. 19 N. R. 14, 15, 16, 17 and 18 E (See accompanying map)
T. 18 N. R. 17, 18, 19, and 20 E.
T. 17 N. R. 17, 18, 19 and 20 E.
T. 16 N. R. 19 and 20 E.

12. Does the above described land border on the stream from which you desire to appropriate water? For 26 miles.

DUTY OF WATER

Character of soil: Depth, 12" to 3'; Loam, 80%+, clay, 10%+. Annual precipitation, Ellensburg Station, 9.6 inches; precipitation during growing season, 2.9", depth of irrigation water required, 3.0'.

POWER PURPOSES

13. (a) Total amount of power to be developed, 650 h.p..
(b) Total fall to be utilized, 82 feet.
(c) The nature of the works by means of which the power is to be developed: Direct connected hydraulic turbine to pumps pumping plant. Both power and pumped water used for irrigation.
(d) Such works to be located in NE¼ of Sec. 33, T. 17 N., R. 20 E.W.M.
(e) To what stream is the water to be returned? Used for irrigation.
(g) The use to which power is to be applied is pumping to higher lands.

Duplicate maps of the proposed ditch or other works, prepared in accordance with the rules of the State Supervisor of Hydraulics accompany this application.

It is understood that the United States on the 10th day of May, 1905, filed in the office of the Commissioner of Public Lands of the State of Washington, under the provisions of Act approved March 4, 1905, Laws of 1905, Page 180, a notice of the withdrawal of the then unappropriated waters of Yakima River and its tributaries, which withdrawal was duly extended from time to time and has been maintained. The United States does not by this filing waive or relinquish any of its rights under said withdrawal of May 10, 1905, but expressly saves and reserves all rights under said Act of 1905 and all former notices filed under it and all rights under Act of 1929 amending said act of 1905, it being fully understood that no rights are waived or abandoned but that the question of what rights these acts and action taken under them is left open for courts to determine.

UNITED STATES OF AMERICA

By its Agent J. T. Moore
Acting Superintendent, Bureau of Reclamation, Department of the Interior.

Form 10

STATE OF WASHINGTON
DEPARTMENT OF CONSERVATION AND DEVELOPMENT
Division of Hydraulics

APPLICATION FOR A PERMIT
To Appropriate Public Waters of the State of Washington

Application No. 3202 *Permit No.* 1719

I, the United States of America, Bureau of Reclamation
(Name of applicant)

of Yakima (Postoffice), *County of* Yakima,

State of Washington, *do hereby make application for a permit to appropriate the following described public waters of the State of Washington subject to existing rights:*

If the applicant is a corporation, give date and place of incorporation

1. *The source of the proposed appropriation is* Yakima River (Name of stream)

tributary of Columbia River

2. *The amount of water which the applicant intends to apply to beneficial use is* 1320 *cubic feet per second.*

3. *The use to which the water is to be applied is* (Irrigation, power, mining, manufacturing, domestic supplies, etc.)

4. *Time during which water will be required each year*

5. *The approximate point of diversion is located* (Give distance and bearing to section corner)

being within the (Give smallest legal subdivision) *of Sec.* , *Tp.* *N., R.* (No. E. or W.) *W. M.,*

in the county of

6. *The* (Main ditch, canal, or pipe line) *to be* *ft. or miles in length, terminating*

in the (Smallest legal subdivision) *of Sec.* , *Tp.* *N., R.* (No. E. or W.) *W. M.,*

the proposed location being shown on the accompanying map.

7. *The name of the ditch, canal or other works is* Kittitas Division - Yakima Project

8. *Estimated cost of development necessary to utilize fully the appropriation herein asked for*

$

9. *Does the stream from which you wish to appropriate water flow through the tract of land on which the water is to be used?*

10. *Do you own the required right-of-way for the proposed works?*

DESCRIPTION OF WORKS.

DIVERSION WORKS—

11. (*a*) *Height of diversion dam* *feet; length on top* *feet; length at bottom* *feet; material to be used and character of construction*

(Loose rock, concrete, masonry, rock and brush, timber crib, etc., wasteway over or around dam)

(*b*) *Description of headgate*
(Timber, concrete, etc.; number and size of openings)

When storage works are contemplated a storage permit must be filed in addition to the above. These forms can be secured, together with instructions, by addressing the State Supervisor of Hydraulics, Olympia, Washington.

Form 10

STATE OF WASHINGTON
DEPARTMENT OF CONSERVATION AND DEVELOPMENT
Division of Hydraulics

RECEIVED
OCT 16 1930
DIVISION OF HYDRAULICS

APPLICATION FOR A PERMIT
To Appropriate Public Waters of the State of Washington

Application No. 3202 *Permit No.* 1719

I, the United States of America, Bureau of Reclamation
(Name of applicant)

of Yakima (Postoffice), *County of* Yakima,

State of Washington, *do hereby make application for a permit to appropriate the following described public waters of the State of Washington subject to existing rights:*

If the applicant is a corporation, give date and place of incorporation

1. *The source of the proposed appropriation is* Yakima River (Name of stream)
tributary of Columbia River

2. *The amount of water which the applicant intends to apply to beneficial use is* 1320 *cubic feet per second.*

3. *The use to which the water is to be applied is* (Irrigation, power, mining, manufacturing, domestic supplies, etc.)

4. *Time during which water will be required each year*

5. *The approximate point of diversion is located* (Give distance and bearing to section corner)

being within the (Give smallest legal subdivision) *of Sec.* , *Tp.* *N., R.* (No. E. or W.) *W. M.,*
in the county of

6. *The* (Main ditch, canal, or pipe line) *to be* *ft. or miles in length, terminating*
in the (Smallest legal subdivision) *of Sec.* , *Tp.* *N., R.* (No. E. or W.) *W. M.,*
the proposed location being shown on the accompanying map.

7. *The name of the ditch, canal or other works is* Kittitas Division - Yakima Project

8. *Estimated cost of development necessary to utilize fully the appropriation herein asked for*
$

9. *Does the stream from which you wish to appropriate water flow through the tract of land on which the water is to be used?*

10. *Do you own the required right-of-way for the proposed works?*

DESCRIPTION OF WORKS.

DIVERSION WORKS—

11. (*a*) *Height of diversion dam* *feet; length on top* *feet;*
length at bottom *feet; material to be used and character of construction*
(Loose rock, concrete, masonry, rock and brush, timber crib, etc., wasteway over or around dam)

(*b*) *Description of headgate*
(Timber, concrete, etc.; number and size of openings)

When storage works are contemplated a storage permit must be filed in addition to the above. These forms can be secured, together with instructions, by addressing the State Supervisor of Hydraulics, Olympia, Washington.

RECEIVED
OCT 16 1930
DIVISION OF
HYDRAULICS

Kittitas Division.
Yakima Project.

APPLICATION FOR A PERMIT

TO APPROPRIATE PUBLIC WATERS OF THE STATE OF WASHINGTON

The United States of America, acting through its agent, Porter J. Preston, Superintendent of the Bureau of Reclamation, Department of the Interior, pursuant to the provisions of the Act of Congress of June 17, 1902 (32 Stat., 388), known as the Federal Reclamation Law, does hereby make application for a permit to appropriate the following described public waters of the State of Washington.

1. The source of the proposed appropriation is the Yakima River, a tributary of the Columbia River.

2. The amount of water which the applicant intends to apply to beneficial use is 1320 cubic feet per second.

3. The use to which the water is to be applied is irrigation, domestic and power.

4. Time during which water will be required each year, April 1 to September 30, inclusive, and October 21st to 31st, inclusive.

5. The approximate point of diversion is located 3150 feet, S. 38° E. of NW. Cor. Sec. 11, T. 20 N., R. 13 E., being within the SE¼ NW¼ of Sec. 11, T. 20 N., R. 13 E. W. M., in the County of Kittitas.

6. The main and north branch canals to be 78 miles in length, terminating in the NE¼ of Sec. 4, T. 16 N., R. 19 E.W.M., the proposed location being shown on the accompanying map.

7. The name of the ditch, canal or other works is Kittitas Canal.

8. (a) Estimated cost of development necessary to utilize fully the appropriation herein asked for $9,000,000.

(b) Do you own the required right of way? Yes.

DESCRIPTION OF WORKS

DIVERSION WORKS:

9. (a) Height of diversion dam, 65 feet; length on top, 200 ft. length at bottom, 60 ft.; material to be used and character of construction, concrete overflow dam with a 64 ft. x 14.5 ft. movable crest.

(b) Description of headgate: Concrete intake with two 12 ft. x 11 ft. radial gates.

CANAL SYSTEM:

10. (a) Give approximate dimensions at each point of canal where materially changed in size, stating miles from headgate: At headgate: Width on top (at water line), 36 ft.; width on bottom, 12 ft.; depth of water, 9.75 ft.; grade .35 feet fall per one thousand feet; concrete lined; Q - 1320.

Table below gives points at which the carrying capacity of the canal changes materially. Canal sections may vary considerably between these points, being earth, lined, tunnel, flume, pipe, etc.

10	Miles from Headgates	Top Width	Bottom Width	Water Depth	Grade	Type	Capacity
b	.8	64	30.0	11.35	.00009	Earth	1320
c	8.5	36	12.0	9.59	.0003	Lined	1275
d	13.5	62	30.0	10.69	.0001	Earth	1250
e	17.0	62	30.0	10.50	.0001	Earth	1210
f	22.5	33	12.0	8.58	.0004	Lined	1180
g	24.0	33	11.0	8.70	.0004	Lined	1145
h	25.0	29	10.0	7.61	.0005	Lined	925
i	26.3					Pipe	925
j	27.0	30	10.0	7.85	.0005	Lined	925
k	35.0	50	28.0	7.45	.00017	Earth	775

INFORMATION ACCORDING TO USE PROPOSED

IRRIGATION

11. The land to be irrigated has a total area of 72,000 irrigable acres, described as follows:

T. 20 N. R. 13 E., 14, 15 and 16 E.
T. 19 N. R. 14, 15, 16, 17, and 18 E.
T. 18 N. R. 17, 18, 19, and 20 E.
T. 17 N. R. 17, 18, 19, and 20 E.
T. 16 N. R. 19 and 20 E.

See accompanying map.

12. Does the above described land border on the stream from which you desire to appropriate water? For 26 miles.

DUTY OF WATER

Character of soil: Depth, 12" to 3'; Loam, 80% +, clay 10% +.

Annual precipitation, Ellensburg Station, 9.6 inches; precipitation during growing season, 2.9"; depth of irrigation water required, 3.0'.

POWER PURPOSES

13. (a) Total amount of power to be developed, 650 h.p.

(b) Total fall to be utilized, 82 feet.

(c) The nature of the works by means of which the power is to be developed: Direct connected hydraulic turbine to pumps pumping plant. Both power and pumped water used for irrigation.

(d) Such works to be located in NE¼ of Sec. 33, T. 17 N., R. 20 E. W. M.

(e) To what stream is the water to be returned? Used for irrigation.

(g) The use to which power is to be applied is pumping to higher lands.

Duplicate maps of the proposed ditch or other works, prepared in accordance with the rules of the State Supervisor of Hydraulics accompany this application.

The United States has availed itself of the provisions of an act of the Legislature of the State of Washington, entitled, "An Act relative to the appropriation of waters of the State for irrigation purposes, granting the United States the right of exercising the powers of eminent domain in acquiring lands, water and other property for rights of way and for reservoir and other irrigation works, granting to the United States certain rights in state lands and waters of the state relating to water users associations, and declaring an emergency" approved March 4, 1905 (L 05' p. 180), and as authorized thereby, and in compliance therewith, did on the 10th day of May, 1905, file in the office of the Commissioner of Public Lands of the State of Washington a notice of the withdrawal of the then unappropriated waters of the Yakima River and its tributaries, which withdrawal was duly extended from time to time and has been maintained. The United States does not by this filing waive or relinquish any of its rights under the said withdrawal of May 10, 1905, but expressly declares its intention to retain and exercise all its rights thereunder and that this filing shall relate back to the said withdrawal of May 10, 1905, and take date of priority of that date, as provided in Section 4 of Chapter 88 of the Laws of 1905 (Sec. 7411, Remingtons Compiled Statutes), as amended by Chapter 95 of the Laws of 1929."

UNITED STATES OF AMERICA,

By its agent Porter Preston

Superintendent, Bureau of Reclamation,
Department of the Interior.

Appendix J

Water Quality Monitoring Plan, Coliform and E. coli, and IDSE

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SECTION VII

WATER QUALITY MONITORING

7.1 GENERAL INFORMATION

To furnish consistently reliable potable water that meets State and Federal Drinking Water Standards, water samples must be regularly collected and analyzed at laboratories that have been certified by the State of Washington. Sample collection is a significant part of the Plant Maintenance person's duties and will continue to expand as sampling and testing requirements continues to grow to meet the requirements of State and Federal law.

The Safe Drinking Water Act continues to place new testing requirements on the water purveyor as rules are promulgated.

The testing and monitoring requirements outlined in this chapter are the current regulations as of this writing. These requirements will be out of date within the year and many times over during the six (6) year life of this manual. This operations manual, which is in loose leaf form, will be updated as needed and the reader is cautioned to make sure they are familiar with the most current standards.

The Plant Maintenance person and the Foreman must be well acquainted with WAC 246-290-300 in order to understand completely the monitoring requirements outlined in this chapter.

7.2 MONITORING PARAMETERS

Refer to WAC 246-290-300 and Table 7.1 when reviewing the monitoring requirements.

A. BACTERIOLOGICAL SAMPLES:

Twenty (20) samples per month are required from representative locations in the distribution system. The City of Ellensburg collects twenty (20) samples. Chlorine and Fluoride samples are taken simultaneously with the bacteriological samples.

B. INORGANIC CHEMICAL & PHYSICAL ANALYSIS (IOC):

Unless Washington State grants a waiver, sample every source every three (3) years after treatment and prior to entry in the distribution system.

C. LEAD AND COPPER:

Lead and copper sampling is completed as directed by the Department of Health. The last set of thirty (30) was completed in September 2014. All samples passed the action limits. The results have been sent to the State.

D. NITRATE AND NITRITE:

A sample is required each year from each source, after treatment. Every third year, the sample may be combined with the inorganic chemical and physical analysis.

E. TURBIDITY:

City Wells is monitored continuously.

F. TRIHOLOMETHANES:

Two (2) samples are required each year (April & August). Samples shall be taken from the sites indicated on the Disinfection Byproducts Plan Map (Figure 7.4).

G. HALOACETIC ACIDS:

Two (2) samples are required each year (September). Samples shall be taken from the both High Zone and Low Zone sites indicated on the Disinfection Byproducts Plan Map (Figure 7.4).

H. RADIONUCLIDES:

Each source needs to be tested every six (6) years for gross alpha particle activity and radium 226 and 228.

I. ORGANIC CHEMICALS (VOC & SOC):

Unless Washington State grants a waiver, sample every source every six (6) years after treatment and prior to entry in the distribution system.

J. ASBESTOS:

Asbestos monitoring is required by the Federal Clean Water Act, but waivers are provided for. Current sampling requirements are one (1) sample every nine (9) years.

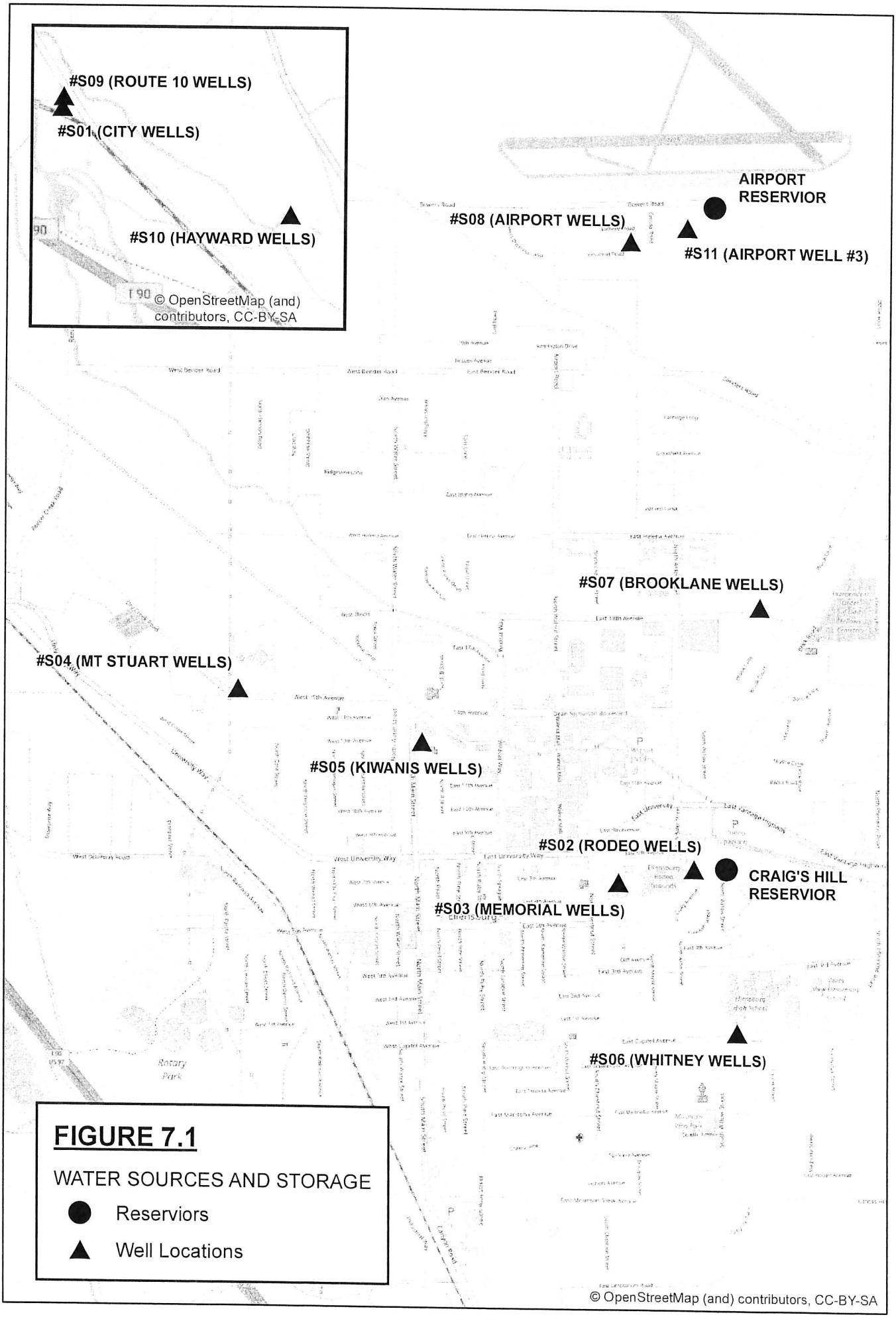
K. UNREGULATED CONTAMINANTS (UCMR):

Every five years, in accordance with the Safe Drinking Water Act, the EPA identifies a new list of contaminants that are suspected to occur in public water systems and may warrant regulation.

TABLE 7.1
MONITORING LOCATION

SAMPLE TYPE	SAMPLE LOCATION
Asbestos	One (1) sample from distribution system or if required by department, from the source.
Bacteriological	From representative points throughout the distribution system.
Complete Inorganic Chemical	From a point as representative of the source after treatment, and prior to entry to the distribution system.
Lead/Copper	From the distribution system at targeted sample tap locations.
Nitrate/Nitrite	From a point representative of the source, after treatment and prior to entry to the distribution system.
Turbidity – Surface Water	From a location at or before the entry point to the distribution system.
Trihalomethanes	From representative points in the distribution system.
Haloacetic Acids	From representative points in the distribution system.
Radionuclides	From the source.
Organic Chemicals (VOCs & SOCs)	From a point representative of the source, after treatment, and prior to entry to the distribution system.
Other Substances (Unregulated Chemicals)	From a representative of the source, after treatment, and prior to entry to the distribution system, or as directed by the department.

Updated July 12, 2018


#S09 (ROUTE 10 WELLS)
#S01 (CITY WELLS)
#S10 (HAYWARD WELLS)
© OpenStreetMap (and) contributors, CC-BY-SA
AIRPORT RESERVIOR
#S08 (AIRPORT WELLS)
#S11 (AIRPORT WELL #3)
#S07 (BROOKLANE WELLS)
#S04 (MT STUART WELLS)
#S05 (KIWANIS WELLS)
#S02 (RODEO WELLS)
CRAIG'S HILL RESERVIOR
#S03 (MEMORIAL WELLS)
#S06 (WHITNEY WELLS)
FIGURE 7.1
WATER SOURCES AND STORAGE
Reserviors
Well Locations
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7.3 COLIFORM MONITORING PLAN

A. SYSTEMS INFORMATION:

Ellensburg Public Water System
PWS ID #22950M
Kittitas County

SOURCES (Figure 7.1):

DOH Source #	Source Name	Well Depth
SO1	City Wells	20 Feet w/Infiltration Gallery
SO2	Rodeo Well	1,205 Feet
SO3	Memorial Well	306 Feet
SO4	Mt. Stuart Well	900 Feet
SO5	Kiwanis Well	700 Feet
SO6	Whitney Well	761 Feet
SO7	Brooklane Well	1,000 Feet
SO8	Airport Well #2	780 Feet
SO9	Highway 10 Well	841 Feet
SO10	Hayward Well	1,042 Feet
SO11	Airport Well #3	768 Feet

STORAGE (Figure 7.1):

Name	Capacity
Craig's Hill Reservoir	4.0 Million Gallons
Airport Reservoir	1.1 Million Gallons

TREATMENT:

All sources are treated with chlorine gas for disinfection.

All sources, except Brooklane Well, are also treated with fluoride.

BOOSTER STATION:

There is one booster station in the system that provides required pressure to the high zone when the Airport Reservoir requires.

TRANSFER STATION:

There is one transfer station in the system that provides for a transfer of water from the high zone to the low zone when the Airport Reservoir is at capacity.

PRESSURE ZONES:

Zone	Service Connections
High	1,612
Low	4,219

POPULATION AND CONNECTION:

Residential Population	19,660 (April 1, 2018)
Number of Active Residential Connections	4,893
Total Number of Metered Connections	5,831

B. SAMPLING INFORMATION:

ROUTINE SAMPLING REQUIRED BY REGULATION:

Twenty (20) samples per month are required by Regulation.

In order to adequately cover the system, twenty (20) routine samples are taken each month.

ROTATION & SITES (Figure 7.2):

Ten (10) different sample sites will be used with repeat sample sites upstream and downstream of the routine site. Alternate sites will also be identified. Alternate site will be utilized when the Main Sample site is not available for sampling.

WEEK 1 & WEEK 3 (Of Each Month)

Sample #1 (Routine) taken at the County Shop, 14th Avenue and Okanogan St.
Repeat Upstream - 516 West 14th Avenue
Repeat Downstream - 404 West 14th Avenue

Sample #2 (Routine) taken at Travis Howey, DDS, 603 North Main
Repeat Upstream – 609 North Main (Ellensburg Chamber)
Repeat Downstream – 213 W 4th Avenue (Orange Spice Salon)

Sample #3 (Routine) taken at CW Barber Shop, 808 E University Way.
Repeat Upstream - 810 University Way (Campus U-Tote-Em)
Repeat Downstream – 710 N Chestnut (Columbia Paint)

Sample #4 (Routine) taken at Saks Restaurant, 2300 Canyon Road.
Repeat Upstream - 2202 Canyon Road. (Buzz Inn)
Repeat Downstream - 2415 Canyon Road. (WWTP)

Sample #5 (Routine – HP Zone) taken at Dept. of Natural Res., 713 Bowers Road
Repeat Upstream – 1101 Bowers Road (Mid-State Aviation)
Repeat Downstream – 700 Elmview Road (KITTCOM)

WEEK 2 & Week 4 (Of Each Month)

Sample #6 (Routine – HP Zone) taken at Brook Court Multipurpose Room.
Repeat Upstream - Court G Apartments
Repeat Downstream - Court I Apartments

Sample #7 (Routine) taken at Kittitas Valley Community Hospital, 603 So Chestnut.
Repeat Upstream - 716 East Manitoba
Repeat Downstream - 611 South Chestnut

Sample #8 (Routine) taken at Ellensburg High School, 1300 East 3rd Avenue.
Repeat Upstream - 1116 East 3rd Avenue
Repeat Downstream - 1508 East 3rd Avenue

Sample #9 (Routine) taken at Lakeshore Development, 1208 N Dolarway Rd
Repeat Upstream – 1390 N Dolarway Road, Econolodge Motel
Repeat Downstream – 2411 W Dolarway Road, American Title Co.

Sample #10(Routine) taken at A-1 Petroleum, 711 S Main St
Repeat Upstream – 615 S Main, (Ranch & Home)
Repeat Downstream – 901 Industrial Way (Animal Shelter)

ALTERNATE SITES (Figure 7.3):

Sample #1 (Routine) taken at Mt. Stuart School, 705 West 15th Avenue
Repeat Upstream - 804 West 15th Avenue
Repeat Downstream - 700 West 15th Avenue

Sample #2 (Routine) taken at 610 West 11th Avenue
Repeat Upstream - 617 West 10th Avenue
Repeat Downstream - 601 West 10th Avenue

Sample #3 (Routine) taken at 108 North Sampson
Repeat Upstream - 208 North Sampson
Repeat Downstream - 102 North Sampson

Sample #4 (Routine) taken at the Wastewater Treatment Plant, 2415 Canyon Rd.
Repeat Upstream - 2202 Canyon Road (Buzz Inn)
Repeat Downstream - 2415 Canyon Road, UV Building at WWTP

Sample #5 (Routine – HP Zone) taken at the Phoenix Ind. Building, 3110 Airport Rd
Repeat Upstream – 1101 Bowers Road (Mid-State Aviation)
Repeat Downstream – 700 Elmview Road (KITTCOM)

Sample #6 (Routine - HP Zone) taken at 1201 Vista Road
Repeat Upstream - 1401 Skyline Drive
Repeat Downstream - 1205 Vista Road

Sample #7 (Routine) taken at Kittitas Valley Clinic, 716 East Manitoba
Repeat Upstream - 800 East Manitoba
Repeat Downstream - 708 East Manitoba

Sample #8 (Routine) taken at Valley View Elementary School, 1508 East 3rd Ave
Repeat Upstream - 1300 East 3rd Avenue
Repeat Downstream - 1113 East 1st Avenue

Sample #9 (Routine) taken at Canopy Country RV, 2502 W Dolarway Road
Repeat Upstream – 1390 N Dolarway Road, Econolodge Motel
Repeat Downstream – 2411 W Dolarway Road, American Title Co.

Sample #10(Routine) taken at Rite Aid, 700 S Main
Repeat Upstream – 610 S Main, (Premier Paint)
Repeat Downstream – 808 S Main, (Windermere Real Estate)

** All Wells can be sampled directly as necessary.

** The Reservoirs can also be sampled as necessary.

C. GROUNDWATER RULE (EMERGENCY ACTION):

The City of Ellensburg will follow the Department of Health's adopted federal Groundwater Rule (Effective November 1, 2010) to address the health risks of fecal contamination in groundwater sources used by public water systems.

D. PLAN PREPARATION INFORMATION:

Prepared on: September 10, 2008
Updated on: ***July 12, 2018***
By: Rod Paul, Assistant Public Works Director (509) 962-7133

Reviewed by _____ Date 7/13/18

Ryan Lyyski, Public Works & Utilities Director

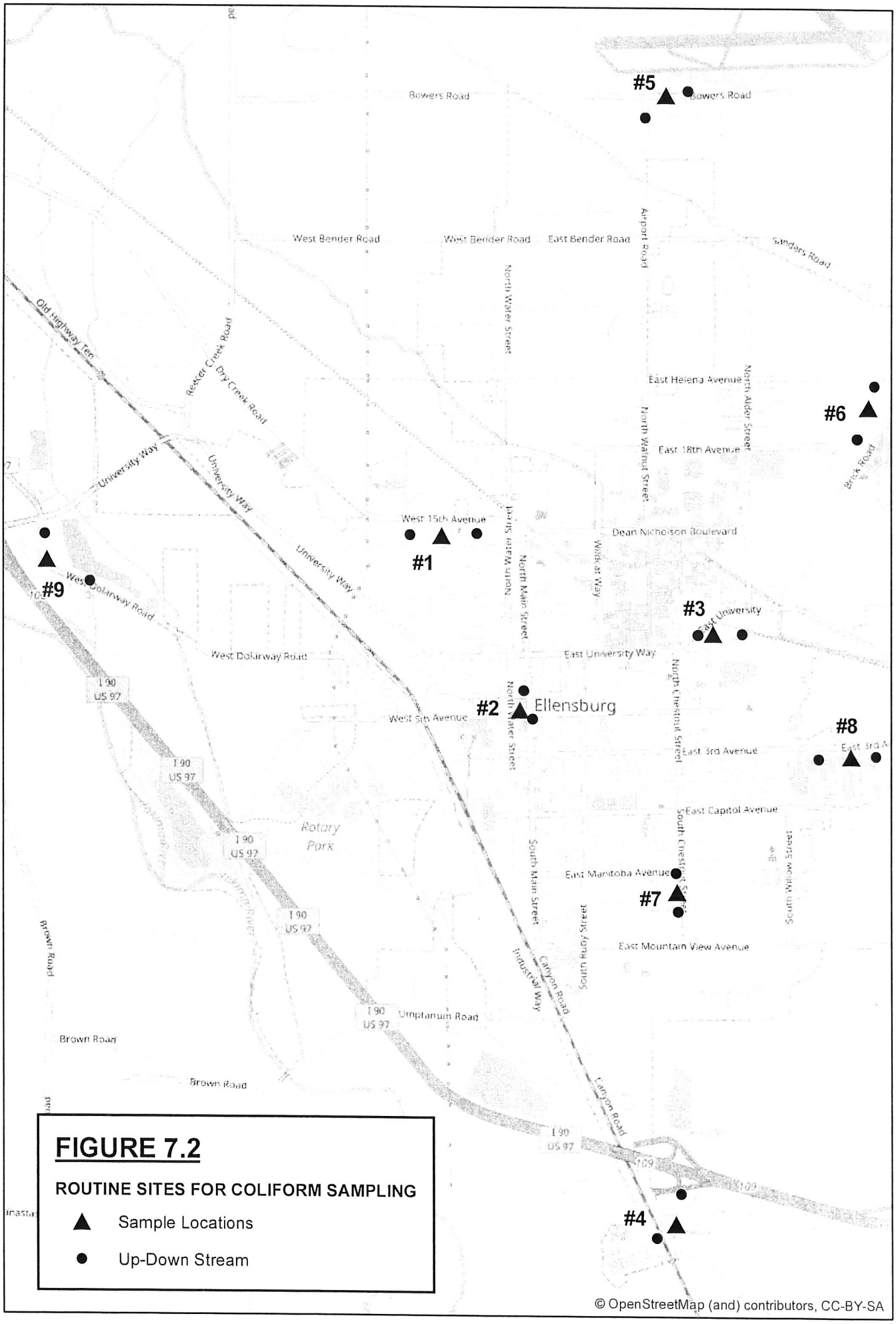

FIGURE 7.2

ROUTINE SITES FOR COLIFORM SAMPLING

▲ Sample Locations

● Up-Down Stream

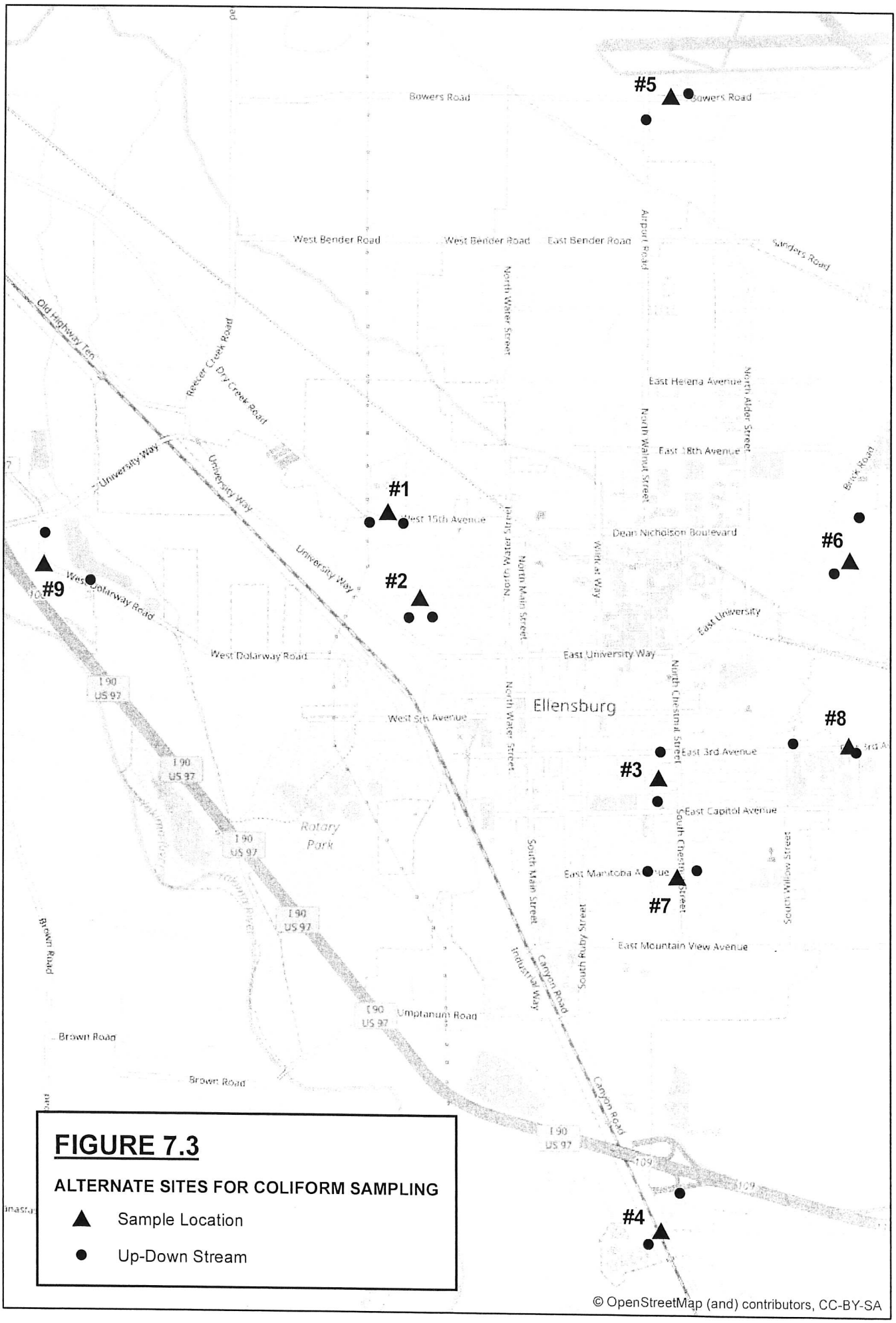

FIGURE 7.3

ALTERNATE SITES FOR COLIFORM SAMPLING

▲ Sample Location

● Up-Down Stream

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7.4 DISINFECTION BYPRODUCTS MONITORING PLAN

A. SYSTEMS INFORMATION:

Ellensburg Public Water System
PWS ID #22950M
Kittitas County

SOURCES (Figure 7.1):

DOH Source #	Source Name	Well Depth
SO1	City Wells	20 Feet w/Infiltration Gallery
SO2	Rodeo Well	1,205 Feet
SO3	Memorial Well	306 Feet
SO4	Mt. Stuart Well	900 Feet
SO5	Kiwanis Well	700 Feet
SO6	Whitney Well	761 Feet
SO7	Brooklane Well	1,000 Feet
SO8	Airport Well #2	780 Feet
SO9	Highway 10 Well	841 Feet
SO10	Hayward Well	1,042 Feet
SO11	Airport Well #3	768 Feet

STORAGE (Figure 7.1):

Name	Capacity
Craig's Hill Reservoir	4.0 Million Gallons
Airport Reservoir	1.1 Million Gallons

TREATMENT:

All sources are treated with chlorine gas for disinfection.

All sources, except Brooklane Well, are also treated with fluoride.

BOOSTER STATION:

There is one booster station in the system that provides required pressure to the high zone when the Airport Reservoir requires.

TRANSFER STATION:

There is one transfer station in the system that provides for a transfer of water from the high zone to the low zone when the Airport Reservoir is at capacity.

PRESSURE ZONES:

Zone	Service Connections
High	1,612
Low	4,219

POPULATION AND CONNECTION:

Residential Population	19,660 (April 1, 2018)
Number of Active Residential Connections	4,893
Total Number of Metered Connections	5,831

E. SAMPLING INFORMATION:

ROUTINE SAMPLING REQUIRED BY REGULATION:

One (1) sample per calendar year is required by Regulation.

In order to adequately cover the system, two (2) samples will be taken in September. One (1) sample will be taken in the high pressure zone and one (1) sample in the low pressure zone.

SAMPLING SITES (Figure 7.4):

Two (2) different sampling sites shall be utilized for the purpose of disinfection byproducts monitoring.

HIGH ZONE

Site #1 (High Zone) - Taken at CWU Daycare Center; 1900 Brooklane – Suite 100

LOW ZONE

Site #2 (Low Zone) - Taken at the Wastewater Treatment Plant, 2415 Canyon Rd.

F. PLAN PREPARATION INFORMATION:

Prepared on: March 31, 2010
Updated on: ***July 12, 2018***
By: Rod Paul, Assistant Public Works Director (509) 962-7133

Reviewed by _____ Date 7/13/18

Ryan Lyyski, Public Works & Utilities Director

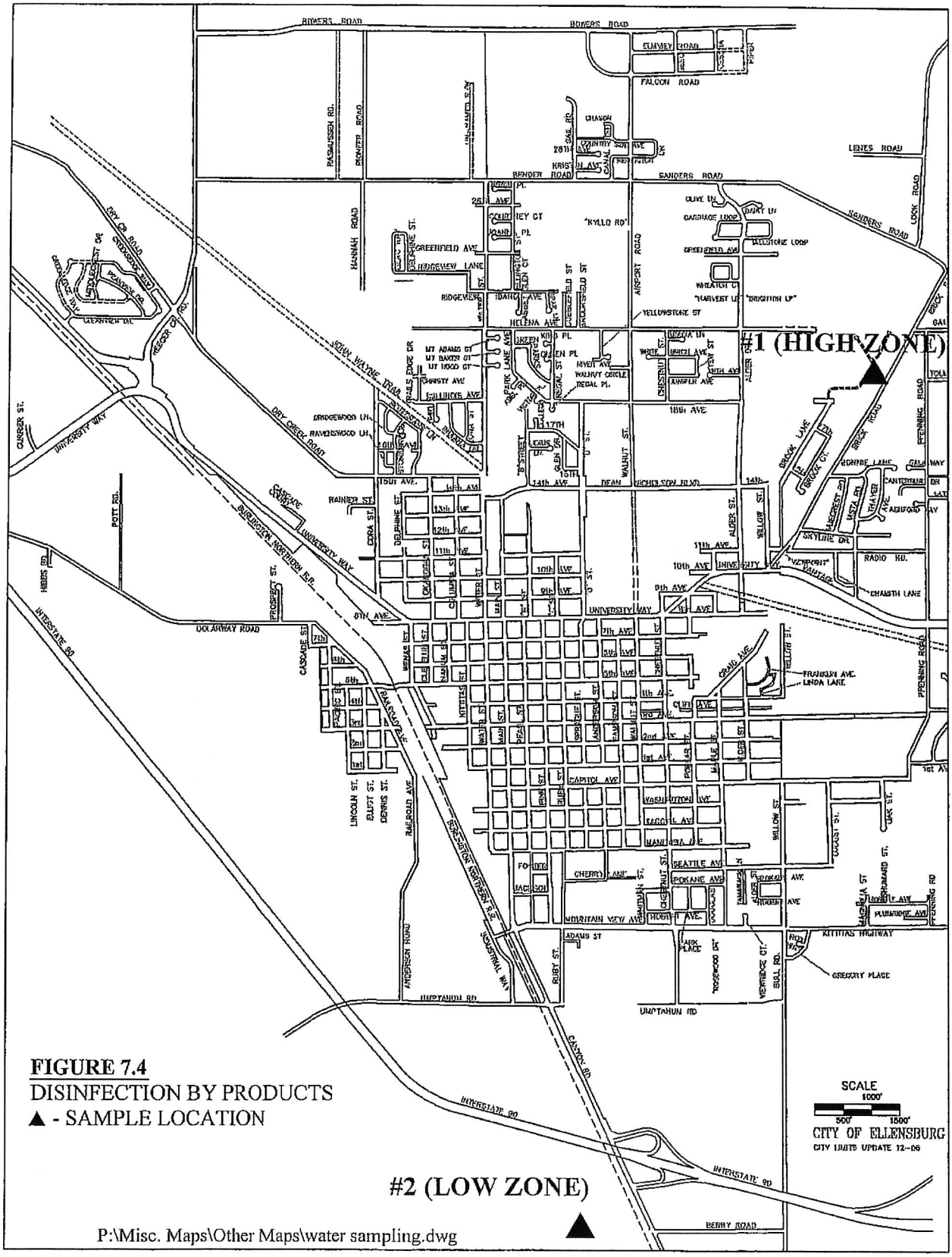

FIGURE 7.4
DISINFECTION BY PRODUCTS
▲ - SAMPLE LOCATION

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Appendix K

Wellhead Protection Plan

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WELLHEAD PROTECTION PROGRAM

INTRODUCTION

A wellhead protection program is a proactive and ongoing effort of a water purveyor to protect the health of its customers by preventing contamination of the groundwater it supplies for drinking water. Section 1428 of the 1986 Amendments to the Federal Safe Drinking Water Act (SDWA) mandates that each state develop a wellhead protection program. In Washington State, the Department of Health (DOH) is the lead agency for the development and administration of the State's wellhead protection program. All federally defined Group A public water systems that use groundwater as their source are required to implement a wellhead protection program. All required elements of a local wellhead protection program must be documented and included in either the Water System Plan (applicable to the City of Ellensburg) or Small Water System Management Program document (not applicable). The state mandate for wellhead protection and the required elements of a wellhead protection program are contained in Washington Administrative Code (WAC) 246-290-135, Source Protection. The minimum required elements of a wellhead protection program for water systems in Washington State that rely on groundwater are as follows.

- A completed susceptibility assessment of each water source.
- Delineation of wellhead protection areas for each water source with the 6-month, 1-year, 5-year, and 10-year time of travel boundaries marked using DOH or US Environmental Protection Agency (EPA) guidance for delineation.
- An inventory of known and potential contaminant sources located within the defined wellhead protection areas. This inventory list shall be updated every 2 years.
- Documentation of the purveyor's notification to all owners/operators of known and potential sources of groundwater contamination within the defined wellhead protection areas.
- Documentation of the purveyor's notification to regulatory agencies and local governments of the defined boundaries of the wellhead protection areas and the findings of the contaminant source inventory.
- A contingency plan to ensure that customers have an adequate supply of water in the event that contamination causes a temporary or permanent loss of the system's principal source of supply.
- Documentation of the purveyor's coordination with local emergency spill responders (including police, fire, and health departments), including notification of wellhead protection area boundaries, and results of the susceptibility assessment, inventory findings, and contingency plan.

CURRENT PROGRAM ACTIVITIES

The City of Ellensburg (City) has established an active Wellhead Protection Program to protect the health of its customers by preventing contamination of the groundwater. The Wellhead

Protection Program includes the following plan documents provided as attachments to this appendix: 1) *Hydrogeologic Services Wellhead Protection Plan, Ellensburg, Washington* prepared by GeoEngineers, Inc., May 3, 1999 (**Attachment 1**); and 2) *City of Ellensburg, Wellhead Protection Plan: 2013 Addendum*, prepared by Golder Associates Inc., June 23, 2013 (**Attachment 2**).

The City's Wellhead Protection Program currently includes one shallow well configured as an infiltration gallery (City Well) and the following deep groundwater wells: Route 10 Well, Hayward Well, Mt. Stuart Well, Kiwanis Well, Memorial Well, Rodeo Well, Whitney Well, Brooklane Well, Airport Well No. 3, and Illinois Well. The Illinois Well was installed in September 2019; approval and connection to the City's water system is anticipated to occur in 2021. The Water Well Report for the Illinois Well is provided in **Attachment 3**. In addition, the City owns four wells that are no longer active (Airport Well No. 1, Airport Well No. 2, Anderson Well, and Lions Park/Mt. View Park Well) and are not included in the current Wellhead Protection Program. The water supply wells, associated system facilities, water source, and water quality are described in **Chapter 2** and **Chapter 6** of the Water System Plan.

Many of the City's Wellhead Protection Program activities are focused on protecting the City Well source and nearby Route 10 Well source because the City Well is more vulnerable to groundwater contamination than the remaining deep well sources. Recently, the City has actively participated in the following wellhead protection activities.

Signage

The City has posted signage at the City Well and Route 10 Well property to deter trespassing and contamination of the watershed.

Watershed Manager

The City has designated a staff member to be Watershed Manager. This person has the responsibilities of implementing and enforcing the watershed control and wellhead protection programs, assigning individuals to make routine inspections, reviewing site logs, and responding to phone calls regarding watershed activity.

Inspections and Patrols

The City has implemented routine inspections and patrols of the watershed.

Security

All wells are located within wellhouses secured with locking doors. In addition, the City has installed security chain link fencing with barbed wire around the wellhouses of the City Well and Route 10 Well. The wellhouses for the Hayward Well, Rodeo Well, and Airport Well No. 3 also are enclosed by fencing.

Water Quality Monitoring

The City performs source water quality monitoring of multiple parameters, as required by Safe Drinking Water Act requirements, as described in **Chapter 6**.

Education

The Watershed Manager has educated City staff regarding watershed sensitivity. In turn, City personnel also have worked to educate adjacent property owners regarding watershed protection.

SUSCEPTIBILITY ASSESSMENT

DOH has developed the Groundwater Contamination Susceptibility Assessment Survey Form for water purveyors to complete to determine a drinking water source's potential for contamination. The results of the susceptibility assessment may provide monitoring waivers that allow reduced source water quality monitoring.

Based on the results of the City's susceptibility assessment, DOH assigned a susceptibility rating for each source. The three susceptibility ratings are low, moderate, and high. DOH assigned a high susceptibility rating for the City Well infiltration gallery, and a low susceptibility rating to the active deep wells (Route 10 Well, Hayward Well, Mt. Stuart Well, Kiwanis Well, Memorial Well, Rodeo Well, Whitney Well, Brooklane Well, and Airport Well No. 3). A low susceptibility rating is anticipated for the new deep Illinois Well. The susceptibility assessment form for the Illinois Well is provided in **Attachment 3**. Susceptibility assessment forms for the remaining wells are provided in **Attachment 1** and **Attachment 2**.

DELINEATION OF WELLHEAD PROTECTION AREAS

A wellhead protection area (WHPA) is the surface and subsurface area surrounding a well, wellfield, or spring through which contaminants are likely to pass and eventually be transported into the drinking water system. This is the area around the source that must be managed to protect the water supply from contamination. Establishing or delineating the boundaries of the WHPA for each source is commonly accomplished using the estimated time of travel rates of groundwater.

WHPAs for all wells are shown on **Figure K-1** and **Figure K-2**, and delineation methods are described as follows. WHPAs were delineated for the City Well, Mt. Stuart Well, Kiwanis Well, Memorial Well, Rodeo Well, Whitney Well, and Brooklane Well previously, as presented in **Attachment 1**. WHPAs were delineated for the Route 10 Well, Hayward Well, and Airport Well No. 3 previously, as presented in **Attachment 2**. The WHPAs for the Illinois Well are delineated in **Figure K-1** and described as follows.

Wellhead Protection Area Zones

The first component of a WHPA is the sanitary control area required by WAC 246-290-135. This protective area should already be tightly controlled by the purveyor to minimize direct contamination at the wellhead. The minimum sanitary control area for a well shall be a radius of 100 feet around the wellhead and 200 feet around springs. The construction, storage, disposal, or application of known or potential contaminants is prohibited within this area, unless permitted by DOH and the water purveyor.

WHPAs are based on 6-month, 1-year, 5-year, and 10-year time of travel zones. For example, a 1-year time of travel zone represents an area around the well or wellfield in which contaminants could reach the well within 1 year. Each zone has different management strategies based on the urgency of response and characteristics of risks to public health posed by contaminants within the zones. An additional zone, called the buffer zone, also may be established to provide an area of added protection outside the 10-year time of travel zone for the WHPA.

Delineation Methods

WHPAs of the City Well, Mt. Stuart Well, Kiwanis Well, Memorial Well, Rodeo Well, Whitney Well, and Brooklane Well were delineated using a numerical groundwater flow model and a conceptual hydrogeologic model that considered local hydrogeologic conditions, topography, and recharge conditions (**Attachment 1**). The resulting WHPAs for these wells extend in the upgradient direction of groundwater flow and are shown in **Figure K-1** and **Figure K-2**.

The Calculated Fixed Radius (CFR) delineation method was used to define the WHPAs for the Route 10 Well, Hayward Well, and Airport Well No. 3, as presented in **Attachment 2**. The CFR delineation method also was used to define WHPAs for the new Illinois Well. Data parameters for the CFR method include the annual volume pumped by the well, the open interval or length of the well screen, aquifer porosity, and the desired travel time (typically 6 months, 1 year, 5 years, and 10 years). For the purposes of the CFR delineation, the annual volume pumped by each well was based on the installed pump capacity, although current pump capacity is less for some wells (**Chapter 2, Table 2.1**). An aquifer porosity value of 0.1 was used based on the aquifer characteristics identified in the previous wellhead protection program documents (**Attachment 1** and **Attachment 2**). The Time of Travel (TOT) calculated by the CFR method is used to create a circular boundary around each of the wells or wellfields, representing the hypothetical distance that a contaminant will travel for each given length of time. The parameters and calculated TOTs for the Route 10 Well, Hayward Well, and Airport Well No. 3 are presented in **Attachment 2**. The parameters and calculated TOTs for the Illinois Well are presented in **Table 1**. The WHPA boundaries based on the CFR delineation method for the Route 10 Well, Hayward Well, Airport Well No. 3, and Illinois Well are shown in **Figure K-1** and **Figure K-2**.

Table 1

Illinois Well – WHPA Delineation Parameters (CFR Method) and TOT Results

Well	Screen Length (feet)	Pumping Rate (gpm)	Porosity	6-Month TOT (feet from well)	1-Year TOT (feet from well)	5-Year TOT (feet from well)	10-Year TOT (feet from well)
Illinois Well	216	2,500	0.1	1,140	1,610	3,600	5,090

INVENTORY OF POTENTIAL CONTAMINANT SOURCES

An essential element of wellhead protection is an inventory of all potential sources of groundwater contamination throughout delineated WHPAs. The purpose of the inventory is to identify past, present, and proposed activities that may pose a threat to the source of water supply (i.e. the aquifer).

The inventory of potential sources of groundwater contamination was conducted during the preparation of the City's Water System Plan. Several databases maintained by DOH, the Washington State Department of Ecology (Ecology), and EPA were searched for known and potential contaminant sources.

Inventory Findings

The inventory efforts revealed several potential point sources of contamination located within the City's WHPAs. The list of potential point sources of contamination is shown in **Table 2**. Potential non-point sources of contamination are discussed in the following section.

Table 2

Potential Point Sources of Contamination

Site Name*	Address	Material/Status	WHPA Location
Cascade Irrigation District	8063 HWY 10	Pesticides/A (2002)	Route 10 Well 1-year TOT
PSE Woldale Substation	Hwy 97 And Mcmanamy Rd (Mailing: PO Box 97034 Bellevue, WA 98009-9734)	Independent Cleanup/ A (2014) Cleanup Started	Hayward Well 5-year TOT
WalMart I90 MP 100 Spill	I90 Milepost 100	Toxics State Cleanup Site/A (2009) Awaiting Cleanup	Hayward Well 5-year TOT
Ellensburg Cement McIntosh South	7820 SR 97	Water Quality Nonpoint, Cement/A (2018)	Hayward Well 5-year TOT
WA AGR Kittitas 1	715 E Bowers Rd	Haz Waste Management Activity/A (2005)	Airport Well #3 1-year TOT
WA DNR Ellensburg	713 E Bowers Rd	LUST Independent Cleanup/A (1998) Cleanup Started	Airport Well #3 1-year TOT
Elmview Recycle	804 Elmview Rd	Solid Waste - Energy Recovery/A	Airport Well #3 1-year TOT

* Site names used by Washington State Department of Ecology Facility Site database are listed.
A = Active; I = Inactive; NFA = No Further Action required by Ecology; Haz = Hazardous; UST = Underground Storage Tank; LUST = Leaking Underground Storage Tank; TOT = Time of Travel

Table 2
Potential Point Sources of Contamination (Continued)

Site Name*	Address	Material/Status	WHPA Location
FUDS Ellensburg AAF	100 Bowers Rd	Toxics Independent Cleanup/A (1999) - Awaiting Cleanup	Airport Well #3 5-year TOT
Kittitas Trap & Skeet Club	3102 N Airport Rd	Toxics State Cleanup Site/A (2008) Cleanup Started	Airport Well #3 5-year TOT
Ball Dale & Clara	710 E Elmview	UST/A (2000)	Airport Well #3 5-year TOT
Midstate Aviation	1101 Bowers Rd	UST, Haz Waste Generator, State Cleanup Site/I (2002) - NFA	Airport Well #3 6-Month TOT, Brooklane Well Buffer TOT
Kittitas County Fair, Hoctor Property	E University Way & N Alder St	Petroleum, Toxics Independent Cleanup/ I (2012) - NFA	Rodeo and Memorial Wells 1-year TOT
WA MIL 050	901 E 7th Ave	UST/I (2007)	Rodeo and Memorial Wells 1-year TOT, Whitney Well 10-year TOT
Charter Communications Ellensburg	1105 E 10th Ave	Haz Chemical Storage/ A (2019)	Rodeo and Memorial Wells 5-year TOT
Kens Auto Wash II	1013 E University Wy	LUST, Voluntary Cleanup /A (2018) - Cleanup Start	Rodeo and Memorial Wells 5-year TOT
7 Eleven Store 2301 17053L	1001 E University Wy	Toxics UST State Cleanup Site/A (2016) Awaiting Cleanup	Rodeo and Memorial Wells 5-year TOT
Superior Dry Cleaner	700 E 8th St	Dry Cleaner Haz Waste/ I (2002)	Rodeo and Memorial Wells 5-year TOT, Whitney Well Buffer TOT
Kittitas County Fairgrounds	Near 1007 E 8th Ave (mailing: 901 E 7th Ave, Ste 1)	Toxics Independent Cleanup/I (2005) - NFA	Rodeo and Memorial Wells 10-year TOT
CWU New Science Building	400 E University Way	Haz Waste Generator/I; Toxics Independent Cleanup/A	Rodeo and Memorial Wells Buffer TOT
CWU-Facilities Mgmt	400 E University Way	LUST, Toxics Independent A/NFA	Rodeo and Memorial Wells Buffer TOT
AT&T Wireless Ellensburg	North of 1005 Craig Ave (mailing: 501 N Anderson St)	Haz Chemical Storage/A (2011)	Rodeo and Memorial Wells Buffer TOT, Whitney Well 5-year TOT
Kittitas County PUD 1	1400 Vantage HWY	UST, Haz Waste Generator/I (2014)	Rodeo and Memorial Wells Buffer TOT, Whitney Well Buffer TOT
Ellensburg School District	1300 E 3rd Ave	Haz Waste Generator/ I (2017)	Whitney Well 5-year TOT
Sherwin Williams 1735	710 N Chestnut	Haz Waste Generator/ I (2017); Haz Waste Management Activity/ A (2017)	Whitney Well 10-year TOT
Ellensburg School Dist Transportation	1501 E Capital Ave	LUST Independent Cleanup/NFA (2017)	Whitney Well 10-year TOT
CWU Dean Hall	400 E University Way	Toxics State Cleanup Site/I - NFA (2013)	Kiwanis Well 1-year TOT
Wondrack Ellensburg	15th Ave & Water St	Toxics State Cleanup Site/I - NFA (2011)	Kiwanis Well 5-year TOT, Illinois Well 1-year TOT

* Site names used by Washington State Department of Ecology Facility Site database are listed.
A = Active; I = Inactive; NFA = No Further Action required by Ecology; Haz = Hazardous; UST = Underground Storage Tank; LUST = Leaking Underground Storage Tank; TOT = Time of Travel

Table 2
Potential Point Sources of Contamination (Continued)

Site Name*	Address	Material/Status	WHPA Location
Water Street Creamery	1505 N Water St	Toxics State Cleanup Site/NFA (2002)	Kiwanis Well 5-year TOT, Illinois Well 5-year TOT
Gorman Farm Ellensburg/ USDA FHA	West of Reecer Creek Rd at W Bender Road	Haz Waste Generator/Independent Cleanup - NFA (2012)	Mt. Stuart Well Buffer TOT
Common Carriers Inc	1011 W Cascade Ct	LUST Independent Cleanup/NFA (2011)	Mt. Stuart Well Buffer TOT, Illinois Well 5-year TOT
Tarp-It Incorporated	1502 N Stonebridge St	Potential Nonpoint	Mt. Stuart Well Buffer TOT, Illinois Well 5-year TOT
TV Cable Trench TPH	419-421 W 15th St	Toxics State Cleanup Site/A (2000) Awaiting Cleanup	Mt. Stuart Well Buffer TOT, Illinois Well 5-year TOT
WA AGR Kittitas 2	749A Cascade Way	Haz Waste Management Activity/A (2002)	Illinois Well 5-year TOT
A 1 Petroleum & Propoane Ellensburg	1243 W University Way	Haz Chemical Storage/ A (2013)	Illinois Well 5-year TOT
Cascade Equipment Sales LLC	901 University Way	Haz Waste/A (2019)	Illinois Well 5-year TOT
Okanogan Seattle Transport Company Inc	1331 W University Way	LUST State Cleanup Site/ A (2006) Cleanup Started	Illinois Well 5-year TOT
Kittitas County Lower County Shop/Ellensburg Maintenance Shop	505 W 14th Ave	UST, Toxics Independent Cleanup; Federal Brownfield/A (2016) Awaiting Cleanup	Illinois Well 5-year TOT
Matheus Lumber	1433 W University Way	Water Quality Nonpoint /A (2012)	Illinois Well 5-year TOT
CWU Hertz Music Hall	400 E University Way	Toxics State Cleanup Site/A (2013) Cleanup Started	Illinois Well 10-year TOT, Rodeo and Memorial Wells Buffer TOT
Oxarc Inc Ellensburg	704 N Wenas St	Haz Chemical Storage/ A (1995)	Illinois Well 10-year TOT
DirecTV Northwest Diverse FAC	1306 W Dolarway Rd	Haz Chemical Storage/ A (2008)	Illinois Well 10-year TOT
Central Washington Biodiesel	1000 N Prospect St, Ste 1	Haz Chemical Storage/ A (2008)	Illinois Well 10-year TOT
Midstate CO OP Propane Div Prospect St	905 N Prospect St	Haz Chemical Storage/ A (2012)	Illinois Well 10-year TOT
BPA Ellensburg Substation 1	1212 W Dolarway Rd	Haz Chemical Storage/ I (2017)	Illinois Well 10-year TOT
US DOE BPA Ellensburg TLM HQ	1306 W Dolarway Rd	Haz Chemical Storage/ I (2005)	Illinois Well 10-year TOT
Central Shell RH Bowles Company Inc	8th & Main	Haz Chemical Storage/I; UST/A (2000)	Illinois Well 10-year TOT
JR S Economart	619 W University Way	Haz Chemical Storage/ I; UST/A (2000)	Illinois Well 10-year TOT
Waste Management of Ellensburg	607 N Railroad Ave	Haz Waste Generator, Haz Chemical Storage, LUST/I (2017) - NFA; Haz Wast Management Activity/A (2017)	Illinois Well 10-year TOT
Kens Texaco Inc	101 E University Way	LUST/A, Cleanup Started (2016)	Illinois Well 10-year TOT

* Site names used by Washington State Department of Ecology Facility Site database are listed.
A = Active; I = Inactive; NFA = No Further Action required by Ecology; Haz = Hazardous; UST = Underground Storage Tank; LUST = Leaking Underground Storage Tank; TOT = Time of Travel

Table 2

Potential Point Sources of Contamination (Continued)

Site Name*	Address	Material/Status	WHPA Location
Eighth & Main	111 E 8th Ave & Main St	LUST/NFA	Illinois Well 10-year TOT
Chevron 95012	400 W University Way	LUST, Haz Waste Generator/I (2006); Haz Waste Management Activity/A (2003)	Illinois Well 10-year TOT
University Auto Center	100 E University Wy	LUST, Haz Waste Generator/I (2015) - NFA	Illinois Well 10-year TOT
WA DOT Ellensburg Maintenance Site	749 W University Way	LUST, Haz Waste Generator/Independent Cleanup (2017) - NFA; Haz Chemical Storage/A	Illinois Well 10-year TOT
Ward Rugh Inc	710 W University Way	LUST, Haz Waster Generator Independent Cleanup/I (2019) Cleanup Started	Illinois Well 10-year TOT
7 ELEVEN Store 2301 23579J	112 W University Way	LUST; Haz Chemical Storage/NFA (2001)	Illinois Well 10-year TOT
Ward Rugh Inc Ellensburg	710 W 8th Ave	Nonpoint Industrial Stormwater Discharge Permit	Illinois Well 10-year TOT
CWU Jongeward Services Building	400 E University Way	Toxics Independent Cleanup/A (1997) Cleanup Started	Illinois Well 10-year TOT
NPRR Ellensburg Roundhouse & Yard	N Wenas St at W University Wy (Mailing: PO BOX 68)	Toxics State Cleanup Site/A (2012) Awaiting Cleanup	Illinois Well 10-year TOT
Ellensburg City W 8th Ave ROW	N Wenas St at W University Wy (Mailing: PO BOX 68)	Toxics Progrsm State Cleanup Site/A (1991) - Awaiting Cleanup	Illinois Well 10-year TOT
University Way Shell	200 W University Way	UST/A (1999)	Illinois Well 10-year TOT

* Site names used by Washington State Department of Ecology Facility Site database are listed.
A = Active; I = Inactive; NFA = No Further Action required by Ecology; Haz = Hazardous; UST = Underground Storage Tank; LUST = Leaking Underground Storage Tank; TOT = Time of Travel

City Well, Route 10 Well, and Hayward Well

The WHPAs of the Route 10 Well encompasses most of the City Well WHPAs and a portion of the Hayward Well WHPAs. These WHPAs are zoned agricultural and include portions of Interstate 90, State Route 10, and the Burlington Northern Santa Fe railway (**Figure K-2**). Potential non-point sources of pollution in these areas include accidental spills along the highways and railway, pesticide and fertilizer application, past cattle ranch operations, stormwater runoff from roadways, illegal dumping, and improperly abandoned wells. In addition, the City Well is completed in shallow alluvium and is considered to be highly susceptible to surface contamination. All remaining active well sources are considered to have a low susceptibility rating for surface contamination.

Airport Well No. 3 and Brooklane Well

The Airport Well No. 3 WHPAs encompass most of the Brooklane Well WHPAs and includes Bowers Field, light industrial, agricultural, and residential zones. Potential non-point sources of pollution in these areas include stormwater runoff from pavement and airport areas, pesticide

and fertilizer application, past cattle ranch operations, illegal dumping, release/improper disposal of household products, residential septic systems, and improperly abandoned wells.

Rodeo Well, Memorial Well, and Whitney Well

The WHPAs of Rodeo Well, Memorial Well, and Whitney Well overlap, are zoned primarily residential, and include the Central Washington University (CWU) campus, Kittitas County fairgrounds, and urban centers. Potential non-point sources of pollution in these areas include residential and urban stormwater runoff, past cattle ranch operations, pesticide and fertilizer application, release/improper disposal of household products, and improperly abandoned wells.

Illinois Well, Mt. Stuart Well, and Kiwanis Well

The Illinois Well WHPAs encompass most of the WHPAs of the Mt. Stuart Well and Kiwanis Well. The areas are zoned primarily residential (low to high density), with smaller areas of agricultural to the northwest, and light to heavy industrial and commercial to the south and southwest. Potential non-point sources of pollution in these areas include residential and urban stormwater runoff, pesticide and fertilizer application, past cattle ranch operations, release/improper disposal of household products, residential septic systems, industrial and commercial activities, including accidental spills, and improperly abandoned wells.

Portions of the 5-year and 10-year TOT for Illinois Well are south and outside of the Mt. Stuart and Kiwanis Wells WHPAs (**Figure K-1**) and are within light to heavy industrial and commercial areas along North Railroad Avenue and West University Way. These areas are in the downgradient groundwater flow direction of the Illinois, Mt. Stuart, and Kiwanis Wells and likely have a lower risk of contamination to those wells. Of the 60 total potential point sources listed in **Table 2**, 26 are located in these areas of industrial and commercial activities.

Inventory Update Requirements

In accordance with WAC 246-290-135, the inventory list of actual and potential groundwater contaminant sources located within the delineated wellhead protection areas must be updated every 2 years. Inventory updates should be scheduled such that updates are accomplished at the same time as the reevaluation of the wellhead protection area boundaries, which is required during each Water System Plan update.

NOTIFICATION OF INVENTORY FINDINGS

Owners and operators of known and potential sources of groundwater contamination will be notified of their location within the delineated WHPAs and are listed in **Table 2**. Regulatory agencies, local governments, and emergency response agencies also will be notified of the location of the WHPAs, contaminant source inventory findings, contingency plans, and emergency response procedures, and are listed in **Table 3**. An example of each of the three types of notification letters that will be sent is provided in **Attachment 4**.

Table 3

Regulatory Agencies, Local Governments, and Emergency Response Agencies Notification Recipients

ID	Mailing Address	City	Zip	Phone
Regulatory Agencies and Local Governments				
Washington State Department of Ecology, Central Regional Office	1250 West Alder Street	Union Gap	98903	(509) 575-2490
Washington State Department of Health, Regional Office	16201 East Indian Ave, Suite 1500	Spokane Valley	99216	(509) 329-2100
Washington State Department of Commerce, Division of Growth Management	PO Box 42525	Olympia	98504-2525	(360) 725-4000
Kittitas County Public Health Department, Environmental Health	507 North Nanum St, Suite 102	Ellensburg	98926	(509) 962-7515
Kittitas County Community Development Services	411 North Ruby St, Suite 2	Ellensburg	98926	(509) 962-7506
City of Ellensburg, Community Development	501 North Anderson St	Ellensburg	98926	(509) 962-7231
Ellensburg Water Company	1300 East University Way	Ellensburg	98926	(509) 925-5498
Kittitas Reclamation District	315 North Water St	Ellensburg	98926	(509) 925-6158
Cascade Irrigation District	8063 Highway 10	Ellensburg	98926	(509) 962-9853
Emergency Response Agencies				
City of Ellensburg, Police Department	100 N Pearl St	Ellensburg	98926	(509) 962-7280 (911)
Kittitas County Sheriff	307 W Umptanum Rd	Ellensburg	98926	(509) 962-7525 (911)
Kittitas County Public Health Department, Environmental Health	507 North Nanum St, Suite 102	Ellensburg	98926	(509) 962-7515 (911)
Washington State Patrol, District Office	2715 Rudkin Rd	Union Gap	98903	(509) 575-2320 (911)
Washington State Department of Transportation, Emergency Response	PO Box 47358	Olympia	98504-7358	(360) 705-7812 (911)
City of Ellensburg, Public Works, Water Utility	501 North Anderson St	Ellensburg	98926	(509) 962-7230
City of Ellensburg Spills Hotline	501 North Anderson St	Ellensburg	98926	(509) 962-7230
Kittitas County Public Works	411 North Ruby St, Suite 1	Ellensburg	98926	(509) 962-7523
Washington State Department of Health, Regional Office	16201 East Indian Ave, Suite 1500	Spokane Valley	99216	(509) 329-2100
Washinton Emergency Management Division, Spill Response				(800) 258-5990
Washington State Department of Ecology, Spill Response Program	PO Box 4775	Olympia	98504-7775	(360) 407-7455

CONTINGENCY PLANNING

The City has developed contingency plans in case of an emergency resulting in the loss of one or more water supply wells. Contingency plans were developed as part of the Emergency Response section of the City's Water System Operation and Maintenance Manual (**Appendix G**) and includes implementation of a Water Curtailment Program. The Water Curtailment Program addresses water system loss in order of severity and would be implemented as needed. A full copy of the Water Curtailment Program is included in **Appendix G**. In addition, a contingency plan was developed in the event of well contamination for the previous wellhead protection plan study (**Attachment 1**).

In brief, the contingency planning addresses the following topics:

- Emergency response procedures, including water supply contamination response.
- Implementation of the Water Curtailment Program.
- Emergency contacts relevant to wellhead protection.

For each water curtailment response stage, the City has clearly defined communications protocols, internal operating adjustments, and supply and demand management strategies to be carried out as a response.

The City benefits from the fact that there are several independent sources of supply in different locations. These include ten active deep groundwater wells and a shallow groundwater well. These multiple sources offer considerable flexibility and will allow uninterrupted deliveries during most emergency situations.

In addition to these planning efforts, the City monitors water levels at each well quarterly to determine the potential for a supply shortage and to check for long-term trends in water levels.

EMERGENCY SPILL RESPONSE PLANNING

The City developed spill response procedures as part of the Emergency Response section of the City's Water System Operation and Maintenance Manual (**Appendix G**). In addition, spill response procedures are included in the previous wellhead protection program report (**Attachment 1**). The Emergency Response procedures include responses to water system emergency scenarios, including specific situations such as hazardous materials spills, transmission line failure, and reservoir contamination. For each scenario, the City has established immediate actions, notifications, and follow-up actions. The emergency response procedures also specifically describe coordination with other emergency responders. In addition to scenario-specific actions, the City's emergency response procedures establish:

- Chain of command;
- Emergency notification;
- Communication protocols;
- Implementation of the Water Curtailment Program; and
- Procedures for return to normal operations.

The City has notified emergency responders of wellhead protection areas, contaminant inventory findings, susceptibility assessments of sources, and the contingency plan.

PROGRAM IMPLEMENTATION AND RECOMMENDATIONS

The City's Wellhead Protection Program is an ongoing effort that requires staffing and resources to ensure its effectiveness in protecting the source of drinking water that is supplied to the City's customers. As discussed previously in this document, the regulations require that the City perform an inventory of all potential sources of groundwater contamination throughout the delineated wellhead protection areas every 2 years. In addition, DOH recommends that water systems upgrade their initial delineation using a more sophisticated groundwater flow model approach within 5 years of the initial delineation. At a minimum, the City must reevaluate the wellhead protection area boundaries during the Water System Plan update process.

The initial delineations for the City Well, Mt. Stuart Well, Kiwanis Well, Memorial Well, Rodeo Well, Whitney Well, and Brooklane Well were based on a numerical groundwater flow model, and the Route 10 Well, Hayward Well, Airport Well No. 3, and Illinois Well have been delineated using the CFR method.

The following tasks will be pursued as part of the City's ongoing Wellhead Protection Program.

- Reevaluate the wellhead protection area boundaries and consider utilizing a combined analytical and hydrogeological approach for wells delineated using the CFR method.
- Update the detailed inventory of potential sources of groundwater contamination every 2 years.
- Confirm location, condition, and proper closure of abandoned private wells, especially those within 1-year time of travel zones.
- Distribute the required notifications as a result of updated delineations and inventory findings. Letters should be sent to local responders, regulatory agencies, and owners/operators of known and potential sources of groundwater contamination within the defined wellhead protection areas.
- Establish and/or maintain a Wellhead Protection Committee to promote public education and awareness of the City's groundwater sources and contaminant prevention. Coordinate these efforts with the regional agencies.
- Restrict land uses in the 1-year time of travel zones that pose a high risk to groundwater, such as gas stations, oil recycling, dry cleaners, fuel storage facilities, high-density animal keeping, high-density septic systems, and golf courses. Update the City's wellhead protection ordinance as necessary. Coordinate these efforts with Kittitas County.
- Develop and/or maintain signage at the perimeter of and at strategic locations around the wellhead protection areas of all wells, in particular the City Well, which has a high susceptibility rating, to inform people that they are entering an area that contains the City's drinking water source and is vulnerable to surface activities.

ATTACHMENTS

Figure K-1: Wellhead Protection Areas

Figure K-2: Wellhead Protection Areas

Attachment 1: *Hydrogeologic Services Wellhead Protection Plan, Ellensburg, Washington* prepared by GeoEngineers, Inc., May 3, 1999.

Attachment 2: *City of Ellensburg, Wellhead Protection Plan: 2013 Addendum*, prepared by Golder Associates Inc., June 26, 2013.

Attachment 3: Illinois Well Water Well Report and Groundwater Contamination Susceptibility Assessment Survey Form

Attachment 4: Notification Letters

Figures

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Legend

Boundaries

- City Limits
- Water Service Area
- Urban Growth Area
- Source ID

Wellhead Protection Areas

- 6 Month Time of Travel
- 1 Year Time of Travel
- 5 Year Time of Travel
- 5 and 10 Year Time of Travel
- 10 Year Time of Travel
- Buffer TOT

Airport Well No. 3
Illinois Well
Brooklane Well
Mt. Stuart Well
Kiwanis Well
Rodeo Well
Memorial Well
Whitney Well

W DRY CREEK RD
US 97
OLD HIGHWAY TEN
W CLEARVIEW DR
W BOWERS RD
REECER CREEK RD
N PIONEER RD
BENDER RD
E BENDER RD
E COUNTRY SIDE AVE
FALCON RD
N ELLINGTON ST
E 26TH AVE
W GREENFIELD AVE
W RIDGEVIEW LN
E IDAHO AVE
W HELENA AVE
E HELENA AVE
N AIRPORT RD
LOOK RD
DAIRY LN
E GREENFIELD AVE
N WATER ST
N REGAL ST
N BLUEGRASS LN
N CORA ST
W 15TH AVE
N B ST
E 14TH AVE
W RAINIER ST
W UNIVERSITY WAY
E 17TH AVE
N WALNUT ST
E 18TH AVE
N ALDER ST
N BROOK LN
E 14TH AVE
BRICK RD
N WILLOW ST
W 11TH AVE
N MAIN ST
N D ST
E RADIO RD
E 10TH AVE
E 9TH AVE
W 9TH AVE
E UNIVERSITY WAY
W DOLARWAY RD
N PEARL ST
N WALNUT ST
N PACIFIC ST
N RAILROAD AVE
N WENAS ST
E 4TH AVE
E CLIFF AVE
E 3RD AVE
W 2ND AVE
E CAPITOL AVE
S MAPLE ST
S WILLOW ST
S MAIN ST
S PINE ST
S RAILROAD AVE
E SEATTLE AVE
S MATTHEWS RD
E HOBERT AVE
S INDUSTRIAL WAY
S RUBY ST
E MOUNTAIN VIEW AVE
E KITTITAS HWY
W UMPTANUM RD
E UMPTANUM RD
DIKE RD
Yakima River
BULL RD
BERRY RD
I-90 E
182 W
SOUTHRIDGE DR

C:\DWG\COPY_OF_ELL_WSP_WHPA_FIG_K-1.MXD BY: SPERKINS PLOT DATE: AUG 25, 2022 COORDINATE SYSTEM: NAD 1983 HARN STATEPLANE WASHINGTON SOUTH FIPS 4602 FEET

RH2

NORTH

1 inch = 1,300 feet

0 650 1,300 2,600 Feet

DRAWING IS FULL SCALE WHEN BAR MEASURES 2”

City of Ellensburg WASHINGTON

Figure K-1
Wellhead Protection Areas
City of Ellensburg Water System Plan

Vicinity Map

Esri, HERE, Garmin, (c) OpenStreetMap contributors, and the GIS user community

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Legend

Boundaries

- City Limits
- Water Service Area
- Urban Growth Area
- Source ID

Wellhead Protection Areas

- 6 Month Time of Travel
- 1 Year Time of Travel
- 5 Year Time of Travel
- 5 and 10 Year Time of Travel
- 10 Year Time of Travel
- Buffer TOT

Route 10 Well

Hayward Well

City Well

CLARKE RD

LOWER GREEN CANYON RD

MCMANAMY RD

SR 10

W DRY CREEK

US 97

10

90

97

C:\DWG\COPY_OF_ELL_WSP_WHPA_FIG_K-2.MXD BY: SPERKINS PLOT DATE: AUG 25, 2022 COORDINATE SYSTEM: NAD 1983 HARN STATEPLANE WASHINGTON SOUTH FIPS 4602 FEET

RH2

NORTH

1 inch = 900 feet

0 450 900 1,800 Feet

DRAWING IS FULL SCALE WHEN BAR MEASURES 2”

City of Ellensburg WASHINGTON

Figure K-2
Wellhead Protection Areas
City of Ellensburg
Water System Plan

Vicinity Map

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Attachment 1

Hydrogeologic Services Wellhead Protection Plan, Ellensburg, Washington prepared by GeoEngineers, Inc., May 3, 1999

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Report
Hydrogeologic Services
Wellhead Protection Plan
Ellensburg, Washington

May 3, 1999

For
City of Ellensburg

GeoEngineers

File No. 6304-001-00-5180

GeoEngineers

May 3, 1999

Consulting Engineers and Geoscientists
Offices in Washington, Oregon, and Alaska

City of Ellensburg
607 Industrial Way
Ellensburg, Washington 98926

Attention: Rick Bollinger

We are pleased to submit four copies of our "Report of Hydrogeologic Services, Wellhead Protection Plan, Ellensburg, Washington." Our services were completed in general accordance with our proposal dated February 9, 1998, which was authorized by Mayor Perry D. Huston on March 17, 1998.

We appreciate the opportunity to provide these services to the City of Ellensburg. Please contact us if you have questions regarding this report.

Yours very truly,

GeoEngineers, Inc.

Charles S. Lindsay

Charles S. Lindsay, P.G., P.HG.
Associate Hydrogeologist

CSL:dam
Document ID: 6304001R.DOC

File No. 6304-001-00-5180

cc: Washington State Department of Ecology
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Yakima, WA 98902-3401
Attn: Chris Hall

Washington State Department of Health
1500 W. Fourth Ave., Suite 305
Spokane, WA 99204
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Printed on recycled paper

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REPORT
WELLHEAD PROTECTION STUDY
ELLENSBURG, WASHINGTON
FOR
CITY OF ELLENSBURG

EXECUTIVE SUMMARY

GeoEngineers performed a hydrogeologic assessment in the vicinity of the City of Ellensburg, Washington, herein referred to as the City, in support of a Wellhead Protection Plan (WHPP) for seven production wells (PW-1 through PW-7) operated by the City. Our services involved the completion of three tasks including: (1) characterizing the hydrogeologic setting of the wells and areas of recharge, (2) delineating the boundaries of the wellhead protection areas (WHPAs), and (3) identifying existing and potential sources of ground water contamination within the boundaries of the WHPA. The following is a summary of our findings and conclusions:

PRODUCTION WELLS AND AQUIFER CHARACTERISTICS

- The City supplies water to a population of approximately 14,000 from seven production wells (PW-1 through PW-7) that range in depth from less than 25 feet to approximately 1,200 feet.
- Six of the production wells (PW-2 through PW-7) are located in the immediate vicinity of the City.
- Production well PW-1 is located approximately 5.5 miles northwest of the City.
- PW-1 is completed in a shallow unconfined aquifer near the Yakima River.
- PW-2 through PW-7 are completed in at least two separate confined aquifers located in the Ellensburg Formation.
- Ground water within the shallow unconfined aquifer generally flows toward the south and southeast in the vicinity of PW-1.
- Ground water in the deep confined aquifers generally flows toward the south and southeast in the immediate vicinity of the City.

WELLHEAD PROTECTION AREAS

- The recommended WHPA for PW-1 extends northwest of the well approximately one mile.
- The recommended WHPAs for PW-2 through PW-7 extend north and northwest of the wells roughly 1.0 to 1.5 miles.
- Currently, land use in the WHPAs is mostly ranching, agricultural, rural residential and undeveloped.
- PW-1 is completed within an aquifer that is susceptible to surface sources of contamination.
- PW-2 is completed within an aquifer that is moderately susceptible to surface sources of contamination.

- PW-3 through PW-7 are completed within an aquifer that has a low susceptibility to surface sources of contamination.
- Potential contaminant sources identified within the WHPAs include: (1) Ranching activities, (2) septic systems, (3) underground storage tanks, (4) home heating oil tanks, (5) agricultural products, (6) traffic/rail accidents, (7) cemeteries, (8) improperly abandoned wells, and (9) surface water runoff from roadways.
- The greatest risk of aquifer contamination appears to be from releases of contaminants during traffic/rail accidents near PW-1, PW-2 and PW-3.
- The release of contaminants from USTs was also ranked as a high risk to PW-2.

MANAGEMENT ACTIONS

- The City will review any changes in land use proposed by Kittitas County within the designated WHPAs with regard to a potential impact on the water quality of the source aquifers.
- The City will avoid the use of the agricultural products within 300 feet of PW-1, PW-2 and PW-3.
- The City not allow the grazing of cattle within 500 feet of PW-1.
- The City will perform a detailed analysis of contaminant loading to evaluate potential ground water quality impacts if future residential or commercial development results in a significant septic system density increase in any of the 1- and/or 5-year TOT areas.
- The City has establish a wellhead protection committee comprised of representatives from the City, County and private citizens with land ownership within the identified wellhead protection areas to provide a forum for discussing wellhead protection-related issues in the future.
- The City will be conducting a door-to-door survey within the WHPAs for the purposes of locating abandoned wells and home-heating oil tanks in 1999.
- The City will be conducting a survey of ranches/farms located in the WHPAs to accurately characterize risks to ground water associated with ranching/farming activities in 1999.

WELLHEAD PROTECTION STRATEGIES

- The City, with assistance from the Wellhead Protection Committee, currently operates a public education program to inform and educated people who live and work within the identified WHPAs. The City currently uses a number of strategies to protect the identified WHPAs including: (1) adjusting land use zoning, (2) requiring special permitting for certain land uses, (3) ongoing public education, (4) spill response planning, (5) water supply contingency planning, and (6) ground water monitoring.

This executive summary is presented for introductory purposes only and should be used only in conjunction with the full text of this report. The project description, hydrogeologic conditions, water quality information, detailed conclusions and recommendations are presented in the text of the report.

INTRODUCTION

GENERAL

This report presents the results of our hydrogeologic assessment in support of the development of a Wellhead Protection Plan (WHPP) for the City of Ellensburg's (herein referred to as the City) production wells located in Kittitas County, Washington. Five of the City's production wells (PW-2 through PW-6) are located within the immediate vicinity of the City. Production well PW-1 is located approximately 5.5 miles northwest of the City, adjacent to the Yakima River. The City also augments its water supply during the summer with water obtained from a single production well (PW-7) owned by Central Washington University (CWU). The approximate location of the City in relation to nearby physical features and production wells PW-2 through PW-7 are shown on the Vicinity Map, Figure 1. The approximate location of PW-1 in relation to nearby physical features is shown on the PW-1 Location Map, Figure 2.

Wellhead protection is required under Section 1428 of the 1986 Safe Drinking Water Act Amendments. The implementation of the Wellhead Protection Program in Washington State is the responsibility of the Washington State Department of Health (WSDOH). The intent of the wellhead protection program is to utilize resource management plans with an emphasis on pollution prevention to protect potable ground water-based drinking water systems. The WHPP generally includes identifying critical aquifer recharge areas, identifying and categorizing potential sources of contamination within the recharge areas, and identifying alternative water supply sources.

The Wellhead Protection Program operates in conjunction with other state and local programs, such as the Ground Water Management Program, Aquifer Protection Program, Critical Aquifer Recharge Area (CARA) Program, and point and non-point pollution control programs. The City of Ellensburg's WHPP will form a part of future updates to the City's Water System Plan (WSP), and several portions of this report will be referenced or included in the updated WSP.

The City of Ellensburg is a growing urban/rural community that currently relies solely on ground water for drinking water. The City currently supplies water to most of the residences and business located within the City limits. This Wellhead Protection Program is being funded through a loan from the State Drinking Water Revolving Fund.

STUDY AREA

Kittitas Valley is located in Kittitas County, near the center of Washington State, and encompasses approximately 320 square miles (Owens, 1995). The valley has a population of approximately 14,000 people most living in the City of Ellensburg, the Town of Kittitas and surrounding small communities (Owens, 1995). The valley is bounded on the north by Table Mountain, on the east by Boylston Mountain and on the south and west by Manastash Ridge. The Yakima River is the main surface water feature of the valley. The river generally flows through the valley from the northwest to the south/southeast. Several other tributary streams

flow off the uplands around the valley and into the Yakima River. Annual runoff from the Yakima River basin at a point south of Ellensburg is approximately 1.8 million cubic feet per year (ft^3/y).

The Kittitas Valley has climatic conditions that range from arid on the ridges to humid in several locations of the valley. Elevations of the valley range from approximately 1,400 feet above mean sea level (MSL) in portions of the valley bottom to greater than 4,400 feet MSL on the ridges and mountains that make up the margins of the valley. The mountains located west of the valley affect weather patterns by extracting moisture from storm systems that flow in an eastern direction across the valley. This results in reduced cloud cover and precipitation in the eastern portion of the valley (Kramer, Chin and Mayo, 1970). The annual precipitation in the valley ranges from approximately 8 to 20 inches per year and temperatures range from maximums of 85 to 95 degrees Fahrenheit in the summer months to minimums significantly lower than freezing in the winter (National Climatic Center, 1973).

Five of the City's production wells (PW-2 through PW-6) and the CWU production well (PW-7) are located in the immediate vicinity of the City (Figure 1). The City also operates PW-1, which is located approximately 5.5 miles northwest of the City, adjacent to the Yakima River (Figure 2). The City's production wells, located in the immediate vicinity of the City, range in depth from approximately 300 feet to greater than 1,000 feet. Production well PW-1 consists of a shallow wet well (less than 30 feet deep) and a lateral infiltration pipe that extends toward the river. The initial area of interest for this study with regard to wellhead protection issues is the area located within a radius of approximately three miles of each production well.

BACKGROUND

The two jurisdictional entities that likely have most if not complete control of the area in the vicinity of the productions wells are the City and Kittitas County (County). Production wells PW-2 through PW-7 are located within the City limits. Production well PW-1 is located in the County on property owned and controlled by the City (Figure 2).

The City of Ellensburg is the primary population center in Kittitas County. Enrollment at Central Washington University is a major component of the City's total population. Historically, enrollment has accounted for approximately 50 percent of the City's total population (CH2M Hill, 1993). It is projected that the City's population will grow to approximately 16,500 by 2013. The City and surrounding area has been experiencing steady growth over the last several years. The City's Water System Plan indicates that approximately 2.2 million gallons per day (gpd) of additional source capacity will need to be obtained to meet the projected demand in 2013 (CH2M Hill, 1993). The interplay of growth and water resources development is a major water management issue for the City. Current studies indicate that additional ground water resources may be available in the vicinity of the City. Existing and future water supplies need to be managed and protected properly to ensure an adequate and safe water supply for the City.

The WSDOH has raised concerns regarding the continued use of PW-1 with regard to ground water under the influence (GWI) issues due to its construction and close proximity to the Yakima River. Later portions of this report will address the interconnection between the shallow aquifer that PW-1 is completed in and the Yakima River with regard to the GWI concern.

PURPOSE AND SCOPE OF SERVICE

The purpose of a WHPP is to protect drinking water sources in a proactive manner. This report provides technical information for the development of a wellhead protection plan for the production wells utilized by the City. The portion of the study presented in this report consisted of three tasks: (1) characterize the hydrogeologic setting of the water supply systems including areas of recharge, (2) delineate boundaries of the wellhead protection areas (WHPAs), and (3) identify existing and potential sources of ground water contamination within the boundaries of the WHPAs. Specifically, the scope of services completed for each task of this project is described below.

TASK 1. Hydrogeologic Setting

1. Research existing information to develop an increased understanding of local/regional hydrogeology. The information included geologic maps, well logs, aquifer test results, water quality data, water supply bulletins, and other available information.
2. Conduct a hydrogeologic/geologic reconnaissance of the area in the vicinity of the production wells.
3. Identify several nearby wells completed in the same aquifer(s) as the production wells, if possible. The elevations of the wells were estimated relative to elevations presented on the 7.5 minute United States Geological Survey (USGS) quadrangle maps of the area.
4. Map hydrogeologic systems contributing water to the production wells based on our literature research, field observations and interpretation of hydrogeologic conditions. Define and map interpreted recharge areas for the production wells on appropriately scaled maps of the area
5. Evaluate regional flow gradients and flow directions in the aquifer systems that supply the production wells based on the collected information.
6. Use the existing hydrogeologic and aquifer testing data to evaluate the following:
   a. Aquifer transmissivity, hydraulic conductivity and specific storage/yield.
   b. Well specific capacity and radius of influence.
7. Complete the WSDOH Aquifer Susceptibility Assessment form for the production wells.
8. Estimate the ground water flow direction and velocity for the production aquifers using available information, and information gained from previously completed aquifer tests.
9. Assess and rank the susceptibility of each production well to potential contamination based on the physical and hydrogeologic setting of the wells.

10. Assess probable deviation from a circular zone of contribution based on factors including the presence of other wells in the vicinity of the water supply systems, hydrogeologic boundaries and topography.
11. Evaluate the construction details and hydrogeologic setting of each production well with regard to the potential for the well to be considered by the WSDOH as a GWI water source.
12. Identify potential alternative water sources that could be used should one or more of the existing wells become inoperable.

TASK 2. Boundary Delineation

1. Estimate WHPA boundaries for the production wells using a numerical ground water computer model (MODFLOW) and a conceptual hydrogeologic model that considers local hydrogeologic conditions, topography and recharge conditions. One-year, 5-year and 10-year time-of-travel (TOT) boundaries were evaluated based on the information obtained in Task 1.
2. Map the 1-, 5- and 10-year TOTs for the wells on appropriately scale USGS base maps.

TASK 3. Potential Contaminant Sources Inventory

1. The specific scope for this task included the following:
2. Conduct a visual reconnaissance of properties within the WHPA to identify and locate potential sources of contamination.
3. Review historical town directories to evaluate development within the WHPA relative to the generation, storage, leakage, release and/or disposal of hazardous materials, or other potential sources of contamination.
4. Review the following information sources: (1) Ecology underground storage tank (UST), leaking UST, Toxics Cleanup Program Affected Media and Contaminants, and Site Register lists, (2) Comprehensive Environmental Response, Compensation and Liability Information System (CERCLIS), National Priority/Superfund List (NPL) and Resource Conservation and Recovery Act (RCRA) hazardous waste generator lists, and (3) lists of abandoned landfills in the vicinity of the WHPA.
5. Interview selected current and former property owners regarding past or proposed land-use activities within the delineated TOT boundaries, if necessary.
6. Identify existing and abandoned wells located within delineated wellhead protection areas based on existing data.
7. Review local and regional land-use plans relative to development within the WHPAs.
8. Provide a list of identified potential sources of ground water contamination within the 1- and 5-year TOT boundaries, and high-risk activities/facilities within the 10-year TOT boundary.
9. Assess and rank the relative risks associated with the potential sources of contamination identified during the study.

10. Develop recommendations and strategies to protect the identified ground water resources, and prepare an alternative water supply contingency plan and an emergency spill response plan for the water system.
11. Notify appropriate regulatory agencies, government agencies, property owners and business operators regarding the locations of potential and actual sources of contamination.

WATER SYSTEM DESCRIPTION

GENERAL

The City's water supply system consists of five deep wells (PW-2 through PW-6), one shallow infiltration system/well (PW-1), an additional deep well owned and operated by CWU, a booster pump station, one 4.0 million gallon storage tank, and several miles of transmission and distribution lines. The water system is fully metered and the City adds chlorine and fluoride at all of their supply facilities (CH2M Hill, 1993).

The City's water distribution system is divided into high and low pressure distribution systems. The high-pressure system generally includes the area adjacent to Brick Road and the University's married student housing at Brooklane Village. The booster pump located near the intersection of Brooklane and 11th Avenue supplies the additional pressure needed for the high-pressure area of the system (CH2M Hill, 1993).

Total supply capacity of the system (excluding PW-7) is approximately 6,650 gallons per minute (gpm) or approximately 9.6 million gpd. PW-7 is connected to the City's distribution system and the well is at least partially utilized by the City. It is our understanding that the City is currently negotiating with CWU regarding the feasibility of taking over the operation and maintenance of PW-7.

A summary of pertinent construction details for the production wells is presented in Table 1. Water well reports for PW-2 through PW-7 are presented in Appendix A. We were unable to locate a water well report for PW-1. Information presented in this report regarding well installation and construction details for PW-1 was provided by the City or from our on-site observations.

WELL INSTALLATION, CONSTRUCTION AND PERFORMANCE

Production Well PW-1 (City Wells)

Production Well No. 1 was installed on April 12, 1913 according to records supplied by the City. PW-1 is located in the SE1/4, SE1/4 of Section 12, Township 18 North, Range 18 East (Figure 2). It is our understanding that PW-1 was the only source of water for the City until the early 1930s. The well consists of an approximately 15-foot deep concrete wet well that is connected to an infiltration gallery. The infiltration gallery consists of approximately 200 feet of 24-inch-diameter perforated pipe laid horizontally in shallow alluvial gravel located approximately 100 feet west of the wet well, adjacent to the Yakima River. The ground surface elevation in the vicinity of PW-1 was estimated to be at approximate Elevation 1,610 feet MSL based on information presented on the USGS Thorp Quadrangle map of the area.

The static water level in PW-1 generally ranges from approximately 5 to 10 feet below ground surface. The static water level in PW-1 varies significantly in direct response to the water level (stage) of the nearby Yakima River. PW-1 was reported to be capable of producing approximately 1,300 to 2,800 gpm, depending on the stage of the Yakima River (CH2M Hill, 1993).

Production Well PW-2 (Rodeo Well)

Production Well No. 2 was drilled and installed in 1946 according to records supplied by the City. PW-2 is located in the NE1/4, NW1/4 of Section 1, Township 17 North, Range 18 East (Figure 1). The well was drilled to a total depth of 1,209 feet bgs. The ground surface at PW-2 was estimated to be at approximate Elevation 1,560 feet MSL based on information presented on the USGS Ellensburg South Quadrangle map of the area. Steel 12-inch-diameter casing was installed to the completion depth of the well. The steel casing was perforated at several locations between depths of 232 feet and 1,205 feet bgs. Additional construction details for PW-2 are presented in Appendix A.

Static water level in the well was measured at approximately 18 feet in March 1986 by representatives of the City when a 24-hour pumping test was conducted on the well. The well was reported able to be able produce 800 gpm with approximately 96 feet of drawdown after 24-hours of testing in 1986 (Robinson & Noble, 1986). The specific capacity of a production well is the volume of water the well is able to produce per unit length of water level drawdown in the well for a specific unit of time. The specific capacity of a well is dependent on aquifer characteristics and well efficiency. As previously discussed, approximately 96 feet of water-level drawdown was measured in PW-2 for a pumping rate of 800 gpm after approximately 24-hours. Dividing the pumping rate (800 gpm) by the total drawdown (96 feet), the calculated 24-hour specific capacity of PW-2 is approximately 8.3 gpm/ft of water level drawdown. Therefore, PW-2 is capable of producing approximately 8.3 gpm for each foot of drawdown below the static water level, up to the available water level drawdown above the pump, based on the aquifer testing information presented in the Robinson & Noble report. The current vertical turbine pump and 75-horsepower motor installed in PW-2 has a pumping capacity of approximately 850 gpm (CH2M Hill, 1993).

Production Well PW-3 (Memorial Well)

Production Well No. 3 was drilled and installed on November 30, 1931 according to records supplied by the City. PW-3 is located in the NW1/4, NW1/4 of Section 1, Township 17 North, Range 18 East (Figure 1). The well was drilled to a total depth of 306.5 feet bgs. The ground surface at PW-3 was estimated to be at approximate Elevation 1,550 feet MSL based on information presented on the USGS Ellensburg South Quadrangle map of the area. Steel 12-inch-diameter casing was installed to a depth of 181 feet and steel 8-inch-diameter casing was installed to a depth of 280 feet bgs. The steel casing was perforated at depths between 82 feet and 280 feet bgs.

Elevated levels of coliform bacteria were detected in water samples obtained from the well beginning in the mid 1980s. The upper portion of the well was televised in 1986 and perforations were discovered in the 12-inch casing at a depth of approximately 22 feet. Ground water could be seen entering the casing at this point. A seal was constructed in the upper portion of the well by installing a 10-inch-diameter casing and pressure grouting the annular space with bentonite and sand. Bacterial samples obtained from PW-3 since the installation of the pressure-grout seal have been satisfactory (CH2M Hill, 1993). Additional construction details for PW-3 are presented in Appendix A.

Static water level in the well was measured at approximately 6 feet bgs in March 1986 by representatives of the City when a 24-hour pumping test was conducted on nearby PW-2. Robinson & Noble (1986) indicated that PW-3 could expect a maximum of approximately 40 feet of water level drawdown due to PW-2 pumping at a rate of 800 gpm. The specific capacity of PW-3 is reported to be approximately 10 gpm/ft with a long-term safe yield of approximately 420 gpm (Robinson & Noble, 1986). The current pump installed in PW-3 has a pumping capacity of approximately 500 gpm (CH2M Hill, 1993).

Production Well PW-4 (Mt. Stuart Well)

Production Well No. 4 was drilled to a total depth of 1,200 feet bgs in November 1977 (Robinson & Noble, 1978). PW-4 is located next to the Mount Stuart Elementary School in the SW1/4, NE1/4 of Section 35, Township 18 North, Range 18 East (Figure 1). The well was completed at a total depth of approximately 900 feet bgs. The ground surface at PW-4 was estimated to be at approximate Elevation 1,570 feet MSL based on information presented on the USGS Ellensburg North Quadrangle map of the area. Geophysical well logging indicated that there are at least six primary water producing zones located between depths of approximately 485 feet and 900 feet bgs in the boring (Robinson & Noble, 1978). Steel 16-inch-diameter casing was installed to a depth of 400 feet bgs and steel 12-inch-diameter casing/screen was installed between depths of 400 feet and 900 feet bgs. The 12-inch-diamter steel casing was constructed with short sections of well screen in the six water-bearing zones located between depths of 485 feet and 890 feet bgs. Additional construction details for PW-4 are presented in Appendix A.

Static water level in the well was measured at approximately 30 feet bgs in February 1978 when a 24-hour pumping test was conducted on PW-4. The specific capacity of PW-4 was reported to be approximately 7.3 gpm/ft with a long-term safe yield of approximately 1,500 gpm (Robinson & Noble, 1978).

The efficiency of PW-4 had significantly decreased by 1988, after approximately 10 years of operation. In the late 1980's, the City rehabilitated the well and installed a new pump with a capacity of 850 gpm (CH2M Hill, 1993).

Production Well PW-5 (Kiwanis Well)

Production Well No. 5 was drilled and completed to a total depth of 700 feet bgs between June and November 1987 (Robinson & Noble, 1987). PW-5 is in the NW1/4, SE1/4 of Section 35, Township 18 North, Range 18 East (Figure 1). The well was completed at a total depth of approximately 610 feet bgs. The ground surface at PW-5 was estimated to be at approximate Elevation 1,578 feet MSL based on information presented on the USGS Ellensburg North Quadrangle map of the area. Geophysical well logging indicated that there were several water producing zones located between depths of approximately 465 feet and 700 feet bgs in the boring. Steel 20-inch-diameter casing was installed to a depth of 515 feet. A screen assemblage consisting of approximately 195 feet of slotted 12-inch steel pipe with approximately 15 feet of well screen was installed in the boring between depths of approximately 400 feet and 610 feet bgs. Additional construction details for PW-5 are presented in Appendix A.

Static water level in the well was measured at approximately 40 feet bgs in September 1987 when a 24-hour aquifer test was conducted in PW-5. The 24-hour specific capacity of PW-5 was reported to be approximately 8.6 gpm/ft with a long-term safe yield of approximately 1,000 gpm (Robinson & Noble, 1987). Robinson & Noble (1986) also indicated that PW-4 and PW-5 would both experience approximately 8 to 16 feet of interference water level drawdown if both wells were pumped at rates ranging from 600 to 1,200 gpm for extended periods of time.

We understand that the well is currently completed with a vertical turbine pump and a 100-hoursepower motor that can pump water at a rate of approximately 850 gpm (CH2M Hill, 1993).

Production Well PW-6 (Whitney Park Well)

Production Well No. 6 was drilled and completed to a total depth of 761 feet bgs between November 1987 and May 1988 (Robinson & Noble, 1988). PW-6 is in the SW1/4, NE1/4 of Section 1, Township 17 North, Range 18 East (Figure 1). The well was completed to a total depth of approximately 757 feet bgs. The ground surface at PW-6 was estimated to be at approximate Elevation 1,550 feet MSL based on information presented on the USGS Ellensburg South Quadrangle map of the area. Geophysical well logging indicated that there were several water producing zones located between depths of approximately 450 feet and 760 feet bgs in the boring (Robinson & Noble, 1988). Steel 20-inch-diameter casing was installed to a depth of 573 feet. A screen assemblage consisting of approximately 289 feet of slotted 12-inch steel pipe was installed in the boring between depths of approximately 468 feet and 757 feet bgs. Additional construction details for PW-6 are presented in Appendix A.

Static water level in the well was measured at approximately 30 feet bgs in April 1988 by the well driller. The specific capacity of PW-6 was reported to be approximately 8.8 gpm/ft at a pumping rate of 1,200 gpm. The long-term safe yield of PW-6 was reported to be approximately 900 gpm (Robinson & Noble, 1988). Robinson & Noble (1988) also indicated

that PW-5 would experience approximately 10 feet of interference water level drawdowns when PW-6 is pumped at a rate of approximately 900 gpm for extended periods of time.

We understand that the well is currently completed with a vertical turbine pump and a 100-hoursepower motor that can pump water at a rate of approximately 800 gpm (CH2M Hill, 1993).

Production Well PW-7 (Brooklane Well)

Production Well No. 7 was drilled and completed to a total depth of 1,000 feet bgs between August 1971 and April 1972. PW-7 is in the NW1/4, NE1/4 of Section 36, Township 18 North, Range 18 East (Figure 1). The ground surface at PW-7 was estimated to be at approximate Elevation 1,635 feet MSL based on information presented on the USGS Ellensburg North Quadrangle map of the area. Steel 20-inch-diameter casing was installed to a depth of 195 feet bgs. Steel 12-inch-diameter casing was installed between 200 feet and 900 feet bgs. The 12-inch-diameter casing was perforated between depths of approximately 600 feet and 890 feet bgs. A screen assemblage consisting of approximately 265 feet of 10-inch-diameter steel casing with four short sections of well screen was installed within the casing between depths of approximately 590 feet and 855 feet bgs. Additional construction details for PW-7 are presented in Appendix A.

Static water level in the well was measured at approximately 92 feet bgs in April 1972 by the well driller. The specific capacity of PW-7 was reported to be approximately 19.7 gpm/ft at a pumping rate of 1,775 gpm. We understand that this well is currently owned and operated by CWU. We further understand that the well is currently operated at an average pumping rate of approximately 1,100 gpm.

WATER RIGHTS

The City has ground water rights and/or claims for PW-1 through PW-6. A detailed description of the City's water rights/claims is presented in "Water System Plan Update, City of Ellensburg, Washington", prepared by CH2M Hill (CH2M Hill, 1993). A summary of the water rights/claims documented by CH2M Hill for the City's production wells is presented in Table 2 of this report.

GEOLOGIC/HYDROGEOLOGIC SETTING

GENERAL

Our interpretation of surface and subsurface geologic/hydrogeologic conditions in the vicinity of the City's production wells is based on a review of selected information in the available literature, numerous water well reports obtained from Ecology and the City's files for nearby wells, a reconnaissance of the study area, and our experience. A summary of well construction and testing information, and the approximate locations of wells reviewed, as described on Ecology water well reports, are described in Table 3. Copies of the Ecology

water well reports are presented in Appendix B for the wells located in vicinity of the City. Additional information regarding the location and construction of water supply wells located in the Kittitas Valley was obtained in Owens (1995).

The surficial geology of the Kittitas Basin is described in various publications including: Smith (1901, 1903), Bentley (1977a, 1977b), Bentley and Campbell (1983), Bentley and others (1995), Bentley and Powell (1981, 1982, 1985, 1989a and 1989b), Tabor and others (1982) and Waitt (1979). A generalized hydrogeologic cross section of the area in the vicinity of the City depicting our interpretation of subsurface conditions inferred from water well reports and available geologic/hydrogeologic information is presented on Plate 1. A complete listing of information reviewed during the completion of this study is available in the List of References section located near the end of this report.

GEOLOGIC SETTING

General

The Kittitas Valley is a topographic and structural low located along the northwest margin of the Columbia Plateau (Bentley, 1977a). The valley is bounded to the west by the Taneum Monocline, to the north by the Wenatchee Mountains (Tabor and others, 1982), to the east by the Naneum-Hog Ranch anticline (Boylston Mountain) and to the south by Manastash Ridge (Ownes, 1995).

The basal stratigraphic unit in the valley is the mid-Miocene Columbia River Basalt Group (CRBG). Conformably overlying and partially interbedded with the CRBG in the Kittitas Valley is the late Miocene-early Pliocene Ellensburg Formation (Lamb, 1997). The ridges and margins of the valley are generally upturned CRBG (Grande Ronde and Wanapum Basalt) and sedimentary units of the Ellensburg Formation. The Ellensburg Formation is a sequence of fluvial cobble gravels, sandstone and volcaniclastic sedimentary rocks that are several thousand feet thick in the vicinity of the City. Additional sediments located within the basin include Thorp Gravel, glacial till (Kittitas Drift), glacial fluvial sediments and younger alluvium (Owens, 1995).

Production wells PW-2 through PW-7 appear to be completed within water-bearing zones of the Ellensburg Formation. Production Well PW-1 is completed within recent alluvial/fluvial sand and gravel associated with the Yakima River. The following sections of this report summarize the geologic characteristics of the recent alluvial/fluvial deposits and the Ellensburg Formation.

Recent Alluvial/Fluvial Deposits

The recent alluvial/fluvial sand and gravel deposits that PW-1 is completed within are generally associated with the Yakima River. The alluvium generally consists of moderately to well-sorted sandy gravel comprised of rounded stones of diverse volcanic, metamorphic,

plutonic and sedimentary rocks derived from sources upstream of Kittitas Valley (Owens, 1995). The alluvium is generally less that 50 feet thick in the immediate vicinity of PW-1. The unit is likely underlain by a combination of older gravel and Ellensburg Formation.

Ellensburg Formation

The Ellensburg Formation consists of a series of sedimentary rocks that conformably underlie, are intertongued with, or comformably overlie the CRBG exposed on the margins of the basin (Owens, 1995). The portion of the Ellensburg Formation that underlies the study area generally consists of volcanic lithologies intermixed with alternating fluvial and laharic (mudflow) units. The bulk of the Ellensburg Formation is thought to have originated at volcanic centers between White Pass and Naches Pass (Ownes, 1995) and in the Copper Pass area (Smith and Campbell, 1989). The material erupted from these volcanic centers was carried eastward onto the basalt plain at the western margin of the Columbia Plateau. Most of the sediment was likely carried as mudflows and by streams. The sedimentary material spread eastward across the Cascades in an alluvial fan and flowed into the Kittitas Valley (Owens, 1995).

The Ellensburg Formation has been divided into two units referred to as the lower and upper Ellensburg Formations (Owens, 1995). The lower formation is generally finer grained than the upper unit and consists of non-marine clastic sediments that are intertongued with basalt flows. The upper Ellensburg Formation in the Kittitas Valley generally consists of mudflow (debris flows or lahars). Many sections of the upper Ellensburg Formation were reworked by streams resulting in significant lenses of sand and gravel.

HYDROGEOLOGIC SETTING

General

Our review of available information for the study area, site observations and our experience in the area indicate that the City of Ellensburg's production wells PW-2 through PW-7 are completed within two relatively separate water-bearing portions (aquifers) of the upper Ellensburg Formation. These two water-bearing zones are designated Unit A and Unit C for this report. Furthermore, PW-1 is completed within water-bearing portions of the recent alluvial/fluvial sand and gravel deposits present in the vicinity of the Yakima River. The aquifers located within the upper Ellensburg Formation are confined and the shallow alluvial/fluvial aquifer is primarily unconfined. Other aquifers likely exist at deeper depths within the Ellensburg Formation and/or within fractured zones or flow tops of the CRBG located on the margins and beneath the valley. The following sections of this report focus on evaluating the hydrogeologic characteristics of the aquifer systems that provide water to the City's production wells with regard to wellhead protection issues. Ground water contour maps depicting ground water flow direction in the unconfined alluvial/fluvial, confined Unit A and confined Unit C aquifers are presented on Figures 3, 4 and 5, respectively.

Hydrostratigraphic Units

General. Fetter (1988) defines a hydrostratigraphic unit as a formation, part of a formation, or group of formations in which there are similar hydrologic characteristics allowing for grouping into aquifers or confining layers. For the purposes of this report we have divided the upper portion of the Ellensburg Formation into four general hydrostratigraphic units (Unit A, Unit B, Unit C and Unit D). Descriptions of these designated hydrostratigraphic units are presented in the following subsections. A summary of this information is presented in Table 4.

Hydrostratigraphic Unit A. The upper approximately 300 feet of the Ellensburg Formation in the vicinity of the City has been designated as Hydrostratigraphic Unit A for the purposes of this study. The unit generally consists of sand/sandstone and gravel/conglomerate interbedded with some significant lenses of silt/siltstone and clay/claystone. The unit generally acts as an aquifer. The more permeable, water-bearing layers of the unit are highly confined aquifers that are capable of supplying large quantities of ground water to properly constructed wells. The City's production well PW-3 is completed almost entirely within Unit A and PW-2 appears to be partially completed in Unit A (Plate 1). At least two other wells (4G01 and 25C01), located in the immediate vicinity of the City, appear to be completed within Unit A.

Hydrostratigraphic Unit B. Hydrostratigraphic Unit A is underlain by a less permeable, heterogeneous mixture of silt/siltstone and clay/claystone with minor lenses of sand/sandstone and gravel/conglomerate (Plate 1). Some of the localized zones of more permeable sediments in Unit B may be capable of yielding small to moderate quantities of water. However, the unit generally acts as an aquitard that restricts the ground water interaction between overlying Unit A and underlying Unit C. The unit's thickness ranges from less than 50 feet too greater than 150 feet. Unit B seems to be at least regionally extensive in the vicinity of the City.

Hydrostratigraphic Unit C. Hydrostratigraphic Unit C is distinguished from Unit A based on its generally lower elevation and the significantly lower potentiometric surface elevation displayed by the Unit's water-bearing layers (Plate 1). Unit C generally consists of sand/sandstone and gravel/conglomerate interbedded with lenses of silt/siltstone and clay/claystone. The unit generally acts as a confined aquifer. The more permeable, water-bearing layers of the unit are highly confined aquifers that are capable of supplying large quantities of ground water. The City's production wells PW-4, PW-5, PW-6 and PW-7 are primarily completed within Unit C (Plate 1). PW-2 is also partially completed within Unit C. At least two other wells (33R01 and 11M01), located in the immediate vicinity of the City, appear to be completed within Unit C (Figure 5).

Hydrostratigraphic Unit D. Hydrostratigraphic Unit C is underlain by a less permeable, heterogeneous mixture of silt/siltstone and clay/claystone with minor lenses of sand/sandstone and gravel/conglomerate (Plate 1). Some of the localized zones of more permeable sediments in Unit D may be capable of yielding small to moderate quantities of water. PW-2 and PW-4 appear to be partially screened in more permeable portions of Unit D. However, the unit generally acts as an aquitard. For the purposes of this report it was assumed that

Hydrostratigraphic Unit D provides only minor amounts of water to the two City production wells that are partially completed in Unit D (PW-2 and PW-4). The total thickness of Unit D appears to be at least 200 feet.

Unconfined Aquifer System

General. The recent alluvial/fluvial sand and gravel deposits located adjacent to the Yakima River unconformably overlies either older gravels (Thorp Gravel) or less permeable deposits of the Ellensburg Formation in the vicinity of PW-1. The alluvial/fluvial deposit generally consists of stream deposited sand, gravel and silt. It is likely that these recent deposits are less than 50 feet thick in the vicinity of PW-1. This unit is generally a highly permeable aquifer and can produce large quantities of ground water. The unit is also likely in direct hydraulic continuity with the Yakima River in most areas. The aquifer is generally unconfined in that an unsaturated zone exists between the top of the water table and ground surface. The surface of the water table appears to mimic local topography and the depth of ground water is generally less than 25 feet.

Unconfined Aquifer Hydraulic Boundaries. Hydrogeologic boundaries define the physical or hydraulic limits of an aquifer system. Hydrogeologic boundaries can be low-permeability units such as clay and silt that restrict flow, or relatively impermeable bedrock. The boundaries also can be stream channels that intersect the aquifer or topographic conditions that separate aquifers into independent hydrogeologic basins. Defining the boundaries of an aquifer requires locating aquifer recharge and discharge areas. The following is a brief description of the boundaries and ground water flow direction of the unconfined aquifer that supplies water to PW-1.

- The aquifer is bounded on the east by an upland area that is comprised of relatively low permeability units of the Ellensburg Formation. It is likely that the Ellensburg Formation is also located directly beneath the recent alluvial/fluvial unit in the immediate vicinity of PW-1.
- The unconfined aquifer appears to be in direct hydraulic continuity with the Yakima River. The river likely acts as a ground water divide that separates shallow ground water flow on either side of the river.
- Subsurface information presented on water well reports for wells completed in the unconfined aquifer, the available geologic/hydrogeologic information and geologic mapping indicate that the saturated portion of the aquifer ranges in thickness from less than 10 feet near margins of the valley to less than 50 feet near the river.
- The aquifer is generally overlain by permeable sand and gravel in the vicinity of PW-1.
- The thickness of the aquifer is influenced by relief on the surface of the underlying less permeable Ellensburg Formation and by horizontal and vertical variations in permeability.

- The aquifer likely receives most of its recharge directly from precipitation (rain and snow) falling on the valley bottoms and from the infiltration of surface water runoff from the nearby hills and mountains.
- The aquifer discharges to the Yakima River. A minor portion of the aquifer may migrate vertically downward and recharge deeper aquifers.
- Ground water appears to flow to the south, parallel with flow in the Yakima River, in the immediate vicinity of PW-1.
- The water table surface of the unconfined aquifer has an hydraulic gradient (slope) of approximately 0.0033 (17 feet per mile) in the vicinity of PW-1.

Unconfined Aquifer Parameters. Hydraulic conductivity (K) is a measure of the rate at which water can move through an aquifer and, in unconsolidated sediments, is dependent on the size, shape and arrangement of soil particles in the aquifer. Aquifer transmissivity (T) is a measure of the amount of water that can be transmitted horizontally by the full saturated thickness of the aquifer under a hydraulic gradient of 1 and is related to hydraulic conductivity by the following equation.

$$T = Kb$$

Where:

K	=	Hydraulic Conductivity (ft/d)
T	=	Transmissivity (ft^2/d)
b	=	Aquifer thickness (ft)

Generally, values of hydraulic conductivity, transmissivity and specific yield are determined by the analysis of aquifer testing data. There is no detailed aquifer testing information for PW-1. However, Rick Bollinger of the City indicated that very little water level drawdown (less than 10 feet) was observed in PW-1 at pumping rates as high as 2,500 gpm. An empirical equation based on the Jacob nonequilibrium equation can be used to estimate transmissivity values from limited well testing information (Driscoll, 1986). The modified Jacob equation is shown below. The constant of 200 is used in the equation for unconfined conditions. A constant of 267 is used in the equation for confined conditions.

$$T = 200\ (Q/s)$$

2000 DRISCOLL P 1021
T = gpd/ft
Q = gpm
S = ft

Where:

T	=	Transmissivity (ft^2/d)
Q	=	Discharge rate (gpm)
s	=	Drawdown (ft)

Assuming a pumping rate of 2,500 gpm and a water level drawdown of 10 feet results in a transmissivity value for the aquifer of approximately 50,000 square feet per day (ft^2/d). Assuming an average aquifer thickness of 25 feet results in a hydraulic conductivity value of approximately 2,000 feet per day (ft/d).

Values for the aquifer hydraulic conductivity and, consequently, transmissivity can also be estimated for aquifers by evaluating subsurface conditions presented on water well reports and published information regarding the aquifer grain size distribution. The alluvial/fluvial aquifer generally consists of moderately to well sorted sandy gravel (Ownes, 1995). Hydraulic conductivities for well sorted sand and gravel deposits that are typical of the alluvial/fluvial aquifer likely ranges between 140 ft/d and 2,800 ft/d (Freeze and Cherry, 1979). Assuming an average aquifer thickness of 25 feet results in a transmissivity value for the unconfined aquifer that ranges between 3,500 ft^2/d to 62,500 ft^2/d. This range of values compares well with the transmissivity and hydraulic conductivity values estimated for PW-1 based on the limited aquifer testing information.

The specific yield of an aquifer is the ratio of the volume of water a rock or soil will yield by gravity drainage to the volume of rock or soil (Fetter, 1988). Specific yield generally ranges from approximately 0.005 to 0.3. We estimate that the specific yield of the unconfined aquifer is likely between 0.1 and 0.2.

The effective porosity of a unit is the volume of the void spaces thorough which water or other fluids can travel in a rock or sediment divided by the total volume of the rock or sediment. The effective porosity of the unconfined alluvial/fluvial aquifer is estimated to range between 0.1 and 0.3.

Unconfined Aquifer Average Linear Velocity. The average linear velocities of ground water in the shallow unconfined aquifer were estimated using the following formula:

$$Vx = \frac{1}{Ne} Ki$$

Where:

Vx	=	Average linear velocity of ground water (ft/d)
Ne	=	Effective porosity of the aquifer (dimensionless)
K	=	Aquifer hydraulic conductivity (ft/d)
i	=	Aquifer hydraulic gradient or water table slope (dimensionless)

The average linear ground water velocity in the unconfined aquifer located in the vicinity of PW-1 is approximately 26 ft/d based on an average K value of 2,000 ft/d, average hydraulic gradient of 0.0033 and average effective porosity of 0.25. Ground water velocities would be higher near the production well during pumping resulting from a corresponding increased hydraulic gradient.

Unit A Confined Aquifer System

General. The Unit A aquifer system consists of a complex mixture of interconnected water-bearing layers of sand/sandstone and gravel/conglomerate. Low permeability lenses locally separate some of the water-bearing units. The aquifer system occurs between

approximate Elevation 1,300 and 1,550 feet MSL. City well PW-3 and a portion of PW-2 are completed within Unit A (Plate 1). The aquifer is highly confined and can produce large quantities of ground water.

Unit A Aquifer Hydrogeologic Boundaries.

- Subsurface information presented on water well reports for wells completed in Unit A and the available geologic/hydrogeologic information and geologic mapping indicate that Unit A is laterally extensive in the vicinity of the City.
- The Unit A aquifer generally occurs between depths of approximately 50 feet to 300 feet bgs in the vicinity of the City (Plate 1).
- Unit A is generally overlain by relatively permeable sand and gravel with lenses of less permeable silt and clay in the vicinity of the City.
- The thickness of the aquifer is influenced by horizontal and vertical variations in permeability.
- The aquifer likely receives most of its recharge along the margins of the valley, from the downward migration of water from overlying shallow aquifers and possibly from aquifers located in the CRBG.
- The aquifer discharges through production wells and to deeper aquifers located in the Ellensburg Formation or to permeable portions of the CRBG.
- Ground water appears to flow from the north/northwest to south/southeast through the confined aquifer (Figure 4).
- The potentiometric surface of the confined aquifer has an hydraulic gradient of approximately 0.0097 (50 feet per mile) in the vicinity of the City.
- The potentiometric surface of the Unit A aquifer is approximately 10 to 20 feet higher than the potentiometric surface of the Unit C aquifer indicating a high degree of hydraulic separation between the two units and downward flow from Unit A to C.
- The primary recharge area for the Unit A aquifer is likely located north of the City.

Unit A Aquifer Parameters. Robinson & Noble (1986) report a transmissivity value of 2,400 ft^2/d and a specific storage value of $3x10^{-4}$ for the Unit A aquifer based on pump testing results for PW-3. The Robinson & Noble report also states a specific capacity (Q/s) of approximately 10 gpm/ft for PW-3. Using the previously described Jacob nonequilibrium equation (Driscoll, 1986) and the reported well specific capacity results is an estimated transmissivity of approximately 2,670 ft^2/d for the confined aquifer in the vicinity of PW-3. The effective porosity of the Unit A aquifer is estimated to be approximately 0.25.

Well PW-3 is perforated between depths of 82 and 280 feet bgs (Appendix A) of a total open area length of approximately 200 feet. However, an examination of the water well report for PW-3 indicates that the primary water-bearing zone within the well is located between depths of 206 feet and 281 feet bgs. Assuming the length of the primary water producing zone (75 feet) as the aquifer thickness and the transmissivity value of 2,400 ft^2/d reported by Robinson & Noble (1986) results in an estimated hydraulic conductivity value of approximately 32 ft/d for the Unit A confined aquifer.

Aquifer hydraulic conductivity and/or transmissivity can also be estimated using two different methods depending on how the well was completed and if sufficient well testing information is presented on the water well report for the well. Hydraulic conductivity values for wells completed as open end casing (no well screen installed) can be calculated using the methodology outlined by Bear (1979). The Bear equation shown below accounts for spherical flow into wells that just penetrate the aquifer. The equation is based on the assumption that flow can occur equally in all directions and that horizontal and vertical hydraulic conductivities are equal.

$$K = \frac{Q}{4\pi rs}$$

$K = \frac{36,577}{4(\pi)(6.4)(82)}$

$= 42$

Where:

K	=	Hydraulic Conductivity (ft/d)
Q	=	Pumping rate of well (ft^3/d)
π	=	3.1415926
s	=	Water level drawdown in the well (ft)
r	=	Radius of the well (ft)

The modified Theis equation can be used to estimate aquifer transmissivity for wells completed with well screens or perforations (Fetter, 1988). The Theis equation is:

$$s = \frac{Q}{4\pi T} \times 1n = \frac{2.25\,Tt}{r^2 S}$$

Where:

s	=	Water level drawdown (ft)
Q	=	Pumping rate of well (ft^3/d)
T	=	Transmissivity (ft^2/d)
t	=	Length of time well was pumped (d)
r	=	Radius of well (ft)
S	=	Specific yield (dimensionless)

Hydraulic conductivity's for wells completed with well screens or wells that were perforated were determined by using the previously described relationship between aquifer thickness and transmissivity. Hydraulic conductivity and transmissivity values were estimated for the Unit A confined aquifer on the basis of specific information presented on water well reports for wells completed within Unit A aquifer. Only one well (25C01), completed within the Unit A aquifer, was identified that had a water well report containing all the necessary information needed to estimate hydraulic conductivity and/or transmissivity. The transmissivity and hydraulic conductivity for the Unit A aquifer located in the vicinity of 25C01 was estimated at 131 ft^2/d and 2 ft/d, respectively (Table 3).

?

SWL = 64
DD = 146
Q = 190 gpm
Q = 36,577 ft^3/d

$\frac{190}{146} \times 200 = 260\ ft^2/d$

$\frac{190}{82} \times 100 = 463\ ft^2/d$

Unit A Aquifer Average Linear Velocity. An average linear velocity of approximately 1.2 ft/d was estimated for ground water flowing through the Unit A aquifer using the previously describe equation and assuming the estimated values for hydraulic conductivity (32 ft/d) hydraulic gradient (0.0097) and effective porosity (0.25). Ground water velocities would be higher near PW-3 during pumping resulting from a corresponding increased hydraulic gradient.

Unit C Confined Aquifer System

General. The Unit C aquifer system consists of a complex mixture of interconnected water-bearing layers of sand/sandstone and gravel/conglomerate. Low permeability lenses locally separate some of the water-bearing units. The aquifer system occurs between approximate Elevation 700 and 1,250 feet MSL. City wells PW-4 through PW-7 and nearby wells 11M01 and 33R01 are completed within water-bearing zones of Unit C (Plate 1). PW-2 also appears to be partially completed within Unit C. The aquifer is highly confined and can produce large quantities of ground water. Approximately approximately 50 to 100 feet of relatively low permeability Unit B (Plate 1) separate the Unit C aquifer from Unit A.

Unit C Aquifer Hydrogeologic Boundaries. Subsurface information presented on water well reports for wells completed in Unit C and the available geologic/hydrogeologic information and geologic mapping indicate that Unit C is laterally extensive in the vicinity of the City.

- The aquifer system of Unit C generally occurs between depths greater than approximately 400 feet bgs in the vicinity of the City (Plate 1).
- Unit C is generally overlain by relatively less permeable silt/siltstone and clay/claystone (Unit B) in the vicinity of the City.
- The thickness of the aquifer is influenced by horizontal and vertical variations in permeability.
- The aquifer likely receives most of its recharge along the margins of the valley, from the downward migration of water from overlying shallower aquifers and possibly from aquifers located in the CRBG.
- The aquifer discharges through production wells and possibly to deeper aquifer located in the Ellensburg Formation or to permeable portions of the CRBG.
- Ground water appears to flow from north/northwest to south/southeast through the Unit C confined aquifer (Figure 5).
- The potentiometric surface of the confined aquifer has an hydraulic gradient of approximately 0.003 (16 feet per mile) in the vicinity of the City. The hydraulic gradient appears to increase just north of the City (Plate 1).
- The primary recharge area for the Unit C aquifer is located north and northwest of the City.

Unit C Aquifer Parameters. Robinson & Noble (1978, 1987 and 1988) reported transmissivity values ranging from approximately 2,200 ft^2/d to 3,200 ft^2/d and a specific storage value of $5x10^{-3}$ for the Unit C aquifer based on pump testing results for PW-4, PW-5 and PW-6. The Robinson & Noble reports also state specific capacities (Q/s) ranging from of approximately 7.3 to 8.6 gpm/ft for PW-4, PW-5 and PW-6. Information presented on the water well report for PW-7 indicates that the well has a specific capacity of approximately 20 gpm/ft. Using the previously described Jacob nonequilibrium equation (Driscoll, 1986) and the reported well specific capacities results is estimated transmissivity values ranging between approximately 1,950 to 5,300 ft^2/d for the Unit C confined aquifer.

The previously defined modified Theis equation was used to estimate aquifer transmissivity for wells 11M01 and 12M01 based on information presented on their respective water well reports (Table 3). The transmissivities estimated for these three wells ranged from approximately 1,000 ft^2/d to 4,500 ft^2/d.

Well PW-4, PW-5 and PW-7 are screened at several distinct water-bearing locations within Unit C (Appendix A). The lower portion of PW-4 is also screened in what appears to be a permeable zone in the upper portion of Unit D. PW-4, PW-5 and PW-7 have total screen lengths of 85, 15 feet and 72 feet, respectively, in Unit C. We assumed that the screened areas in PW-4, PW-5 and PW-7 were likely most representative of the primary water producing zones within Unit C. Assuming the average length of the primary water producing zone (60 feet) as the Unit C aquifer thickness and an average transmissivity value of 3,200 ft^2/d results in an estimated hydraulic conductivity value of approximately 53 ft/d for the Unit C confined aquifer. The effective porosity of the Unit C aquifer is estimated to be approximately 0.25.

Unit C Aquifer Average Linear Velocity. An average linear velocity of approximately 0.66 ft/d was estimated for ground water flowing through the Unit C aquifer using the previously describe equation and assuming the estimated values for hydraulic conductivity (53 ft/d) hydraulic gradient (0.0031) and effective porosity (0.25). Ground water velocities would be higher near the production wells during pumping resulting from a corresponding increased hydraulic gradient.

GROUND WATER QUALITY

We reviewed information made available from the City regarding ground water quality in the production wells. Additional information regarding water quality conditions was provided by Rick Bollinger of the City. The available information indicates that ground water quality in both the shallow unconfined and deep confined aquifers generally meets or exceeds all drinking water requirements for Group A water system (Bollinger, 1998).

Volatile Organic Compounds (VOCs) have not been detected in any of the City's production wells. The only current water quality problem of note is the periodic increased turbidity in PW-1 during periods of high flow in the Yakima River. It is our understanding that the City does not utilize PW-1 during these brief periods of elevated turbidity (Bollinger, 1998).

WHPA DELINEATION METHOD

GROUND WATER FLOW MODEL

General

Wellhead protection areas can be delineated using several different methodologies. These methods, in order of increasing sophistication, include the calculated fixed radius (CFR), analytical calculations, hydrogeologic mapping and numerical ground water flow modeling. The WHPAs for the City's production wells were delineated using a numerical ground water flow model. Due to the obviously different hydrogeologic setting and lack of hydraulic connection between the shallow unconfined aquifer system, the lower confined aquifers, the unconfined aquifer system was modeled separately as a single hydrologic unit.

The Unit A and C confined aquifer systems are comprised of complex, three-dimensional, multi-layered, laterally discontinuous lenses of water-bearing units (Plate 1 and Appendix A). It is possible to construct a ground water model that would represented each water-bearing lens numerically or analytically as a separate aquifer unit of relatively uniform thickness and hydraulic properties surrounded by lower permeability sediments. However, based on the limited subsurface information of these individual water-bearing lenses, quantifying the amount of interaction that occurs between overlying and underlying water-bearing lenses becomes problematic. Because of these uncertainties regarding the lateral extent and characteristics for the water-bearing lenses, it was determined to represent each water-bearing hydrostratigraphic unit (Unit A and C) as a separate, single aquifer of relatively uniform thickness and laterally constant aquifer parameters.

This modeling approach in the context of defining a WHPA will represent the aquifer systems as closely and as conservatively as possible given the amount of geologic and hydrogeologic information currently available. These models represent complex three-dimensional, multi-layered systems as single layer, two-dimensional aquifers and non-complex multi-layer, three-dimensional aquifers. The primary assumption is that bulk ground water flow through the aquifers can be estimated by simulating three separate aquifer systems.

Computer Code Verification

Ground water flow characteristics and the wellhead protection areas delineated for this project were estimated using the three dimensional finite difference code MODFLOW created by the USGS (McDonald and Harbaugh, 1988). The pathlines used to define the preliminary wellhead protection areas were created by MODPATH written by Pollack (1989) of the USGS. The three dimensional modeling platform used for both MODFLOW and MODPATH is VISUAL MODFLOW created by Guiger and Franz (1996) of Waterloo Hydrogeologic, Inc. The regional numerical model of the area in the vicinity of the City simulates steady state conditions in general accordance with ASTM Standards D5447, D5490, D5609, and D5610. The MODFLOW ground water model has the following capabilities:

- Confined and unconfined systems can be modeled.
- Injection and pumping wells can be simulated.
- Impermeable boundaries can be modeled.

- Variable well pumping scenarios can be simulated.
- River, lakes, and springs can be simulated.
- Multi layered systems can be modeled.
- Aquifer characteristics (hydraulic conductivity, transmissivity, porosity, and storage) can be varied spatially throughout the model domain.
- Variable aquifer recharge can be modeled.
- Surface and ground water interaction can be simulated.

Unconfined Aquifer System

The model of the unconfined aquifer is two-dimensional, with one layer, and includes constant head, river and no-flow boundaries. The layer has various hydraulic conductivity/transmissivity zones. Parameters that are used as input to the program include: (1) number of pumping wells and locations, (2) well pumping rates, (3) ground water head values, (4) aquifer effective porosity, (5) aquifer hydraulic conductivity/transmissivity, (6) aquifer thickness, and (7) aquifer boundary conditions. The following is a summary of the assumptions used in the ground water flow model for the unconfined aquifer system.

- Model domain included the area within an approximate 3-mile radius of PW-1.
- It was assumed that PW-1 would be pumped continuously at a rate of 2,500 gpm. This assumption is very conservative for the current use of the production well because the well is not currently pumped continuously.
- Ground water flows in roughly the same direction as the slope of the surface topography in the valley based on water level information presented on water well reports for the area (Figure 3).
- The hydraulic gradient of the unconfined aquifer is approximately 0.0033.
- The aquifer effective porosity was assumed to be 0.25.
- The aquifer transmissivity was assumed to range from approximately 40,000 ft^2/d to approximately 60,000 ft^2/d based on aquifer information and variations in subsurface conditions described in water well reports for wells completed within the aquifer.
- The total aquifer thickness was assumed to range from less than 10 feet on the margins of the valley to a maximum thickness of approximately 50 feet in near the Yakima River.
- The aquifer is bounded by valley walls comprised of relatively low permeability Ellensburg Formation on the east and bedrock on the west.
- The aquifer is in hydraulic continuity with and discharges to the Yakima River within the modeled area.
- The aquifer is mainly recharged from the direct infiltration of precipitation and surface water runoff. Annual recharge to the aquifer from the infiltration of precipitation ranges from approximately 5 inches to 10 inches within the modeled area.

For model calibration purposes, the model output was compared with ground water head values estimated in wells PW-1, 12M02 and 2R01 that are completed within the alluvial/fluvial aquifer (Figure 3). Aquifer transmissivity was adjusted to match the model calculated water levels to the field estimated water levels as close as possible. A relatively good correlation was obtained between observed and calculated head values under steady-state conditions indicating a reasonable degree of calibration for the model. A calibration plot of observed heads versus calculated heads for wells is presented on Figure 6.

The previously described ground water pumping rate was used in the model to calculate the 1-, 5-, and 10-year TOT for the production well. The model indicates that the WHPA for PW-1 is truncated on the west by the Yakima River and approximately one-mile north of the well where the Yakima River is incised into sediments of the Ellensburg Formation. The TOT boundaries calculated using the ground water flow model for the production well are shown in the Wellhead Protection Area Map (PW-1), Figure 7.

The ground water model indicates that PW-1 withdraws a substantial amount of water from the Yakima River during pumping. The amount of water removed from a nearby surface water source by a well completed within a shallow unconfined aquifer that is in direct hydraulic continuity with the surface water feature can be approximate using the methodology developed by Jenkins (1977). The method involves estimating a "stream depletion factor" (SDF) from the pumping rate (Q) and pumping duration (t) of the well and the distance between the well and surface water body (A). The stream depletion factor is estimated by the following equation:

$$SDF = A^2 S/T$$

Assuming a distance of 500 feet from the infiltration system to the Yakima River, a transmissivity value of 25,000 ft^2/d and an aquifer specific yield of 0.15 results in a SDF of 1.5. The computational tables presented in Jenkins (1977), relating the volume of stream depletion to SDF, well pumping rate and pumping time periods, indicate that approximately 20 percent of the water pumped from PW-1 is derived from the Yakima River after a pumping time period of one day. This percentage increases to 33 percent after two days and to approximately 70 percent after 15 days of continuous pumping.

Unit A Confined Aquifer System

The model of the Unit A confined aquifer is three dimensional, with two layers, and includes constant head and no-flow boundaries. The layers have various hydraulic conductivity/transmissivity zones. Parameters that are used as input to the program include: (1) number of pumping wells and locations, (2) well pumping rates, (3) potentiometric surface head values, (4) aquifer effective porosity, (5) aquifer hydraulic conductivity/transmissivity, (6) aquifer thickness, and (7) aquifer boundary conditions. The following is a summary of the assumptions used in the ground water flow model for the Unit A confined aquifer system.

- Model domain included the area of approximately 40 square miles in the vicinity of the City of Ellensburg.

- It was assumed that PW-3 and PW-2 would be pumped at the current production rates (500 and 850 gpm) shown on Table 1. This assumption is conservative for the current use of the production wells because the wells are not currently pumped continuously. For modeling purposes, pumping from PW-2 was only simulated using the ground water model constructed for the Unit A aquifer. This assumption was made because the static water level observed in PW-2 and the aquifer test completed by Robinson & Nobel indicate that it is good hydraulic connection with the water-bearing zones that PW-3 is completed within.
- Ground water flows generally from north/northwest to south/southwest in the Unit A aquifer based on water level information presented on water well reports (Figure 4).
- The hydraulic gradient of the confined aquifer potentiometric surface is approximately 0.0097.
- The aquifer effective porosity was assumed to range between 0.10 and 0.25.
- The aquifer transmissivity was assumed to range from approximately 2,000 ft^2/d to approximately 3,000 ft^2/d based on aquifer information and variations in subsurface conditions described in water well reports for wells completed within the aquifer.
- The total aquifer thickness was assumed to range from approximately 75 feet to approximately 100 feet.
- Annual recharge to the aquifer from the downward migration of water from overlying aquifers ranges from approximately 2 inches to 5 inches within the modeled area.

Transmissivity, aquifer thickness and recharge were adjusted within the previously described ranges to calibrate the ground water model. For model calibration purposes, the model output was compared with ground water head values estimated in wells PW-3, 4G01 and 25C01 (Figure 4). A relatively good correlation was obtained between observed and calculated head values under steady-state conditions indicating a reasonable degree of calibration for the model. A calibration plot of observed heads versus calculated heads for wells is presented on Figure 8.

The previously described ground water pumping rates were used in the model to calculate the 1-, 5-, and 10-year TOT for PW-2 and PW-3. The TOT boundaries calculated using the ground water flow model for the production wells are shown in the Wellhead Protection Areas Map, Figure 9.

Unit C Confined Aquifer System

The model of the Unit C confined aquifer is three dimensional, with two layers, and includes constant head and no-flow boundaries. The layers have various hydraulic conductivity/transmissivity zones. Parameters that are used as input to the program include: (1) number of pumping wells and locations, (2) well pumping rates, (3) potentiometric surface head values, (4) aquifer effective porosity, (5) aquifer hydraulic conductivity/transmissivity, (6) aquifer thickness, and (7) aquifer boundary conditions. The following is a summary of the assumptions used in the ground water flow model for the Unit C confined aquifer system.

- Model domain included the area of approximately 40 square miles in the vicinity of the City of Ellensburg.
- It was assumed that PW-4, PW-5, PW-6 and PW-7 would be pumped continuously at the current production rates shown on Table 1. This assumption is conservative for the current use of the production wells because the wells are not currently being used on a continuous basis. Ground water flows generally from northwest to southeast in the Unit C aquifer based on water level information presented on water well reports (Figure 5).
- The hydraulic gradient of the confined aquifer potentiometric surface is approximately 0.003.
- The aquifer effective porosity was assumed to range between 0.10 and 0.25.
- The aquifer transmissivity was assumed to range from approximately 2,000 ft^2/d to approximately 5,500 ft^2/d based on aquifer information and variations in subsurface conditions described in water well reports for wells completed within the aquifer.
- The total aquifer thickness was assumed to range from approximately 80 feet to approximately 120 feet.
- Annual recharge to the aquifer from the downward migration of water from overlying aquifers ranges from approximately 0 to 2 inches within the modeled area.

Transmissivity, aquifer thickness and recharge were adjusted within the previously described ranges to calibrate the ground water model. For model calibration purposes, the model output was compared with ground water head values estimated in wells PW-4 through PW-7, 11M01 and 33R01 (Figure 5). A relatively good correlation was obtained between observed and calculated head values under steady-state conditions indicating a reasonable degree of calibration for the model. A calibration plot of observed heads versus calculated heads for wells is presented on Figure 10.

The previously described ground water pumping rates were used in the model to calculate the 1-, 5-, and 10-year TOT for PW-4 through PW-7. The TOT boundaries calculated using the ground water flow model for the production wells are shown in the Wellhead Protection Areas Map, Figure 9.

VERTICAL TIME OF TRAVEL

Wellhead protection TOT areas assume that any potential contaminant travels at the same rate as ground water in the aquifer. Furthermore, the TOT approach does not take into account vertical travel times (infiltration rates) of contaminants to the aquifer or the fact that most contaminants are "retarded" by aquifer matrix interactions and migrate considerably slower than the velocity of ground water flow. These assumptions generally lead to very conservative interpretations of TOTs, particularly with regard to deep wells completed in highly stratified aquifers like Units A and C.

The vertical travel time of contaminants to an aquifer depends on the hydraulic characteristics and thickness of the least permeable layer or unsaturated zone. The potential vertical travel times to the alluvial, Unit A and Unit C aquifers were estimated using Darcy's Law (previously described in the Average Linear Velocity sections of this report) and assuming non-adsorption and dilution of the potential contaminant plume.

The alluvial fluvial aquifer is overlain by approximately 5 feet of permeable sand and gravel. Assuming that the unsaturated sand and gravel has a vertical hydraulic conductivity of approximately 30 feet per day (Freeze and Cherry, 1979), a vertical hydraulic gradient of 1 and an effective porosity of 0.25 results in a vertical travel time of approximately 1 hour to reach the water table surface of the alluvial/fluvial aquifer.

Unit A is overlain by approximately 50 feet of alternating layers of siltstone, claystone, and sand and gravel. Assuming that the permeability of the siltstone/claystone ranges between 0.9 ft/d and 9 ft/d, a vertical hydraulic gradient of 1 and porosity of 0.25 results in a vertical travel time ranging between 1.2 and 12 years for a contaminant plume to reach the Unit A aquifer. The Unit C aquifer is separated from the Unit A aquifer by at least 50 feet of material with similar hydraulic parameters to that which overlies Unit A. Therefore, any potential contaminant plume that should take an additional 1.2 to 12 years to infiltrate from Unit A to Unit C.

There is a great deal of uncertainty in estimating vertical travel times. The degree of hydraulic continuity between the Unit A aquifer and overlying aquifers is not well known. The same can be said for the degree of hydraulic continuity between the Unit A and C aquifers. Furthermore, there are numerous water supply wells located within all three aquifers that could provide direct pathways for contaminants. Therefore, the vertical time of travel to any of the three aquifers could vary from almost instantaneous to several years.

REGULATORY REVIEW AND LAND USE/CONTAMINANT INVENTORY

GENERAL

The purpose of our regulatory review and land use/contaminant inventory was to identify the presence or likely presence of hazardous substances or land-use activities that could result in a release of hazardous substances or otherwise cause an adverse impact to the water quality of the aquifer within the WHPAs. A search of available environmental records was conducted to meet the general requirements of the ASTM Standard Practice for Environmental Site Assessments. The regulatory review identified several potential sources of chemical contamination within the identified WHPAs, including several USTs. A summary of the potential source of contamination identified by the regulatory review is presented in Table 5. The results of our regulatory review are presented in Appendix C. The approximate locations of the identified potential contamination sources are shown on Figures 7 and 11.

SANITARY SURVEY OF WELL SITES

General

A survey of the City's production well sites was conducted in January 1988 by a representative of GeoEngineers to evaluate the condition of the wells and the susceptibility of the wells to contamination due to well construction deficiencies. The survey consisted of the following activities:

- A visual inspection of the well sites to document well construction deficiencies, well house conditions and well security.
- A review of construction information for the City's wells to evaluate proper construction and the presence/absence of surface seals.
- A visual inspection of the area within an approximate 100-foot radius of each wellhead to identify any potential surface sources of contamination.

The results of our survey are described in the following sections.

PW-1

Production well PW-1 is located within a large concrete pump house located approximately 5.5 miles northwest of the City in a relatively sparsely populated section of the County. We understand that the well house is securely locked when City personnel are not at the site. We did not observe any sign of vandalism at the well house during our January site visit. As previously discussed, the well consists of a shallow collection pipe located near the Yakima River that drains to a wet well/pump chamber located beneath the well house. Because of the age, shallow completion depth and construction characteristics, it is unlikely that the well has a properly designed surface seal. We did not identify any potential surface sources of contamination within an approximate 100-foot radius of the well with the exception of the small gravel parking lot located next to the eastern side of the well house.

PW-2

Production well PW-2 is located within an approximate 20 ft by 30 ft concrete-block well house located within the City of Ellensburg Rodeo Grounds. We understand that the well house is securely locked when City personnel are not at the site. We did not observe any sign of vandalism at the well house during our January site visit. The well construction information for PW-2 does not indicate that the well was constructed with a surface seal. Stock holding pens are located adjacent to the south and west sides of the well house and the Rodeo access road is located adjacent to the north and east sides of the well house. A power pole with three small transformers is located adjacent to the southwest corner of the building.

PW-3

Production well PW-3 is situated within an approximate 10-foot by 20-foot concrete-block well house located approximately 100 feet south of 7th Avenue and 100 feet north of the City Pool building. We understand that the well house is securely locked when City personnel are not at the site. A small electrical power box is located adjacent to the southwest corner of the

well house. We did not observe any sign of vandalism at the well house during our January site visit. The well construction information for PW-3 indicates that the upper approximate 20 to 30 feet of the area between the wells outer casing and the soil has been pressure grouted and sealed (Appendix A). The area within the 100-foot radius of the wellhead is generally covered with grass and small trees.

PW-4

Production well PW-4 is situated within an approximate 20-foot by 30-foot concrete-block well house located approximately 100 feet north of Dry Creek Road. We understand that the well house is securely locked when City personnel are not at the site. A small electrical power box is located adjacent to the northeast corner of the well house. A small outbuilding is located approximately 50 feet northeast of the well house. We did not observe any sign of vandalism at the well house during our January site visit. The well construction information for PW-4 indicates that the cement surface seal was installed around the outer portion of the casing to a depth of approximately 50 feet bags (Appendix A). The area within the 100-foot radius of the wellhead is generally covered with grass and gravel. A narrow, gravel access road is located along the eastern side of the building.

PW-5

Production well PW-5 is situated within an approximate 15-foot by 30-foot concrete-block well house located approximately 50 feet east of Main Street. The eastern half of the building also contains the public restrooms for Kiwanis Park. We understand that the well house is securely locked when City personnel are not at the site. Kiwanis Park is located on the north and east sides of the building. A single-family residence is located approximately 10 feet south of the well house. We did not observe any sign of vandalism at the well house during our January site visit. The well construction information for PW-5 indicates that the cement surface seal was installed around the outer portion of the casing to a depth of approximately 20 feet bgs (Appendix A).

PW-6

Production well PW-6 is situated within an approximate 12-foot by 35-foot concrete-block well house located approximately 75 feet north of Capital Avenue, in the southwest corner of Whitney Park. We understand that the well house is securely locked when City personnel are not at the site. A gravel access road is located adjacent to the western side of the building. We did not observe any sign of vandalism at the well house during our January site visit. The well construction information for PW-6 indicates that the cement surface seal was installed around the outer portion of the casing to a depth of approximately 20 feet bgs (Appendix A).

PW-7

Production well PW-7 is situated within an small building located approximately 75 feet west of the entrance road to Brooklane Village. We understand that the well house is securely locked when City and/or CWU personnel are not at the site. A gravel access road is located adjacent to the eastern side of the building. We did not observe any sign of vandalism at the well house during our January site visit. The well construction information for PW-7 indicates that the cement surface seal was installed around the outer portion of the casing to a depth of approximately 20 feet bgs (Appendix A). The area within the 100-foot radius of the wellhead is generally covered with grass and gravel.

LAND USE

The delineated wellhead protection areas for the City's wells includes portions of the City and Kittitas County. Permitted land use within the County is described in the Kittitas County Zoning Code (Ord. 83-Z-2[part], 1983: Res. 83-10, 1983). Permitted land use within the City is described in the City of Ellensburg Zone Ordinance, December 1997). Pertinent portions of these two documents are presented in Appendix D. A summary of permitted land use activities is presented in Table 6. The general distribution of the land use zoning areas located within the delineated wellhead protection areas of PW-2 through PW-7 is shown on Figure 12.

The delineated wellhead protection area for PW-1 is entirely zoned Agricultural Zone AG-20 (Appendix D). Land use zoning within the wellhead protection areas delineated for PW-2 through PW-7 includes residential, commercial public and light industrial (Appendix D, Figure 12).

VISUAL SURVEY

Representatives of GeoEngineers and the City conducted visual surveys of the WHPAs in May and June 1998. Land use within the identified wellhead protection areas included roadways, residential, agricultural, cattle ranching, commercial and light industrial activities. We did not identify any land use activities that were inconsistent with the zoning areas in the delineated WHPAs.

POTENTIAL SOURCES OF CONTAMINATION

General

Potential sources of ground water contamination are generally grouped into two categories: point and nonpoint sources. Point sources usually have specific fixed locations, such as underground storage tanks, facilities that store or utilize hazardous substances, landfills and single-family septic systems. The release of contamination from point sources usually occurs during a specific time period. Nonpoint sources usually occur over large areas and can be relatively continuous sources of contamination. Surface water runoff from streets and fertilizer applications are examples of nonpoint sources of contamination.

Land use in the WHPAs is mostly agricultural, ranching, and residential with a minor amount of commercial and light industrial (Figure 12). Items of concern with regard to potential ground water contamination within the WHPAs and buffer zone include cattle ranching; septic systems; UST's; home heating oil tanks; fertilizer, herbicide, pesticide and/or fungicide use; traffic/rail accidents; cemeteries; contaminated runoff from road pavement and improperly abandoned wells. We understand that the City has notified various groups, agencies and property owners affected by the WHPA regarding the WHPA boundaries in accordance with WAC-246-290-135 (4)(c). A list of the groups, agencies and property owners notified by the City and copies of sample notification letters are presented in Appendix E. The following is a brief discussion of the potential sources of contamination identified in the WHPAs.

Cattle Ranching

A significant portion of the WHPAs for PW-1, PW-4, PW-5, PW-7 have been used in the past for the grazing of cattle. Furthermore, the Ellensburg Rodeo Grounds are located within the wellhead protection areas of PW-2, PW-3 and PW-6. Areas where concentrated populations of cattle have been located over long periods are frequent nonpoint sources of nitrate and coliform bacteria contamination in shallow ground water. The potential buildup of nitrate and coliform bacteria contamination in shallow ground water is the primary concern for this type of land use.

Septic Systems

Information provided by the City indicates that most of the 1- and 5-year TOT areas for PW-2, PW-3 and PW-5 are currently serviced by the City's sewer system. Furthermore, portions of the 1-year TOT areas for PW-4 and PW-7 are also serviced by the City's sewer system. The remaining areas are currently serviced by on-site sewage systems, primarily septic tanks and drainfields. Domestic and community septic systems are frequent point sources of contaminants in areas of heavy housing density and where shallow ground water is present. Contaminants commonly associated with septic system effluent include nitrate, nitrite, ammonia, chloride, bacteria and viruses.

Underground Storage Tanks

Underground storage tanks can be a significant source of potential contamination. Large volumes of diesel fuel, gasoline, oil, fuel oil and waste oil are typically stored in USTs. Poorly constructed, improperly designed, or poorly maintained USTs are frequent point sources of contamination. Ecology records indicate that there are at least 13 currently operating USTs and 13 old USTs sites located within the delineated WHPAs (Table 5). One of those sites (Ken's Autowash) has confirmed soil and ground water contamination associated with the on-site USTs (Table 5).

Home Heating Oil Tanks

Releases of contaminants from home heating oil tanks can be a significant point source for ground water contamination. We did not identify any home heating oil tanks within the identified WHPAs during our reconnaissance of the areas. However, it is likely that some of the existing homes in the rural areas of the WHPAs have small (550-gallons or less) home heating oil tanks. The possibility of a release of contaminants from one or more of the heating oil tanks effecting ground water quality in the vicinity of the wells exists.

Agricultural Products

The areas where agricultural products (fertilizer, pesticides, herbicide and fungicide) are frequently applied can become nonpoint sources of contaminants where shallow ground water is present. Large portions of the WHPAs are currently used for agricultural purposes where fertilizers, pesticides, herbicides and/or fungicides are likely applied routinely.

Traffic and Rail Accidents

Spills of hazardous materials caused by traffic or rail accidents are a potential source of ground water contamination. It is unlikely there are any statistics available regarding accidents and/or the types and volumes of hazardous materials transported on portions of the roads, highways or rail lines located within the identified WHPAs. However, the possibility of an accident occurring on roads and/or rails within the WHPAs that would result in a release of hazardous material does exist. Furthermore, it is probable that, because of the absence of a storm water runoff containment system over most of the WHPAs, the hazardous materials would be released to the relatively permeable ground surface.

Cemeteries

The Holy Cross Cemetery is located within the WHPA for PW-4 and an additional small cemetery is located within the buffer area for PW-7. Cemeteries can be sources of contaminants that include embalming chemicals, bacteria, viruses and metals from decomposing corpses and caskets.

Surface Water Runoff

Surface water runoff from road surfaces is a common nonpoint source of ground water contamination for shallow aquifers. Storm sewers that collect runoff from road surfaces greatly reduce the volume of runoff that can potentially contaminate ground water. Contaminants commonly associated with surface water runoff include petroleum hydrocarbons, volatile organic compounds, semi-volatile organic compounds and metals. It is our understanding that the roads located outside of the City within the identified WHPAs do not have lined drainage ditches and they do not drain to a storm sewer system.

Improperly Abandoned Wells

Improperly abandoned wells can be conduits for potential surface sources of contamination to reach deep aquifers in a relatively short period of time. Furthermore, if the well is completed within two or more aquifers the well can allow contamination to travel from one aquifer unit to another. We reviewed water well reports on file with Ecology for wells located in the vicinity of the City. Water well reports for a total of 38 wells located within the identified WHPAs were found in Ecology files. The wells ranged in depth between less than 50 feet and 340 feet. The water well reports indicated that the wells were completed within individual water-bearing zones and with proper surface seals.

CONCLUSIONS

AQUIFER SUSCEPTIBILITY AND RISK ASSESSMENT

General

The susceptibility of an aquifer to surface sources of potential contamination is directly related to the depth of the aquifer, whether the aquifer is unconfined or confined and the characteristics of the soil or rock overlying the aquifer. For example an unconfined aquifer located at a depth of approximately 10 feet and overlain by highly permeable sand and gravel is far more susceptible to contamination from surface sources than a deep (greater than 100 feet) confined aquifer that is overlain by several zones of low permeability silt/clay. The following sections present a brief discussion of the general susceptibility of the alluvial/fluvial, Unit A and Unit C aquifers.

Alluvial/Fluvial Aquifer

The unconfined alluvial/fluvial aquifer is separated from the ground surface in the WHPA delineated for PW-1 by generally less than 25 feet of relatively permeable sand and gravel with minor amounts of silt. The high permeability of the overlying soils results in a rapid travel time for potential sources of contamination to the aquifer. Based on the surface/subsurface soil conditions and the hydrogeologic setting of the aquifer in the WHPA, it is our opinion that the shallow unconfined aquifer has a high susceptibility to being affected by surface sources of contamination.

The relatively high permeability of the unconfined aquifer and the resultant high velocities of ground water flow through the aquifer could act to significantly dilute an infiltrating plume of potential contaminants. Therefore, it is likely that only significant releases of potential contaminants would be detectable in ground water within a few hundred feet from the source.

Unit A Confined Aquifer

The Unit A aquifer is separated from the ground surface by at least 50 feet of alternating layers of sand, gravel, silt/siltstone and clay/claystone (Appendix A, Plate 1). The relatively low permeability silt/clay units would significantly inhibit the downward migration of a potential contaminant plume. However, the silt and clay lenses appear to be laterally

discontinuous in the zone located above Unit A. The vertical travel time of a potential contaminant to the Unit A aquifer has been previously estimated to range between 1.2 and 12 years.

Based on the surface/subsurface soil conditions and the hydrogeologic setting of the WHPAs, it is our opinion that the Unit A aquifer has a moderate susceptibility to being affected by surface sources of contamination.

Unit C Confined Aquifer

The Unit C aquifer is located at a depth of at least 400 feet in the delineated WHPA. The aquifer is separated from the Unit A aquifer by 50 to 200 feet of alternating layers of low permeability silt/siltstone and clay/claystone with some minor lenses of sand and gravel (Appendix A, Plate 1). The relatively low permeability silt/clay units located between Units A and C and above Unit A would significantly inhibit the downward migration of a potential contaminant plume. The previously estimated vertical travel time to the Unit C aquifer was between 2 and 25 years.

Based on the surface/subsurface soil conditions and the hydrogeologic setting of the WHPAs, it is our opinion that the Unit C aquifer has a low susceptibility to being affected by surface sources of contamination.

WELL SUSCEPTIBILITY TO CONTAMINATION

The general susceptibility of the subject aquifers to surface sources of contamination has been discussed in previous sections of this report. However, the construction of the production well has an affect on the susceptibility of the well to contamination. A well without a properly constructed and installed surface seal is more susceptible to surface contamination than one with a proper surface seal. Other factors that influence the susceptibility ranking of the well are well depth, depth to static water level and the hydrogeologic setting of the well.

The WSDOE requires each Group A water system to complete Susceptibility Assessment Forms (SAF) for each water source/well. Based on the information presented on the SAF, the WSDOH assesses whether the well has a low, moderate or high susceptibility to surface sources of contamination. The WSDOH determined that PW-1 was highly susceptibility to surface sources of contamination based on the information presented on the SAF. Production wells PW-2 through PW-7 were considered to have a low susceptibility to surface sources of contamination by the WSDOH. The completed SAFs for the City's wells are presented in Appendix F.

RISK ASSESSMENT

General

Developing a ranking of risks associated with the identified potential sources of contamination located within the WHPAs is an integral part of the WHPP. However, quantifying risk to public health is difficult from a technical and public acceptance point of view. For the purpose of this study, the risks of the potential contaminant source affecting

water quality within the individual wells were ranked based on the following: (1) aquifer susceptibility, (2) well construction, (3) distance from source to the well, (4) contaminant volume, (5) contaminant toxicity and (6) contaminant persistence. A summary of the risk ranking criteria used in this study is presented in Table 7. A brief discussion of the ranking criteria used for this risk assessment is presented below.

Ranking Criteria

The criteria used to determine the susceptibility of the aquifers and wells was presented in previous sections of this report. Wells completed with properly designed surface seals and screened at depths greater than 75 feet bgs (PW-3 through PW-7) were considered to be in good condition with a low susceptibility to surface contamination. Wells that did not have surface seals and screened at depths greater than 75 feet (PW-2) were considered to be moderately susceptible to surface sources of contamination. Shallow wells with no surface seals (PW-1) were considered to be highly susceptible to surface sources of contamination. It should be noted that these susceptibility rankings are generally consistent with the rankings determined by the WSDOH based on the information presented on the SAFs completed for the City's production wells.

The distance between the potential source of contamination and the wellhead was also considered in the risk assessment. Contamination sources located in the 1-year TOT areas were given a higher risk score than those located in the 5-year, 10-year and buffer areas (Table 7).

The potential volume of the contaminant either applied to the ground intentionally (septic discharge, agricultural products, etc.) or as an unintentional release (spill, accident, etc.) was considered in the risk assessment by estimating the potential volume of the contaminant. This was relatively easy to do for point sources such as UST and traffic/rail accidents but became fairly arbitrary when used for non-point sources such as contamination from septic systems, cattle ranching and fertilizer applications. For the purposes of this risk assessment, the potential volume of sewage disposal was considered to be low within the City limits because of the availability of City sewer, and moderate in the wellhead protection areas that encompass large portions of the County located adjacent to the City. The volume of agricultural products (fertilizers, pesticides and herbicides) was considered to be low in both the City and County areas of the WHPA. The volume of surface water runoff was considered to be low in the City because of the City's storm water runoff system and low in the County because of a relatively low amount of impervious cover.

If the potential contaminant source likely contained compounds that are known carcinogens such as gasoline (benzene) then the source was ranked high in potential toxicity. If the potential contaminate source likely contained compounds that are suspected carcinogens then it was given a moderate ranking. If the contaminate likely does not contain carcinogenic compounds it was given a low ranking. If the potential contaminant source is generally biodegradable and is highly susceptible to chemical adsorption in the subsurface environment (diesel, heating oil,

gasoline) then the source was ranked low in chemical persistence. If the potential contaminant was moderately biodegradable and had some adsorption characteristics then the source was given a moderate ranking. If the biodegradable/adsorption characteristics of the source were high or unknown, the source was given a high ranking in persistence.

Risks to the Production Wells

Potential contamination from traffic/rail accidents was ranked as a high risk for PW-1, PW-2 and PW-3. The risk of ground water contamination originating from leaking USTs was considered a high risk to water quality in PW-2 and a moderate risk to PW-3, PW-5 and PW-6. Impacts from cattle ranching, septic systems, heating oil tanks, agricultural products and surface water runoff were all considered moderate risks to water quality in PW-1 because of the high susceptibility of the shallow aquifer. Several other activities were ranked as moderate risks to PW-2 through PW-7. A summary of the risk to each well from the identified sources of potential contamination in the WHPAs is presented in Table 8.

It should be noted that this risk assessment did not address the potential impacts from improperly abandoned wells. Water well reports on file with Ecology and information contained in Owens (1995) indicates that there are roughly 30 to 50 wells located in the delineated WHPAs. As noted previously, improperly constructed or abandoned wells can be conduits for surface sources of contamination to rapidly enter an otherwise protected aquifer. The information presented on the available water well reports indicates that the wells are generally shallow, completed within discrete aquifer zones, and that proper surface seals were used during construction. However, there is no information regarding the current status of these wells.

CONTINGENCY PLANS

The City has developed contingency plans that can be implemented if one or more of the production wells becomes contaminated or temporarily not useable as per WAC-246-290-135(4)(c)(vi). This is particularly appropriate for PW-1, which is currently not operating when elevated turbidity levels are elevated in the Yakima River. The City has also developed a spill response plan. Copies of the Contingency Plans are presented in Appendix G.

WHPA MANAGEMENT ACTIONS

Some land use activities in the City's WHPAs currently result in a moderate to high risk to water quality in the wells. Special-use permit activities or future changes in land use zoning may allow land use activities that could represent a more immediate threat to the aquifers within the mapped WHPAs.

Ultimately, the protection of the City's water supply will be accomplished through the education of the public that lives and works within the WHPAs rather than through regulatory controls. Public education/outreach is an important component of the City's efforts to protect the production wells. Public outreach efforts such as door-to-door surveys or mailing

questionnaires can be an effect way to identify potential contaminant sources as well as educate the public regarding the cause and effect relationship between land use and ground water quality.

The following is a list of general management actions that the City has implemented to protect their ground water source.

- The City will review any changes in land use proposed by Kittitas County within the designated WHPAs with regard to a potential impact on the water quality of the source aquifers
- The City will avoid the use of the fertilizer, pesticide, herbicide and fungicide within 300 feet of PW-1 and PW-2.
- The City will not allow the grazing of cattle within 500 feet of PW-1.
- The City will conduct a more detailed analysis of contaminant loading and the potential effect on the ground water systems if future residential or commercial development results in a significant septic system density increase in any of the 1- and/or 5-year TOT areas.
- The City has establish a wellhead protection committee comprised of representatives from the City, County and private citizens with land ownership within the identified wellhead protection areas to provide a forum for discussing wellhead protection-related issues in the future.
- The City has developed a list of potential well owners located within the identified WHPAs and has sent them a notification letter regarding the WHPA. The letter requests that the well owner provide the City with information regarding the current status of the well. A sample copy of the notification letter and the notification list are presented in Appendix E. Furthermore, the City will be conducting a door-to-door survey within portions of the WHPAs for the purposes of locating abandoned wells and home-heating oil tanks in 1999.
- The City will be conducting a survey of ranches/farms located in the WHPAs to accurately characterize risks to ground water associated with ranching/farming activities in 1999.
- The City currently promotes public awareness regarding the nature of the aquifer, the critical recharge area for the wells and the potential effect of contamination on the water system through their Town Talk Publication. The Town Talk publication is distributed on a quarterly basis to all City rate payers and is included in the local newspaper as a flier.
- The City will continue to monitor water quality within the subject aquifers to establish trends and detect potential problems.

LIMITATIONS

We prepared this report for use by the City of Ellensburg in support of a Wellhead Protection Plan for the City's production wells. The information presented in this report is based on the above described research and limited reconnaissance. GeoEngineers has relied upon information provided by others in our description of historical conditions. The available data do not provide definitive information with regard to all past uses, operations or incidents in the study area. There is always a potential that areas with contamination that were not

identified during this study exist in the study area. Some substances may be present in the project vicinity in quantities or under conditions that may have led or may lead to soil and ground water contamination but are not included in current local, state and federal regulatory definitions of hazardous substances, or do not otherwise present current potential risk.

Within the limitations of scope, schedule and budget, our services have been executed in accordance with generally accepted practices in this area at the time the report was prepared. No other warranty or conditions, express or implied, should be understood.

We appreciate this opportunity to be of service to the City of Ellensburg on this interesting project. Please call if you have questions regarding this report.

Respectfully submitted,

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Associate Hydrogeologist

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TABLES

TABLE 1
SUMMARY OF CITY PRODUCTION WELLS

Well/ Map ID	City Designation	Ground Surface[1] Elevation (ft)	Well[2] Depth (ft bgs)	Depth to Water (ft bgs)	Water Elevation (ft)	Screen/Open[3] Interval (ft bgs)	Hydro[4] Unit	Production Capacity (gpm)
PW-1	City Wells	1610	<30	6	1604	<20	Alluvium	1300-2800
PW-2	Rodeo Well	1560	1205	18	1542	232-1205	A,C,D	850
PW-3	Memorial Well	1550	280	6	1544	82-280	A,B	500
PW-4	Mt. Stuart Well	1570	890	30	1540	485-890	C,D	850
PW-5	Kiwanis Well	1578	610	40	1538	410-610	C	850
PW-6	Whitney Well	1550	757	30	1520	490-757	C	800
PW-7	Brooklane Well	1635	890	92	1543	600-890	C	1100

Note:
[1] Estimated from USGS map
[2] Depth of base of lowest open interval.
[3] See Water Well Report, text and Plate 1 for complete description of screened intervals.
[4] See Table 4 and text of report for description of units.
ft = feet
bgs = below ground surface
gpm = gallons per minute

Approximate well locations are shown in Figures 1 and 2.

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TABLE 2
SUMMARY OF WATER RIGHTS FOR CITY'S PRODUCTION WELLS

Point of Diversion	Authorized Diversion/Withdrawal		Current Production		Priority Date	Authorizing Document
	Instantaneous (gpm)	Total (ac-ft/year)	Instantaneous (gpm)	Total[2] (ac-ft/year)		
PW-1 (City Well)	4,861	3,850	2,800	2,696	4/13/13	Certificate Record No. 2 Page No. 926-D
PW-2 (Rodeo Well)	700	1,130	850	411	12/29/47	Certificate Record No. 2 Page No. 816-D
PW-3 (Memorial Park Well)	700	565	500	197	1/1/32	Certificate Record No. 2 Page No. 925-D
PW-4 (Mount Stuart Well)	1,700	2,750	850	182	6/8/77	Certificate Record No. 2 G4-25307C
PW-5 (Kiwanis Well)	1,500	1,200	850	549	2/19/87	Certificate Record No. 2 G429206[1]
PW-6 (Whitney Well)	1,500	1,200	850	470	6/12/87	Certificate Record No. 2 G429308[1]

NOTE:
[1] Certificate of Ground Water Right has not yet been issued.
[2] Based on the annual production in 1991.
(Reference: CH2M Hill, 1993)

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TABLE 3. Summary of Water Well Information

Township Range and Section	Well No.	Owner	Elev (feet)	Depth (feet)	Screen[1] Interval (feet)	b (feet)	Well Dia (in)	SWL (feet)	SWE (feet)	Aquifer Testing Information						
										Pump Test	Q (gpm)	s (feet)	t (hrs)	Q/s (gpm/ft)	T (ft^2/d)	K (ft/d)
17N 18E 4	G01	Anderson	1565	225.0	1.0	50.0	6	12.0	1553	A	50	–	2.0	–	–	–
17N 18E 11	M01	Schaake	1500	790.0	50.0	50.0	12	10.0	1510	P	730	30.0	12.0	24.3	4559	91
17N 19E 23	N01	Moser	1540	130.0	10.0	10.0		0.0	1540	A	50	–	–	–	–	–
17N 19E 23	N02	Forgey	1520	138.0	1.0	10.0	6	0.0	1520	A	20	–	1.0	–	–	–
17N 19E 25	G01	Tillman	1600	100.0	1.0	40.0	6	0.0	1600	A	140	–	2.0	–	–	–
17N 19E 29	M01	Meyer	1440	318.0	1.0	20.0	6	–	–	–	–	–	0.5	–	–	–
17N 19E 32	E01	Zirkle	1800	715.0	1.0	200.0	12	430.0	1370	A	1000	–	–	–	–	–
18N 17E 1	K01	Weaver	2020	830.0	125.0	125.0	10	422.0	1598	A	500	–	2.0	–	–	–
18N 17E 2	G01	Kittitas Co	1740	160.0	25.0	25.0	6	40.0	1700	B	20	–	–	–	–	–
18N 17E 12	M01	Kittitas Co	1620	720.0	50.0	20.0	16	12.0	1632	B	700	100.0	2.0	7.0	881.6	44
18N 17E 26	N01	Watson	2000	228.0	1.0	20.0	6	80.0	1920	A	25	–	–	–	–	–
18N 17E 26	Q01	Hillis	1900	300.0	40.0	40.0	6	130.0	1770	A	60	–	1.0	–	–	–
18N 17E 34	E01	Land	2600	345.0	40.0	40.0	6	160.0	2440	A	45	–	1.0	–	–	–
18N 17E 34	M01	Land	2740	210.0	1.0	1.0	6	–	–	–	–	–	–	–	–	–
18N 17E 35	R01	Wilma	2000	200.0	1.0	20.0	6	13.0	1987	–	–	–	–	–	–	–
18N 18E 25	C01	Ellensburg	1720	420.0	100.0	75.0	10	64.0	1656	P	190	146.0	1.0	1.3	131	2
→ 18N 18E 25	D01	Ellensburg	1720	730.0	80.0	80.0	8	68.0	1652	P	600	78.0	1.0	7.7	1074	13
18N 18E 30	R01	Mc Coullogh	1600	225.0	1.0	25.0	6	30.0	1570	A	20	–	–	–	–	–
18N 18E 33	R01	Superior	1520	720.0	270.0	270.0	8	20.0	1540	–	–	–	2.0	–	–	–
18N 19E 9	G01	Conrad	2020	400.0	320.0	320.0	6	70.0	1950	B	10	–	–	–	–	–
18N 19E 24	D01	Tree	1980	220.0	1.0	20.0	6	120.0	1860	A	100	–	–	–	–	–
18N 19E 24	N01	Tree	1920	235.0	20.0	20.0	6	53.0	1867	A	100	–	–	–	–	–
18N 19E 29	A01	Smith	1780	85.0	1.0	20.0	6	10.0	1770	B	27	–	–	–	–	–
18N 19E 31	A01	Jess	1665	300.0	1.0	20.0	6	50.0	1615	A	100	–	–	–	–	–
18N 19E 33	G01	Johnson	1700	270.0	1.0	30.0	6	60.0	1640	A	30	–	–	–	–	–

NOTE:

[1] Screen intervals displayed as 1 foot indicates well is completed as open end casing

Elev = Estimated Wellhead Elevation
b = Aquifer Thickness
SWL = Depth to Static Water Level
SWE = Static Water Level Elevation
P = Pumping Test
A = Air Lift Test
B = Bailer Test
Q = Well Discharge
s = Water Level Drawdown
T = Transmissivity
Q/s = Specific Capacity
K = Hydraulic Conductivity
gpm = gallons per minute
gpm/ft = gallons per minute per foot of water level drawdown
ft^2/d = square feet per day
ft/d = feet per day

TABLE 4
SUMMARY OF HYDROSTRATIGRAPHIC UNITS

Hydro Unit	Geologic Description	Elevation Range (ft msl)	Thickness (ft)	Hydraulic Properties	Water Levels (ft msl)	Aquifer Susceptibility	Water [1] Quality
Alluvium	Gravel, sand and silt of fluvial origin	Near ground surface	<50	Unconfined T=150 to 150,000 ft^2/d S=0.01 to 0.15	Generally <10 ft bgs Ground Surface	High	Good
A	Sandstone, conglomerate, siltstone and mudstone. Fluvial and laharic deposits (Ellensburg Formation)	1300 to 1550	Variable, 200-300	Confined T=2,000 to 3,000 ft^2/d S = $1X10^{-4}$ to 0.01	Approximate 1550 to 1560 ft	Moderate	Good
B	Siltstone and mudstone with minor lenses of sandstone and conglomerate (Ellensburg Formation)	1200 to 1400	Highly variable, 50 to 200	Generally acts as an aquitard	N/A	N/A	N/A
C	Conglomerge and sandstone with significant lenses of siltstone and mudstone (Ellensburg Formation)	700 to 1250	Variable, 400 to 600	Confined T=2,000 to 5,000 ft^2/d S = 0.0005	1520-1550	Low	Good
D	Siltstone and mudstone with lenses of water-bearing sandstone and conglomerate (Ellensburg Formation)	<700	Unknown	Isolated (?) Confined aquifers in permeable portion of the unit.	1470-1530	N/A	Unknown

Note:
[1]Based on City Water Quality Testing
N/A = not applicable
bgs = below ground surface

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TABLE 5
SUMMARY OF POTENTIAL CONTAMINATION SOURCES

Site No.	Description	Address	Contamination		Site Status	Contamination Type	Underground Storage Tanks	Comments
			Soil	Ground Water				
1	Ken's Autowash	1013 E 10th Ave	C	C	2	Metals, Cyanide, Petroleum	3 operational, 4 removed	LUST List
2	Midstate Aviation	1101 Bowers Rd	C	S	3	Pesticides	2 removed	RCRA Non-regulated Generator
3	Ellensburg Transport	1501 E Capitol Ave					4 operational, 1 exempt	Potential Petroleum Source
4	Roger's Trucking	809 Industrial					1 operational	Potential Petroleum Source
5	Kittitas PUD	1400 E Vantage						RCRA Small Quantity Generator
6	WA 050	901 E 7th Ave					3 removed	
7	7-Eleven Store	1001 E 10th Ave					3 operational	Potential Petroleum Source
8	Ellensburge Maintenance	15th and Okanogan					3 removed	
9	Ellensburg High School	1300 East 3rd					1 exempt	Potential Petroleum Source
10	Telephone Company	Craigs Hill					1 removed	
11	Dry Cleaners	700 E 8th Ave						RCRA Conditionally Exempt Generator
12	CWU	400 E 8th Ave	C	S	4	Petroleum		RCRA Generator
13	Cemetery	Dry Creek Road				Embalming chemicals viruses bacteria, metals		
14	Cemetery	Cemetery Road				Embalming chemicals viruses bacteria, metals		
15	Main Roads & Rail Lines	–				General hazardous material		

TABLE 5 (Continued)
SUMMARY OF POTENTIAL CONTAMINATION SOURCES

Site No.	Description	Address	Contamination		Site Status	Contamination Type	Underground Storage Tanks	Comments
			Soil	Ground Water				
	Septic Systems	–				Nitrate, nitrite, chloride, bacteria and viruses		Non point sources mainly in County
	Cattle Ranching	–				Nitrate, bacteria, chloride		Non point sources located outside City Limits
	Home Heating Oil Tanks	–				Petroleum Products		Unknown locations mostly in County area
	Agricultural Products	–				Fertilizers, herbicides, pesticide, fungicide		Non point sources mainly located outside City Limits
	Improperly Abandoned Wells	–				–		Unknown locations mostly in County area
	Surface Water Runoff	–				Petroleum Products, metals, volatile and semi-volatile organic compounds		Non point sources

Note:
See Figures 7 and 11 for approximate site locations.
See Appendix C for complete description of sites.
C = Confirmed
S = Suspected

Site Status: 2 = Ranked and awaiting Remedial Action
3 = Remediation in progress
4 = Independent Remedial Action

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TABLE 6
SUMMARY OF ZONING AREAS

Symbol	Zone	Uses	Minimum Lot Size	Minimum Lot Width (feet)	Height Limits (feet)	City or County
AG-3	Agricultural	Farming, ranching, low density residential	3 ac	250	N/A	County
AG-20	Agricultural	Farming, ranching	20 ac	200	N/A	County
S	Suburban	Low density, semi rural residential	1 ac	150	35	County
I-L	Light Industrial	Industrial	N/A	N/A	N/A	County
C-L	Limited Commercial	Limited shopping and service business	7200-10,000 ft^2	65	35	City
R-S	Residential Suburban	Low density residential	7,000 ft^2	60	35	City
R-L	Residential Low Density	Single- and multi-family residential	7,000 ft^2	60	35	City
R-M	Residential Medium Density	Single- and multi-family residential	6,000 ft^2	50	35	City
R-O	Residential Office	Transition between residential and commercial	6,000 ft^2	50	35	City
C-H	Highway Commercial	Commercial	N/A	N/A	35	City
P-R	Public Reserve	Open space parks	N/A	N/A	35	City
C-C	Central Commercial	Business, commercial and professional	N/A	N/A	N/A	City
I-L	Light Industrial	Industrial	N/A	N/A	N/A	City

Note:
ac = acre
ft^2 = square feet
N/A = not applicable

Document ID: 6304001T.XLS

TABLE 7
SUMMARY OF RISK RANKING CRITERIA

Aquifer[1] Susceptibility		Well[2] Construction		Source Distance		Contaminant Characteristics					
						Volume[3]		Toxicity[4]		Persistence[5]	
Low	1	Good	1	10-year TOT	1	Low	1	Low	1	Low	1
Moderate	5	Moderate	5	5-year TOT	5	Moderate	5	Moderate	5	Moderate	5
High	10	Poor	10	1-year TOT	10	High	10	High	10	High	10

Total Score	Risk
0-20	Low
21-40	Moderate
41-60	High

Notes:

(1) See text for description of aquifer susceptibility.

(2) Good indicates well with at least an 18-foot surface seal and well screen depth greater than 75 feet.
Moderate indicates wells with no surface seal and well screen depths greater than 75 feet.
Poor indicates shallow wells with no surface seal.

(3) Low indicates volumes generally less than 600 gallons.
Moderate indicates volumes between 600 and 2,000 gallons.
High indicates volumes greater than 2,000 gallons.

(4) Low indicates non carcinogenic compounds.
Moderate indicates suspected carcinogenic compounds.
High indicates carcinogenic compounds.

(5) Low indicates compounds are generally biodegradable.
Moderate indicates compounds are moderately biodegradable.
High indicates compounds are generally not biodegradable.

Document ID: 6304001T.XLS

TABLE 8
SUMMARY OF POTENTIAL RISK

Well No.	Contaminant Source	Aquifer	Aquifer Suscept	Well Construction	Source Distance	Contaminant Characteristics			Score	Risk
						Volume	Toxicity	Persistence		
PW-1	Cattle Ranching	Alluvial	10	10	10	5	1	1	37	Moderate
	Septic Systems	Alluvial	10	10	10	1	1	5	37	Moderate
	USTs	Alluvial	–	–	–	–	–	–	–	NA
	Home Heating Oil Tanks	Alluvial	10	10	5	1	1	5	32	Moderate
	Agricultural Products	Alluvial	10	10	5	1	5	5	36	Moderate
	Traffic and Rail	Alluvial	10	10	10	10	10	10	60	High
	Cemeteries	Alluvial	–	–	–	–	–	–	–	NA
	Surface Water Runoff	Alluvial	10	10	10	1	1	1	33	Moderate
PW-2	Cattle Ranching	Unit A	5	5	10	1	1	1	23	Moderate
	Septic Systems	Unit A	5	5	1	1	1	5	18	Low
	USTs	Unit A	5	5	10	10	10	1	41	High
	Home Heating Oil Tanks	Unit A	5	5	5	1	1	1	18	Low
	Agricultural Products	Unit A	5	5	1	1	5	5	22	Moderate
	Traffic and Rail	Unit A	5	5	10	10	10	10	50	High
	Cemeteries	Unit A	–	–	–	–	–	–	–	NA
	Surface Water Runoff	Unit A	5	5	1	5	1	1	18	Low
PW-3	Cattle Ranching	Unit A	1	1	10	1	1	1	15	Low
	Septic Systems	Unit A	1	1	1	1	1	5	10	Low
	USTs	Unit A	1	1	10	10	10	1	33	Moderate
	Home Heating Oil Tanks	Unit A	1	1	1	1	1	1	6	Low
	Agricultural Products	Unit A	1	1	1	1	5	5	14	Low
	Traffic and Rail	Unit A	1	1	10	10	10	10	42	High
	Cemeteries	Unit A	–	–	–	–	–	–	–	NA
	Surface Water Runoff	Unit A	1	1	1	5	1	1	10	Low
PW-4	Cattle Ranching	Unit C	1	1	10	5	1	1	19	Low
	Septic Systems	Unit C	1	1	10	5	1	1	19	Low
	USTs	Unit C	–	–	–	–	–	–	–	NA
	Home Heating Oil Tanks	Unit C	1	1	10	1	1	1	15	Low
	Agricultural Products	Unit C	1	1	5	1	5	5	18	Low
	Traffic and Rail	Unit C	1	1	1	5	10	10	28	Moderate
	Cemeteries	Unit C	1	1	5	1	5	5	18	Low
	Surface Water Runoff	Unit C	1	1	1	5	1	1	10	Low

TABLE 8
SUMMARY OF POTENTIAL RISK (Continued)

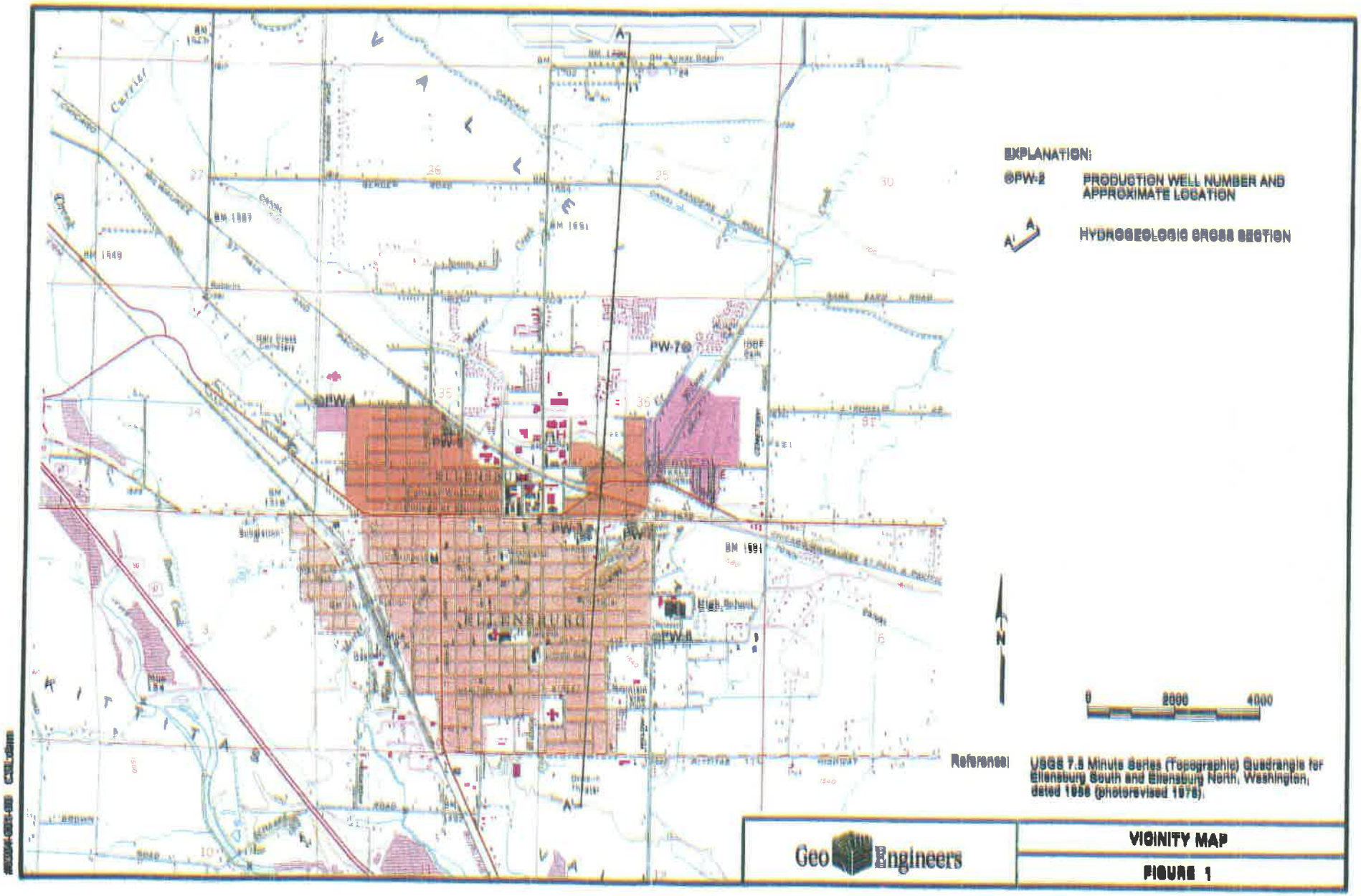
Well No.	Contaminant Source	Aquifer	Aquifer Suscept	Well Construction	Source Distance	Contaminant Characteristics			Score	Risk
						Volume	Toxicity	Persistence		
PW-5	Cattle Ranching	Unit C	1	1	5	5	1	1	14	Low
	Septic Systems	Unit C	1	1	1	1	1	1	6	Low
	USTs	Unit C	1	1	1	10	10	1	24	Moderate
	Home Heating Oil Tanks	Unit C	1	1	5	1	1	1	10	Low
	Agricultural Products	Unit C	1	1	10	1	5	5	23	Moderate
	Traffic and Rail	Unit C	1	1	1	5	10	10	28	Moderate
	Cemeteries	Unit C	–	–	–	–	–	–	–	NA
	Surface Water Runoff	Unit C	1	1	1	5	1	1	10	Low
PW-6	Cattle Ranching	Unit C	1	1	1	5	1	1	10	Low
	Septic Systems	Unit C	1	1	5	1	1	1	10	Low
	USTs	Unit C	1	1	10	10	10	1	33	Moderate
	Home Heating Oil Tanks	Unit C	1	1	1	1	1	1	6	Low
	Agricultural Products	Unit C	1	1	5	1	5	5	18	Low
	Traffic and Rail	Unit C	1	1	5	5	10	10	32	Moderate
	Cemeteries	Unit C	–	–	–	–	–	–	–	NA
	Surface Water Runoff	Unit C	1	1	1	5	1	1	10	Low
PW-7	Cattle Ranching	Unit C	1	1	5	5	1	1	14	Low
	Septic Systems	Unit C	1	1	5	1	1	1	10	Low
	USTs	Unit C	1	1	1	10	10	1	24	Low
	Home Heating Oil Tanks	Unit C	1	1	5	1	1	1	10	Low
	Agricultural Products	Unit C	1	1	5	1	5	5	18	Low
	Traffic and Rail	Unit C	1	1	1	5	10	10	28	Moderate
	Cemeteries	Unit C	1	1	1	1	5	5	14	Low
	Surface Water Runoff	Unit C	1	1	1	5	1	1	10	Low

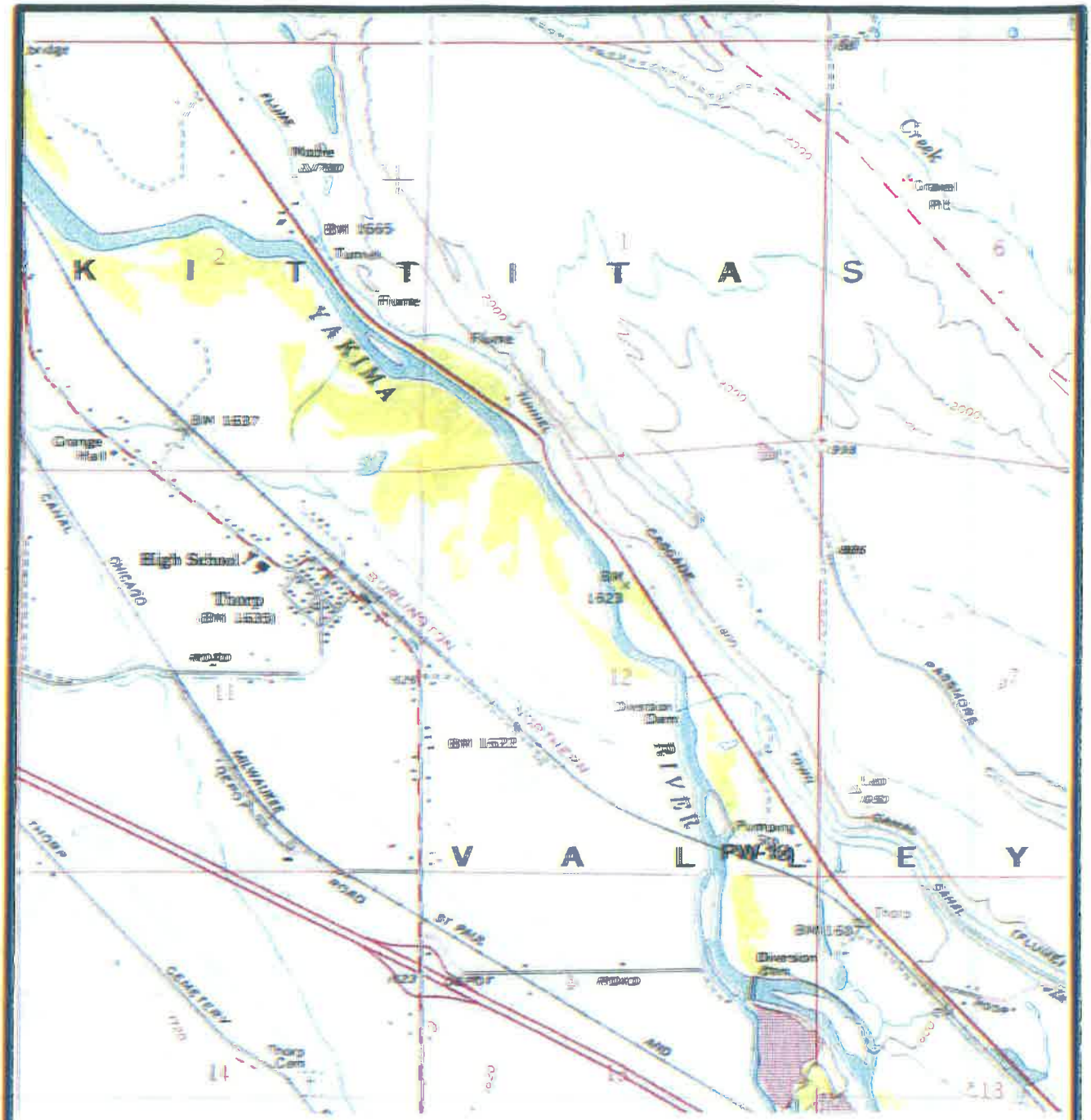
Note:
NA The potential source of contamination was not indentified in the WHPA for this well.

Document ID: 6304001T00.XLS

PLATES

FIGURES


EXPLANATION:
PRODUCTION WELL NUMBER AND APPROXIMATE LOCATION
HYDROGEOLOGIC CROSS SECTION
PW-7
PW-4
PW-8
A
A'
N
0
2000
4000
Reference: USGS 7.5 Minute Series (Topographic) Quadrangle for Ellensburg South and Ellensburg North, Washington, dated 1956 (photorevised 1978).
Geo Engineers
VICINITY MAP
FIGURE 1



EXPLANATION:

PW-1 PRODUCTION WELL NUMBER AND APPROXIMATE LOCATION

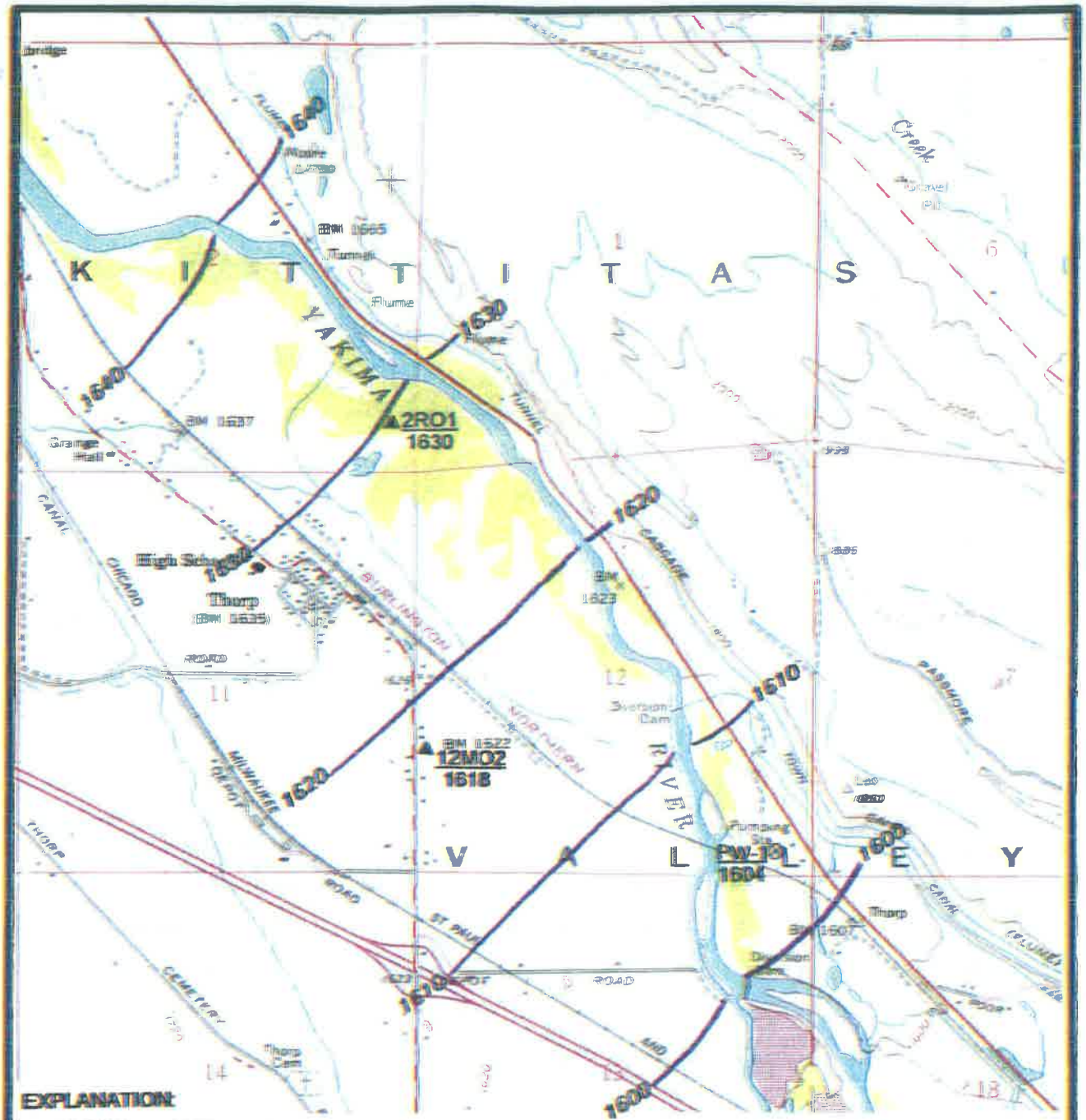
Reference: USGS 7.5 Minute Series (Topographic) Quadrangle for Thorp, Washington, dated 1958 (photorevised 1978).

#6304-001-00 CSL:dam 06/17/98

GeoEngineers

PW-1 LOCATION MAP

FIGURE 2



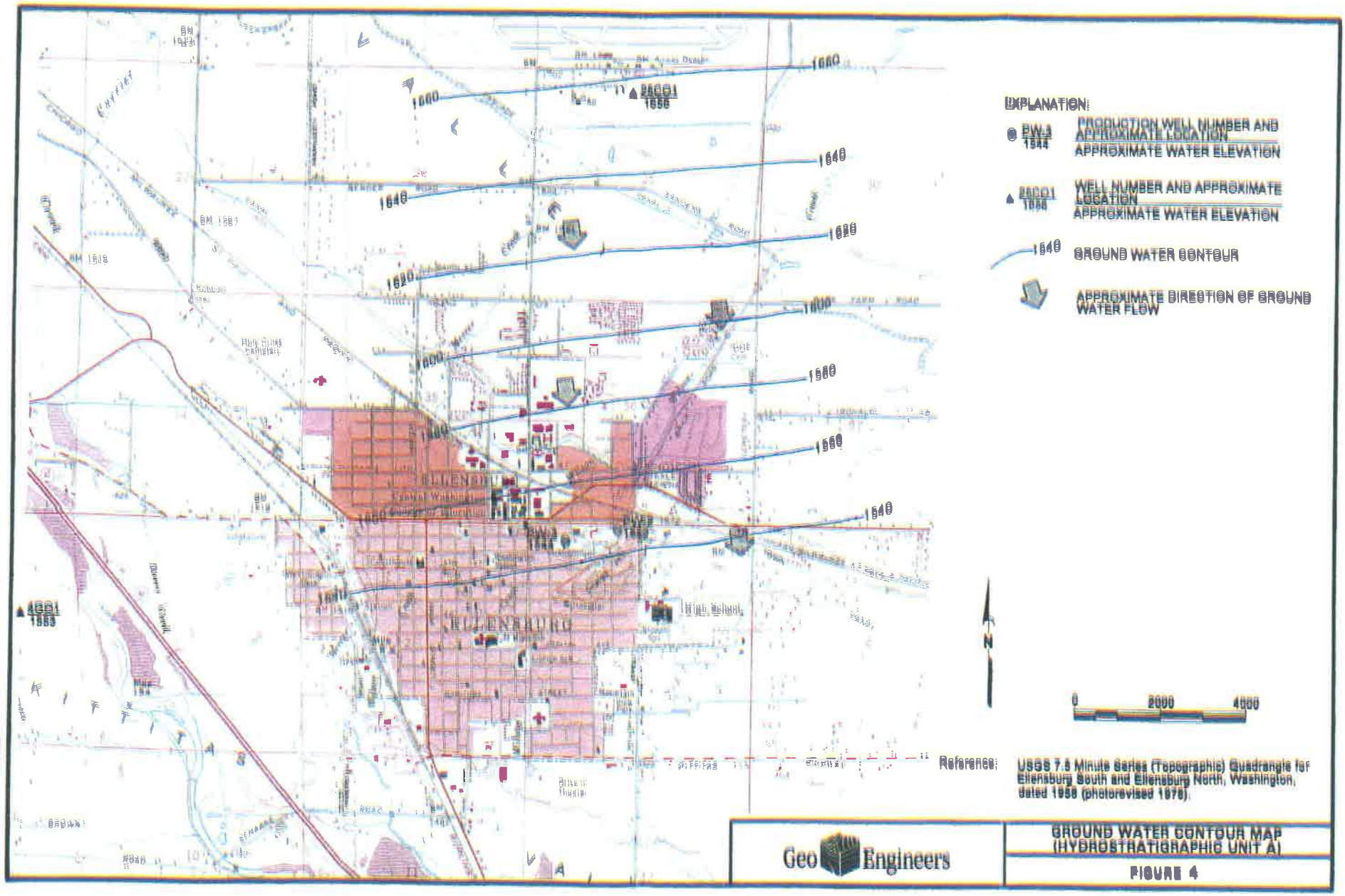
Reference: USGS 7.5 Minute Series (Topographic) Quadrangle for Thorp, Washington, dated 1958 (photorevised 1978).

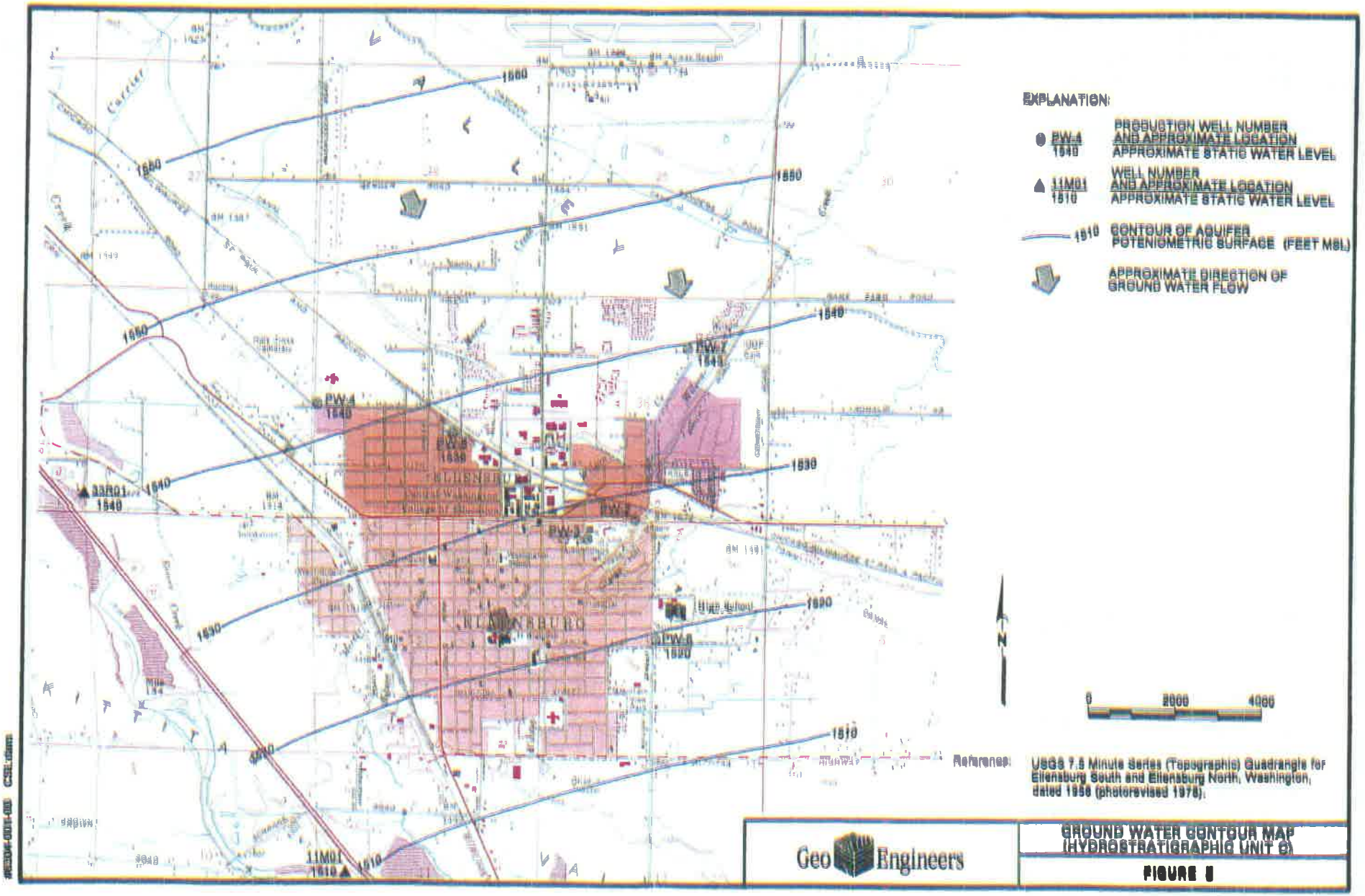
#8304-001-00 CBL:dam 06/17/98

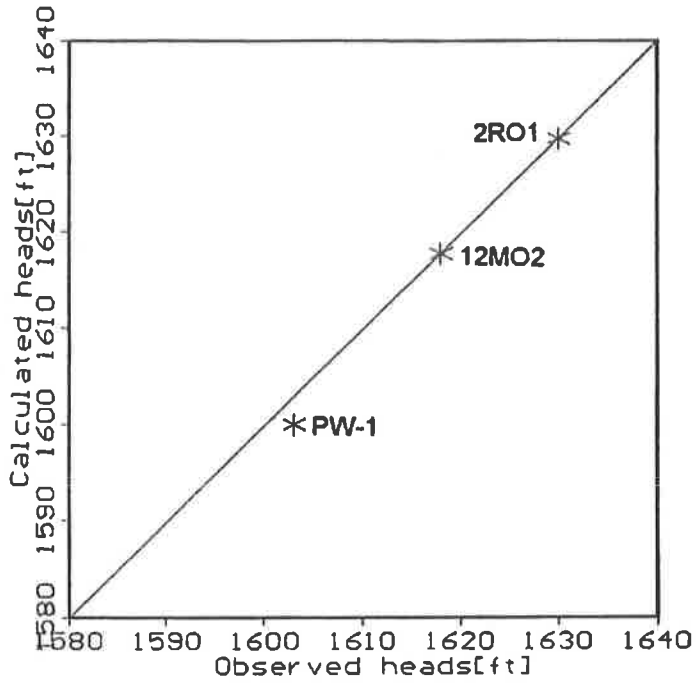
Geo Engineers

GROUND WATER CONTOUR MAP (ALLUVIAL/FLUVIAL AQUIFER)

FIGURE 3


EXPLANATION:
PRODUCTION WELL NUMBER AND APPROXIMATE LOCATION
APPROXIMATE WATER ELEVATION
WELL NUMBER AND APPROXIMATE LOCATION
APPROXIMATE WATER ELEVATION
GROUND WATER CONTOUR
APPROXIMATE DIRECTION OF GROUND WATER FLOW
N
0
2000
4000
Reference: USGS 7.5 Minute Series (Topographic) Quadrangle for Ellensburg South and Ellensburg North, Washington, dated 1958 (photorevised 1978).
Geo Engineers
GROUND WATER CONTOUR MAP (HYDROSTRATIGRAPHIC UNIT A)
FIGURE 4


EXPLANATION:
PW-4 1540 PRODUCTION WELL NUMBER AND APPROXIMATE LOCATION APPROXIMATE STATIC WATER LEVEL
11M01 1510 WELL NUMBER AND APPROXIMATE LOCATION APPROXIMATE STATIC WATER LEVEL
1510 CONTOUR OF AQUIFER POTENIOMETRIC SURFACE (FEET MSL)
APPROXIMATE DIRECTION OF GROUND WATER FLOW
N
0 2000 4000
Reference: USGS 7.5 Minute Series (Topographic) Quadrangle for Ellensburg South and Ellensburg North, Washington, dated 1956 (photorevised 1978).
Geo Engineers
GROUND WATER CONTOUR MAP (HYDROSTRATIGRAPHIC UNIT 6)
FIGURE 8



Mean error: -1.08582

Mean abs. err: 1.08582

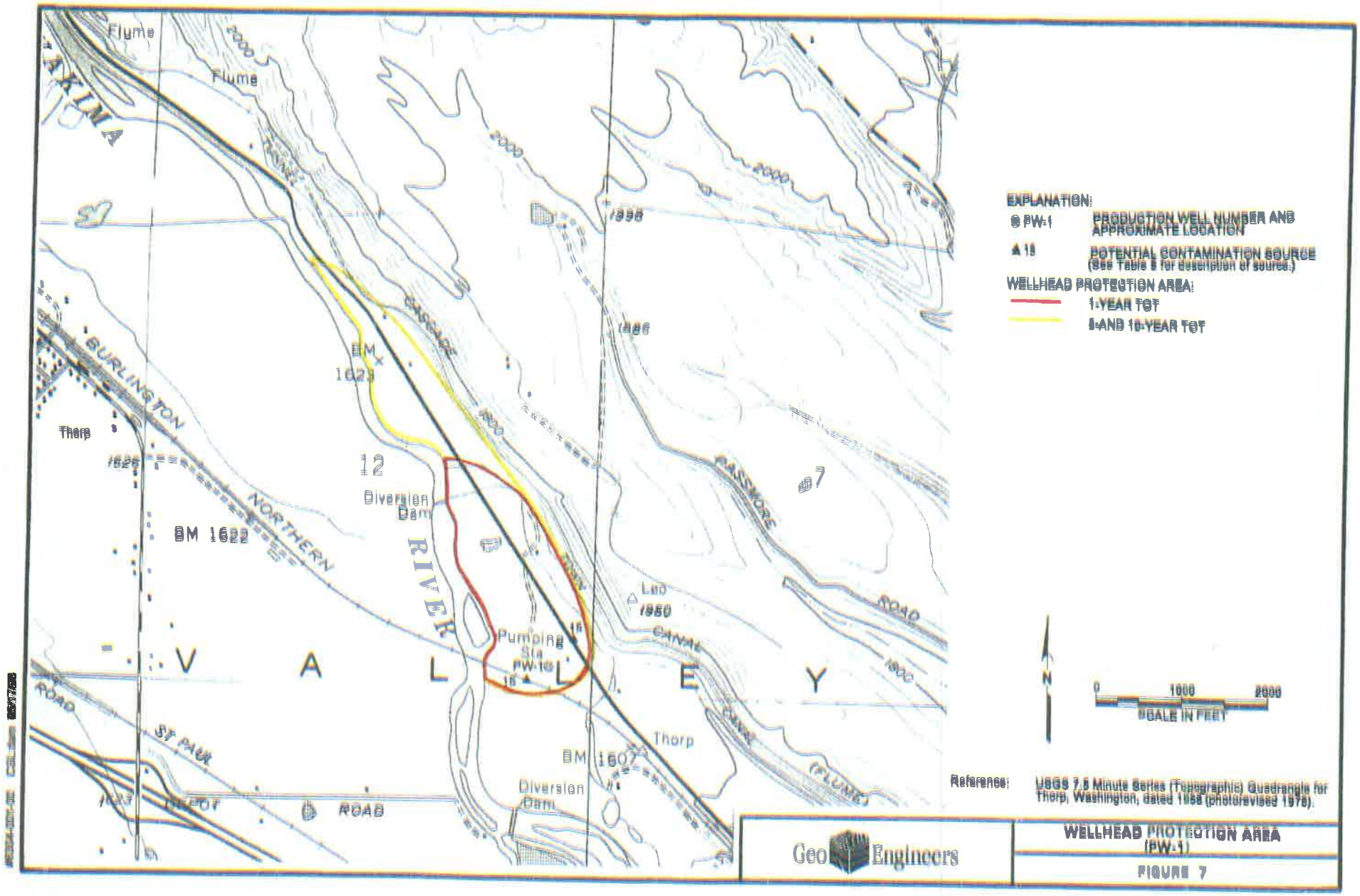
RMS error: 1.70127

#8304-001-00 CSL:dam 06/26/98

Geo Engineers

CALIBRATION PLOT
(ALLUVIAL/FLUVIAL AQUIFER)

FIGURE 6

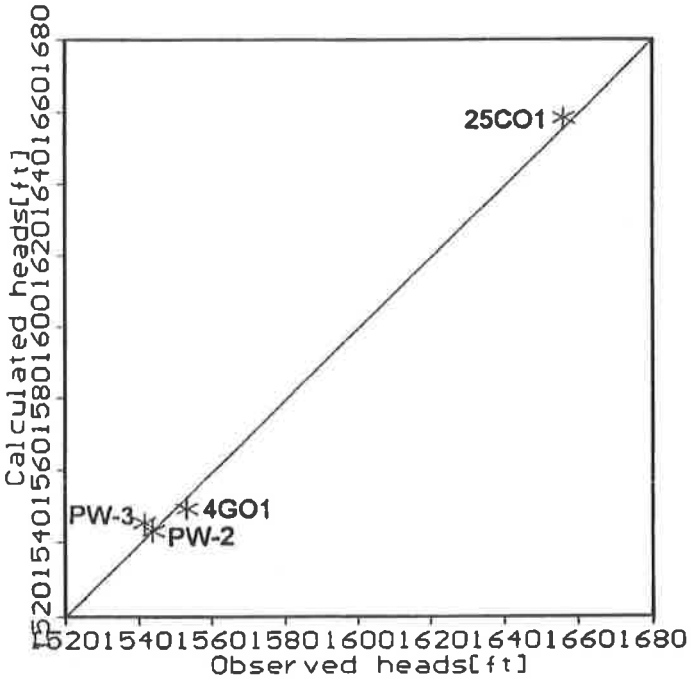


Reference: USGS 7.5 Minute Series (Topographic) Quadrangle for Thorp, Washington, dated 1958 (photorevised 1978).

Geo Engineers

WELLHEAD PROTECTION AREA (PW-1)

FIGURE 7



Mean error: 0.342651

Mean abs. err: 2.37427

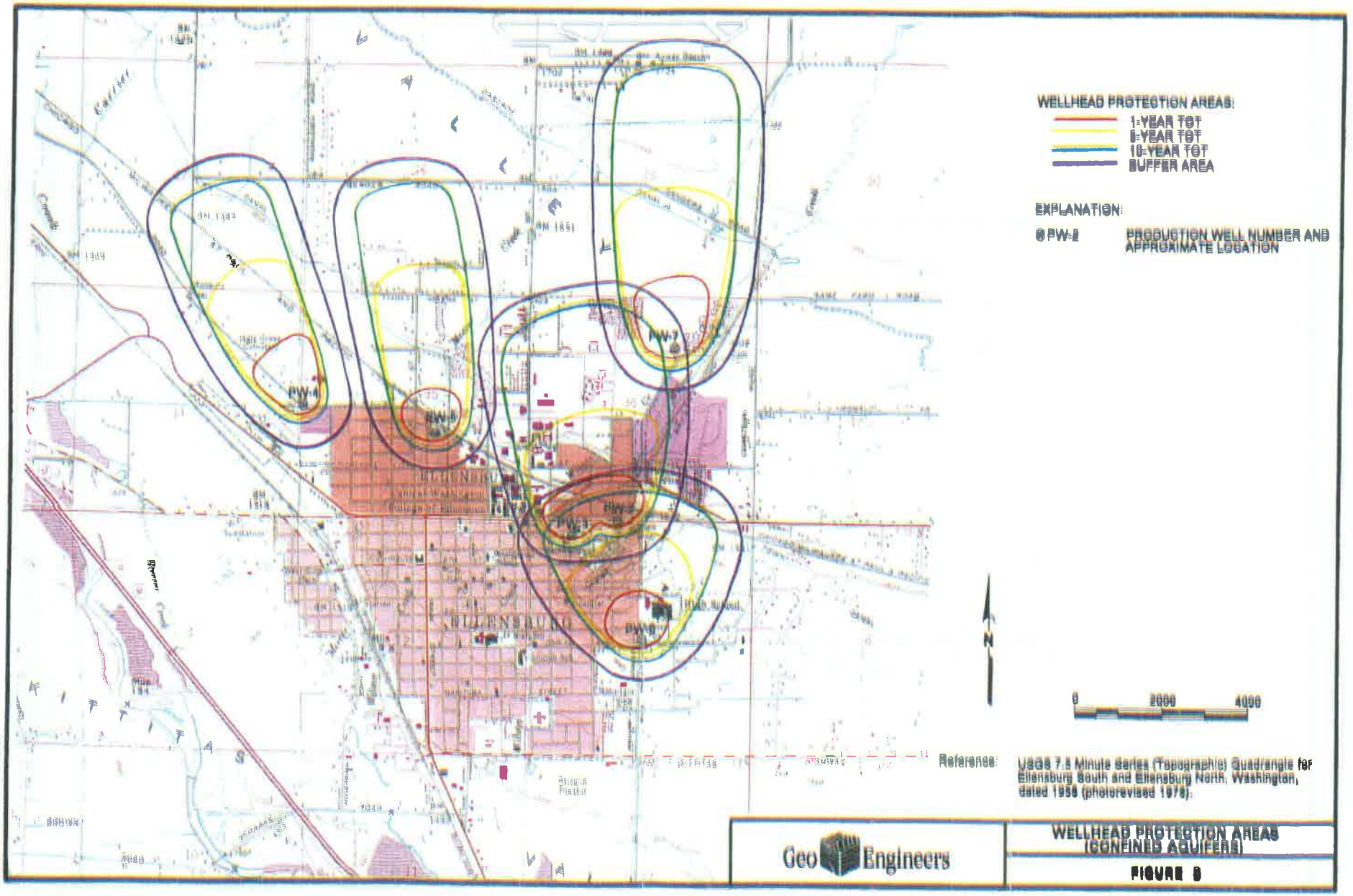
RMS error: 2.64147

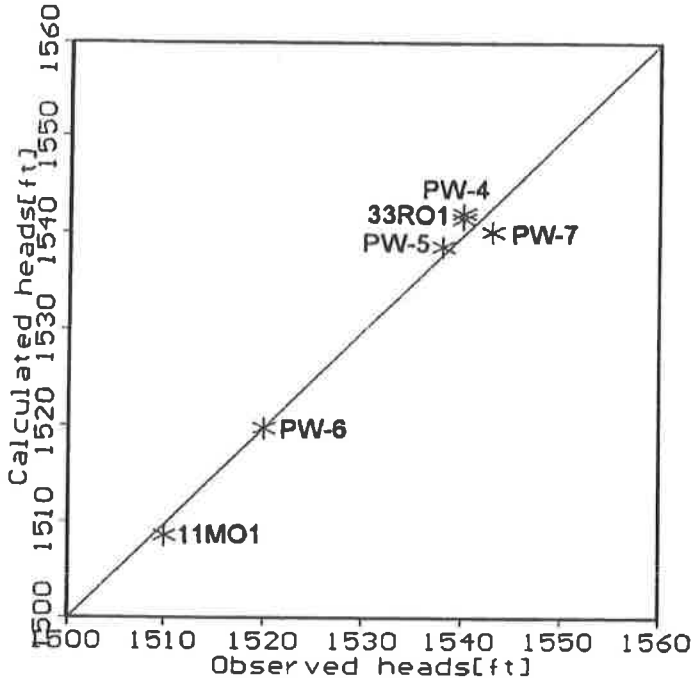
#8304-001-00 CSL:dam 06/26/98

Geo Engineers

CALIBRATION PLOT
(HYDROSTRATIGRAPHIC UNIT A)

FIGURE 8


WELLHEAD PROTECTION AREAS:
1-YEAR TOT
5-YEAR TOT
10-YEAR TOT
BUFFER AREA
EXPLANATION:
PW-2 PRODUCTION WELL NUMBER AND APPROXIMATE LOCATION
N
0
2000
4000
Reference: USGS 7.5 Minute Series (Topographic) Quadrangle for Ellensburg South and Ellensburg North, Washington, dated 1958 (photorevised 1978).
Geo Engineers
WELLHEAD PROTECTION AREAS (CONFINED AQUIFER)
FIGURE 8



Mean error: -0.261161

Mean abs. err: 1.37912

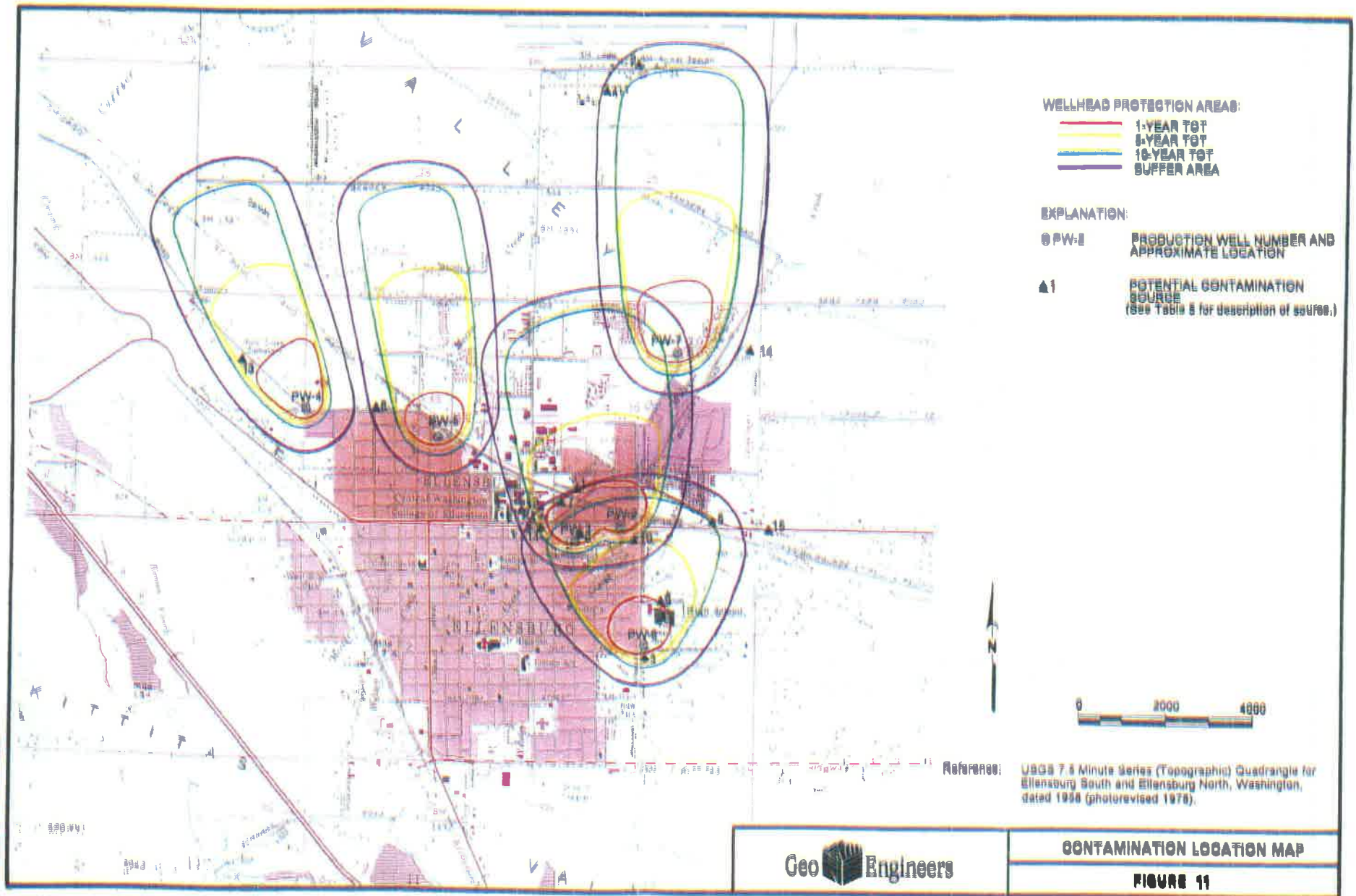
RMS error: 1.6059

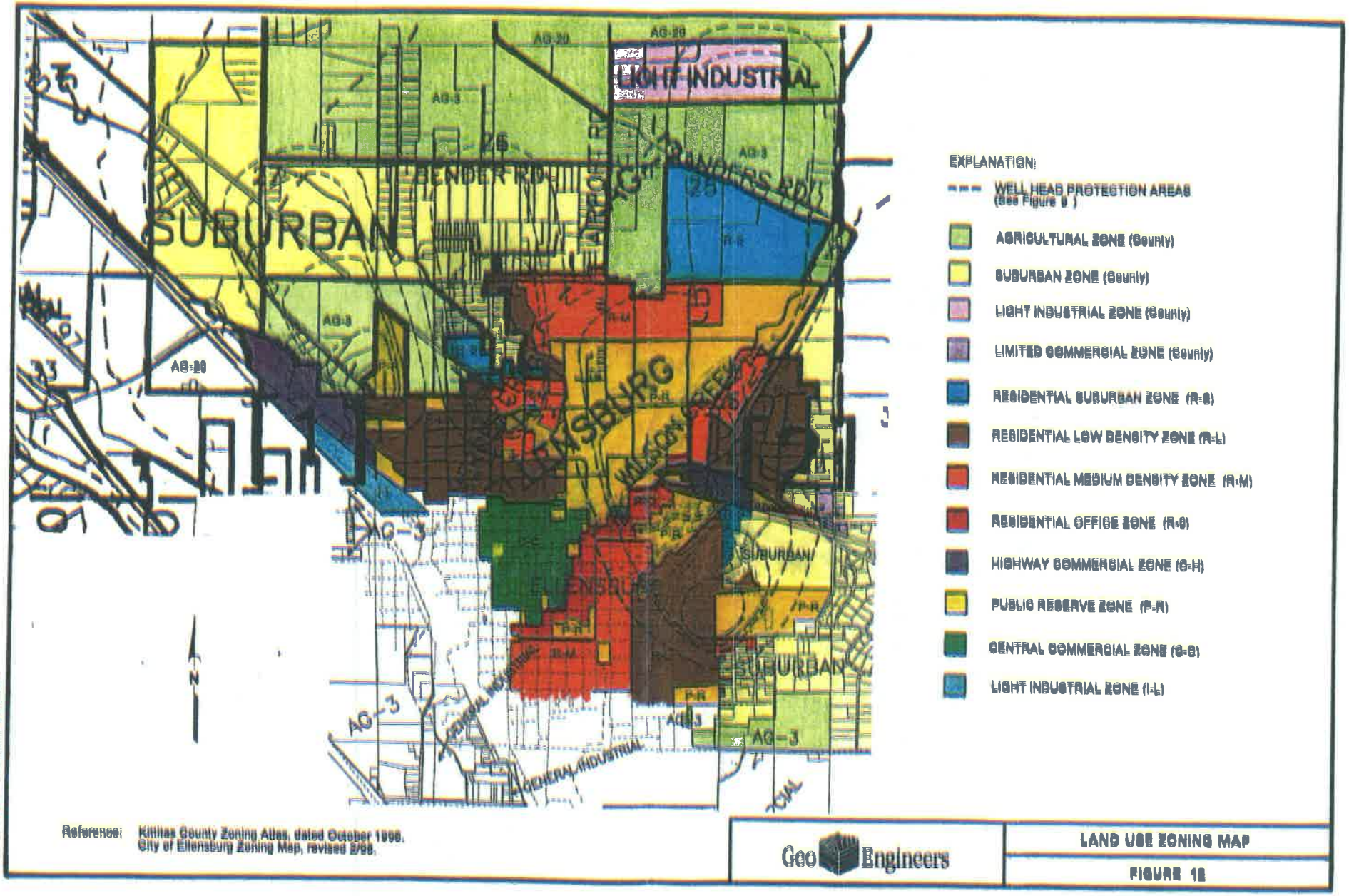
#6304-001-00 CSL:dam 6/10/98

Geo Engineers

CALIBRATION PLOT
(HYDROSTRATIGRAPHIC UNIT C)

FIGURE 10


WELLHEAD PROTECTION AREAS:
1-YEAR TOT
5-YEAR TOT
10-YEAR TOT
BUFFER AREA
EXPLANATION:
PW-2 PRODUCTION WELL NUMBER AND APPROXIMATE LOCATION
1 POTENTIAL CONTAMINATION SOURCE (See Table 5 for description of source.)
PW-1
PW-2
PW-3
PW-4
PW-5
PW-6
N
0
2000
4000
References: USGS 7.5 Minute Series (Topographic) Quadrangle for Ellensburg South and Ellensburg North, Washington, dated 1956 (photorevised 1978).
Geo Engineers
CONTAMINATION LOCATION MAP
FIGURE 11



References: Kittitas County Zoning Atlas, dated October 1998.
City of Ellensburg Zoning Map, revised 2/98.

Geo Engineers

LAND USE ZONING MAP

FIGURE 18

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APPENDIX A

Rodeo Well PW-2

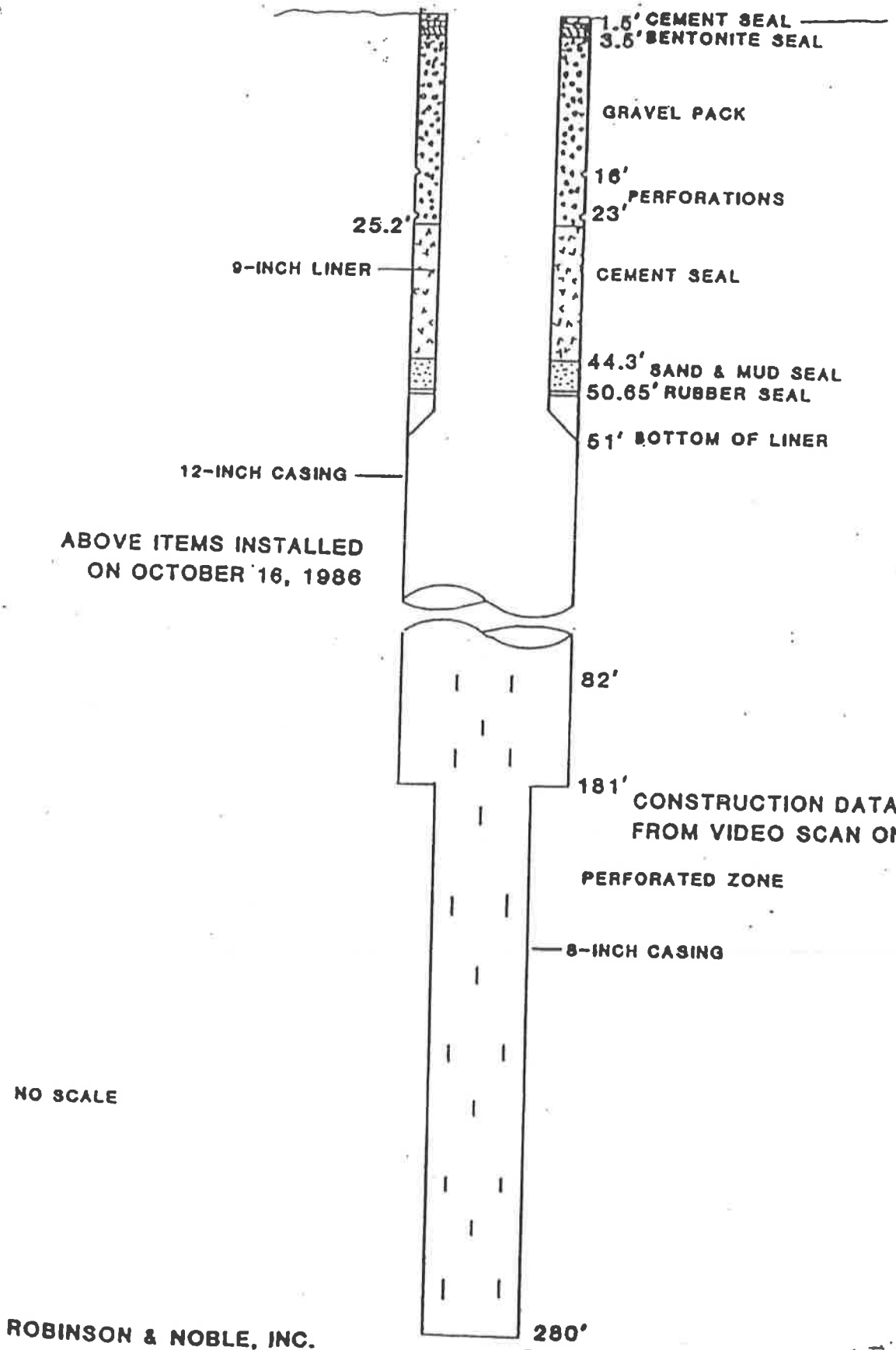
LOG OF ELLENSBURG WELL

Depth	Description	Comments
0 - 2'	Loam	
8 - 10'	Gravel and round rock	
1 - 11'	Coarse sand and gravel	
9 - 20'	Yellow clay	S.W.L. 12
7 - 27'	Fine gravel	" 7'6"
41 - 68'	Clay, sand and fine gravel	
25 - 93'	Clay	
5 - 5'	Clay and fine gravel	
22 - 120'	Gravel, rock and clay	
50 - 170'	Sand, gravel, rocks and clay	
13 - 183'	Clay and some sand	
39 - 222'	Gravel and clay	" 4'
10 - 232'	Clay	
35 - 267'	Gravel, sand, and cement gravel	
24 - 291'	Clay and gravel	" 30'6" - 94'
7 - 298'	Gravel	" 60'
26 - 324'	Sand and clay	
13 - 337'	Sand, gravel and clay	" 30'
10 - 347'	Clay and gravel	" 26'
1 - 348'	Fine gravel and sand	
21 - 369'	Fine gravel, course sand, and clay	
24 - 393'	Clay, fine gravel, and sand stone	" 15'-43'
10 - 403'	Sandy clay, pea gravel, gravel & sand	
21 - 424'	Clay and sand stone	" 90'
7 - 431'	Gravel and fine sand	" 40'-43'
34 - 465'	Clay, fine gravel, sand	" 48'-85'
17 - 482'	Sand, gravel and clay	" 65'
21 - 503'	Clay	
8 - 511'	Clay, fine sand, and gravel	" 40'9"-60'
13 - 524'	Clay and sand	" 43'
26 - 550'	Gravel, sand, and clay	" 52'-33'
44 - 594'	Clay and sand	" 40'
6 - 600'	Gravel	
45 - 645'	Clay and sandy clay	" 85'-81'
29 - 674'	Sand and fine sand	" 72'-80'
16 - 690'	Sand, gravel, and clay	" 80'
24 - 714'	Sandy clay	" 84'
2 - 716'	Sand	
38 - 754'	Sandy clay	" 83'
3 - 757'	Gravel and sand	" 85'-100'
12 - 769'	Sand and clay	
1 - 770'	Sand and gravel	
10 - 780'	Sand and heaving sand	" 107'-100'
14 - 794'	Sand and gravel	" 88'-94'
55 - 849'	Clay, sand and gravel	" 83'-105'
6 - 855'	Heaving sand	
6 - 861'	Sandy clay	" 105'9"
4 - 865'	Red sand	" 105'
71 - 936'	Clay and sand and gravel clay mix	" 98'
5 - 941'	Clay	

Depth	Description	Comments
1 - 942'	Quick sand heaving badly	
27 - 969'	Clay, sand, and gumbo	
7 - 976'	Sand -- heaving	
41 - 1017'	Clay, blue mud, and gumbo	S.W.L. 90'-130'
7 - 1024'	Fine sand, D.O.I.	" 100'
16 - 1040'	Blue clay	" 97'
6 - 1046'	Coarse gravel	
18 - 1064'	Blue clay	" 105'-112'
4 - 1068'	Fine sand	
32 - 1100'	Blue clay and blue mud	" 110'-98'
53 - 1153'	Clay	" 98'-102'
3 - 1156'	Sand	" 98'
14 - 1170'	Clay and blue clay	" 96'. Shut down from Aug. 14th to Sept. 15th. Show S.W.L. 35'8" on Sep 15th.
3 - 1173'	Sand and gravel	S.W.L. 31'5"
4 - 1177'	Sand	" 31'5"-28'
1 - 1178'	Blue shale	
7 - 1195'	Green and greenish gray mud	" 25'-35'
10 - 1205'	Sand and gravel	" 41'-45'. On Oct. 10th, after fi ing out tools S.W.L 29'6"
6"-1209'		
6"	Shale and greenish gray mud	S.W.L. 29'6"-31'

City of Ellensburg
( )EMORIAL PARK WE L
PW-3

FIGURE 1



ROBINSON & NOBLE, INC.

A-3

PERFORATED CASINGS OR SCREENS: PW-3 (Memorial Park Well)

60 slots each ¼"x4' to each 20' (Number per foot and size of perforations, or describe screen) from 22½' to 251½'

from ... to ...

from ... to ...

from ... to ...

LOG OF WELL: (Describe each stratum or formation clearly, indicate if water bearing, and give thickness and depth as indicated.)

MATERIAL	Thickness (Feet)	Depth to Bottom (Feet)	
Coarse gravel or rock	60	60	
Sand: small rocks, sand mixed	20	80	
Shell rock - coarse black sand - shows gravity	6	86	pink
sand stone; brown clay; black portions lava rock	19	105	
Tunnel gravel - fine sand - clay & pebbles	10	115	
Clay - fine sand, water running over top of hole	19	134	
Coarse gravel about 1 ft. thick	15	149	
Lost clay in about 2.5 ft. thick Total	149		
Sand - small round rocks - lava & granite	33	182	
Water coming over top - Clay encountered Rock	6	188	
* Brought to clay - in sand stone; small rocks	18	306	
Sand stone 12 gravel 7 ft. clay 7 rock 4	30	236	
X Soft clay at 255 ft. in sand gravel & rock	19	255	
Good water strata at 263 - sandstone & rocks	8	263	
Sandstone with water over top	43½	306½	

(b) INFILTRATION TRENCH: Covered or open

Dimensions: Length ... ft. Minimum depth ... ft. Maximum depth ... ft.

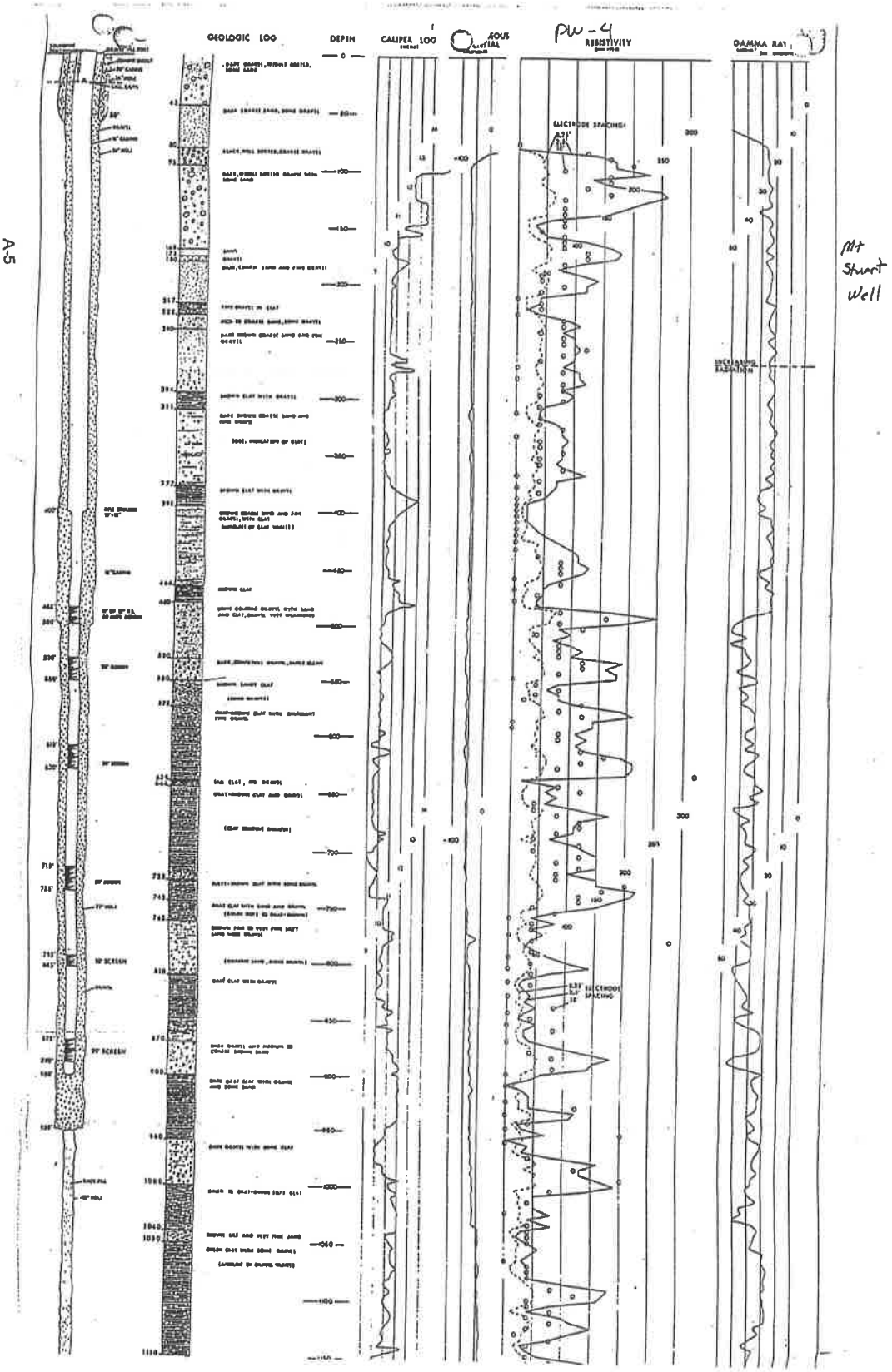
Bottom width ... ft. Discharge ... g.p.m. Date of test ...

(c) TUNNEL: Type of lining ...

Dimensions: ... (Length, course, and cross sectional size)

Position of water bearing stratum with reference to portal of tunnel ...

Log of tunnel: (Preceding table for log of well may be used, if desired. Give footage from portal and character of materials, as pertinent.)

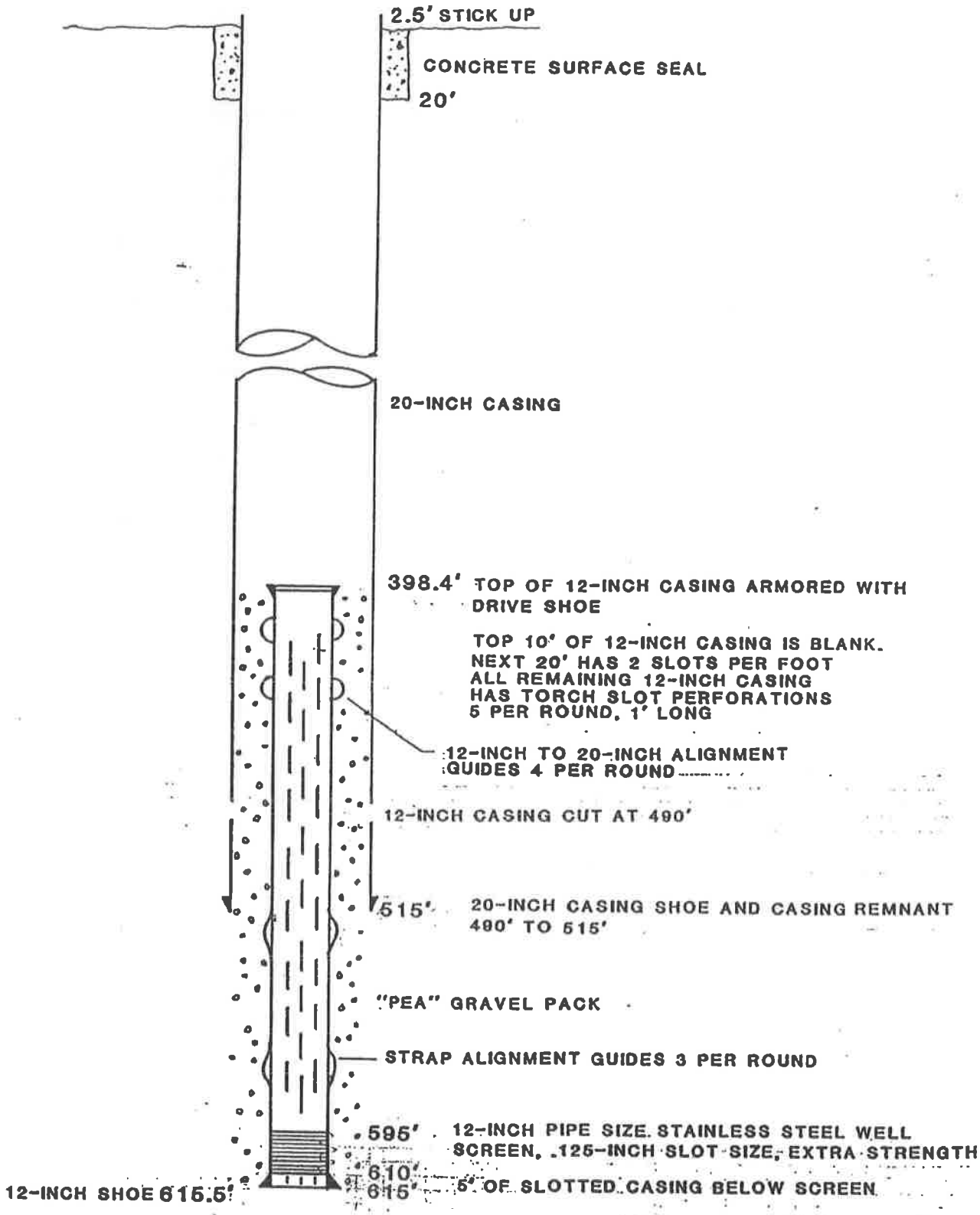

GEOLOGIC LOG
DEPTH
CALIPER LOG
RESISTIVITY
GAMMA RAY
ELECTRODE SPACING
PW-4
Mt Stuart Well

CITY OF ELLENSBURG
Kiwanis Park Well

FIGURE 5

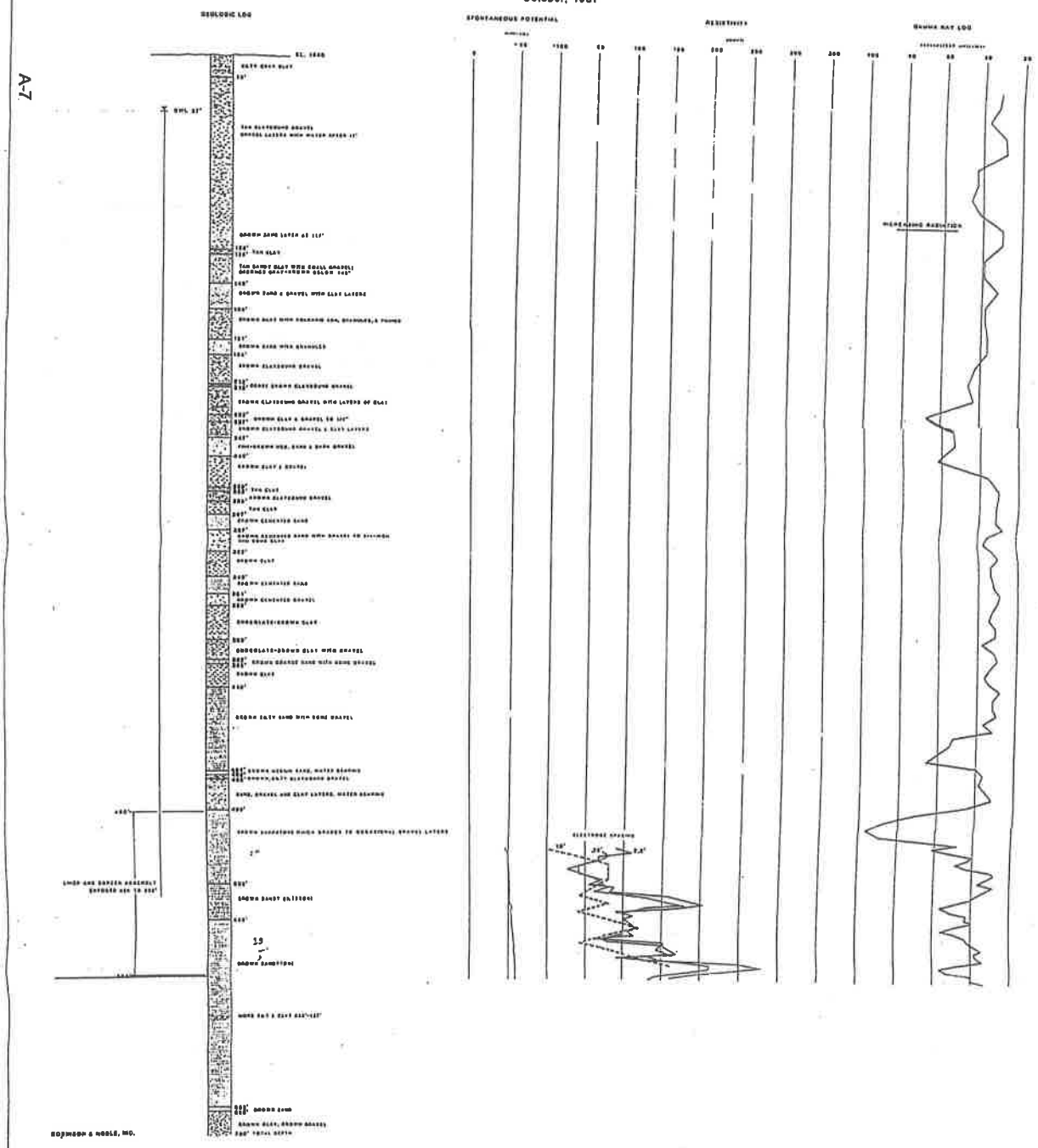
CONSTRUCTION DETAILS

PW-5



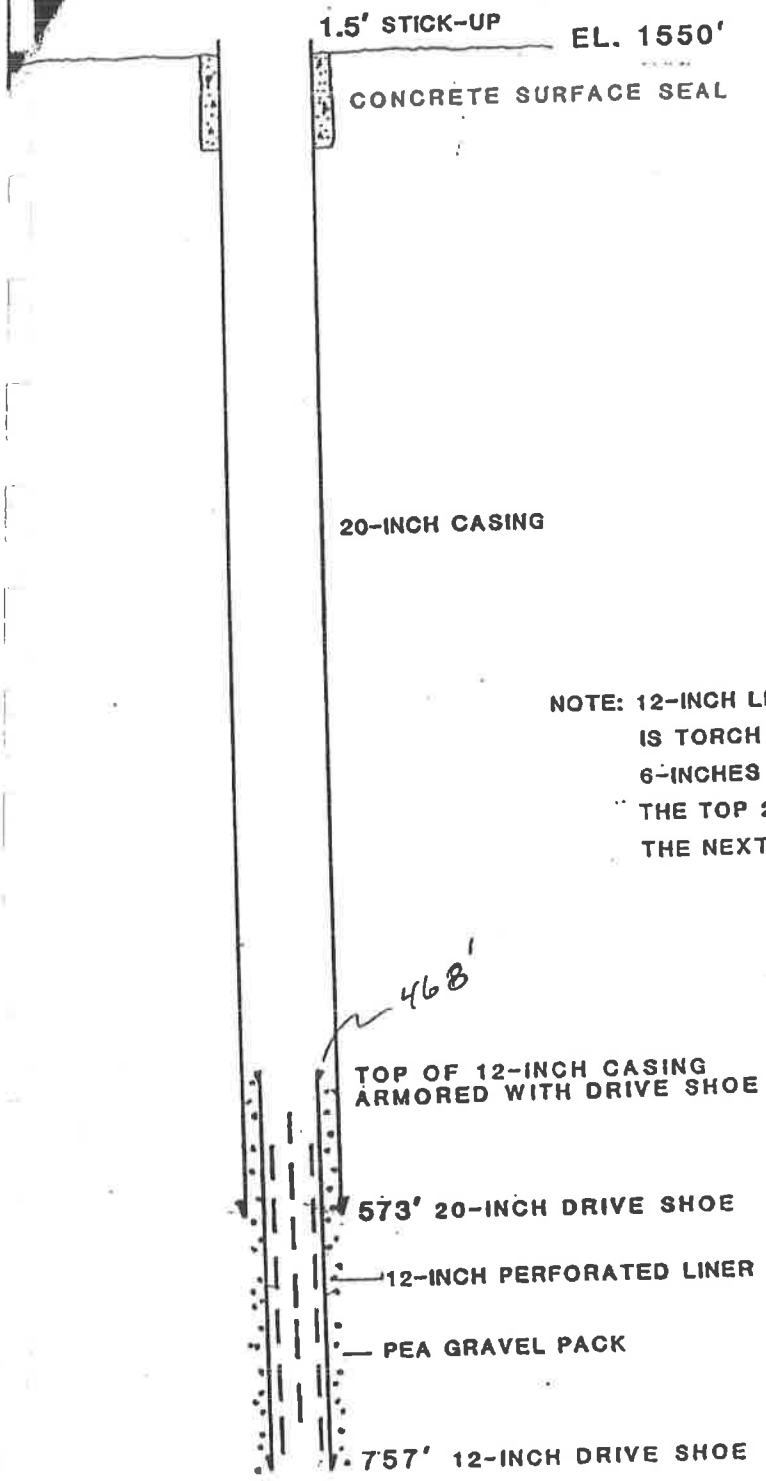
PW-5

CITY OF ELLENSBURG
Kiwanis Park Well
October, 1987



A-7

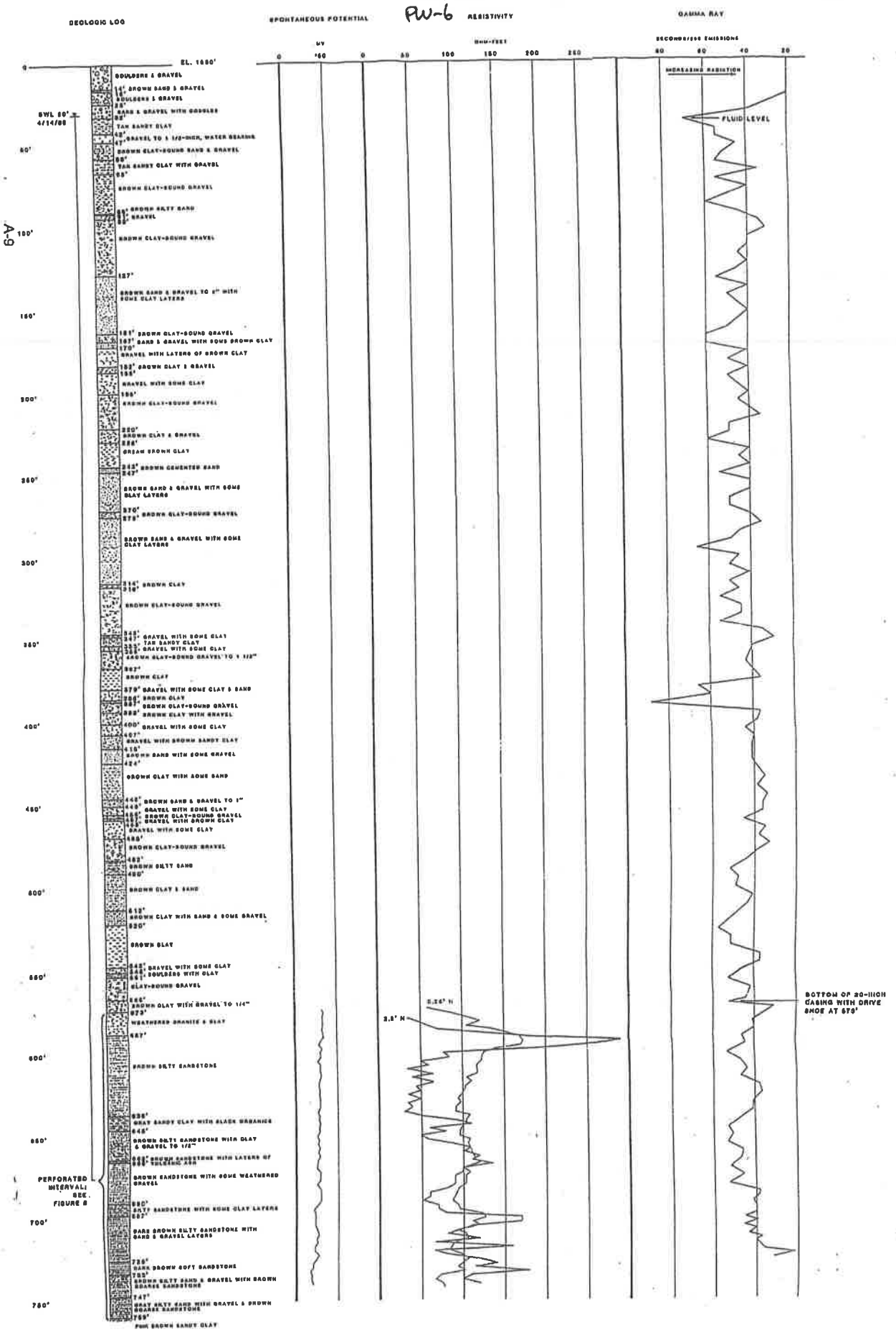
CITY OF ELLENSBURG
WHITNEY PARK WELL
CONSTRUCTION DETAILS
PW-6



NOTE: 12-INCH LINER ASSEMBLY
IS TORCH SLOTTED 5 PER ROUND,
6-INCHES LONG AND 6-INCHES APART.
THE TOP 20' IS BLANK CASING.
THE NEXT 20' DOWN HAS 2 SLOTS PER FOOT

NOT TO SCALE

CITY OF ELLENSBURG
WHITNEY PARK WELL
MAY, 1988
PW-6



File Original and First Copy with Department of Ecology
Second Copy — Owner's Copy
Third Copy — Driller's Copy

WATER WELL REPORT

STATE OF WASHINGTON

Application No.

Permit No.

(1) OWNER: Name CWSC Brookland Village--Well Address Ellensburg, Washington

(2) LOCATION OF WELL: County Kittitas NW ¼ NE ¼ Sec 36 T 18 N. R 18E W.M. B

Give sketch and distance from section or subdivision corner

(3) PROPOSED USE: Domestic ☐ Industrial ☐ Municipal ☐ Irrigation ☒ Test Well ☐ Other ☐

(4) TYPE OF WORK: Owner's number of well (if more than one) 1

New well ☒ Method: Dug ☐ Bored ☐
Deepened ☐ Cable ☒ Driven ☐
Reconditioned ☐ Rotary ☐ Jetted ☐

(5) DIMENSIONS: Diameter of well 12 inches. Drilled 1000 ft. Depth of completed well 1000 ft.

(6) CONSTRUCTION DETAILS:

Casing installed: 20" Diam. from 0 ft. to 200 ft.
Threaded ☐ 12" Diam. from 180 ft. to 1000 ft.
Welded ☒ ____" Diam. from ____ ft. to ____ ft.

Perforations: Yes ☒ No ☐
Type of perforator used Mills Knife
SIZE of perforations 2 in. by ¼ in.
600 perforations from 600 ft. to 890 ft.
____ perforations from ____ ft. to ____ ft.
____ perforations from ____ ft. to ____ ft.

Screens: Yes ☒ No ☐
Manufacturer's Name Johnson Screen
Type Stainless steel Model No 304
Diam. 10 Slot size 20 from 635 ft. to 645 ft.
Diam. 10 Slot size 20 from 733 ft. to 783 ft.
10 30 865 875

Gravel packed: Yes ☐ No ☒ Size of gravel: ____
Gravel placed from ____ ft. to ____ ft.

Surface seal: Yes ☒ No ☐ To what depth? 20 ft.
Material used in seal bentenite
Did any strata contain unusable water? Yes ☐ No ☒
Type of water? ____ Depth of strata ____
Method of sealing strata off ____

(7) PUMP: Manufacturer's Name Layne
Type: Turbine H.P 440

WATER LEVELS: Land-surface elevation ____
Static level 82 ft. below top of well Date 4/14/72
Artesian pressure No lbs. per square inch Date ____
Artesian water is controlled by ____ (Cap, valve, etc.)

WELL TESTS: Drawdown is amount water level is lowered below static level
Was a pump test made? Yes ☒ No ☐ If yes, by whom? L&L Drlg.
Yield: 1775 gal./min. with 90 ft. drawdown after 24 hrs.
" " "
" " "

Recovery data (time taken as zero when pump turned off) (water level measured from well top to water level)

Time	Water Level	Time	Water Level	Time	Water Level
1	130	2:34	121.5		
0	129	2:44	119.4		
	124	3:12	116.3		

Date of test 4-14-72
Bailer test ____ gal./min. with ____ ft. drawdown after ____ hrs.
Artesian flow ____ g.p.m. Date ____
Temperature of water 64° Was a chemical analysis made? Yes ☒ No ☐

(10) WELL LOG:

Formation: Describe by color, character, size of material and structure, and show thickness of aquifers and the kind and nature of the material in each stratum penetrated, with at least one entry for each change of formation.

MATERIAL	FROM	TO
River fill	0	3
Hard pan--Br	3	12
Brown clay	12	28
Gravel and brown clay	28	33
Brown sandy clay	33	140
Brown clay	140	145
Brown sandy clay	145	185
River rock	185	191
Gravel	191	200
Gravel, clay, & sand	200	315
Clay and sand	315	380
Brown clay-some gravel	380	403
Sand and gravel	403	450
Brown sandy clay	450	520
Brown clay	520	600
Brown clay and gravel	600	630
Pure shale-Brown	630	635
Yellow clay---gravel	635	645
Brown sandy clay	645	250
Pure sand--gray	250	800
Sand, gravel, clay	800	900
Sand and clay	900	1000

Work started 8-9-71 19 Completed 11-14 19 72

WELL DRILLER'S STATEMENT:

This well was drilled under my jurisdiction and this report is true to the best of my knowledge and belief.

NAME L and L Drilling, Inc. Gary Whitley, Pres.
(Person, firm, or corporation) (Type or print)

Address Box 262 Goldendale, Wash. 98620

[Signed] Gary Whitley (Well Driller)

License No. D-185256-73 Date 8-8-73 19

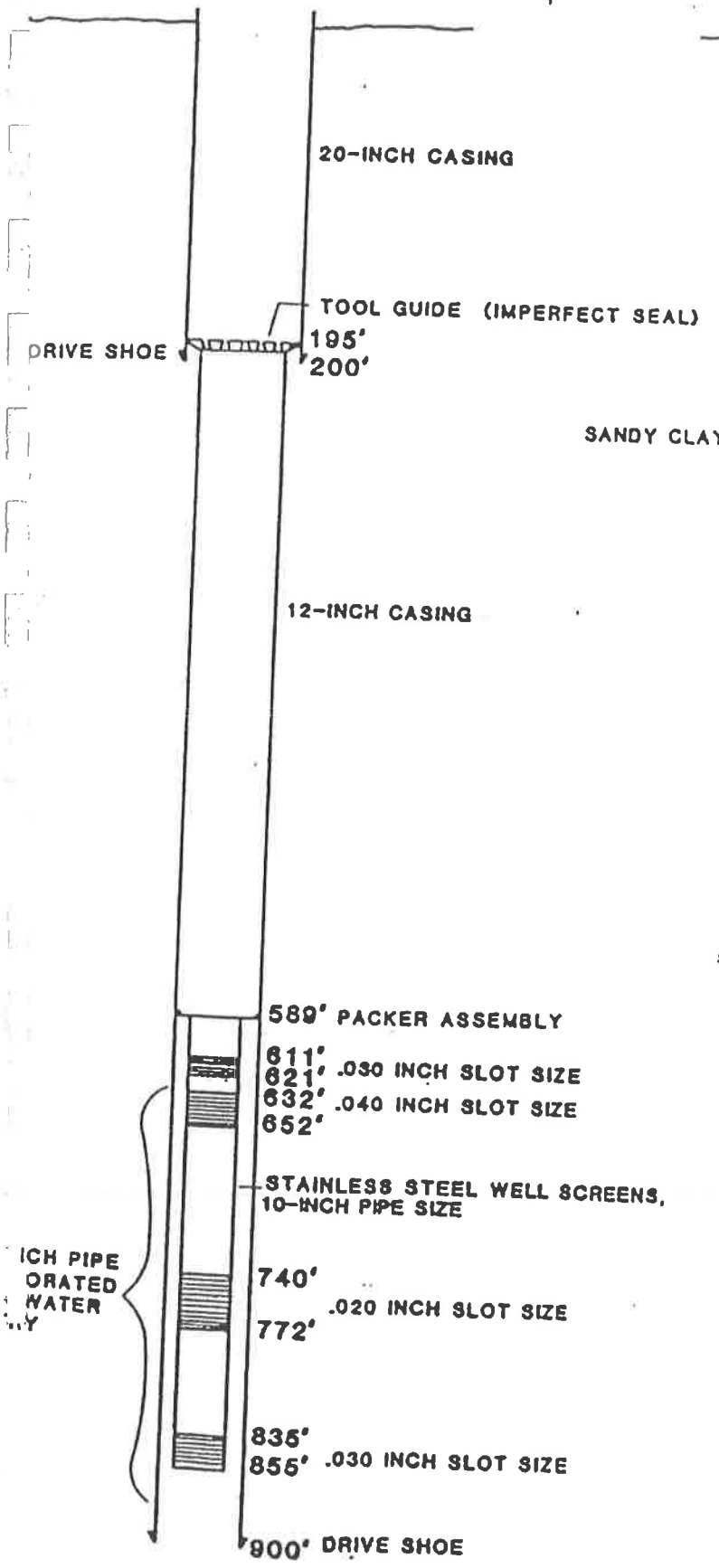
A-10

(USE ADDITIONAL SHEETS IF NECESSARY)

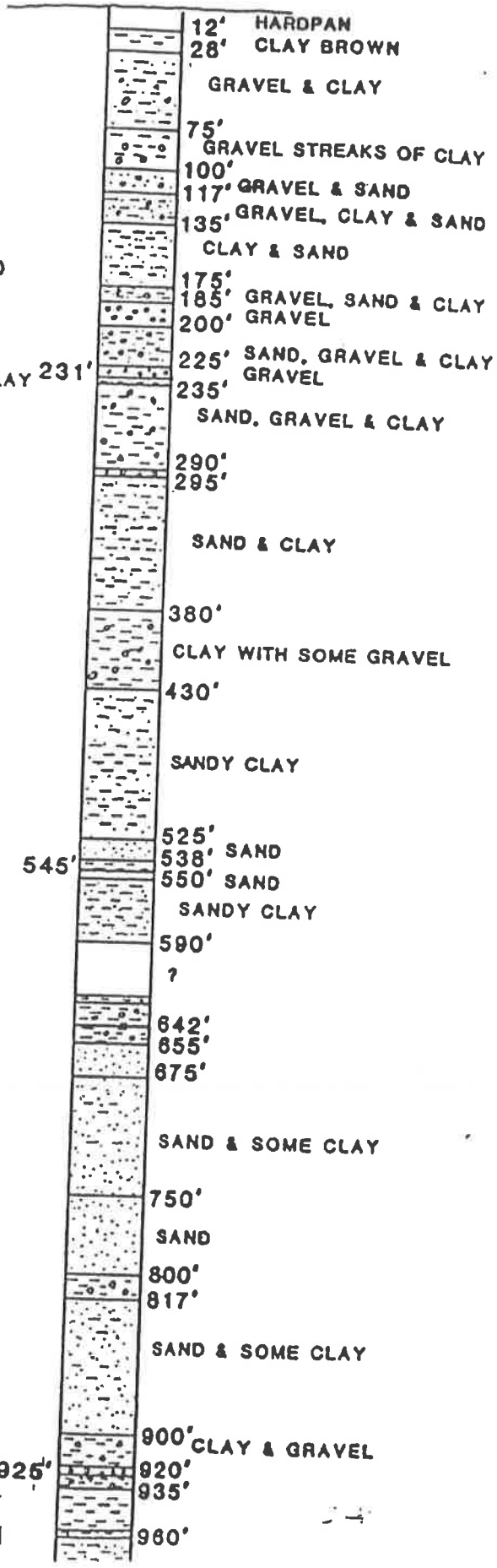
BROOKLANE WELL

PW-7

CONSTRUCTION DETAILS



DRILLERS RECORD



ICH PIPE
ORATED
WATER
...Y

...TA FROM TV INSPECTION AND OTHER RECORDS
ROBINSON & NOBLE, INC.

APPENDIX B

NO MAP

File Original and First Copy with Department of Ecology
Second Copy—Owner's Copy
Third Copy—Driller's Copy

867

WATER WELL REPORT

STATE OF WASHINGTON

Start Card No. J 10614

Water Right Permit No. G4-29526

(1) OWNER: Name EBERHART ASSOCIATES INC Address Box 877 ELLENSBURG WASH

(2) LOCATION OF WELL: County K, H, TAS NE ¼ SE ¼ Sec. 2 T. 16 N. R. 18 E. W.M.

(2a) STREET ADDRESS OF WELL (or nearest address) Mc Dowell Road, ELLENSBURG WASH

(3) PROPOSED USE: ☐ Domestic ☐ Industrial ☐ Municipal ☐ ☒ Irrigation ☐ Test Well ☐ Other ☐ ☐ DeWater

(4) TYPE OF WORK: Owner's number of well (If more than one) _____

Abandoned ☐ New well ☒ Method: Dug ☐ Bored ☐ Deepened ☐ Cable ☐ Driven ☐ Reconditioned ☐ Rotary ☒ Jetted ☐

(5) DIMENSIONS: Diameter of well 12 inches. Drilled 762 feet. Depth of completed well 762 ft.

(6) CONSTRUCTION DETAILS:

Casing installed: 12 " Diam. from 0 ft. to 425 ft.
Welded ☒ 10 " Diam. from 402 ft. to 762 ft.
Liner installed ☐ Threaded ☐ " Diam. from _____ ft. to _____ ft.

Perforations: Yes ☒ No ☐
Type of perforator used Torch Blow-1200
Size of perforations 6 in. by .25 in.
1200 perforations from 430 ft. to 760 ft.
_____ perforations from _____ ft. to _____ ft.
_____ perforations from _____ ft. to _____ ft.

Screens: Yes ☐ No ☒
Manufacturer's Name _____
Type _____ Model No. _____
Diam. _____ Slot size _____ from _____ ft. to _____ ft.
Diam. _____ Slot size _____ from _____ ft. to _____ ft.

Gravel packed: Yes ☐ No ☒ Size of gravel _____
Gravel placed from _____ ft. to _____ ft.

Surface seal: Yes ☒ No ☐ To what depth? 430' ft.
Material used to seal NEAT CEMENT GROUT
Did any strata contain unusable water? Yes ☒ No ☐ 65-76 Depth of strata 745
Type of water? _____
Method of sealing strata off CEMENT FROM KITTITAS TDP

(7) PUMP: Manufacturer's Name _____
Type _____ H.P. _____

(8) WATER LEVELS: Land-surface elevation above mean sea level _____ ft.
Static level 54' ft. below top of well Date _____
Artesian pressure _____ lbs. per square inch Date _____
Artesian water is controlled by _____ (Cap, valve, etc.)

(9) WELL TESTS: Drawdown is amount water level is lowered below static level
Was a pump test made? Yes ☐ No ☒ If yes, by whom? _____
Yield: _____ gal./min. with _____ ft. drawdown after _____ hrs.
" " " " " "
" " " " " "
Recovery data (time taken as zero when pump turned off) (water level measured from well top to water level)

Time	Water Level	Time	Water Level	Time	Water Level

Date of test _____
Bailer test _____ gal./min. with _____ ft. drawdown after _____ hrs.
Airtest _____ gal./min. with stem set at _____ ft. for _____ hrs.
Artesian flow _____ g.p.m. Date _____
Temperature of water 44° Was a chemical analysis made? Yes ☐ No ☐

(10) WELL LOG or ABANDONMENT PROCEDURE DESCRIPTION

Formations: Describe by color, character, size of material and structure, and show thickness of aquifers and the kind and nature of the material in each stratum penetrated, with at least one entry for each change of information.

MATERIAL	FROM	TO
BROWN SAND + CLAY	0	65
BROWN SAND SOME WATER(S)	65	70
BROWN SAND + CLAY	70	145
BROKEN SAND STONE + SAND	145	155
BROWN SAND STONE W CLAY	155	175
BROWN, GRAY SAND STONE + CLAY	175	196
BROKEN SAND STONE W WATER (BOULD)	196	198
BROKEN SAND STONE + CLAY.	198	345
BROKEN SAND STONE + CLAY	345	350
BROWN SANDSTONE W CLAY / GRAY SAND	350	370
GRAY SAND STONE / CLAY	370	382
BROWN GRAY / CLAY	382	415
BROWN SANDSTONE / BROWN / CLAY	415	435
BROWN SAND / SANDSTONE + CLAY	435	477
BROWN SANDSTONE / HARD GRAY CLAY	477	490
BROWN SANDSTONE / HARD GRAY CLAY	490	534
BROKEN (W/HARD CAVE)	534	
BROKEN BLACK BASALT	994	584
BROWN SAND STONE BLACK THIN	584	586
BROKEN B-BASALT (HARD) 940 PSI	586	592
BLACK BASALT (HARD) 245 PSI	592	605
BROKEN BLACK BASALT 255 PSI	605	607
HARD BLACK BASALT	607	618
BROKEN B-BASALT MEDIUM	618	642
B-BASALT GRAY CLAY	642	674
BROKEN B-BASALT-POROUS (HARD ?)	674	677
B-BASALT (SOFT) GRAY CLAY	677	681
BROKEN BASALT / RED SAND STONE / HARD	681	698
B-BASALT / GRN BASALT / CONGLOMERATE	698	707
COARSE GRAY CLAY	707	748
WHITE SAND 255 PSI	748	756
BLACK BASALT	756	762

Work started 4-11-94 19 Completed 4-22 19 94

WELL CONSTRUCTOR CERTIFICATION: I constructed and/or accept responsibility for construction of this well, and its compliance with all Washington well construction standards. Materials used and the information reported above are true to my best knowledge and belief.

NAME L K Drilling Corp Inc (Person, firm, or corporation) (Type or print)
P.O. Box 1158
Address 301 A Reed Street Yakima WA 98903

(Signed) _____ (Well Driller) License No. 0951

Contractor's Registration No. LKDRIC1077KP Date 4-13 19 94

B-1

File Original and First Copy with Department of Ecology
Second Copy — Owner's Copy
Third Copy — Driller's Copy

WATER WELL REPORT
STATE OF WASHINGTON

Application No. 163 NO MAP
Permit No.

(1) OWNER: Name C. H. Steinbeck Address R 2 Box 94C Ellensburg

(2) LOCATION OF WELL: County Kittitas SE¼ SE¼ Sec. 26 T. 18 N. R. 20 E.W.M.
Bearing and distance from section or subdivision corner

(3) PROPOSED USE: Domestic ☒ Industrial ☐ Municipal ☐ Irrigation ☐ Test Well ☐ Other ☐

(4) TYPE OF WORK: Owner's number of well (if more than one)
New well ☒ Method: Dug ☐ Bored ☐
Deepened ☐ Cable ☐ Driven ☐
Reconstructed ☐ Rotary ☐ Jetted ☐

(5) DIMENSIONS: Diameter of well 6 inches.
Drilled 156 ft. Depth of completed well 156 ft.

(6) CONSTRUCTION DETAILS:
Casing installed: 6" Diam. from 0 ft. to 147 ft.
Threaded ☐ ___" Diam. from ___ ft. to ___ ft.
Welded ☒ ___" Diam. from ___ ft. to ___ ft.

Perforations: Yes ☐ No ☒
Type of perforator used
SIZE of perforations ___ in. by ___ in.
___ perforations from ___ ft. to ___ ft.
___ perforations from ___ ft. to ___ ft.
___ perforations from ___ ft. to ___ ft.

Screens: Yes ☐ No ☒
Manufacturer's Name
Type Model No.
Diam. ___ Slot size ___ from ___ ft. to ___ ft.
Diam. ___ Slot size ___ from ___ ft. to ___ ft.

Gravel packed: Yes ☐ No ☒ Size of gravel:
Gravel placed from ___ ft. to ___ ft.

Surface seal: Yes ☒ No ☐ To what depth? 40 ft.
Material used to seal Cement & Bentonite
Did any strata contain unusable water? Yes ☐ No ☐
Type of water? Depth of strata
Method of sealing strata off

(7) PUMP: Manufacturer's Name
Type: H.P.

(8) WATER LEVELS: Land-surface elevation above mean sea level
Static level 8 ft. below top of well Date 11-12-82
Artesian pressure lbs. per square inch Date
Artesian water is controlled by (Cap, valve, etc.)

(9) WELL TESTS: Drawdown is amount water level is lowered below static level
Was a pump test made? Yes ☐ No ☒ If yes, by whom?
Yield: gal./min. with ft. drawdown after hrs.
" " " "
" " " "

Recovery data (time taken as zero when pump turned off) (water level measured from well top to water level)

Time	Water Level	Time	Water Level	Time	Water Level

Date of test
Bailer test 30 gal./min. with 12 ft. drawdown after 3 hrs.
Artesian flow g.p.m. Date 11-12-82
Temperature of water Was a chemical analysis made? Yes ☐ No ☒

(10) WELL LOG:
Formation: Describe by color, character, size of material and structure, and show thickness of aquifers and the kind and nature of the material in each stratum penetrated, with at least one entry for each change of formation.

MATERIAL	FROM	TO
Topsoil	0	4
Hard pan	4	32
Gravel	32	40
Hard pan	40	53
Volcanic clay	53	132
Sand stone	132	150
aquifer	150	

APR 7 1983

Work started 11-2 19 82 Completed 11-12 19 82

WELL DRILLER'S STATEMENT:
This well was drilled under my jurisdiction and this report is true to the best of my knowledge and belief.
NAME Lowell Begalka Drilling WT-11
(Person, firm, or corporation) (Type or print)
Address R 2 Box 1055 Ellensburg
[Signed] Lowell Begalka (Well Driller)
License No. 0019 Date 11-12 19 82

ECY 050-1-20 (USE ADDITIONAL SHEETS IF NECESSARY)

File Original and First Copy with Department of Ecology
Second Copy — Owner's Copy
Third Copy — Driller's Copy

WATER WELL REPORT

STATE OF WASHINGTON

46°

Application No. G1

Permit No.

(1) OWNER: Name Larry Anderson Address Brown Rd., Ellensburg

(2) LOCATION OF WELL: County Kittitas — S ¼ NE ¼ Sec. 4 T. 17 N. R. 18 W.M.

Bearing and distance from section or subdivision corner

(3) PROPOSED USE: Domestic X Industrial ☐ Municipal ☐
Irrigation ☐ Test Well ☐ Other ☐

(4) TYPE OF WORK: Owner's number of well (if more than one)
New well X Method: Dug ☐ Bored ☐
Deepened ☐ Cable ☐ Driven ☐
Reconditioned ☐ Rotary X Jetted ☐

(5) DIMENSIONS: Diameter of well 6 inches.
Drilled 245 ft. Depth of completed well 245 ft.

(6) CONSTRUCTION DETAILS:
Casing installed: 6" Diam. from 12 ft. to 225 ft.
Threaded ☐ ____" Diam. from ____ ft. to ____ ft.
Welded X ____" Diam. from ____ ft. to ____ ft.

Perforations: Yes ☐ No X
Type of perforator used
SIZE of perforations ____ in. by ____ in.
____ perforations from ____ ft. to ____ ft.
____ perforations from ____ ft. to ____ ft.
____ perforations from ____ ft. to ____ ft.

Screens: Yes ☐ No X
Manufacturer's Name
Type Model No.
Diam. ____ Slot size ____ from ____ ft. to ____ ft.
Diam. ____ Slot size ____ from ____ ft. to ____ ft.

Gravel packed: Yes ☐ No X Size of gravel:
Gravel placed from ____ ft. to ____ ft.

Surface seal: Yes X No ☐ To what depth? 20 ft.
Material used to seal Bentonite
Did any strata contain unusable water? Yes ☐ No ☐
Type of water? Depth of strata
Method of sealing strata off

(7) PUMP: Manufacturer's Name
Type: H.P.

(8) WATER LEVELS: Land-surface elevation above mean sea level ft.
Static level 12 ft. below top of well Date 10-29-87
Artesian pressure lbs. per square inch Date
Artesian water is controlled by (Cap, valve, etc.)

(9) WELL TESTS: Drawdown is amount water level is lowered below static level
Was a pump test made? Yes ☐ No ☐ If yes, by whom?
Yield: gal./min. with ft. drawdown after hrs.

Recovery data (time taken as zero when pump turned off) (water level measured from well top to water level)

Time	Water Level	Time	Water Level	Time	Water Level

Bailer test 50 gal./min. with 0 ft. drawdown after 2 hrs.
Airtest gal./min. with ____ stem set at ____ p.s.i. for ____ hrs.
Temperature of water ____ Was a chemical analysis made? Yes ☐ No ☐

(10) WELL LOG:
Formation: Describe by color, character, size of material and structure, and show thickness of aquifers and the kind and nature of the material in each stratum penetrated, with at least one entry for each change of formation.

MATERIAL	FROM	TO
Silt + Cobbles	0	12
Cemented Cobbles	12	50
Cemented Gravel	50	95
Sandstone	95	110
Cemented Gravel	110	180
Loose Sand + Gravel	180	200
Sandstone with Gravel	200	225
Sandstone with water	225	245

0-50 Cobbles
50-245 Ellensburg

Could be past Eb
Mainstream?

NOV 2 4 1987

Work started 10-27 19 87 Completed 10-29 19 87

WELL DRILLER'S STATEMENT:
This well was drilled under my jurisdiction and this report is true to the best of my knowledge and belief.

NAME Bach Drilling Co.
(Person, firm, or corporation) (Type or print)
Address Box 1010 Rt 5 - E-Burg
(Signed) William M. Cochran (Well Driller)
License No. 0836 Date 10-29 19 87

(USE ADDITIONAL SHEETS IF NECESSARY)

Copy — Owner's Copy
Copy — Driller's Copy

STATE OF WASHINGTON • 67 Permit No. G320600

WO Mark C S.W.L. 150 M 154

OWNER: Name Schaake Packing Co. Inc. Address P.O. Box 129 Ellensburg, Wash.

LOCATION OF WELL: County Kittitas NW NW SW sec. 11 T. 17 N. R. 18 W.M.
and distance from section or subdivision corner 340 ft E and 50 ft South from the W¼ cor.

PROPOSED USE: Domestic ☐ Industrial ☒ Municipal ☐
Irrigation ☒ Test Well ☐ Other ☐

TYPE OF WORK: Owner's number of well (if more than one)
New well ☒ Method: Dug ☐ Bored ☐
Deepened ☐ Cable ☐ Driven ☐
Reconditioned ☐ Rotary ☐ Jetted ☐

DIMENSIONS: Diameter of well 18 inches.
Drilled 790 ft. Depth of completed well 790 ft.

CONSTRUCTION DETAILS:
Casing installed: 16" Diam. from 0 ft. to 440 ft.
Threaded ☐ 12" Diam. from 0 ft. to 790 ft.
Welded ☒ ____" Diam. from ____ ft. to ____ ft.

Perforations: Yes ☒ No ☐
Type of perforator used Mills Knife
SIZE of perforations ¾ in. by 3 in.
900 perforations from 740 ft. to 790 ft.
____ perforations from ____ ft. to ____ ft.
____ perforations from ____ ft. to ____ ft.

Screen: Yes ☐ No ☒
Manufacturer's Name
Type ____ Model No.
Diam. ____ Slot size ____ from ____ ft. to ____ ft.
Diam. ____ Slot size ____ from ____ ft. to ____ ft.

Gravel packed: Yes ☐ No ☒ Size of gravel:
Gravel placed from ____ ft. to ____ ft.

Surface seal: Yes ☐ No ☐ To what depth? 17 ft.
Material used in seal Cement
Did any strata contain unusable water? Yes ☐ No ☒
Type of water? ____ Depth of strata
Method of sealing strata off

PUMP: Manufacturer's Name PEERLESS
Type: HYDROCONSTANT H.P. 60

WATER LEVELS: Land-surface elevation above mean sea level ____ ft.
Static level 540 ft. below top of well Date
Artesian pressure ____ lbs. per square inch Date
Artesian water is controlled by (Cap, valve, etc.)

WELL TESTS: Drawdown is amount water level is lowered below static level
Was a pump test made? Yes ☒ No ☐ If yes, by whom? Owner
750 gal./min. with 930 ft. drawdown after 12 hrs.
" " " " "

Recovery data (time taken as zero when pump turned off) (water level measured from well top to water level)

Water Level	Time	Water Level	Time	Water Level

Date of test April 1970
Bailer test ____ gal./min. with ____ ft. drawdown after ____ hrs.
Artesian flow ____ g.p.m. Date
Temperature of water 54 Was a chemical analysis made? Yes ☐ No ☒

WELL LOG:
Formation: Describe by color, character, size of material and structure, and show thickness of aquifers and the kind and nature of the material in each stratum penetrated, with at least one entry for each change of formation.

MATERIAL	FROM	TO
Gravelly Topsoil	0	4
Coarse Gravels	4	68
Water 10 GPM	68	102
Sand Clay & Gravel	102	198
Cemented Gravels	198	410
Water bearing formation 50 GPM	410	740
Ellensburg formation	440	740
Hard Brown water bearing 150 GPM flowing	740	790
well stop flowing with test pump		
Abandoned Gas Well		

RECEIVED
MAY 23 1975
DEPARTMENT OF ECOLOGY
CENTRAL REGIONAL OFFICE

Work started 5-1 1969 Completed 10-1-69 1970

WELL DRILLER'S STATEMENT:
This well was drilled under my jurisdiction and this report is true to the best of my knowledge and belief.

NAME Pratt Groundwater Drilling Co. (Person, firm, or corporation) (Type or print)
Address 701 Bellevue Way Richland
[Signed] (Well Driller)
License No. 1489 Date 1-1 1971

(USE ADDITIONAL SHEETS IF NECESSARY)

B-4

536 408

174

N2

WATER WELL REPORT

STATE OF WASHINGTON

Start Card No. UA53864
Unique Well I.D. # ABL208
Water Right Permit No.

(1) OWNER: Name FOREY, TODD Address ROUTE 2 BOX 1278 ELLENSBURG, WA 98926-

(2) LOCATION OF WELL: County KITTITAS - SW 1/4 SW 1/4 Sec 23 T 17 N., R 19E WM N

(2a) STREET ADDRESS OF WELL (or nearest address) .

(3) PROPOSED USE: DOMESTIC

(4) TYPE OF WORK: Owner's Number of well (If more than one) 1
NEW WELL Method: ROTARY

(5) DIMENSIONS: Diameter of well 6 inches
Drilled 138 ft. Depth of completed well 138 ft.

(6) CONSTRUCTION DETAILS:
Casing installed: 6 " Dia. from +2 ft. to 138 ft.
WELDED " Dia. from ft. to ft.
" Dia. from ft. to ft.

Perforations: NO
Type of perforator used
SIZE of perforations in. by in.
perforations from ft. to ft.
perforations from ft. to ft.
perforations from ft. to ft.

Screens: NO
Manufacturer's Name
Type Model No.
Dia. slot size from ft. to ft.
Dia. slot size from ft. to ft.

Gravel packed: NO Size of gravel
Gravel placed from ft. to ft.

Surface seal: YES To what depth? 18 ft.
Material used in seal BENTONITE
Did any strata contain unusable water? NO
Type of water? Depth of strata ft.
Method of sealing strata off OVERBORE

(7) PUMP: Manufacturer's Name
Type H.P.

(8) WATER LEVELS: Land-surface elevation above mean sea level ... ft.
Static level FLOW ft. below top of well Date 07/06/94
Artesian Pressure lbs. per square inch Date
Artesian water controlled by

(9) WELL TESTS: Drawdown is amount water level is lowered below static level.
Was a pump test made? NO If yes, by whom?
Yield: gal./min with ft. drawdown after hrs.

Recovery data
Time | Water Level | Time | Water Level | Time | Water Level

Date of test / /
Bailer test gal/min. ft. drawdown after hrs.
Air test 20 gal/min. w/ stem set at 138 ft. for 1 hrs.
Artesian flow g.p.m. Date
Temperature of water Was a chemical analysis made? NO

(10) WELL LOG

Formations: Describe by color, character, size of material and structure, and show thickness of aquifers and the kind and nature of the material in each stratum penetrated, with at least one entry for each change in formation.

MATERIAL	FROM	TO
LARGE BOULDERS GRAVEL	0	20
YELLOW CLAY GRAVEL	20	60
SAND GRAVEL WITH WATER	60	80
YELLOW CLAY	80	128
SAND GRAVEL WITH WATER	128	138

RECEIVED
JUL 21 1994
DEPARTMENT OF ECOLOGY
CENTRAL REGION OFFICE

Work started 07/06/94 Completed 07/06/94

WELL CONSTRUCTOR CERTIFICATION:
I constructed and/or accept responsibility for construction of this well, and its compliance with all Washington well construction standards. Materials used and the information reported above are true to my best knowledge and belief.

NAME PONDEROSA DRILLING
(Person, firm, or corporation) (Type or print)

ADDRESS E 6810 BROADWAY

SIGNED [signature] License No. 0215

Contractor's Registration No. PO-WD-EI494LE Date 07/07/94

175

File Original and First Copy with Department of Ecology
Second Copy—Owner's Copy
Third Copy—Driller's Copy

537 7506

WATER WELL REPORT

STATE OF WASHINGTON

Start Card No. 083713

Water Right Permit No. _____

(1) OWNER: Name Jim & Linda Moser Address Route 2, Box 1280 Ellensburg, WA 989

(2) LOCATION OF WELL: County Kittitas NW SW 1/4 Sec 23 T 17 N, R 19 WM

(2a) STREET ADDRESS OF WELL (or nearest address) Parcel #17 19 2300 0019

(3) PROPOSED USE: Domestic ☒ Industrial ☐ Municipal ☐ Irrigation ☐ Test Well ☐ Other ☐ DeWater ☐

(4) TYPE OF WORK: Owner's number of well (if more than one) _____
Abandoned ☐ New well ☒ Method: Dug ☐ Bored ☐ Deepened ☐ Cable ☒ Driven ☐ Reconditioned ☐ Rotary ☐ Jetted ☐

(5) DIMENSIONS: Diameter of well 6" inches. Drilled 130 feet. Depth of completed well 130 ft.

(6) CONSTRUCTION DETAILS:
Casing installed: 6" Diam. from +2 ft. to 118 ft.
Welded ☒ 4" Diam. from 90 ft. to 130 ft.
Liner installed ☐ Threaded ☐ Diam. from _____ ft. to _____ ft.

Perforations: Yes ☒ No ☐
Type of perforator used Skill saw
SIZE of perforations _____ in. by _____ in.
_____ perforations from _____ ft. to _____ ft.
_____ perforations from _____ ft. to _____ ft.
_____ perforations from _____ ft. to _____ ft.

Screens: Yes ☐ No ☒
Manufacturer's Name _____
Type _____ Model No. _____
Diam. _____ Slot size _____ from _____ ft. to _____ ft.
Diam. _____ Slot size _____ from _____ ft. to _____ ft.

Gravel packed: Yes ☐ No ☒ Size of gravel _____
Gravel placed from _____ ft. to _____ ft.

Surface seal: Yes ☒ No ☐ To what depth? 20 ft.
Material used in seal Cement/Bentonite
Did any strata contain unusable water? Yes ☒ No ☐
Type of water? _____ Depth of strata 60
Method of sealing strata off Casing

(7) PUMP: Manufacturer's Name _____
Type: _____ H.P. _____

(8) WATER LEVELS: Land-surface elevation above mean sea level _____ ft.
Static level flowing out of casing ft. Date 9/25/92
Artesian pressure 0 lbs. per square inch Date _____
Artesian water is controlled by Gate valve (Cap, valve, etc.)

(9) WELL TESTS: Drawdown is amount water level is lowered below static level
Was a pump test made? Yes ☐ No ☒ If yes, by whom? _____
Yield: 50 gal./min. with _____ ft. drawdown after _____ hrs.
- Estimated air lift 50 GPM -

Recovery data (time taken as zero when pump turned off) (water level measured from well top to water level)

Time	Water Level	Time	Water Level	Time	Water Level

Date of test _____
Bailer test _____ gal./min. with _____ ft. drawdown after _____ hrs.
Airtest _____ gal./min. with stem set at _____ ft. for _____ hrs.
Artesian flow _____ G.P.M. Date _____
Temperature of water _____ Was a chemical analysis made? Yes ☐ No ☐

(10) WELL LOG or ABANDONMENT PROCEDURE DESCRIPTION

Formation: Describe by color, character, size of material and structure, and show thickness of aquifers and the kind and nature of the material in each stratum penetrated, with at least one entry for each change of information.

MATERIAL	FROM	TO
Brown top soils moist	0	10
Silts very fine brown	10	80
water at 80 feet		
Silts very fine really close to being clay	80	120
Redish brown sandstone w/water	120	130

G-1

WATER WELL REPORT

STATE OF WASHINGTON

80

Start Card No. 28683

Water Right Permit No.

(1) OWNER: Name Tillman Address Rt 2 Box 1122

(2) LOCATION OF WELL: County Pattuta SW ¼ NE ¼ Sec. 25 T. 17 N. R. A W.M.

(2a) STREET ADDRESS OF WELL (or nearest address) Rt 2 Box 1122 NW NW 30

(3) PROPOSED USE: Domestic ☒ Industrial ☐ Municipal ☐ Irrigation ☐ Test Well ☐ Other ☐ DeWater ☐

(4) TYPE OF WORK: Owner's number of well (if more than one)

Abandoned ☐ New well ☒ Method: Dug ☐ Bored ☐ Deepened ☐ Cable ☒ Driven ☐ Reconditioned ☐ Rotary ☒ Jetted ☐

(5) DIMENSIONS: Diameter of well 6 inches. Drilled ____ feet. Depth of completed well ____ ft.

(6) CONSTRUCTION DETAILS:

Casing installed: 6" Diam. from 0 ft. to 100 ft.

Welded ☒ Liner installed ☐ Threaded ☐ " Diam. from ____ ft. to ____ ft.

Perforations: Yes ☐ No ☐

Type of perforator used ____

SIZE of perforations ____ in. by ____ in.

____ perforations from ____ ft. to ____ ft.

____ perforations from ____ ft. to ____ ft.

____ perforations from ____ ft. to ____ ft.

Screens: Yes ☐ No ☐

Manufacturer's Name ____

Type ____ Model No. ____

Diam. ____ Slot size ____ from ____ ft. to ____ ft.

Diam. ____ Slot size ____ from ____ ft. to ____ ft.

Gravel packed: Yes ☐ No ☐ Size of gravel ____

Gravel placed from ____ ft. to ____ ft.

Surface seal: Yes ☒ No ☐ To what depth? 15 ft.

Material used in seal Neat cement

Did any strata contain unusable water? Yes ☐ No ☐

Type of water? ____ Depth of strata ____

Method of sealing strata off ____

(7) PUMP: Manufacturer's Name ____

Type: ____ H.P. ____

(8) WATER LEVELS: Land-surface elevation above mean sea level ____

Static level 0 ft. below top of well Date 10-4-57

Artesian pressure ____ lbs. per square inch Date ____

Artesian water is controlled by ____ (Cap, valve, etc.)

(9) WELL TESTS: Drawdown is amount water level is lowered below static level

Was a pump test made? Yes ☐ No ☐ If yes, by whom? ____

Yield: ____ gal./min. with ____ ft. drawdown after ____ hrs.

Recovery data (time taken as zero when pump turned off) (water level measured from well top to water level)

Time	Water Level	Time	Water Level	Time	Water Level

Date of test ____

Bailer test 10 gal./min. with ____ ft. drawdown after ____ hrs.

Airlift 10 gal./min. with steam set at 135 ft. for 2 hrs.

Artesian flow ____ g.p.m. Date ____

Temperature of water ____ Was a chemical analysis made? Yes ☐ No ☐

(10) WELL LOG or ABANDONMENT PROCEDURE DESCRIPTION

Formations: Describe by color, character, size of material and structure, and show thickness of aquifers and the kind and nature of the material in each stratum penetrated, with at least one entry for each change of information.

MATERIAL	FROM	TO
SILT	0	6
Sand & Mud Silt & Lg. Gravel	6	20
Brown Sandstone with Clay	20	40
Sandstone with Clay	40	100
Brown Sandstone (Hard)	100	140

0-6 A

20-140 Eb

I constructed and/or accept responsibility for construction of this well, and its compliance with all Washington well construction standards. Materials used and the information reported above are true to my best knowledge and belief.

NAME BAKH Drilling Co (Person, firm, or corporation) (Type or print)

Address Rt 5 Box 101 [illegible], Pburg, WA

[Signed] [illegible] (Well Driller) License No. 22

Contractor's Registration No. MIDDLE 006 133N1 Date 6/89, 19__

(USE ADDITIONAL SHEETS IF NECESSARY)

L

M1

STATE OF WASHINGTON
DEPARTMENT OF CONSERVATION
AND DEVELOPMENT

WELL LOG

No. Appl. 1162
Cert. 433-A

Date June 19, 1949

Record by Harold O. Meyer

Source Driller's Record

Location: State of WASHINGTON

County Kittitas

Area

Map

NW¼ SW¼ sec. 29 T. 17 N. R. 19 E. W.

DIAGRAM OF SECTION

Drilling Co. Harold O. Meyer

Address Route 4 Box 17; Kirkland

Method of Drilling Date June 27 1949

Owner Gordon Prentice

Address P. O. Box 3148; Seattle

Land surface, datum ft. above / below

Consolidated	Material	Thickness (feet)	Depth (feet)
	(Transcribe driller's terminology literally but paraphrase as necessary, to harmonize. If material water-bearing, so state and record static level if reported. Give depths in feet below land-surface datum unless otherwise indicated. Correlate with stratigraphic columns, if feasible. Follow-ing log of materials, list all casings, perforations, screens, etc.)		
	Muck & top soil	7	7
	Gravel - water	7	14
	Yellow sand & clay & water	8	22
	Yellow sand & clay & water	32	54
	Water sand	2	56
	Grey clay & sand drilled open (water)	44	100
	Grey sand, coarse (rain of water)	6	106
	Dry sand & clay	29	135
	Yellow clay	15	150
	Green sand & clay	10	160
	Green sand & clay (water at 165-170+)	13	173
	Green sand & clay (water at 200-205)	37	215
	Sand stone (characertistics of)	5	220
	Green sand, water producing	10	230
	Alternate layers of clay & sand	56	296
	Harder ground to drill	22	318

Turn over (over)

Sheet ... of ...

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E1 156

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Second Copy — Owner's Copy
Third Copy — Driller's Copy

WATER WELL REPORT (42)

STATE OF WASHINGTON

Application No. _____
Permit No. G4-21432

(1) OWNER: Name Tickle Fruit Company Address Rt 2 Box 2277, Selah, WA 98942

(2) LOCATION OF WELL: County Kittitas SW ¼ NW ¼ = NW ¼ of SW ¼ Sec 32 T. 17 N. R. 19E W.M.

ring and distance from section or subdivision corner

(3) PROPOSED USE: Domestic ☐ Industrial ☐ Municipal ☐ Irrigation ☑ Test Well ☐ Other ☐

(4) TYPE OF WORK: Owner's number of well (if more than one) _____
New well ☒ Method: Dug ☐ Bored ☐
Deepened ☐ Cable ☐ Driven ☐
Reconditioned ☐ Rotary ☑ Jetted ☐

(5) DIMENSIONS: Diameter of well 12" Drilled 715 ft. Depth of completed well 715' ft.

(6) CONSTRUCTION DETAILS:
Casing installed: 16" Diam. from +1' ft. to 40' ft.
Threaded ☐ 12" Diam. from +1' ft. to 492 ft.
Welded ☑ _____ Diam. from _____ ft. to _____ ft.

Per.
No Artesian?
0-14
Scr 14-103 Rocky Color
103-106 Quartz? sand -
106-280 Cohassett + Buckett?
Gra 280-495 Unknown ?
Scr 495-602
602-662 -- N2 ? Sols.?
662-715 R2

(7) PUMP: Manufacturer's Name _____
Type: _____ H.P. _____

(8) WATER LEVELS: Land-surface elevation above mean sea level 1600 ft.
Static level 430 ft. below top of well Date 6-10
Artesian pressure _____ lbs. per square inch Date _____
Artesian water is controlled by _____ (Cap, valve, etc.)

(9) WELL TESTS: Drawdown is amount water level is lowered below static level
Was a pump test made? Yes ☐ No ☑ If yes, by whom? _____
Yield: _____ gal./min. with _____ ft. drawdown after _____ hrs.

Recovery data (time taken as zero when pump turned off) (water level measured from well top to water level)

Time	Water Level	Time	Water Level	Time	Water Level
estimate 1000 plus	Air				
2 GT					

Date of test _____
Bailer test _____ gal./min. with _____ ft. drawdown after _____ hrs.
Artesian flow _____ g.p.m. Date _____
Temperature of water _____ Was a chemical analysis made? Yes ☐ No ☑

(10) WELL LOG:

Formation: Describe by color, character, size of material and structure, and show thickness of aquifers and the kind and nature of the material in each stratum penetrated, with at least one entry for each change of formation.

MATERIAL	FROM	TO
top soil	0	14
fractured brown basalt w/clay	14	56
fractured black basalt	68	103
quartz	103	106
fractured black basalt w/pyrite	106	157
fractured black & brown basalt w/ clay	157	192
fractured black & brown basalt	192	246
fractured brown basalt w/gray clay	246	280
fractured black basalt	280	286
black basalt	286	297
black basalt w/pyrite	297	321
fractured black & brown basalt	321	336
fractured black basalt w/pyrite	336	385
green vantage clay	385	495
porous black basalt	495	522
black basalt w/pyrite	522	580
hard black basalt	580	602
porous black basalt	602	613
black basalt w/pyrite	613	662
porous basalt	662	670
black basalt w/pyrite	670	715

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JUL - 9 1981
DEPARTMENT OF ECOLOGY
CENTRAL REGION

RP 7-26-81

Work started 4-8 19 81 Completed 6-2 19 81

WELL DRILLER'S STATEMENT:

This well was drilled under my jurisdiction and this report is true to the best of my knowledge and belief.

NAME Leach Well Drilling, Inc. (Type or print)
821 W. Broadway, Moses Lake, WA 98837
Address _____
(Signed) _____ (Well Driller)

License No. 1155 Date 6-15-81 19____

(USE ADDITIONAL SHEETS IF NECESSARY)

CV 050-1-20

K1

File Original and First Copy with Department of Ecology
Second Copy—Owner's Copy
Third Copy—Driller's Copy

WATER WELL REPORT

STATE OF WASHINGTON

Start Card No. 403763
Unique Well I.D. # AAV153
Water Right Permit No. G4-32037

(1) OWNER: Name Rodger Weaver Address 1661 Passmore Rd. Ellensburg, Wa 98926

(2) LOCATION OF WELL: County Kittitas NE ¼ SE ¼ Sec. 1 T. 18 N. R. 17 WM

(2a) STREET ADDRESS OF WELL (or nearest address)

(3) PROPOSED USE: ☐ Domestic ☒ Irrigation ☐ Industrial ☐ Municipal ☐ ☐ DeWater ☐ Test Well ☐ Other ☐

(4) TYPE OF WORK: Owner's number of well (if more than one)
Abandoned ☐ New well ☒ Method: Dug ☐ Bored ☐ Deepened ☐ Cable ☐ Driven ☐ Reconditioned ☐ Rotary ☒ Jetted ☐

(5) DIMENSIONS: Diameter of well 10 inches, drilled 830 feet. Depth of completed well 830 ft.

(6) CONSTRUCTION DETAILS:
Casing Installed: 12 " Diam. from +1 ft. to 544 ft.
Welded ☒ 10 " Diam. from +2 ft. to 675 ft.
Liner Installed ☐ Threaded ☐ " Diam. from ft. to ft.
Perforations: Yes ☐ No ☒
Type of perforator used
SIZE of perforations in by in
Screens: Yes ☐ No ☒
Manufacturer's Name
Type Model No.
Diam. Slot size Set from ft. to ft.
Diam. Slot size Set from ft. to ft.
Gravel packed: Yes ☐ No ☒ Size of gravel
Gravel placed from ft. to ft.
Surface seal: Yes ☐ No ☒ To what depth?
Material used in seal
Did any strata contain unusable water? Yes ☐ No ☒
Type of water? Depth of strata
Method of sealing strata off

0-440 Thorp
440-730 Eb
730-830 Basalt

(7) PUMP: Manufacturer's Name
Type: H.P.

(8) WATER LEVELS: Land-surface elevation above mean sea level ft.
Static level 422 ft. below top of well Date
Artesian pressure lbs. per square inch Date
Artesian water is controlled by (Cap, valve, etc.)

(9) WELL TESTS: Drawdown of pumped water level is measured below static level
Was a pump test made? Yes ☐ No ☐ If yes, by whom?
Yield: 500+ gal./min. with ft. drawdown after hrs.
Recovery data (time taken as zero when pump turned off) (water level measured from well top to water level)

Time	Water Level	Time	Water Level	Time	Water Level

Date of test
Bailer test gal./min. with ft. drawdown after hrs.
Airtest 500+ gal./min. with stem set at 830 ft. for 2 hrs.
Artesian flow g.p.m. Date
Temperature of water Was a chemical analysis made? Yes ☐ No ☐

(10) WELL LOG or ABANDONMENT PROCEDURE DESCRIPTION
Formations: Describe by color, character, size of material and structure, and show thickness of aquifers and the kind and nature of the materials in each stratum penetrated, with at least one entry for each change of information.

MATERIAL	FROM	TO
Top Soil	0	3
Sand & Gravel	3	23
Cenented Sand,Gravel	23	47
Brown Clay, Gravel	47	121
Basalt Gravel, Boulders	121	159
Basalt Boulders, Gravel	159	243
Brown Clay Round Gravel	243	265
Gasalt Gravel	265	290
Gravel, Water	290	400
Brown Clay	400	415
Basalt Gravel	415	440
Brown Sandy Clay	440	455
Clay Round Gravel	455	470
Brown Sandy Clay	470	515
Sand Stone	515	610
Sand With Water	610	615
Med Hard Sand Stone	615	650
Fine Sand With Water	650	665
Med Hard Sand Stone	665	730
Hard Basalt	730	775
Broken Basalt With Water	775	785
Hard Basalt	785	800
Med Hard Basalt	800	830

Work started 8-18-94 19 Completed 8-20-94 19

WELL CONSTRUCTOR CERTIFICATION:
I constructed and/or accept responsibility for construction of this well, and its compliance with all Washington well construction standards. Materials used and the information reported above are true to my best knowledge and belief.

NAME Okanogan Drilling (PERSON, FIRM, OR CORPORATION) (TYPE OR PRINT)
Address Rt 2 Box 395. Okanogan, Wa 98840
(Signed) (WELL DRILLER) License No. 0564
Contractor's Registration No. OKANODD119LT Date 8-23-94 19

(USE ADDITIONAL SHEETS IF NECESSARY)

177

596

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Third Copy — Driller's Copy

WATER WELL REPORT

STATE OF WASHINGTON

Application No. ____ / ____

Permit No. ____

G1

(1) OWNER: Kittitas Fire Protection #1 Address Ellensburg Wn 98926

(2) LOCATION OF WELL: County Kittitas SW¼ NE¼ Sec. 2 T. 18N. R. 17W.M.

Bearing and distance from section or subdivision corner N 65° E 1230 ft from SW Corner of NE¼ G

(3) PROPOSED USE: Domestic ☑ Industrial ☐ Municipal ☐
Irrigation ☐ Test Well ☐ Other ☐

(4) TYPE OF WORK: Owner's number of well (if more than one) ____
New well ☑ Method: Dug ☐ Bored ☐
Deepened ☐ Cable ☐ Driven ☐
Reconditioned ☐ Rotary ☑ Jetted ☐

(5) DIMENSIONS: Diameter of well 6 inches.
Drilled 160 ft. Depth of completed well 160 ft.

(6) CONSTRUCTION DETAILS:

Casing installed: ____" Diam. from ____ ft. to ____ ft.
Threaded ☐ ____" Diam. from ____ ft. to ____ ft.
Welded ☑ 6" Diam. from 0 ft. to 135 ft.

Perforations: Yes ☐ No ☑
Type of perforator used ____
SIZE of perforations ____ in. by ____ in.
____ perforations from ____ ft. to ____ ft.
____ perforations from ____ ft. to ____ ft.
____ perforations from ____ ft. to ____ ft.

Screens: Yes ☐ No ☑
Manufacturer's Name ____
Type ____ Model No. ____
Diam. ____ Slot size ____ from ____ ft. to ____ ft.
Diam. ____ Slot size ____ from ____ ft. to ____ ft.

Gravel packed: Yes ☐ No ☑ Size of gravel: ____
Gravel placed from ____ ft. to ____ ft.

Surface seal: Yes ☑ No ☐ To what depth? 25 ft.
Material used in seal BENTONITE
Did any strata contain unusable water? Yes ☐ No ☐
Type of water? ____ Depth of strata ____
Method of sealing strata off ____

(7) PUMP: Manufacturer's Name ____
Type: ____ H.P. ____

(8) WATER LEVELS: Land-surface elevation above mean sea level.... ____ ft.
Static level 40 ft. below top of well Date ____
Artesian pressure ____ lbs. per square inch Date ____
Artesian water is controlled by ____ (Cap, valve, etc.)

(9) WELL TESTS: Drawdown is amount water level is lowered below static level
Was a pump test made? Yes ☐ No ☐ If yes, by whom? ____
Yield: ____ gal./min. with ____ ft. drawdown after ____ hrs.
" " " "
" " " "

Recovery data (time taken as zero when pump turned off) (water level measured from well top to water level)

Time	Water Level	Time	Water Level	Time	Water Level

Date of test ____
Bailer test 10 gal./min. with ____ ft. drawdown after ____ hrs.
Artesian flow ____ g.p.m. Date ____
Temperature of water ____ Was a chemical analysis made? Yes ☐ No ☐

(10) WELL LOG:

Formation: Describe by color, character, size of material and structure, and show thickness of aquifers and the kind and nature of the material in each stratum penetrated, with at least one entry for each change of formation.

MATERIAL	FROM	TO
gravel - cobbles	0	130
Medium Basalt	130	150
Soft Basalt with water	150	160

DEC 1985

Work started 12-4 19 85 Completed 12-5 19 85

WELL DRILLER'S STATEMENT:

This well was drilled under my jurisdiction and this report is true to the best of my knowledge and belief.

NAME Bach Drilling Co
(Person, firm, or corporation) (Type or print)

Address R-5 Box 1010 Ellensburg

(Signed) Jude Bach
(Well Driller)

License No. 22 Date 12-11 1985

(USE ADDITIONAL SHEETS IF NECESSARY)

ECY 050-1-20

Form 7-16

File Original and First Copy with Department of Ecology
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WATER WELL REPORT
STATE OF WASHINGTON

116

Application No. [illegible]
Permit No. G4-28616

(1) OWNER: Name Kittitas County Address Kittitas County Courthouse

LOCATION OF WELL: County Kittitas NW ¼ SW ¼ Sec. 17 T. 18 N., R. 17 WM

Bearing and distance from section or subdivision corner

(3) PROPOSED USE: Domestic ☐ Industrial ☐ Municipal ☑
Irrigation ☐ Test Well ☐ Other ☐

(4) TYPE OF WORK: (enter # of well if more than one)
New well ☑ Method: Dug ☐ Bored ☐
Deepened ☐ Cable ☑ Driven ☐
Reconstructed ☐ Rotary ☑ Jetted ☐

(5) DIMENSIONS:
Diameter of well ____ inches.
Drilled ____ ft. Depth of completed well ____ ft.

(6) CONSTRUCTION DETAILS:
Casing installed: 16" Diam. from +1½ ft. to 80 ft.
Threaded ☐ 12" Diam. from +1½ ft. to 453 ft.
Welded ☑ ____ Diam. from ____ ft. to ____ ft.

Perforations: Yes ☐ No ☑

Screens:
0 - 25 Yak River Gravel
25 - 700 Eb.
25 - 450 : Solch Equiv?
450 - 700 Grey Clay Molson.

Gravel Packed:

Surface Seal:

Good Well

(7) PUMP: Manufacturer's Name ____
Type: ____ H.P. ____

(8) WATER LEVELS: Land-surface elevation above mean sea level ____ ft.
Static level ____ ft. below top of well Date ____
Artesian pressure ____ lbs. per square inch Date Aug 25
Artesian water is controlled by Valve (Cap, valve, etc.)

(9) WELL TESTS: Drawdown is amount water level is lowered below static level
Was a pump test made? Yes ☐ No ☐ If yes, by whom? ____
____ gpm. with ____ ft. drawdown after ____ hrs.
____ " " " " "
Recovery data (time taken as soon as pump turned off) (water level measured from well top to water level)

Time	Water Level	Time	Water Level	Time	Water Level

Date of test ____
Bailer test 20 gal/min. with 100 ft. drawdown after 2 hrs.
Artesian flow 105 g.p.m. Date Aug 25
Temperature of water 59 Was a chemical analysis made? Yes ☐ No ☐

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CENTRAL REGION OFFICE

(10) WELL LOG:
Formations: Describe by color, character, size of material and structure, and show thickness of aquifers and the kind and nature of the material in each stratum penetrated, with at least one entry for each change of formation

MATERIAL	FROM	TO
Silt	0	3
Large Cobbles	3	5
Cemented Sand + Gravel	5	22
Large Cobbles	22	25
Hard Sandstone + Gravel	25	43
Brown Hard Sandstone	43	56
Hard Cemented Gravel	56	87
Hard Clay + Gravel	87	97
Hard Cemented Gravel	97	119
Med. Hard Sandstone	119	124
Cemented Sand + Gravel	124	134
Cemented Gravel occ. Brown Basalt	134	145
Cemented Sand + Gravel	145	178
Hard Clay + Gravel	178	208
Med Hard Clay + Sandstone	208	218
Hard Cemented with Rock	218	235
Med. Hard Sandstone - Grey	235	246
Hard Cemented Gravel	246	255
Hard Grey Sandstone	255	264
Very Hard Cemented Sand + Gravel	264	284
Med. Hard Sandstone	284	292
Sandstone with ¾" + Larger Gravel	292	395
Med Sandstone Small Gravel & Clay	395	415
Hard Cemented Gravel	415	431
Med. Hard Sandstone + Gravel	431	450
Grey Clay (Sticky)	450	451
Large Sand + Gravel Heavy 30 GPM.	451	460
Cemented Hard Siltstone Sandstone & Gravel	460	530
Cemented (Decomp) Siltstone & Sandstone Ash Bearing	530	560
Sandstone Rock (Decomp) Ash Red	560	575
Sandstone Grey Decomp. Gravel	575	625
Cemented Ash Rock	625	635
Sand Stone	635	645
Cemented Sand + Gravel	645	655
Grey Sandstone (Freshwater Flow)	655	700
Med. Basalt With Ash	700	720

Work started Apr. 12 19 56 Completed Aug. 25 19 56

WELL DRILLER'S STATEMENT:

This well was drilled under my jurisdiction and this report is true to the best of my knowledge and belief.

NAME Bach Drilling Co.
(Person, firm, or corporation) (Type or print)

Address Rt. 5, Box 616, Ellensburg, Wash.

(Signed) Mike Bach
(Well Driller)

License No. 22 Date Sept. 10 19 56

(USE ADDITIONAL SHEETS IF NECESSARY)

ECY 050-1-20

179

Q1

E21

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Second Copy — Owner's Copy
Third Copy — Driller's Copy

WATER WELL REPORT

STATE OF WASHINGTON

Start Card No. W16633
UNIQUE WELL I.D. # AAC413
Water Right Permit No.

(1) OWNER: Name Mr. Larry Hillis Address 620 S.E. Everett Mall Way #250, Everett, WA 98208

(2) LOCATION OF WELL: County Kittitas SW 1/4 SE 1/4 Sec 26 T 18 N, R 17E WM

(2a) STREET ADDRESS OF WELL (or nearest address) Off Kilmore Road

(3) PROPOSED USE: Domestic ☒ Industrial ☐ Municipal ☐ Irrigation ☐ Test Well ☐ Other ☐ Dewatering ☐

(4) TYPE OF WORK: Owner's number of well (if more than one) Well #2
Abandoned ☐ New well ☒ Method: Dug ☐ Bored ☐ Deepened ☐ Cable ☐ Driven ☐ Reconditioned ☐ Rotary ☒ Jetted ☐

(5) DIMENSIONS: Diameter of well 6 inches. Drilled 300 ft. Depth of completed well 300 ft.

(6) CONSTRUCTION DETAILS:
Casing installed: 6 " Diam. from 0 ft. to 239'5" ft.
Welded ☒ 45 " Diam. from 220 ft. to 300 ft.
Liner installed ☐ Threaded ☐ " Diam. from ft. to ft.

Perforations: Yes ☒ No ☐
Type of perforator used Saw cut
SIZE of perforations in. by in.
133 perforations from 260 ft. to 300 ft.
perforations from ft. to ft.
perforations from ft. to ft.

Screen: Yes ☐ No ☒
Manufacturer's Name
Type Model No.
Diam. Slot size from ft. to ft.
Diam. Slot size from ft. to ft.

Gravel packed: Yes ☐ No ☒ Size of gravel
Gravel placed from ft. to ft.

Surface seal: Yes ☒ No ☐ To what depth? 18 ft.
Material used in seal Bentonite
Did any drive shoe inside casing? Yes ☐ No ☒
Type of shoe? Depth of shoe
How was seal placed

(7) PUMP: Manufacturer's Name None
Type: H.P.

(8) WATER LEVELS: Land-surface elevation above mean sea level ft.
Static level 130 ft. below top of well Date 5/17/94
Artesian pressure lbs. per square inch Date
Artesian water is controlled by (Cap, valve, etc.)

(9) WELL TESTS: Drawdown is amount water level is lowered below static level
Was a pump test made? Yes ☐ No ☒ If yes, by whom?
Yield: gal./min. with ft. drawdown after hrs.
Recovery data (time taken as zero when pump turned off) (water level measured from well top to water level)

Time	Water Level	Time	Water Level	Time	Water Level

Date of test
Bailer test gal./min. with ft. drawdown after hrs.
Airlift 60 gal./min. with stem set at 280 ft. for 1 hrs.
Artesian flow g.p.m. Date
Temperature of water 50 Was a chemical analysis made? Yes ☐ No ☒

(10) WELL LOG or ABANDONMENT PROCEDURE DESCRIPTION
Formation: Describe by color, character, size of material and structure, and show thickness of aquifers and the kind and nature of the material in each stratum penetrated, with at least one entry for each change of information.

MATERIAL	FROM	TO
Brown cemented gravel w/boulders	0	35
Brown cemented gravel	35	90
H2O bearing cemented brown silty gravel "5 gpm"	90	117
Brown clay w/gravel	117	124
Brown cemented boulders	124	168
Brown clay w/gravel	168	188
Cemented boulders	188	199
Brown clay w/gravel	199	230
Weathered fractured black basalt	230	270
Brown/grey H2O bearing sandstone	270	300

280
0 - 300 - 55
230 - 270 13 boulders

Work Started 5/16/94 19 Completed 5/17/94 19

WELL CONSTRUCTOR CERTIFICATION:
I constructed and/or accept responsibility for construction of this well, and its compliance with all Washington well construction standards. Materials used and the information reported above are true to my best knowledge and belief.

NAME Gresham Well Drilling (Person, firm, or corporation) (Type or print)
Address 3105 N.W. Lakeness Rd., Poulsbo, WA 98370
(Signed) (Well Driller) License No. 0761
Contractor's Registration No. GRESHWD206NF Date 6/22/94 19

(USE ADDITIONAL SHEETS IF NECESSARY)

ECL 050-1-20 (6/93) rev

C14

178

N1

WATER WELL REPORT

STATE OF WASHINGTON

Start Card No. 130542
Unique Well I.D. # AAB946
Water Right Permit No.

(1) OWNER: Name WATSON, ROBERT — Address 5041 ROBERSON CANYON RD. ELLENSBURG, WA 98926-

(2) LOCATION OF WELL: County KITTITAS — - SW 1/4 SW 1/4 Sec 26 T 18 N., R 17E WM
(2a) STREET ADDRESS OF WELL (or nearest address):

(3) PROPOSED USE: DOMESTIC

(4) TYPE OF WORK: Owner's Number of well (If more than one): 2
NEW WELL — Method: ROTARY

(5) DIMENSIONS: Drilled 220 ft. — Diameter of well 6 inches; Depth of completed well 220 ft.

(6) CONSTRUCTION DETAILS:
Casing installed: 6 " Dia. from +2 ft. to 140 ft.
WELDED 4 " Dia. from 0 ft. to 220 ft.
" Dia. from ft. to ft.

Perforations: YES
Type of perforator used DRILL SAW
SIZE of perforations 1/4 in. by 12 in.
90 perforations from 180 ft. to 220 ft.
perforations from ft. to ft.
perforations from ft. to ft.

Screens: NO
Manufacturer's Name
Type Model No.
Dia. slot size from ft. to ft.
Dia. slot size from ft. to ft.

Gravel packed: NO Size of gravel
Gravel placed from ft. to ft.

Surface seals: YES — to what depth? 18 ft.
Material used in seal BENTONITE
Did any strata contain unusable water? YES
Type of water? OTHER — Depth of strata 14 ft.
Method of sealing strata off OVERBURDEN

(7) PUMP: Manufacturer's Name
Type H.P.

(8) WATER LEVELS: Land-surface elevation above mean sea level ... ft.
Static level 88 ft. below top of well Date 12/09/95
Artesian pressure lbs. per square inch Date
Artesian water controlled by

(9) WELL TESTS: Drawdown is amount water level is lowered below static level.
Was a pump test made? NO If yes, by whom?
Yield: gal./min with ft. drawdown after hrs.

Recovery data
Time | Water Level | Time | Water Level | Time | Water Level

Date of test / /
Bailer test gal/min. ft. drawdown after hrs.
Air test 25 gal/min. with 35 ft. for hrs.
Artesian flow g.p.m. Date
Temperature of water Was a chemical analysis made? NO

(10) WELL LOG

Formations: Describe by color, character, size of material and structure, and show thickness of aquifers and the kind and nature of the material in each stratum penetrated, with at least one entry for each change in formation.

MATERIAL	FROM	TO
TOPSOIL	0	3
COBBLES GRAVEL	3	14
COBBLES GRAVEL WATER	14	34
SAND GRAVEL	34	46
CEMENTED GRAVEL	46	54
BROKEN BASALT BOULDERS	54	68
GRAVEL	68	83
BROKEN BASALT BOULDERS	83	123
HARD BASALT	123	139
BROKEN BASALT WATER	139	146
HARD BASALT	146	198
BROKEN BASALT WATER	198	204
BASALT	204	220
	220	

SS
220

... responsibility for construction of this well, and its compliance with all Washington well construction standards. Materials used and the information reported above are true to my best knowledge and belief.

NAME OF DRILLING (Person, firm, or corporation) (Type or print)
ADDRESS E 6010 BROADWAY
[SIGNED] Edward J. Elliott License No. 2134
Contractor's Registration No. PO-MO-EL*240JE Date 12/13/95

181 M

File Original and First Copy with Department of Ecology
Second Copy — Owner's Copy
Third Copy — Driller's Copy

WATER WELL REPORT

STATE OF WASHINGTON

Start Card No. W16634
UNIQUE WELL I.D. # AAC414
Water Right Permit No.

(1) OWNER: Name High Valley Land, Inc. Address 620 S.E. Everett Mall Way #290, Everett, WA 98208

(2) LOCATION OF WELL: County Kittitas NW ¼ SW ¼ Sec. 34 T. 18 N.R. 17 W.M. M

(2a) STREET ADDRESS OF WELL (or nearest address) Elkridge Well #1

(3) PROPOSED USE: ☒ Domestic ☐ Industrial ☐ Municipal ☐ Irrigation ☐ Test Well ☐ Other ☐ Dewatering

(4) TYPE OF WORK: Owner's number of well (if more than one) Well #1
Abandoned ☐ New well ☒ Method: Dug ☐ Bored ☐ Deepened ☐ Cable ☐ Other ☐ Reconditioned ☐ Rotary ☒ Jetted ☐

(5) DIMENSIONS: Diameter of well 6 inches, drilled 210 ft. Depth of completed well 210 ft.

(6) CONSTRUCTION DETAILS:
Casing installed: 6 " Diam. from 0 ft. to 34'5" ft.
Welded ☐ Liner installed ☐ Threaded ☐ " Diam. from ft. to ft.
Perforations: Yes ☐ No ☒
Type of perforator used
SIZE of perforations in. by in.
perforations from ft. to ft.
perforations from ft. to ft.
perforations from ft. to ft.
Screens: Yes ☐ No ☒
Manufacturer's Name
Type Model No.
Diam. Slot size from ft. to ft.
Diam. Slot size from ft. to ft.
Gravel packed: Yes ☐ No ☒ Size of gravel
Gravel placed from ft. to ft.
Surface seal: Yes ☒ No ☐ To what depth? 18 ft.
Material used in seal Bentonite
Did any strata contain unusable water? Yes ☐ No ☒
Type of water? Depth of strata
Method of sealing strata off

(7) PUMP: Manufacturer's Name None
Type: H.P.

(8) WATER LEVELS: Land-surface elevation above mean sea level ft.
Static level N/A ft. below top of well Date
Artesian pressure lbs. per square inch Date
Artesian water is controlled by (Cap, valve, etc.)

(9) WELL TESTS: Drawdown is amount water level is lowered below static level
Was a pump test made? Yes ☐ No ☒ If yes, by whom?
Yield: gal./min. with ft. drawdown after hrs.

"	"	"	"
"	"	"	"

Recovery data (time taken as zero when pump turned off) (water level measured from well top to water level)

Time	Water Level	Time	Water Level	Time	Water Level

Date of test
Bailer test gal./min. with ft. drawdown after hrs.
Airlift gal./min. with stem set at ft. for hrs.
Artesian flow g.p.m. Date
Temperature of water Was a chemical analysis made? Yes ☐ No ☐

(10) WELL LOG or ABANDONMENT PROCEDURE DESCRIPTION
Formation: Describe by color, character, size of material and structure, and show thickness of aquifers and the kind and nature of the material in each stratum penetrated, with at least one entry for each change of information.

MATERIAL	FROM	TO
Brown cemented boulder	0	6
Brown clay w/gravel	6	23
Fractured weathered basalt w/clay seams	23	205
Weathered basalt, caving	205	210
"Hole capped, will deepen at a later date".		

0-23 thorps or SS
23-210 B

Work Started 5/18/94 Completed 5/19/94

WELL CONSTRUCTOR CERTIFICATION:
I constructed and/or accept responsibility for construction of this well, and its compliance with all Washington well construction standards. Materials used and the information reported above are true to my best knowledge and belief.

NAME Gresham Well Drilling (Person, Firm or Corporation) (Type or Print)
Address 3105 N.W. Lakeness Rd., Poulsbo, WA. 98370
(Signed) (Well Driller) License No. 0761
Contractor's Registration No. GRESHWD206NF Date 6/22/94

(USE ADDITIONAL SHEETS IF NECESSARY)

ECY 050-1-20 (Orig) ** I

E1

File Original and First Copy with Department of Ecology
Second Copy — Owner's Copy
Third Copy — Driller's Copy

WATER WELL REPORT

STATE OF WASHINGTON

Start Card No. 116638
UNIQUE WELL I.D. # AAC415
Water Right Permit No.

(1) OWNER: Name High Valley Land, Inc. (Duncan) Address 620 S.E. Everett Mall Way #230, Everett, WA 98208

(2) LOCATION OF WELL: County Kittitas SW 1/4 NW 1/4 Sec. 34 T. 18 N. R. 17 W.M.

(2a) STREET ADDRESS OF WELL (or nearest address) Elkridge Well #2

(3) PROPOSED USE: ☒ Domestic ☐ Industrial ☐ Municipal ☐ ☐ Irrigation ☐ Test Well ☐ Other ☐ ☐ Dewatering

(4) TYPE OF WORK: Owner's number of well (if more than one) Well #2
Abandoned ☐ New well ☒ Method: Dug ☐ Bored ☐ Deepened ☐ Cable ☐ Driven ☐ Reconditioned ☐ Rotary ☒ Jetted ☐

(5) DIMENSIONS: Diameter of well 6 inches. Drilled 345 ft. Depth of completed well 345 ft.

(6) CONSTRUCTION DETAILS:
Casing installed: 6 " Diam. from 0 ft. to 140'10" ft.
Welded ☐ Liner installed ☐ 4½ " Diam. from 125 ft. to 345 ft.
Threaded ☐ " Diam. from ft. to ft.

Perforations: Yes ☒ No ☐
Type of perforator used Sawcut
SIZE of perforations 134 in. by in.
perforations from 305 ft. to 345 ft.
perforations from ft. to ft.
perforations from ft. to ft.

401

Screens: Yes ☐ No ☒
Manufacturer's Name
Type Model No.
Diam. Slot size from ft. to ft.
Diam. Slot size from ft. to ft.

Gravel packed: Yes ☐ No ☒ Size of gravel
Gravel placed from ft. to ft.

Surface seal: Yes ☒ No ☐ To what depth? 18 ft.
Material used in seal Bentonite
Did any drive shoe remain unclosed? Yes ☐ No ☒
Type of shoe? Depth of shoe
How was seal placed

(7) PUMP: Manufacturer's Name None
Type H.P.

(8) WATER LEVELS: Land-surface elevation above mean sea level
Static level 160 ft. below top of well Date 6/17/94
Artesian pressure lbs. per square inch Date
Artesian water is controlled by (Cap, valve, etc.)

(9) WELL TESTS: Drawdown is amount water level is lowered below static level
Was a pump test made? Yes ☐ No ☒ If yes, by whom?
Yield: gal./min. with ft. drawdown after hrs.
Recovery data (time taken as zero when pump turned off) (water level measured from well top to water level)

Time	Water Level	Time	Water Level	Time	Water Level

Date of test
Bailer test gal./min. with ft. drawdown after hrs.
Airlift 450 gal./min. with 340 ft. drawdown after 1 hrs.
Artesian flow g.p.m. Date
Temperature of water 50 Was a chemical analysis made? Yes ☐ No ☒

(10) WELL LOG or ABANDONMENT PROCEDURE DESCRIPTION
Formations Describe by color, character, size of materials and structure, and show thickness of aquifers and the kind and nature of the materials in each formation penetrated, with at least one entry for each change of information.

MATERIAL	FROM	TO
Brown sandy clay	0	3
Dense brown clay w/gravel	3	56
Poress fractured, weathered basalt	56	72
Weathered, fracr., basalt w/clay lenses	72	113
Yellow clay	113	116
Hard dark grey clay	116	123
Yellow shale	123	145
Black shale	145	152
Fractured black basalt	152	255
Fractured black basalt w/H20 "5 gpm" caving	255	260
Fractured balck basalt w/H20 "20 gpm"	262	295
Grey sandstone w/H20 "20 gpm"	295	320
Black shale	320	345

0 - 56 over burden or interbed?
56 - 345 Basalt

94

I constructed and/or accept responsibility for construction of this well, and its compliance with all Washington well construction standards. Materials used and the information reported above are true to my best knowledge and belief.

NAME Gresham Well Drilling (Person, firm, or corporation) (Type or print)
Address 3105 N.W. Lakeness Rd., Poulsbo, WA 98370
(Signed) (well driller) License No. 0761
Contractor's Registration No. GRESHWD206NF Date 6/22/94

(USE ADDITIONAL SHEETS IF NECESSARY)

BCL 050-1-20 (2/93) * * (

625 2340 182

File Original and First Copy with Department of Ecology
Second Copy—Owner's Copy
Third Copy—Driller's Copy

WATER WELL REPORT

STATE OF WASHINGTON

Start Card No. 27442 R1

Water Right Permit No. _____

(1) OWNER: Name KEVIN WIGNA Address PO Box 972 ELLENSBURG WA. 98926

(2) LOCATION OF WELL: County KITTITAS SE ¼ ¼ Sec 35 T 18 N. R 17 W.M.

(2a) STREET ADDRESS OF WELL (or nearest address) CAITLIN ROAD, NEW HOUSE

(3) PROPOSED USE: Domestic ☒ Industrial ☐ Municipal ☐ Irrigation ☐ Test Well ☐ Other ☐ Dewater ☐

(4) TYPE OF WORK: Owner's number of well (if more than one) _____
Abandoned ☐ New well ☒ Method: Dug ☐ Bored ☐ Deepened ☐ Cable ☐ Driven ☐ Reconstructed ☐ Rotary ☒ Jetted ☐

(5) DIMENSIONS: Diameter of well 6 inches, drilled 200 feet. Depth of completed well 200 ft.

(6) CONSTRUCTION DETAILS:
Casing installed: 6 " Diam. from +1 ft. to 185 ft.
Welded ☐ Liner installed ☐ Threaded ☐ " Diam. from _____ ft. to _____ ft.
Perforations: Yes ☐ No ☒
Type of perforator used _____
SIZE of perforations _____ in. by _____ in.
_____ perforations from _____ ft. to _____ ft.
_____ perforations from _____ ft. to _____ ft.
_____ perforations from _____ ft. to _____ ft.
Screens: Yes ☐ No ☒
Manufacturer's Name _____
Type _____ Model No. _____
Diam. _____ Slot size _____ from _____ ft. to _____ ft.
Diam. _____ Slot size _____ from _____ ft. to _____ ft.
Gravel packed: Yes ☐ No ☒ Size of gravel _____
Gravel placed from _____ ft. to _____ ft.
Surface seal: Yes ☒ No ☐ To what depth? _____ ft.
Material used to seal BENTONITE - CEMENT
Did any strata contain unusable water? Yes ☐ No ☐
Type of water? _____ Depth of strata _____
Method of sealing strata off _____

(7) PUMP: Manufacturer's Name _____
Type: _____ H.P. _____

(8) WATER LEVELS: Land-surface elevation above mean sea level _____ ft.
Static level 53 ft. below top of well Date 10-13-89
Artesian pressure _____ lbs. per square inch Date _____
Artesian water is controlled by _____ (Cap, valve, etc.)

(9) WELL TESTS: Drawdown is amount water level is lowered below static level
Was a pump test made? Yes ☐ No ☐ If yes, by whom? _____
Yield: 25-50 gal./min. with _____ ft. drawdown after _____ hrs.
_____ - _____ - _____
_____ - _____ - _____
Recovery data (time taken as zero when pump turned off) (water level measured from well top to water level)
Time | Water Level | Time | Water Level | Time | Water Level
_____ | _____ | _____ | _____ | _____ | _____
_____ | _____ | _____ | _____ | _____ | _____
_____ | _____ | _____ | _____ | _____ | _____
Date of test _____
Bailer test _____ gal./min. with _____ ft. drawdown after _____ hrs.
Airtest _____ gal./min. with stem set at _____ ft. for _____ hrs.
Artesian flow _____ g.p.m. Date _____
Temperature of water _____ Was a chemical analysis made? Yes ☐ No ☐

(10) WELL LOG or ABANDONMENT PROCEDURE DESCRIPTION

Formation: Describe by color, character, size of material and structure, and show thickness of aquifers and the kind and nature of the material in each stratum penetrated, with at least one entry for each change of information.

MATERIAL		FROM	TO
LARGE BASALT BOULDERS	VH	0	10
FRACTURED BASALT	VH	10	39
CRACKED BASALT	S	39	40
FRACTURED BASALT	VH	40	71
FRACTURED BASALT W/YELLOW CLAY M		71	104
RED-BLACK DECOMPOSED BASALT	MS	104	107
BASALT W/ FRACTURES	H	107	151
FRACTURED BASALT	H	151	165
RED-YELLOW CLAY W/ FRACTURED ROCK	M	165	175
CLAY SHALE, WHITE	MS	175	181
HARD BASALT & CLAY SHALE	M	181	196
FRACTURED BASALT	M	196	198
SOLID BASALT	VH	198	200

ENTERED

Work started 10-9-89, 19. Completed 10-13-89, 19

WELL CONSTRUCTOR CERTIFICATION:
I constructed and/or accept responsibility for construction of this well, and its compliance with all Washington well construction standards. Materials used and the information reported above are true to my best knowledge and belief.

NAME RIEBE WELL DRILLING (PERSON, FIRM, OR CORPORATION) (TYPE OR PRINT)

Address PO Box 10816 Yakima WA.

(Signed) John Riebe (WELL DRILLER) License No. 0172

Contractor's Registration No. B2KJ Date 10-19-89, 19

(USE ADDITIONAL SHEETS IF NECESSARY)

STATE OF WASHINGTON
DEPARTMENT OF CONSERVATION AND DEVELOPMENT

WELL LOG No. 1 — No. Appl. 5359

Date 9-24, 1959

Record by

Source driller's record

Location: State of WASHINGTON

County Kittitas

Area

Map

NE¼NW¼NW¼ sec. 25 T. 18 N., R. 18 E. W.M.

Diagram of Section

Drilling Co.

Address

Method of Drilling Date July 4, 1943

Owner City of Ellensburg

Address

Land surface, datum above / below

Geol. Formation	Material	Thickness (feet)	Depth (feet)
	(Transcribe driller's terminology literally but paraphrase as necessary, in parentheses, if material water-bearing, so state and record static level if reported. Give depths in feet below land-surface datum unless otherwise indicated. Correlate with stratigraphic column, if feasible. Following log of materials, list all casings, perforations, screens, etc.)		
	Clay & gravel	42	42
	Clay	20	62
	Clay & gravel	9	71
	Sand & clay	51	122
	Clay	68	190
	Clay, sand & gravel	60	250
	Sand & clay	32	282
	Boulder, some clay	13	295
	Sand, gravel & clay	75	370
	Clay	66	436
	Sand, gravel & clay	129	565
	Sandstone	15	580
	Sand & clay	106	686
	4' decomposed granite brown clay	40	730
	PUMP TEST:		
	Dim. 730'x12" casing to 290' and 10" casing to 580'		

(over)

Turn up

Sheet ... of ... sheets

FEB 26 '58 11:45AM WOOD-GEO

WELL LOG—Continued — No. M/6 ... 1

Geol. Formation	Material	Thickness (feet)	Depth (feet)
	Depth forward		
	Type & size of pump: Pomona turbine 10 BHP @ 1750 r.p.m.		
	Type & size of motor: Westinghouse 15 H.P.		
	ANT.: 68 Ft.		
	DD: 78 Ft.		
	Yield: 600 g.p.m.		
	CASING:		
	12" diam. from 0 to -290 ft.		
	10" " from -282.5 to -580 ft.		
	8" " perforated line from -580 to -600 ft.		
	(25 Del)		

S. P. No. M-[illegible]-DM. 4m/58

FEB 26 '98 11:46AM WDOE-CRO P.3/3

Correlation	Material	Thickness (feet)	Depth (feet)
	Depth forward	———	
	Yield: 190 g.p.m.		
	Type & size of pump: Fairbanks Morse turbine		
	Type & size of motor: 20 h.p. Fairbanks Morse		
	CASING:		
	10" diam. from 0 to 326 ft.		
	8" " perforated from 316.5 to 420 ft.		

25C01

B-19

S. F. No. 7[illegible]—12-56—3M. [illegible]09.

DEPARTMENT OF CONSERVATION AND DEVELOPMENT

WELL LOG Well #2 No. Appl. 5359

Date 9-24, 19 59

Record by

Source driller's record

Location: State of WASHINGTON

County Kittitas

Area

Map

NE¼NE¼NW¼ sec. 25 T. 18 N., R. 18 E. WM

Diagram of Section

Drilling Co.

Address

Method of Drilling Date, 19

Owner City of Ellensburg

Address

Land surface, datum ft. above / below

Correlation	Material	Thickness (feet)	Depth (feet)
	(Transcribe driller's terminology literally but paraphrase as necessary, in parentheses. If material water-bearing, so state and record static level if reported. Give depths in feet below land-surface datum unless otherwise indicated. Correlate with stratigraphic column, if feasible. Following log of materials, list all casings, perforations, screens, etc.)		
	Gravel & boulders	30	30
	Sandy clay & gravel	70	100
	Sand	5	105
	Sandy brown clay	75	180
	Sandstone	5	185
	Hard yellow clay	10	195
	Brown clay - small gravel	25	220
	Hard packed sand & clay	30	250
	Brown clay & gravel	20	270
	Clay & hard packed sand	25	295
	Hard packed coarse sand	60	355
	Yellow clay	15	370
	Sand & gravel	50	420
	PUMP TEST:		
	Dim. 420'x 10" casing to 326' and 8" casing to 420'.		
	SWL: 64 ft.		
	DD: 146 ft.		

Turn up (over) Sheet of sheets

See Ellensburg North map
left side

159

WATER WELL REPORT

STATE OF WASHINGTON

#136 3048 Start Card No. 33606 R1

(1) OWNER: Name JOHN McCULLOUGH Address PO BOX 604, ELLENSBURG WA

(2) LOCATION OF WELL: County KITTITAS SE Sec 30 T 18 N R 18 W M

(2a) STREET ADDRESS OF WELL (or nearest address) THREE ROAD

(3) PROPOSED USE: X Domestic; Irrigation; DeWater; Industrial; Test Well; Municipal; Other

(4) TYPE OF WORK: Owner's number of well (if more than one)

Abandoned; New well X; Deepened; Reconditioned; Method: Dug; Cable; Rotary X; Bored; Driven; Jetted

(5) DIMENSIONS: Diameter of well 6 inches. Drilled 225 feet. Depth of completed well 225 ft.

(6) CONSTRUCTION DETAILS:

Casing installed: 6" Diam. from +2 ft. to 198 ft.

Welded; Threaded; Liner installed; Diam. from ft. to ft.

Perforations: Type; Size; From ft. to ft.

Screens; Manufacturer; Type; Slot; From ft. to ft.

Gravel/Grout: From ft. to ft.

Type and amount; Method of sealing strata off

0-20 Cobbles
20-225 Eb
Good Log

(7) PUMP: Manufacturer's Name; Type; H.P.

(8) WATER LEVELS: Land-surface elevation above mean sea level ft.

Static level 30 ft. below top of well Date 5-21-90

Artesian pressure lbs. per square inch Date

Artesian water is controlled by (Cap, valve, etc.)

(9) WELL TESTS: Drawdown is amount water level is lowered below static level

Was a pump test made? Yes ☐ No ☒ If yes, by whom?

Yield: gal./min. with ft. drawdown after hrs.

Recovery data (time taken as zero when pump turned off) (water level measured from well top to water level)

Time	Water Level	Time	Water Level	Time	Water Level

Date of test

Bailer test gal./min. with ft. drawdown after hrs.

Airlift 20 gal./min. with stem set at ft. for hrs.

Artesian flow g.p.m. Date

Temperature of water Was a chemical analysis made? Yes ☐ No ☒

(10) WELL LOG or ABANDONMENT PROCEDURE DESCRIPTION

Formation: Describe by color, character, size of material and structure, and show thickness of aquifers and the kind and nature of the material in each stratum penetrated, with at least one entry for each change of information.

MATERIAL		FROM	TO
TOP SOIL	S	0	2
RED SANDY CLAY	M	2	3
HARD PAN	H	3	6
CLAY COBBLES	H	6	10
SANDY CLAY & COBBLES	H	10	20
ROCKS SAND & CLAY	H	20	30
SAND GRAVEL CLAY SILT	H	30	50
PINK CLAY & GRAVEL	MH	50	59
SAND & GRAVEL	M	59	63
CLAY GRAVEL SAND	MH	63	70
SANDY CLAY & GRAVELS	MH	70	90
CLAY & SANDSTONE	M	90	94
CEMENTED GRAVEL SILTY SAND	H	94	96
SANDY CLAY W/GRAVEL	H	96	110
CEMENTED GRAVEL W/CLAY & SILT	H	110	123
CLAY & GRAVEL	H	123	158
SANDSTONE GRAVEL CLAY SILT	VH	158	165
SILTY CLAY GRAVEL	H	165	185
LOOSE SAND, GRAVEL, WHITE BASALT		185	192
FINE CLAY LENSES IN GRAVEL	MH	192	194
LOOSE GRAVEL & SANDSTONE		194	205
MULTICOLORED LAYERED SANDSTONE		205	225

RECEIVED MAY 23 1990 DEPARTMENT OF ECOLOGY CENTRAL REGION OFFICE

Work started 5-17-90 19 Completed 5-21-90 19

WELL CONSTRUCTOR CERTIFICATION:

I constructed and/or accept responsibility for construction of this well, and its compliance with all Washington well construction standards. Materials used and the information reported above are true to my best knowledge and belief.

NAME RIEBE WELL DRILLING INC. (PERSON, FIRM, OR CORPORATION) (TYPE OR PRINT)

Address PO BOX 10866 YAKIMA WA 98909

(Signed) JOHN RIEBE (WELL DRILLER) License No. 01122

Contractor's Registration No. 132K1 Date 5-22-90 19

(USE ADDITIONAL SHEETS IF NECESSARY)

Wellhead Elev 1520
S.W.L = 1540
160

1450

WATER WELL REPORT
STATE OF WASHINGTON

Application No. Not yet issued
Permit No. they have to proceed

R1

(1) OWNER: Name Superior Packing Co. Address PO Box 277, Ellensburg, WA 98926

(2) LOCATION OF WELL: County Kittitas SE ¼ SE ¼ Sec 33 T ___ N. R ___ WM
Bearing and distance from section or subdivision corner & SW¼ SW¼ Sec 34 T 18 N R18 EWM

(3) PROPOSED USE: Domestic ☐ Industrial ☒ Municipal ☐
Irrigation ☐ Test Well ☐ Other ☐

(4) TYPE OF WORK: Owner's number of well (if more than one)
New well ☒ Method: Dug ☐ Bored ☐
Deepened ☐ Cable ☐ Driven ☐
Reconditioned ☐ Rotary ☐ Jetted ☐

(5) DIMENSIONS: Diameter of well ___ inches.
Drilled 720 ft. Depth of completed well 720 ft.

(6) CONSTRUCTION DETAILS:
Casing installed: 12" Diam. from +1 ft. to 87 ft.
Threaded ☐ 10" Diam. from +2 ft. to 398 ft.
Welded ☒ 8" Diam. from 380 ft. to 720 ft.

Perforations: Yes ☒ No ☐
Type of perforator used ___
SIZE of perforations 1 in. by 5 in.
1x6 perforations from 430 ft. to 460 ft.
1x6 perforations from 570 ft. to 700 ft.
___ perforations from ___ ft. to ___ ft.

Screens: Yes ☐ No ☒
Manufacturer's Name ___
Type ___ Model No. ___
Diam. ___ Slot size ___ from ___ ft. to ___ ft.
Diam. ___ Slot size ___ from ___ ft. to ___ ft.

Gravel packed: Yes ☐ No ☒ Size of gravel: ___
Gravel placed from ___ ft. to ___ ft.

Surface seal: Yes ☒ No ☐ To what depth? ___ ft.
Material used in seal Neat Cement
Did any strata contain unusable water? Yes ☐ No ☒
Type of water? ___ Depth of strata ___
Method of sealing strata off pressure grouted To 700' Ft

(7) PUMP: Manufacturer's Name ___
Type: ___ H.P. ___

(8) WATER LEVELS: Land-surface elevation above mean sea level.... ___ ft.
Static level ___ ft. below top of well Date ___
Artesian pressure ___ lbs. per square inch Date ___
Artesian water is controlled by ___ (Cap, valve, etc.)

(9) WELL TESTS: Drawdown is amount water level is lowered below static level
Was a pump test made? Yes ☐ No ☒ If yes, by whom? ___
Yield: ___ gal./min. with ___ ft. drawdown after ___ hrs.
Well Flowed Appx. 300 GPM with 15 lbs. Shut in pressure.
Recovery data (time taken as zero when pump turned off) (water level measured from well top to water level)

Time	Water Level	Time	Water Level	Time	Water Level

Date of test ___
Bailer test ___ gal./min. with ___ ft. drawdown after ___ hrs.
Artesian flow ___ G.P.M. Date ___
Temperature of water ___ Was a chemical analysis made? Yes ☐ No ☒

(10) WELL LOG:
Formation: Describe by color, character, size of material and structure, and show thickness of aquifers and the kind and nature of the material in each stratum penetrated, with at least one entry for each change of formation

MATERIAL	FROM	TO
sand & rock	0	80
gravel, boulders, cemented	80	106
gravel, cobbles, sm amt of broken clay	106	126
clay, sand, sm dia gravel, clay w/brownish rust color	126	216
gummy-yellow clay	216	230
gray clay rock mixed	230	320
yellow clay	320	360
soft yellow clay	360	370
gummy yellow clay	370	410
blue clay	410	434
fine rocks, sand, small amt of clay, water	434	464
yellow clay	464	484
brown clay w/rocks mixed	484	500
brown clay	500	600
gravel & sand	600	620
sand, dense formation	620	620
sand, large rock (water)	620	700
blue clay	700	720

0-126 River Cobbles
126 - 410 Eb
410 - 434 Gray Clay
435 - 700 Eb Lahars
700 - 720 Blue Clay

Compare to Shocky

West
WE

I report is true to the best of my knowledge and belief.

NAME Leach Well Drilling, Inc.
(Person, firm, or corporation) (Type or print)
Address 1430 Hillcrest Dr. Moses Lake, WA 988
(Signed) Nathaniel R. Leach
Orval Woods (Well Driller)
License No. 937 Date 10-30 19 8

(USE ADDITIONAL SHEETS IF NECESSARY)

FGV 010-1-79

S.W.L Elev 1550

161

File Original and First Copy with Department of Ecology
Second Copy — Owner's Copy
Third Copy — Driller's Copy

WATER WELL REPORT

STATE OF WASHINGTON

149

Application No. 266

Permit No. ....

G-1

(1) OWNER: Name K&H Conrad Address Rt. 5 Box 240

(2) LOCATION OF WELL: County Kittitas Lot 61-62 ¼ ¼ Sec. 7 T. 18 N. R. 19 W.M.

Bearing and distance from section or subdivision corner

(3) PROPOSED USE: Domestic ☑ Industrial ☐ Municipal ☐ Irrigation ☐ Test Well ☐ Other ☐

(4) TYPE OF WORK: Owner's number of well (if more than one)....
New well ☑ Method: Dug ☐ Bored ☐
Deepened ☐ Cable ☐ Driven ☐
Reconditioned ☐ Rotary ☑ Jetted ☐

(5) DIMENSIONS: Diameter of well 6 inches. Drilled 400 ft. Depth of completed well 400 ft.

(6) CONSTRUCTION DETAILS:

Casing installed: 6" Diam. from 0 ft. to 80 ft.
Threaded ☐ ____" Diam. from ____ ft. to ____ ft.
Welded ☐ ____" Diam. from ____ ft. to ____ ft.

Perforations: Yes ☐ No ☑
Type of perforator used
Size of perforations ____ in. by ____ in.
____ perforations from ____ ft. to ____ ft.
____ perforations from ____ ft. to ____ ft.
____ perforations from ____ ft. to ____ ft.

Screens: Yes ☐ No ☑
Manufacturer's Name
Type Model No.
Diam. ____ Slot size ____ from ____ ft. to ____ ft.
Diam. ____ Slot size ____ from ____ ft. to ____ ft.

Gravel packed: Yes ☐ No ☑ Size of gravel:
Gravel placed from ____ ft. to ____ ft.

Surface seal: Yes ☑ No ☐ To what depth? 20 ft.
Material used to seal BENTONITE
Did any strata contain unusable water? Yes ☐ No ☐
Type of water? Depth of strata
Method of sealing strata off

(7) PUMP: Manufacturer's Name
Type: H.P.

(8) WATER LEVELS: Land-surface elevation above mean sea level.... ft.
Static level 70 ft. below top of well Date
Artesian pressure lbs. per square inch Date
Artesian water is controlled by (Cap, valve, etc.)

(9) WELL TESTS: Drawdown is amount water level is lowered below static level
Was a pump test made? Yes ☐ No ☐ If yes, by whom?
Yield: gal./min. with ft. drawdown after hrs.
" " " "
" " " "
Recovery data (time taken as zero when pump turned off) (water level measured from well top to water level)

Time	Water Level	Time	Water Level	Time	Water Level

Date of test
Bailer test 10 gal./min. with ft. drawdown after hrs.
Artesian flow g.p.m. Date
Temperature of water Was a chemical analysis made? Yes ☐ No ☐

(10) WELL LOG:

Formation: Describe by color, character, size of material and structure, and show thickness of aquifers and the kind and nature of the material in each stratum penetrated, with at least one entry for each change of formation.

MATERIAL	FROM	TO
gravel - cobbles	0	70
soft BASALT	70	80
MED. BASALT	80	240
Soft BASALT seam	240	250
MED BASALT	250	330
Soft SANDSTONE-basalt WATER BEARING	330	400

0-70 Top soil & Alluvial Gravel
70-240
240-330 Wanapum
330-400 Vantage?

Work started 8-24 19 87 Completed 8-30 19 87

WELL DRILLER'S STATEMENT:

This well was drilled under my jurisdiction and this report is true to the best of my knowledge and belief.

NAME Rach Drilling Co.
(Person, firm, or corporation) (Type or print)
Address RT. 5, Box 1010, Ellensburg
[Signed] Mike Rach
(Well Driller)
License No. 22 Date 9-14 19 87

(USE ADDITIONAL SHEETS IF NECESSARY)

727

WATER WELL REPORT

State of Washington

Start Card No. 108386
Unique Well I.D. # ABC470
Water Right Permit No.

(1) OWNER: Name BLAZING TREE RANCHES Address 11464 EAST SUNDERSON RD. ELLENSBURG, WA 98926-

(2) LOCATION OF WELL: County KITTITAS - 1/4 SW 1/4 Sec 04 T 18 N., R 11 EWM

(2a) STREET ADDRESS OF WELL (or nearest address)

(3) PROPOSED USE: DOMESTIC

(4) TYPE OF WORK: Owner's Number of well (If more than one) 1
NEW WELL Method: ROTARY

(5) DIMENSIONS: Diameter of well 6 inches
Drilled 235 ft. Depth of completed well 235 ft.

(6) CONSTRUCTION DETAILS:
Casing installed: 6 " Dia. from +2 ft. to 170 ft.
WELDED 6 " Dia. from -4 ft. to 235 ft.
" Dia. from ft. to ft.

Perforations: YES
Type of perforator used SKILL SAW
SIZE of perforations 6 in. by 1/8 in.
182 perforations from 215 ft. to 235 ft.
perforations from ft. to ft.
perforations from ft. to ft.

Screens: NO
Manufacturer's Name
Type Model No.
Dia. slot size from ft. to ft.
Dia. slot size from ft. to ft.

Gravel packed: NO Size of gravel
Gravel placed from ft. to ft.

Surface seals: YES To what depth? 18 ft.
Material used in seal BENTONITE
Did any strata contain unusable water? NO
Type of water? Depth of strata ft.
Method of sealing strata off OVERBORE

(7) PUMP: Manufacturer's Name
Type H.P.

(8) WATER LEVELS: Land-surface elevation above mean sea level ... ft.
Static level 53 ft. below top of well Date 02/14/74
Artesian Pressure lbs. per square inch Date
Artesian water controlled by

(9) WELL TESTS: Drawdown is amount water level is lowered below static level.
Was a pump test made? NO If yes, by whom?
Yield: gal./min with ft. drawdown after hrs.

Recovery data
Time | Water Level | Time | Water Level | Time | Water Level

Date of test / /
Bailer test gal/min. ft. drawdown after hrs.
Air test 100 gal/min. w/ stem set at ft. for hrs.
Artesian flow g.p.m. Date
Temperature of water Was a chemical analysis made? NO

(10) WELL LOG:

Formations: Describe by color, character, size of material and structure, and show thickness of aquifers and the kind and nature of the material in each stratum penetrated, with at least one entry for each change in formation.

MATERIAL	FROM	TO
COBBLES BOULDERS	0	12
CLAY GRAVEL HARD	12	85
CEMENTED GRAVEL CLAY	85	140
CEMENTED BASALT	140	165
CEMENTED GRAVEL	165	170
CLAY BROWN MEDIUM	170	175
GRAVEL WITH CLAY	175	185
BASALT SHALE HARD	185	215
DECOMPOSED BASALT	215	225
FRACTURED BASALT SHALE	225	235

0-12 Surface Unit
12-155 Thorp ?
155-235 KH ??
Not Basalt
Basalt Gravel
Thorp

Work started 02/11/74 Completed 02/14/74

WELL CONSTRUCTION CERTIFICATION: I constructed and/or accept responsibility for construction of this well, and its compliance with all Washington well construction standards. Materials used and the information reported above are true to my best knowledge and belief.

NAME PONDEROSA DRILLING (Person, firm, or corporation) (Type or print)

ADDRESS E 9810 MACKDUFF

SIGNED License No. 0868

Contractor's Registration No. PO-NO-ET*4LJE Date 02/18/74

f

726

WATER WELL REPORT

State of Washington

Start Card No. 106132
Unique Well I.D. # ABE542
Water Right Permit No.

(1) OWNER: Name BLAZING TREE ORCHES Address 16404 EAST SPOKEDSON RD. ELLENSBURG, WA 98926-

(2) LOCATION OF WELL: County KITTITAS
(2a) STREET ADDRESS OF WELL (or nearest address) - NE 1/4 NW 1/4 Sec 24 T 18 N., R 19 W

(3) PROPOSED USE: DOMESTIC

(10) WELL LOG

(4) TYPE OF WORK: Owner's Number of well (If more than one) 3
NEW WELL Method: ROTARY

(5) DIMENSIONS: Diameter of well 8 inches
Drilled 228 ft. Depth of completed well 228 ft.

(6) CONSTRUCTION DETAILS:
Casing installed: 8 " Dia. from +1.5 ft. to 118 ft.
WELDED 6 " Dia. from +2 ft. to 228 ft.
" Dia. from ft. to ft.

Perforations: YES
Type of perforator used TORCH
Size of perforations 1/8 in. by 6 in.
68 perforations from 158 ft. to 228 ft.
perforations from ft. to ft.
perforations from ft. to ft.

Screens: NO
Manufacturer's Name
Type Model No.
Dia. Slot size from ft. to ft.
Dia. Slot size from ft. to ft.

Gravel packed: NO Size of gravel
Gravel placed from ft. to ft.

Surface seals: YES To what depth? 18 ft.
Material used in seal BENTONITE
Did any strata contain unusable water? NO
Type of water? Depth of strata ft.
Method of sealing strata off OVERDRGE

(7) PUMP: Manufacturer's Name
Type H.P.

(8) WATER LEVELS: Land-surface elevation above mean sea level ... ft.
Static level 120 ft. below top of well Date 03/26/94
Artesian Pressure lbs. per square inch Date
Artesian water controlled by

MATERIAL	FROM	TO
TOPSOIL	0	1
CLAY GRAVEL BOULDERS	1	25
FRACTURED BASALT	25	119
BASALT HARD	119	218
FRACTURED BASALT	218	228
	228	

0-1 Loess
1-25 Thorp
25-218 Kittitas Member
218-228 Top Grus

Work started 03/22/94 Completed 03/28/94

(9) WELL TESTS: Drawdown is amount water level is lowered below static level.
Was a pump test made? NO If yes, by whom?
Yield: gal./min with ft. drawdown after hrs.

Recovery data
Time Water Level Time Water Level Time Water Level

Date of test / /
Bailer test gal/min. ft. drawdown after hrs.
Air test 1000 gal/min. w/ stem set at ft. for hrs.
Artesian flow g.p.m. Date
Temperature of water Was a chemical analysis made? NO

WELL CONSTRUCTOR CERTIFICATION:
I constructed and/or accept responsibility for construction of this well, and its compliance with all Washington well construction standards. Materials used and the information reported above are true to my best knowledge and belief.

NAME PONDEROSA DRILLING
(Person, firm, or corporation) (Type or print)
ADDRESS E 6810 BROADWAY
SIGNED License No. 0879
Contractor's Registration No. PO-MO-ET-REALJE Date 03/28/94

A1

WATER WELL REPORT

STATE OF WASHINGTON

(161)

Application No.

Permit No.

ile Original and First Copy with
epartment of Ecology
econd Copy — Owner's Copy
hird Copy — Driller's Copy

(1) OWNER: Name William Smith (Zeke) Address Rt. 5, Box 950 Ellensburg, Wa. 98926

(2) LOCATION OF WELL: County Kittitas NE ¼ NE ¼ Sec. 29 T. 18 N. R. 18 W.M.

Bearing and distance from section or subdivision corner

(3) PROPOSED USE: Domestic ☒ Industrial ☐ Municipal ☐
Irrigation ☐ Test Well ☐ Other ☐

(4) TYPE OF WORK: Owner's number of well (if more than one)
New well ☒ Method: Dug ☐ Bored ☐
Deepened ☐ Cable ☐ Driven ☐
Reconditioned ☐ Rotary ☒ Jetted ☐

(5) DIMENSIONS: Diameter of well 6 inches.
Drilled 85 ft. Depth of completed well 85 ft.

(6) CONSTRUCTION DETAILS:
Casing installed: 6" Diam. from +1 ft. to 59 ft.
Threaded ☐ ___" Diam. from ___ ft. to ___ ft.
Welded ☒ ___" Diam. from ___ ft. to ___ ft.

Perforations: Yes ☐ No ☒
Type of perforator used
SIZE of perforations ___ in. by ___ in.
___ perforations from ___ ft. to ___ ft.
___ perforations from ___ ft. to ___ ft.
___ perforations from ___ ft. to ___ ft.

Screens: Yes ☐ No ☒
Manufacturer's Name
Type Model No.
Diam. ___ Slot size ___ from ___ ft. to ___ ft.
Diam. ___ Slot size ___ from ___ ft. to ___ ft.

Gravel packed: Yes ☐ No ☒ Size of gravel:
Gravel placed from ___ ft. to ___ ft.

Surface seal: Yes ☒ No ☐ To what depth? 20+ ft.
Material used in seal Bentonite
Did any strata contain unusable water? Yes ☐ No ☒
Type of water? ___ Depth of strata
Method of sealing strata off

(7) PUMP: Manufacturer's Name
Type: H.P.

(8) WATER LEVELS: Land-surface elevation above mean sea level ___ ft.
Static level 10 ft. below top of well Date 5/20/87
Artesian pressure ___ lbs. per square inch Date
Artesian water is controlled by (Cap, valve, etc.)

(9) WELL TESTS: Drawdown is amount water level is lowered below static level
Was a pump test made? Yes ☐ No ☒ If yes, by whom?
Yield: ___ gal./min. with ___ ft. drawdown after ___ hrs.

Recovery data (time taken as zero when pump turned off) (water level measured from well top to water level)

Time	Water Level	Time	Water Level	Time	Water Level

Date of test
Bailer test ___ gal./min. with ___ ft. drawdown after ___ hrs.
Artesian flow ___ g.p.m. Date
Temperature of water ___ Was a chemical analysis made? Yes ☐ No ☒

(10) WELL LOG:
Formation: Describe by color, character, size of material and structure, and show thickness of aquifers and the kind and nature of the material in each stratum penetrated, with at least one entry for each change of formations.

MATERIAL	FROM	TO
Topsoil	0	5
Soil & boulders	5	16
Cemented gravel	16	62
Cemented gravel, grey clay, Wate	62	85

0 - 3 Loess
3 - 62 Thorp
62 - 85 Eb?
Thorp

RECEIVED
JUN - 8 1987
DEPARTMENT OF ECOLOGY
CENTRAL REGION OFFICE

Work started 5/20/87 19 Completed 5/20/87 19

WELL DRILLER'S STATEMENT:
This well was drilled under my jurisdiction and this report is true to the best of my knowledge and belief.

NAME Water Wells Drilling (Person, firm, or corporation) (Type or print)
Address 5503 Ahtanum Rd. Yakima, Wa. 98903
[Signed] (Well Driller)
License No. 1435 Date 5/26/87 19

Colockum Pass SW

741

186

A1

WATER WELL REPORT

State Well No. KS152
Unique well I.D. # AB113
Water Right Permit #

(1) OWNER: Name FRONHOMER, JESS L. Address 1491 WILSON CREEK ROAD ELLENSBURG WA 98926-

(2) LOCATION OF WELL: County KITTITAS - NE 1/4 NE 1/4 Sec 31 T 18 N. R 19E W

(2a) STREET ADDRESS OF WELL (or nearest address)

(3) PROPOSED USE: DOMESTIC

(4) TYPE OF WORK: Owner's Number of well (If more than one) 1
NEW WELL Method: ROTARY

(5) DIMENSIONS: Diameter of well 6 inches
Drilled 300 ft. Depth of completed well 296 ft.

(6) CONSTRUCTION DETAILS:
Casing installed: 6 " Dia. from +2 ft. to 296 ft.
WELDED " Dia. from ft. to ft.
" Dia. from ft. to ft.

Perforations: NO
Type of perforator used
Size of perforations in. by in.
perforations from ft. to ft.
perforations from ft. to ft.
perforations from ft. to ft.

Screens: NO
Manufacturer's Name
Type Model No.
Dia. slot size from ft. to ft.
Dia. slot size from ft. to ft.

Gravel packed: NO Size of gravel
Gravel placed from ft. to ft.

Surface seal: YES To what depth? 18 ft.
Material used in seal BENTONITE
Did any strata contain unusable water? NO
Type of water? Depth of strata 18 ft.
Method of sealing strata off OVERBORE

(7) PUMP: Manufacturer's Name
Type H.P.

(8) WATER LEVELS: Land-surface elevation above mean sea level ... ft.
Static level 20 ft. below top of well Date 04/21/94
Artesian Pressure lbs. per square inch Date
Artesian water controlled by

(9) WELL TESTS: Drawdown is amount water level is lowered below static level.
Was a pump test made? NO If yes, for what?
Yield: gal./min with ft. drawdown after hrs.

Recovery data
Time Water Level Time Water Level Time Water Level

Date of test / /
Bailer test gal/min. ft. drawdown after hrs.
Air test 100+ gal/min. w/ stem set at ft. for hrs.
Artesian flow g.p.m. Date
Temperature of water Was a chemical analysis made? NO

(10) WELL LOG

Formation: Describe by color, character, size of material and structure, and show thickness of aquifers and the kind and nature of the material in each stratum penetrated, with at least one entry for each change in formation.

FORMATION	FROM	TO
TOPSOIL	0	3
GRAVEL AND COBBLES	3	10
BROWN CLAY GRAVEL	10	25
BROWN CLAY	25	94
CEMENTED SAND GRAVEL	94	103
BROWN CLAY SANDSTONE	103	144
SANDSTONE GRAY	144	155
SANDSTONE BROWN CLAY	155	175
CEMENTED GRAVEL	175	193
SANDSTONE BROWN CLAY	193	201
CEMENTED GRAVEL	201	210
BROWN SANDSTONE	210	240
BROWN CLAY SANDSTONE	240	250
SANDSTONE GRAVEL	250	260
BROWN SANDSTONE	260	270
SANDSTONE WITH GRAVEL	270	283
GRAVEL WITH WATER	283	295
SANDSTONE AND CLAY	295	300

Work started 04/19/94 Completed 04/21/94

WELL CONSTRUCTION CERTIFICATION:
I constructed and/or accept responsibility for construction of this well, and its compliance with all Washington well construction standards. Materials used and the information reported above are true to my best knowledge and belief.

FIRE PONDEROSA DRILLING
(Person, firm, or corporation) (Type or print)

ADDRESS E 6818 SPRAGUE

SIGNED _____ License No. 1234

Contractor's Registration No. PO-ND-EI*824JE Date 04/22/94

B-26

File Original and First Copy with Department of Ecology
Second Copy—Owner's Copy
Third Copy—Driller's Copy

758

WATER WELL REPORT

STATE OF WASHINGTON

GW Start Card No. 083675

Water Right Permit No. G1

G-1

(1) OWNER: Name J.J. Johnson Address 1900 Brook Lane C-14 Ellensburg, WA

LOCATION OF WELL: County Kittitas SW ¼ NE ¼ Sec. 33 T. 18 N. R. 19 W.M.

STREET ADDRESS OF WELL (or nearest address)

(3) PROPOSED USE: [X] Domestic [ ] Industrial [ ] Municipal [ ] Irrigation [ ] Test Well [ ] Other [ ] Dewater

(4) TYPE OF WORK: Owner's number of well (if more than one)
Abandoned [ ] New well [X] Method: Dug [ ] Boared [ ]
Deepened [ ] Cable [ ] Driven [ ]
Reconditioned [ ] Rotary [X] Jetted [ ]

(5) DIMENSIONS: Diameter of well 6" inches.
Drilled 270 feet. Depth of completed well 258.5 ft.

(6) CONSTRUCTION DETAILS:
Casing installed: 6" Diam. from +1.5 ft. to -258.5 ft.
Welded [X]
Liner installed [ ]
Threaded [ ]
Perforations: Yes [ ] No [X]
Type of perforator used
SIZE of perforations in. by in.
perforations from ft. to ft.
perforations from ft. to ft.
perforations from ft. to ft.
Screens: Yes [ ] No [X]
Manufacturer's Name
Type Model No.
Diam. Slot size from ft. to ft.
Diam. Slot size from ft. to ft.
Gravel packed: Yes [ ] No [X] Size of gravel
Gravel placed from ft. to ft.
Surface seal: Yes [X] No [ ] To what depth? 30+ ft.
Material used in seal
Did any strata contain unusable water? Yes [X] No [ ]
Type of water? Surface Depth of strata 45-60
Method of sealing strata off Cased off

(7) PUMP: Manufacturer's Name
Type H.P.

(8) WATER LEVELS: Land-surface elevation above mean sea level ft.
Static level 60 ft. below top of well Date
Artesian pressure lbs. per square inch Date
Artesian water is controlled by (Cap, valve, etc.)

(9) WELL TESTS: Drawdown or artesian flow is measured below static level
Was a pump test made? Yes [ ] No [X] If yes, by whom?
Yield: 30+ gal./min. with ft. drawdown after hrs.
Estimated air lift 30+ GPM
Recovery data (time taken as zero when pump turned off) (water level measured from well top to water level)
Time | Water Level | Time | Water Level | Time | Water Level
Date of test
Bailer test gal./min. with ft. drawdown after hrs.
Airtest gal./min. with stem set at ft. for hrs.
Artesian flow g.p.m. Date
Temperature of water Was a chemical analysis made? Yes [ ] No [ ]

(10) WELL LOG or ABANDONMENT PROCEDURE DESCRIPTION

Formation: Describe by color, character, size of material and structure, and show thickness of aquifers and the kind and nature of the material in each stratum penetrated, with at least one entry for each change of information.

MATERIAL	FROM	TO
Top soil	0	4
Gravel w/cobble	4	11
Silty clay brown medium	11	230
Gravel & silt w/water	230	250
Basalt brown soft w/water	250	270

Thorp 0-270

Basalt = Sidestream

6" Drive shoe utilized

Work started 2-25-92 19 Completed 2-27 19 92

WELL CONSTRUCTOR CERTIFICATION:
I constructed and/or accept responsibility for construction of this well, and its compliance with all Washington well construction standards. Materials used and the information reported above are true to my best knowledge and belief.

NAME Ponderosa Drilling & Development, Inc.
(Person, Firm, or Corporation) (Type or Print)

Address E. 6010 Broadway Spokane, WA 99212

(Signed) (Louie E. Hannar) License No. 1472

Contractor's Registration No. PO-ND-EI*248JF Date 2-28 19 92

(USE ADDITIONAL SHEETS IF NECESSARY)

APPENDIX C

City of Ellensburg
6304-001-00

Ellensburg, WA 98926

- Confirmed and Suspected Contaminated Sites List dated 05/20/98.
  Two listed sites are within the search area.

1. Site ID: 3892
   Kens Autowash
   1013 E. 10th Ave.
   Ellensburg 98926
   Site Stat Code: 2 (Ranked, Awaiting Remedial Action)
   Ind. Site Stat: 2 (Independent Site Assessment or Interim RA Report Received)
   WARM BIN #: 2 (1=greatest assessed risk to human health & environ., 5=lowest assessed risk)
   Affected Media--Status--Contaminants (Confirmed, Suspected, or Remediated)
   Ground Water—Confirmed--EPA Priority Pollutants - Metals and Cyanide (C); Petroleum Products (C)
   Soil--Confirmed--EPA Priority Pollutants - Metals and Cyanide (C); Petroleum Products (C)

2. Site ID: 374
   Midstate Aviation
   1101 Bowers Road
   Ellensburg 98926
   Site Stat Code: 3 (Remedial Action in Progress)
   Ind. Site Stat: 1 (Release Report Received, Awaiting Assessment by PLP)
   WARM BIN #: 3 (1=greatest assessed risk to human health & environ., 5=lowest assessed risk)
   Affected Media--Status--Contaminants (Confirmed, Suspected, or Remediated)
   Drinking Water—Suspected--Pesticides (S)
   Ground Water—Suspected--Pesticides (S)
   Sediment--Suspected--Pesticides (S)
   Soil--Confirmed--Pesticides (C)

Note: The following site may be within the search area; however, there is insufficient address information.

- Site ID: 27853
13 Central WA Univ Power Plan[t]
   Mailstop 7412
   Ellensburg 98926
   Site Stat Code: 4 (Independent Remedial Action)
   Ind. Site Stat: 1 (Release Report Received, Awaiting Assessment by PLP)
   Affected Media--Status--Contaminants (Confirmed, Suspected, or Remediated)
   Ground Water—Suspected--Petroleum Products (S)
   Soil--Confirmed--Petroleum Products (C)

- Leaking Underground Storage Tank List dated 05/20/98.
  One listed LUST site is within the search area.

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1. Site ID: 4099
Release ID: 385252
Ken's Auto Wash II
1013 E. 10th
Ellensburg 98926
Notice Date: 06/27/96
Release Status: Cleanup started
Status Date: 06/27/96
Affected Media: S, GW

Note: The following site may be within the search area; however, there is insufficient address information.

Site ID: 12392
Release ID: 3358
Central Washington University
SW1/4 of Sec 35 T18N R18E WM
Ellensburg 98926
Notice Date: 12/10/90
Release Status: Awaiting cleanup
Status Date: 06/24/96
Affected Media: S

- Site Registers dated January 13, 1998 through June 2, 1998.
No listed Site Register sites are within the search area.

- "The Northwest Environmental Compliance Report Quick Reference Guide" dated April 1993; "Landfills in Washington" (source unknown, received by GEI 3/96); "Area Landfills" from *Associated General Contractors of Washington Water Quality Manual* dated 1990.

According to data in the above landfill lists, one landfill (Ryegrass Landfill) is located in the city of Ellensburg; however, no address is given.

- UST List dated 05/20/98.
Nine listed sites are within the search area.

1. Site ID: 4099
Ken's Auto Wash II
1013 E. 10th
Ellensburg 98926
Comments: Four removed, three operational

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2. Site ID: 12506
Midstate Aviation
1101 Bowers Road
Ellensburg 98926-9345
☐ Comments: Two removed

3. Site ID: 717
Ellensburg Transportation Coop
1501 E. Capitol Ave.
Ellensburg 98926-9440
☐ Comments: Four operational, 1 exempt

4. Site ID: 1920
Rogers Trucking
809 Industrial
Ellensburg 98926
☐ Comments: One operational

5. Site ID: 7143
Kittitas PUD #1
1400 E. Vantage Hwy
Ellensburg 98926-9501
☐ Comments: Change in service

6. Site ID: 7608
WA 050
901 E. 7th Avenue
Ellensburg 98926-3218
☐ Comments: Three removed

7. Site ID: 8576
7-Eleven Store 2301-#17053L
1001 E. 10th
Ellensburg 98926-0000
☐ Comments: Three operational

8. Site ID: 12505
Ellensburg Maintenance Shop
15th & Okanogan
Ellensburg 98926
☐ Comments: Three removed

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9. Site ID: 101424
Ellensburg High School
1300 East 3rd
Ellensburg 98926-3576
☐ Comments: One exempt (heating fuel)

Note: The following 21 sites in Ellensburg could not be located.

- Site ID: 2197
Roland D. Johnson
Rt 5 Box 2090
Ellensburg 98926-9384
☐ Comments: One removed

- Site ID: 2833
Stampede Radio Stn/Closed
Rt 4 Box 365
Ellensburg 98926-9316
☐ Comments: One removed

- Site ID: 4686
4. Claude C. Bartsma
Rt 2 Box 990
Ellensburg 98926-9610
☐ Comments: One removed

- Site ID: 4836
Ronald W. Busch
Rt 2 Box 730
Ellensburg 98926-9791
☐ Comments: Two removed

- Site ID: 7063
Dick Yuskoff
Rt 4 Box 264
Ellensburg 98926-9302
☐ Comments: One closure in process

- Site ID: 7236
Jesse L. Gibb
Rt 2 Box 1245
Ellensburg 98926-9620

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- Comments: One removed

Site ID: 7624
Washington State Patrol - Ellensburg
RR1 Box 253
Ellensburg 98926-9701
- Comments: Two operational, two removed

Site ID: 8102
John P. Wheatley
Rt 1 Box 555
Ellensburg 98926-9712
- Comments: Two operational

Site ID: 8902
Penovich Ranch
Rt 1 Box 580
Ellensburg 98926-9714
- Comments: One exempt

Site ID: 12392
Central Washington University
SW1/4 of SEC35 T18N R18E WM
Ellensburg 98926
- Comments: One operational, one exempt, five removed, one closure in process

Site ID: 9739
Wenas Lake WA Print 425
Lat 46 51 04N Long 120 34 34W
Ellensburg 98926
- Comments: One closure in process

Site ID: 9398
Bristol Print 457 Microwave
Lat 47 09 39N Long 120 47 36W
Ellensburg 98926
- Comments: One closure in process

Site ID: 9412
Ellensburg WA Line Seg 48 Print 383
MP 0.2 3rd Sub Portland Div

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Ellensburg 98926
☐ Comments: Three removed

Site ID: 9966
Ellensburg Repeater 070102
Rt 1 Box 770
Ellensburg 98926-9720
☐ Comments: One removed in place, two closed in place

Site ID: 10895
Jay P. Morgan
Rt 4 Box 201
Ellensburg 98926-9483
☐ Comments: Two removed

Site ID: 10985
Bill Lowe
Rt 2 Box 720
Ellensburg 98926-9790
☐ Comments: Two removed

Site ID: 11967
JKD Farms
Rt 5 Box 2590
Ellensburg 98926-9203
☐ Comments: Two closure in process

Site ID: 12523
Ellensburg Telephone Company
Craigs Hill Transmitter Bldg Ch-1
Ellensburg 98926
☐ Comments: One removed

Site ID: 12525
Howard Heights Microwave Site
Lat 45 55 50N Long 120 1
Ellensburg 98926-9483
☐ Comments: One removed

Site ID: 12741
Jack Johnson

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Rt 2 Box 1240
Ellensburg 98926-9619
☐ Comments: Four removed, one operational

Site ID: 100687
Mackner's Transport, Inc.
400 Mount View Ave.
Ellensburg 98926-0000
☐ Comments: Two temporarily closed

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- CERCLIS dated 10/23/97.
  No listed CERCLIS sites are within the search area.

- ERNS databases~01/01/95 through 03/04/98.
  No listed ERNS sites are within the search area.

- NPL dated 03/05/98.
  No listed NPL sites are within the search area.

- RCRA Generators and Transporters dated 04/22/98.
  No listed RCRA transporters are within the search area. Three listed RCRA generators are within the search area.

2. Site ID: WAD988523163
   Midstate Aviation (Nonregulated generator)
   1101 Bowers Rd
   Ellensburg 98926

5. Site ID: WAD980984876
   Kittitas County PUD 1 (Small quantity generator)
   1400 E. Vantage Hwy
   Ellensburg 98926

12 10. Site ID: WAD981772015
   Superior Dry Cleaners (Conditionally exempt generator)
   700 E. 8th St.
   Ellensburg 98926

The following generator may possibly be within the search area:

13 0 Site ID: WAD980835631
   Central Washington University
   400 E. 8th Ave.
   Ellensburg 98926

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Note: Cannot locate the following two sites:

- Site ID: WAH000001347
  Super 1 Foods Parking Lot (Large quantity generator)
  E 200 Mt View Ave.
  Ellensburg 98926

- Site ID: WA0000075242
  US DA FHA Tom Gorman Farm (Nonregulated generator)
  T18N R18E S27 W1/2 Ctr
  Ellensburg 98926

- RCRA CORRACTS dated 05/13/98.
  No listed RCRA CORRACTS sites are within the search area.

- RCRA TSD dated 05/13/98.
  No listed RCRA TSD sites are within the search area.

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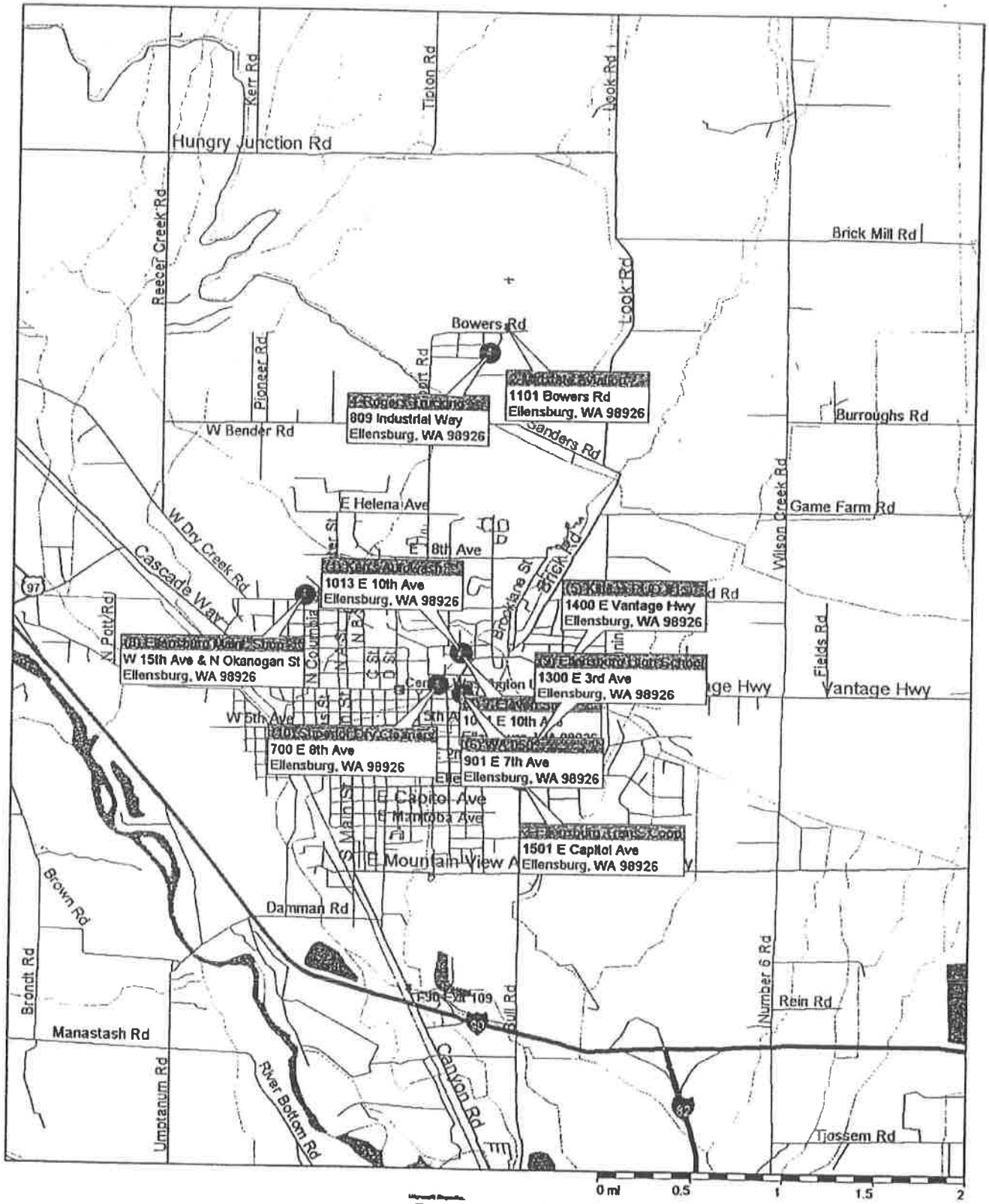

Streets98

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APPENDIX D

Title 17

ZONING[1]

Chapters:

17.04 General Provisions and Enforcement
17.08 Definitions
17.12 Zones Designated – Map
17.16 R – Residential Zone
17.18 R-2 – Residential Zone
17.20 S – Suburban Zone
17.22 S-II – Suburban II Zone
17.24 T-C – Trailer Court Zone
17.28 A-3 – Agricultural Zone
17.29 A-20 – Agricultural Zone
17.30 R-3 – Rural-3 Zone
17.31 Commercial Agriculture Zone
17.32 C-L – Limited Commercial Zone
17.36 Planned Unit Development Zone
17.40 C-G – General Commercial Zone
17.44 C-H – Highway Commercial Zone
17.48 I-L – Light Industrial Zone
17.52 I-G – General Industrial Zone
17.56 Forest and Range Zone
17.57 Commercial Forest Zone
17.58 Airport Zone
17.59 Liberty Historic Zone
17.60 Conditional Uses
17.65 Cluster Subdivision
17.72 Signs
17.74 Right to Farm for Protection of Agricultural Activities
17.80 Nonconforming Uses
17.84 Variances
17.92 Permits
17.96 Board of Adjustment
17.98 Amendments

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1. For a schedule of processing fees for current land use classification applications for farm and agricultural lands, open space lands, and timber lands, see Ch. 4.08 of this code.

feet in width on each side of a building. (Side of building means outer face, any part of building nearest to the side line, not including roof eaves.) On corner lots the side yard shall be a minimum of fifteen feet on the side abutting the street. (Res. 83-10, 1983).

17.16.080 Yard requirements – Rear. There shall be a rear yard with a minimum depth of twenty-five feet to the main building. (Res. 83-10, 1983).

17.16.090 Half streets. In an area adjacent to a half street and opposite or outside the plat including the dedication of said half street, structures shall be set back from said half streets a distance sufficient to provide for an additional half street and the yard requirement. (Res. 83-10, 1983).

17.16.100 Sale or conveyance of lot portion. No sale or conveyance of any portion of a lot, for other than a public purpose, shall leave a structure or the remainder of a lot with less than the minimum lot, yard or setback requirement of this district. (Res. 83-10, 1983).

17.16.110 Off-street parking. One automobile parking space shall be provided for each dwelling unit and shall be located to the rear of the building setback line. (Res. 83-10, 1983).

17.16.120 Conditional uses. The following uses shall be permitted in any R zone subject to the conditions set forth in Chapter 17.56:

A. Apartment houses;

B. Boardinghouses and lodging houses, the accommodation not to exceed four persons in a single family dwelling;

C. Churches;

D. Clinic, provided that the conditional permit shall require that the minimum lot size be fifteen thousand square feet;

E. Electric substations;

F. Horses or cattle obtained for the personal enjoyment of the owner or occupant of the lot, provided that the lot contains one acre or more;

G. Hospitals and sanitariums except those for inebriates, the insane or those suffering from mental diseases; subject to the regulations of the health department;

H. Institutions, other than correctional, for educational, philanthropic or charitable uses including museums and galleries;

I. Noncommercial nurseries and greenhouses;

J. Private clubs, fraternities and lodges;

K. Public utility building;

L. Telephone exchanges;

M. The offices of a physician, dentist or other professional person when located in his or her dwelling, also home occupations engaged in by individuals within their dwellings are permitted provided that no window display is made or any sign shown other than one not exceeding two square feet in area and bearing only the name and occupation of the occupant. (Res. 83-10, 1983).

Chapter 17.18

R-2 – RESIDENTIAL ZONE

Sections:

17.18.010 Purpose and intent.
17.18.020 Uses permitted.
17.18.025 Conditional uses.
17.18.030 Minimum lot requirements.
17.18.040 Maximum lot coverage.
17.18.050 Maximum structure height.
17.18.060 Yard requirements – Front.
17.18.070 Yard requirements – Side.
17.18.080 Yard requirements – Rear.

17.18.010 Purpose and intent. The purpose and intent of the residential zone is to provide for and protect areas for homesite development designed to meet contemporary building and living standards where public water and sewer systems are provided. (Ord. 89-10 (part), 1989).

17.18.020 Uses permitted. In any residential zone only the following uses are permitted:

A. One-family or two-family dwellings;

B. Mobile homes, trailer homes;

C. Parks and playgrounds;

D. Home occupations;

E. Uses customarily incidental to any of the uses set forth in this section;

F. Any use not listed which is nearly identical to a permitted use, as judged by the administrative official, may be permitted. In such cases, all adjacent property owners shall be given official notification for an opportunity to appeal such decisions within ten working days of notification pursuant to Title 15A of this code, Project permit application process. (Ord. 96-19 (part), 1996; Ord. 89-10 (part), 1989).

17.18.025 Conditional uses. The following uses shall be permitted in any R-2 zone subject to the conditions set forth in Chapter 17.60:

A. Churches. (Ord. 95-8, 1995).

17.18.030 Minimum lot requirements. A. Minimum lot sizes in the R2 zone are as follows:

1. Single-family dwelling, seven thousand two hundred square feet for any lots created after the date of the ordinance codified in this chapter; 5,000 square feet for all existing platted lots.

2. Two-family dwelling, ten thousand square feet.

B. The minimum lot depth shall be one hundred feet.

C. The minimum average lot width shall be sixty-five feet.

D. In no case shall there be more than one main dwelling and its accessory buildings constructed on one lot unless such lot is twice the minimum required for a single-family dwelling.

E. No main dwelling shall be built or moved on to a lot not abutting a public street, with the exception of special cases where the county may approve other suitable access. (Ord. 89-10 (part), 1989).

17.18.040 Maximum lot coverage. The ground area covered by all buildings including accessory buildings shall not exceed thirty percent for lots 6,500 square feet or more in area (created after the date of the ordinance codified in this chapter) and forty percent for lots less than 6,500 feet in area. (Ord. 89-10 (part), 1989).

17.18.050 Maximum structure height. No structure shall exceed two and one-half stories, or thirty-five feet, whichever is less in height. (Ord. 89-10 (part), 1989).

17.18.060 Yard requirements – Front. There shall be a front yard having a minimum depth of fifteen feet, unless a previous building line less than this has been established, in which case the minimum front yard for interior lots shall be the average of the setbacks of the main structures on the abutting lots on either side if both lots are occupied. If one lot is occupied and the other vacant, the setback shall be the setback of the occupied lot plus one-half the remaining distance to the required fifteen foot setback. If neither of the abutting side lots or tracts are occupied by a structure, the setback shall be fifteen feet. (Ord. 89-10 (part), 1989).

17.18.070 Yard requirements – Side. There shall be a side yard of not less than ten (10) feet on one side, and five (5) feet on the opposite side of a building. (Side of building means outer face, any part of building nearest to the side line, not including roof eaves.) On corner lots the side yard shall be a minimum of fifteen feet on the side abutting the street. (Ord. 89-10 (part), 1989).

17.18.080 Yard requirements – Rear. There shall be a rear yard with a minimum depth of twenty-five feet to the main building. However one accessory structure may be constructed within five (5) feet of the rear lot line. (Ord. 89-10 (part), 1989).

Chapter 17.20

S – SUBURBAN ZONE[1]

Sections:

17.20.010 Purpose and intent.
17.20.020 Uses permitted.
17.20.030 Lot – Size required.
17.20.040 Lot – Maximum coverage.
17.20.050 Maximum structure height.
17.20.060 Yard requirements.

1. Prior history: Ords. 76-7, 76-3, 74-5, 72-8, 72-5, 71-5, 69-7, 68-17, 2.

17.20.070 *Repealed.*
17.20.080 Temporary stands.
17.20.090 Grazing.
17.20.100 Lots abutting right-of-way required for dwellings.
17.20.110 Conditional uses.

17.20.010 Purpose and intent. The purpose and intent of the suburban zone is to provide for and protect low density semirural residential development chiefly in outlying transitional areas where a mixture of residential and traditionally rural land uses will be compatible. (Ord. 83-Z-2 (part), 1983: Res. 83-10, 1983).

17.20.020 Uses permitted. The following uses are permitted:

A. Single family homes not including mobile homes or trailer houses;

B. Duplexes and residential accessory buildings;

C. All types of agriculture and horticulture not otherwise restricted or prohibited herein;

D. The raising of animals (excluding swine and mink), providing an area of not less than one acre is available;

E. Uses customarily incidental to the use set forth in this section;

F. Any use not listed which is nearly identical to a permitted use, as judged by the administrative official, may be permitted. In such cases, all adjacent property owners shall be given official notification for an opportunity to appeal such decisions within ten working days pursuant to Title 15A of this code, Project permit application process. (Ord. 96-19 (part), 1996; Ord. 83-Z-2 (part), 1983; Res. 83-10, 1983).

17.20.030 Lot – Size required. A. Single family residence shall be not less than one acre with an average width of not less than one hundred fifty feet; provided however, that minimum lot sizes in platted subdivisions shall be computed on the basis of one lot per gross acre with a minimum size of not less than 0.75 (three-fourths) acre. All lots of record at the time of passage of the ordinance codified herein shall be considered as conforming to lot size requirements.

B. Multiple family dwellings or apartment houses shall be the same as subsection (A) above. Parking area requirements shall be the same as required in residential zone. (Res. 83-10, 1983).

17.20.040 Lot – Maximum coverage. The ground area covered by all buildings, including accessory buildings, shall not exceed thirty percent of the lot area. (Res. 83-10, 1983).

17.20.050 Maximum structure height. No structure shall exceed two and one-half stories or thirty-five feet whichever is less in height. (Res. 83-10, 1983).

17.20.060 Yard requirements. No structure shall be built within twenty-five feet of the front and rear property lines or within fifteen feet of any side property line with the exception of corner lots where the side yard abutting a street need only be twenty feet. (Res. 83-10, 1983).

17.20.070 Off-street parking. *Repealed by Ord. 96-19.* (Res. 83-10, 1983).

17.20.080 Temporary stands. Accessory buildings may include one only temporary and movable stand, etc. (Res. 83-10, 1983).

17.20.090 Grazing. Grazing of cattle, sheep, goats or horses may include the supplementary feeding of such cattle or horses or both provided that such grazing is not part of, nor conducted in conjunction with any dairy, livestock feed yard, livestock sales yard, or commercial riding academy located on the same premises. (Res. 83-10, 1983).

17.20.100 Lots abutting right-of-way required for dwellings. No main dwelling shall be built or moved onto a lot not abutting a public right-of-way. (Res. 83-10, 1983).

17.20.110 Conditional uses.[1] The following uses may be permitted in any suburban zone

1. Editor's note: Subsection letters in this subsection reflect the letters assigned by the document adopted by Res. 83-10. as amended by Ord. 83-Z-2.

subject to the conditions set forth in Chapter 17.60, providing that they are not in conflict with existing or proposed development in a particular area; it is the intent of this code that such uses are subordinate to the primary residential and agricultural uses of this zone:

A. (Deleted by Ord. 83-Z-2)

B. (Deleted by Ord. 83-Z-2)

C. Dairying and stock raising except the raising of swine commercially and the establishment of livestock feed lots; provided that no permit shall be issued for dairying or stock raising on any tract of land having an area of less than nine acres or for animal sheds or barns to be located less than one hundred feet from any property held under different ownership from that upon which such shed or barn is located;

D. Greenhouses, nurseries;

E. Home occupations;

F. Hospitals;

G. Museums;

H. Public utility substations;

I. Riding academies;

J. Schools, public and private;

K. Governmental uses essential to residential neighborhoods;

L. Churches;

M. (Deleted by Ord. 83-Z-2)

N. Community clubs;

O. Convalescent homes;

P. Group homes;

Q. Day care facilities;

R. Bed and breakfast business. (Ord. 90-15 § § 2, 3, 1990; Ord. 90-10 (part), 1990; Ord. 90-6 (part), 1990; Ord. 87-9 § 2, 1987; Ord. 84-Z-1, 1984; Ord. 83-Z-2 (part), 1983; Res. 83-10, 1983).

Chapter 17.22

S-II SUBURBAN – II ZONE[1]

Sections:

17.22.010 Purpose and intent.
17.22.020 Uses permitted.
17.22.030 Lot – Size required.
17.22.040 Maximum lot coverage.
17.22.050 Maximum height permitted.
17.22.060 Yard requirements.
17.22.090 Grazing.
17.22.100 Conditional uses.
17.22.110 Location of main dwelling.

17.22.010 Purpose and intent. The purpose and intent of the suburban zone is to provide for and protect low density, semirural residential development chiefly in outlying transitional areas where a mixture of residential and traditionally rural land uses will be compatible. (Ord. 83-Z-2 (part), 1983).

17.22.020 Uses permitted. Uses permitted in the suburban II zone shall be as follows:

A. Single-family homes;

B. Mobile homes;

C. Duplexes;

D. Accessory buildings;

E. All types of agriculture not otherwise restricted;

F. The grazing or raising of animals (excluding swine and mink), providing an area of not less than one acre is available;

G. Any use not listed which is nearly identical to a permitted use, as judged by the administrative official, may be permitted. In such cases, all adjacent property owners shall be given official notification for an opportunity to appeal such decisions with ten working days pursuant to Title 15A of this code, Project permit application process. (Ord. 96-19 (part), 1996; Res. 83-10, 1983).

17.22.030 Lot – Size required. A. Single-family residence shall be not less than one acre with an average width of not less than one hundred fifty feet; provided, however, that minimum lot sizes in platted subdivisions shall be computed on the basis of one lot per gross acre with a minimum size of not less than three-fourths acre. All lots of record at the time of passage of the ordinance codified in this chapter shall be considered as conforming to lot size requirements.

B. Multiple-family dwelling or apartment house requirements shall be the same as for one to two family dwellings. Front, side, rear yards and parking area requirements shall be the same

1. Prior history: Ord. Z77-2.

as contained in residential zone. Whenever, by special permit or otherwise, more than one dwelling, building or tourist cabin is erected upon a lot or plot, each dwelling shall be separated from every other such dwelling by a distance of not less than ten feet. (Res. 83-10, 1983).

17.22.040 Maximum lot coverage. The ground area covered by all buildings, including accessory buildings, shall not exceed thirty percent of the lot area. (Res. 83-10, 1983).

17.22.050 Maximum height permitted. No structure shall exceed two and one-half stories or thirty-five feet, whichever is less in height. (Res. 83-10, 1983).

17.22.060 Yard requirements. No structure shall be built or located closer than twenty-five feet to the front and rear property line or within fifteen feet of any side property line. (Res. 83-10, 1983).

17.22.090 Grazing. Grazing of cattle, sheep, goats or horses may include the supplementary feeding of such cattle or horses or both, provided that such grazing is not part of nor conducted in conjunction with any dairy, livestock feed yard, livestock sales yard or commercial riding academy located on the same premises; provided, further, that no buildings or structures designed or intended to be used for housing or concentrated feeding of such stock be located less than one hundred feet from any public street or highway or less than fifty feet from any property held under different ownership from that upon which such shed or barn is located. (Ord. 88-4 § 2 (part), 1988; Res. 83-10, 1983).

17.22.100 Conditional uses.[1] The following uses may be permitted in any suburban zone subject to the conditions set forth in Chapter 17.60, providing that they are not in conflict with existing or proposed development in a particular area; it is the intent of this code that such uses are subordinate to the primary residential and agricultural uses of this zone:

A. Community clubs;

B. Convalescent homes;

C. Dairying and stock raising except the raising of swine commercially and the establishment of livestock feed lots, provided that no permit shall be issued for dairying or stock raising on any tract of land having an area of less than nine acres or for animal shed or barns to be located less than one hundred feet from any property held under different ownership from that upon which such shed or barn is located;

D. Greenhouses, nurseries;

E. Home occupations;

F. Museums;

G. Public utility substations;

H. Riding academies;

I. School, public and private;

J. Governmental uses essential to residential neighborhoods;

K. (Deleted by Ord. 83-Z-2)

L. (Deleted by Ord. 90-6)

M through P. (Deleted by Ord. 83-Z-2) (Ord. 90-10 (part), 1990; Ord. 83-Z-2 (part), 1983; Res. 83-10, 1983).

17.22.110 Location of main dwelling. No main dwelling shall be built or moved onto a lot not abutting a public right-of-way. (Ord. 88-4 § 2 (part), 1988).

1. Editor's note: Subsection letters in this subsection reflect the letters assigned by the document adopted by Res. 83-10, as amended by Ord. 83-Z-2.

Chapter 17.24

T-C – TRAILER COURT ZONES[2]

Sections:

17.24.010 Purpose and intent.
17.24.020 Permitted uses.
17.24.030 Minimum requirements.
17.24.040 Yard requirements.
17.24.050 Design standards.
17.24.060 Plot plan required.
17.24.070 Off-street parking.

17.24.010 Purpose and intent. The purpose and intent of the trailer court zone is to provide for planned mobile home developments at densities consistent and compatible with surrounding residential densities. (Ord. 83-Z-2 (part), 1983).

17.24.020 Permitted uses. Permitted uses are as follows:

2. Prior history: Ords. 68-18, 2.

A. Trailers (mobile homes);

B. Single family homes;

C. Any other use permitted in a suburban zone. (Res. 83-10, 1983).

17.24.030 Minimum requirements. The minimum lot area and yard requirements in a T-C zone are as follows:

A. Mobile Homes. The minimum area for a trailer (mobile home) court site shall be three thousand five hundred square feet times the number of individual trailer sites to be provided. Densities must have the approval of the county health office.

B. Single Family Home. The requirements are the same as the requirements of the suburban district. (Res. 83-10, 1983).

17.24.040 Yard requirements. No individual mobile home or single family dwelling shall be closer than thirty-five feet to any lot or street right-of-way or closer than fifteen feet from any other mobile home. (Res. 83-10, 1983).

17.24.050 Design standards. A. All access roadways, parking areas and service drives shall be bituminous surfaced or better.

B. No occupied mobile home shall remain in a mobile home park unless a mobile home space is available.

C. All streets and alleys within the mobile home subdivision should be excavated or filled within 0.3 (plus or minus) of a foot of the grade established by the county engineer. (Res. 83-10, 1983).

17.24.060 Plot plan required. A. Before commencing construction of any trailer court a plot plan of such proposal shall be submitted to the planning commission for their approval.

B. The plan shall be drawn to scale and completely dimensioned. Such plans shall clearly set forth the following information:

1. Name and address of the owner and/or operator;

2. Address, location and legal description of the mobile home park;

3. Extent of the area and dimensions of the site;

4. Size, location and number of mobile home lots, including areas for dependent trailers if both are accommodated;

5. Entrances, exits, driveways and walkways showing proposed widths;

6. Number, size and location of automobile parking accommodations;

7. Number, location and floor plans, including elevations, of all service buildings and other proposed structures, including cabanas and other accessory buildings;

8. Location, and size of recreation area, if any, including a development plan showing type of landscaping, surface treatment, drainage, apparatus and/or special equipment;

9. Plan of water system;

10. Method and plan of sewage disposal and site drainage;

11. Method of garbage disposal and plan of storage areas;

12. Lighting plan of outside areas and service outlets. (Res. 83-10, 1983).

17.24.070 Off-street parking. A. For each mobile home lot there shall be provided and maintained at least one parking space. Each such parking space shall contain a minimum area of one hundred eighty square feet (of dimensions nine feet by twenty feet, or ten feet by nineteen feet) and shall be hard surfaced. If central parking lots are provided, they shall be hard surfaced and each space separated by striping or other adequate means and identified to the official lot number of the occupant and reserved for his sole use.

B. Parallel parking may be permitted in driveways at the approval of the planning commission providing the improved driveway width is increased to a minimum of thirty-six feet.

C. Where lots exist on only one side of the driveway, parallel parking may be permitted on one side at the approval of the planning commission providing the driveway width is increased to a minimum of twenty-eight feet. (Res. 83-10, 1983).

Chapter 17.28

A-3 – AGRICULTURAL ZONE[1]

Sections:

17.28.010 Purpose and intent.
17.28.020 Uses permitted.
17.28.030 Lot size required.
17.28.040 Yard requirements – Front.
17.28.050 Yard requirements – Side.
17.28.060 Yard requirements – Rear.
17.28.080 Sale or conveyance of lot portion.
17.28.090 Off-street parking.
17.28.100 Access requirement.
17.28.110 Setback lines.
17.28.120 Prohibited uses. (Deleted by Ord. 87-11)
17.28.130 Conditional uses.

17.28.010 Purpose and intent. The purpose and intent of the agricultural (A-3) zone is to provide for an area where various agricultural activities and low density residential developments co-exist compatibly. A-3 zones are predominately agricultural-oriented lands and it is not the intent of this section to impose further restrictions on continued agricultural activities therein. (Ord. 83-Z-2 (part), 1983).

17.28.020 Uses permitted. Permitted uses are as follows.

A. Any use permitted in the residential or suburban zones;

B. Agriculture, livestock, poultry or swine or mink raising, and other customary agricultural uses, provided that such operations shall comply with all state and/or county health regulations and with regulations contained in this title related to feedlots;

C. Community clubhouses, parks and playgrounds, and public utility buildings, pumping plants and substations;

D. Commercial greenhouses and nurseries;

E. Roadside stands for the display and sale of fruits and vegetables raised or grown on the premises when located not less than forty-five feet from the centerline of a public street or highway;

F. Existing cemeteries;

G. Airport;

H. Processing of products produced on the premises;

I. Forestry, including the management, growing and harvesting of forest products, and including the processing of locally harvested forest crops using portable equipment;

J. Home occupations that do not involve outdoor work or activities, or which do not produce noise, such as engine repair, etc.

K. Gas and oil exploration and construction;

L. Uses customarily incidental to any of the above uses;

M. Any use not listed which is nearly identical to a listed use, as judged by the administrative official, may be permitted. In such cases, all adjacent property owners shall be given official notification for an opportunity to appeal such decisions to the county board of adjustment within ten working days of notification pursuant to Title 15A of this code, Project permit application process. (Ord. 96-19 (part), 1996; Ord. 88-4 § 3, 1988; Ord. 83-Z-2 (part), 1983: Res. 83-10, 1983).

17.28.030 Lot size required. A. The minimum residential lot size shall be three acres in the agricultural zone. The overall density of any residential development shall not exceed one dwelling for each three acres. A variance from the minimum lot requirement may be granted for any lot or parcel of land which is physically separated from a main tract by a public road, canal, railroad, or other physical feature causing such lot or parcel to be isolated. Such variances shall first be considered by the board of adjustment, and implementation of a comprehensive plan shall begin at the earliest possible date, but not later than three hundred sixty-five days after this date.

B. The minimum average lot width shall be two hundred fifty feet.

C. No sale or conveyance of any portion of a parcel of land for other than a public purpose shall leave a residential structure with less than

1. Prior history: Ords. 82-Z-1, 79-Z-3, 79-Z-2,76-2, 75-12, 75-9, 75-5, 73-7, 73-5, 73-3, 72-8, 71-5, 71-1, 70-9, 70-8, 69-7, 69-1, 68-17, 2.

the minimum lot requirements of this district, except in the sale of a farm of at least forty acres in size, or as determined to be in legal substantial compliance therewith, where the owner (for a period of not less than five years prior to the sale) retains the homesite. In such cases, minimum lot requirements shall be determined by the county health department. (Res. 83-10, 1983).

17.28.040 Yard requirements – Front. There shall be a minimum front yard of twenty-five feet. (Ord. 96-19 (part), 1996; Res. 83-10, 1983).

17.28.050 Yard requirements – Side. Side yard shall be a minimum of five feet. On corner lots the side yard shall be a minimum of fifteen feet on the side abutting the street. (Res. 83-10, 1983).

17.28.060 Yard requirements – Rear. There shall be a rear yard with a minimum depth of twenty-five feet to the main building. (Res. 83-10, 1983).

17.28.080 Sale or conveyance of lot portion. No sale or conveyance of any portion of a lot, for other than a public purpose, shall leave a structure or the remainder of the lot with less than the minimum lot, yard or setback requirements of this district. (Res. 83-10, 1983).

17.28.090 Off-street parking. One automobile parking space shall be provided for each dwelling unit and shall be located to the rear of the building setback line. (Res. 83-10, 1983).

17.28.100 Access requirement. No dwelling shall be constructed or located on a lot or parcel which is not served by a legal sixty-foot right-of-way or existing county road. (Res. 83-10, 1983).

17.28.110 Setback lines. None of the following uses shall be located within the distances indicated of any public street or road, any school or public park, or any dwelling (except such dwelling as may exist upon the same property with the restricted use):

A. Within one and one-half miles:

1. (Repealed by Ord. 88-5)

2. Farms or establishments for feeding of garbage or other refuse to hogs or other animals:

a. Provision is made that all such operations of subsections 1 and 2 shall be conducted in compliance with all state and county health regulations, and

b. Complete protection from any potential detrimental effects such use might have on surrounding properties and/or use districts will be provided;

B. (Deleted by Ord. 87-11)

C. Within one hundred feet: barns, shelters or other buildings or structures for keeping or feeding of any livestock, poultry, or other animals or birds whether wild or domestic;

D. Feedlots containing fifty to one hundred head at a density of less than five hundred square feet per head for a period of six months or more shall be located no closer than three hundred feet to any existing home, school or park. (Ord. 88-5 (part), 1988; Ord. 87-11 (part), 1987; Res. 83-10, 1983).

17.28.120 Prohibited uses. (Deleted by Ord. 87-11). (Res. 83-10, 1983).

17.28.130 Conditional uses.[1] The following uses may be permitted in any agricultural zone subject to the conditions set forth in Chapter 17.60; it is the intent of this code that such uses are subordinate to the primary agricultural uses of this zone:

A. Any conditional use permitted in a suburban zone except apartments and group homes;

B. Room and board lodging involving no more than four boarders or two bedrooms;

C. Feed mills, canneries and processing plants for agricultural products;

D. Kennels;

E. Livestock sales yard;

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1. Editor's note: Subsection letters in this subsection reflect the letters assigned by the document adopted by Res. 83-10, as amended by Ord. 83-Z-2.

F. Sand and gravel excavation, provided that noncommercial excavation shall be permitted for on-site use without a conditional use permit;

G. Stone quarries;

H. Temporary offices and warehouses of a contractor engaged in construction (not to exceed two years);

I. Golf courses;

J. Auction sales or personal property, other than livestock;

K. Private Campgrounds. In considering proposals for location of such campgrounds, the board of adjustment shall consider the following criteria:

1. Campgrounds should be located at sufficient distance from existing or projected suburban-residential development so as to avoid possible conflicts and disturbances.

2. Traffic volumes generated by such a development should not create a nuisance or impose on the privacy of nearby residences or interfere with normal traffic flow.

3. Landscaping or appropriate screening should be required and maintained where necessary for buffering.

4. Adequate and convenient vehicular access, circulation and parking should be provided.

5. Economic and environmental feasibility;

L. Log sorting yard;

M. Feedlot. Feedlots existing at the time of adoption of the ordinance codified herein may expand or be enlarged only in compliance with standards and regulations contained herein;

N. Guest ranches;

O. Home occupations which involve outdoor work or activities or which produce noise, such as engine repair, etc.;

P. Day care facilities;

Q. Bed and breakfast business;

R. Farm labor shelters, provided that:

1. The shelters are used to house farm laborers on a temporary or seasonal basis only, regardless of change of ownership, if it remains in farm labor-needed status;

2. The shelters must conform with all applicable building and health regulations;

3. The number of shelters shall not exceed four per twenty acre parcel;

4. The shelters are owned and maintained by the owner or operator of an agricultural operation which clearly demonstrates the need for farm laborers;

5. Should the parent agriculture operation cease or convert to nonagriculture use, then the farm labor shelters shall conform with all applicable building, zoning, and platting requirements. (Ord. 93-6 (part), 1993; Ord. 90-15 §§ 2, 3, 1990; Ord. 90-10 (part), 1990; Ord. 88-4 § 4, 1988; Ord. 87-9 § 3, 1987; Ord. 83-Z-6, 1983; Ord. 83-Z-2 (part), 1983; Res. 83-10, 1983).

Chapter 17.29

A-20 – AGRICULTURAL ZONE[1]

Sections:

17.29.010 Purpose and intent.
17.29.020 Uses permitted.
17.29.030 Conditional uses.
17.29.040 Lot size required.
17.29.050 Yard requirements – Front yard.
17.29.060 Yard requirements – Side yard.
17.29.070 Yard requirements – Rear yard.
17.29.080 Yard requirements – Sale or conveyance restrictions.
17.29.090 Dimensional requirements.
17.29.100 *Repealed.*
17.29.110 Access.
17.29.120 Special setback requirements.

17.29.010 Purpose and intent. The agricultural (A-20) zone is an area wherein farming, ranching and rural life styles are dominant characteristics. The intent of this zoning classification is to preserve fertile farmland from encroachment by nonagricultural land uses; and

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1. For provisions on the right to farm for protection of agricultural activities, see Ch. 17.74. For provisions on the commercial agricultural and commercial agricultural overlay zones, see Ch. 17A.55.

Prior history: Ords. 81-Z-1, 80-Z-2, 68-1.

protect the rights and traditions of those engaged in agriculture. (Ord. 83-Z-2 (part), 1983: Res. 83-10, 1983).

17.29.020 Uses permitted. The following uses are permitted:

A. Only those uses permitted in the agricultural (A-3) zone;

B. Hay processing and container storage. (Ord. 92-1 (part), 1992; Ord. 83-Z-2 (part), 1983; Res. 83-10, 1983).

17.29.030 Conditional uses. It is the intent of this code that all conditional uses permitted in this zone shall be subordinate to primary agricultural uses of this zone. The following are conditional uses:

A. Any conditional use permitted in the agricultural zone (Chapter 17.28);

B. Farm implement repair and maintenance business of a commercial nature, not to include automobiles, trucks or bikes;

C. Farm labor shelters, provided that:

1. The shelters are used to house farm laborers on a temporary or seasonal basis only, regardless of change of ownership, if it remains in farm labor-needed status;

2. The shelters must conform with all applicable building and health regulations;

3. The number of shelters shall not exceed four per twenty acre parcel;

4. The shelters are owned and maintained by the owner or operator of an agricultural operation which clearly demonstrates the need for farm laborers;

5. Should the parent agriculture operation cease or convert to nonagriculture use, then the farm labor shelters shall conform with all applicable building, zoning, and platting requirements. (Ord. 93-6 (part), 1993; Ord. 92-1 (part), 1992; Ord. 90-10 (part), 1990; Res. 83-10, 1983).

17.29.040 Lot size required. Minimum lot (homesite) requirements in the agricultural (A-20) zone are:

A. Commercial Agricultural Zone Overlay. Twenty acres for any lot or parcel created after the adoption of the ordinance codified in this chapter, except that one smaller lot may be divided off any legal lot; provided such parent lot is at least eight acres in size; and provided, that such divisions are in compliance with all other county regulations (e.g., on-site septic system). Once this provision has been applied to create a new parcel, it shall not be allowed for future parcel subdivision, while designated commercial agricultural zone overlay. The one-time parcel split provision should be encouraged where it is adjacent to ongoing commercial agricultural practices, especially since the intent of this provision is to encourage the development of homesite acreage rather than removing commercial agricultural lands out of production.

B. 1. Commercial Agricultural Zones and Commercial Agricultural Zone Overlay. In no case shall there be more than two dwellings (residences) on any lot or tax parcel unless such parcel is twice the required minimum (twenty-acre) size;

2. No sale or conveyance of any portion of a parcel of land for other than a public purpose shall leave a residential structure with less than the minimum lot requirements of this zone, except in the sale of a farm of at least forty acres, or as determined to be in legal substantial compliance therewith, in size where the owner (for a period of not less than five years prior to said sale) retains the homesite. In such cases, minimum lot requirements shall be determined by the county health department. (For reference see Zoning Ordinance Amendment No. 75-2 records of Kittitas County Auditor.) (Ord. 96-15 (part), 1996; Ord. 95-13 (part), 1995: Ord. 83-Z-2 (part), 1983; Res. 83-10, 1983).

17.29.050 Yard requirements – Front yard. There shall be a minimum front yard of twenty-five feet. (Ord. 96-19 (part), 1996; Res. 83-10, 1983).

17.29.060 Yard requirements – Side yard. Side yard shall be a minimum of five feet; on corner lots the side yard shall be a minimum of fifteen feet on the side abutting the street. (Res. 83-10, 1983).

17.29.070 Yard requirements – Rear yard. There shall be a rear yard with a minimum

depth of twenty-five feet to the main building. (Res. 83-10, 1983).

17.29.080 Yard requirements – Sale or conveyance restrictions. No sale or conveyance of any portion of a lot for other than a public purpose shall leave a structure or the remainder of the lot with less than the minimum lot, yard, or setback requirements of this zone. (Res. 83-10, 1983).

17.29.090 Dimensional requirements. The minimum average lot width shall be two hundred feet. No platted lot or parcel may be created with a dimensional ratio greater than 4:1. (Res. 83-10, 1983).

17.29.100 Division of nonconforming lots. *Repealed by Ord. 95-13.* (Res. 83-10, 1983).

17.29.110 Access. No dwelling shall be constructed or located on a lot or parcel which is not served by a legal sixty-foot right-of-way or existing county road. (Res. 83-10, 1983).

17.29.120 Special setback requirements. None of the following uses shall be located within the distances indicated of any public street or road, any school or public park, or any dwelling (except such dwelling as may exist upon the same property with the restricted):

A. Within one and one-half miles:

1. (Deleted by Ord. 88-5)

2. Farms or establishments for feeding of garbage or other refuse to hogs or other animals:

a. Provisions made that all other operations (subdivisions 1 and 2 of Section 17.28.110A[1]) shall be conducted in compliance with all state and county health regulations, and

b. Reasonable protection from any potential detrimental effects such use might have on surrounding properties will be provided.

B. (Deleted by Ord. 87-11)

C. Within one hundred feet:

1. Barns, shelters or other buildings or structures for keeping or feeding of any livestock, poultry, or other animals or birds whether wild or domestic.

D. Feed lots containing fifty to one hundred head at a density of less than five hundred square feet per head for a period of six months or more shall be located no closer than three hundred feet to any existing home, school or park. (Ord. 88-5 (part), 1988; Ord. 87-11 (part), 1987; Res. 83-10, 1983).

Chapter 17.30

R-3 – RURAL-3 ZONE

Sections:

17.30.010 Purpose and intent.
17.30.020 Uses permitted.
17.30.030 Conditional uses.
17.30.040 Lot size required.
17.30.050 Yard requirements.
17.30.060 Sale or conveyance of lot portion.
17.30.070 Nonconforming uses.
17.30.080 Shoreline setbacks.

17.30.010 Purpose and intent. The purpose and intent of the Rural-3 zone is to provide areas where residential development may occur on a low density basis. A primary goal and intent in siting R-3 zones will be to minimize adverse effects on adjacent natural resource lands. (Ord. 92-4 (part), 1992).

17.30.020 Uses permitted. The following uses are permitted:

A. Single-family homes, mobile homes, cabins;

B. Lodges and community clubhouses;

C. Agriculture, livestock, poultry or hog raising, and other customary agricultural uses traditionally found in Kittitas County, provided that such operations shall comply with all state and/or county health regulations and with regulations contained in this title related to feedlots;

D. Forestry, including the management, growing and harvesting of forest products, and including the processing of locally harvested forest crops using portable equipment;

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1. Editor's note: Subsection A(1) of § 17.28.110 was deleted by Ord. 88-5.

H. Temporary offices and warehouses of a contractor engaged in construction (not to exceed two years);

I. Auction sales of personal property, other than livestock;

J. Guest ranches;

K. Home occupations which involve outdoor work or activities or which produce noise;

L. Day care facilities;

M. Bed and breakfast business;

N. Riding academies;

O. Governmental uses essential to residential neighborhoods;

P. Churches. (Ord. 96-15 (part), 1996).

17.31.040 Lot size required. Minimum lot (homesite) requirements in the commercial agriculture zone are:

A. Commercial Agricultural Zone. Twenty acres for any lot or parcel created after the adoption of the ordinance codified in this chapter, except that one smaller lot may be divided off any legal lot; provided such parent lot is at least ten acres in size; and provided, that such divisions are in compliance with all other county regulations (e.g., on-site septic system). Once this provision has been applied to create a new parcel, it shall not be allowed for future parcel subdivision, while designated commercial agriculture. The one-time parcel split provision should be encouraged where it is adjacent to ongoing commercial agricultural practices, especially since the intent of this provision is to encourage the development of homesite acreage rather than removing commercial agricultural lands out of production.

B. Commercial Agricultural Zones and Commercial Agricultural Zone Overlay. In no case shall there be more than two dwellings (residences) on any lot or tax parcel unless such parcel is twice the required minimum (twenty-acre) size.

C. No sale or conveyance of any portion of a parcel of land for other than a public purpose shall leave a residential structure with less than the minimum lot requirements of this zone, except in the sale of a farm of at least forty acres, or as determined to be in legal substantial compliance therewith, in size where the owner (for a period of not less than five years prior to said sale) retains the homesite. In such cases, minimum lot requirements shall be determined by the county health department. (Ord. 96-15 (part), 1996).

17.31.050 Yard requirements – Front yard. There shall be a minimum front yard of twenty-five feet unless previous building lines less than the required minimum exist, in which case the board of adjustment may grant a variance of up to ten feet. (Ord. 96-15 (part), 1996).

17.31.060 Yard requirements – Side yard. Side yard shall be a minimum of five feet; on corner lots the side yard shall be a minimum of fifteen feet on the side abutting the street. (Ord. 96-15 (part), 1996).

17.31.070 Yard requirements – Rear yard. There shall be a rear yard with a minimum depth of twenty-five feet to the main building. (Ord. 96-15 (part), 1996).

17.31.080 Yard requirements – Sale or conveyance restrictions. No sale or conveyance of any portion of a lot for other than a public purpose shall leave a structure or the remainder of the lot with less than the minimum lot, yard, or setback requirements of this zone. (Ord. 96-15 (part), 1996).

17.31.090 Dimensional requirements. The minimum average lot width shall be two hundred feet. No platted lot or parcel may be created with a dimensional ratio greater than 4:1. (Ord. 96-15 (part), 1996).

17.31.100 Access. No dwelling shall be constructed or located on a lot or parcel which is not served by a legal sixty-foot right-of-way or existing county road. (Ord. 96-15 (part), 1996).

17.31.110 Special setback requirements. None of the following uses shall be located within the distances indicated of any public street or road, any school or public park, or any dwelling (except such dwelling as may exist upon the same property with the restricted use):

A. Within one and one-half miles:

1. Farms or establishments for feeding of garbage or other refuse to hogs or other animals:

a. Provisions made that all other operations shall be conducted in compliance with all state and county health regulations, and

b. Reasonable protection from any potential detrimental effects such use might have on surrounding properties will be provided.

B. Within one hundred feet:

1. Barns, shelters, or other buildings or structures for keeping or feeding of any livestock, poultry, or other animals or birds whether wild or domestic.

C. Feed lots containing fifty to one hundred head at a density of less than five hundred square feet per head for a period of six months or more shall be located no closer than three hundred feet to any existing home, school or park. (Ord. 96-15 (part), 1996).

Chapter 17.32

C-L – LIMITED COMMERCIAL ZONE[1]

Sections:

17.32.010 Purpose and intent.
17.32.020 Uses permitted.
17.32.030 Lot size required.
17.32.040 Yard requirements – Front.
17.32.050 Yard requirements – Side.
17.32.060 Yard requirements – Rear.
17.32.070 Maximum structure height.
17.32.090 Access requirement.
17.32.110 Setback for vehicle service businesses.

17.32.010 Purpose and intent. The purpose and intent of the limited commercial zone is to provide a district with a limited range of shopping and service businesses consisting primarily of small retail shops, stores and eating establishments. (Ord. 83-Z-2 (part), 1983).

17.32.020 Uses permitted. The following uses are permitted:

A. Any use permitted in an R district;

B. Any of the following uses to be conducted wholly within a completely enclosed building except off-street parking and loading areas:

1. Antique shop,
2. Art gallery or store,
3. Bakery goods, retail only,
4. Barbershops,
5. Beauty parlor,
6. Confectionery store,
7. Delicatessen store,
10. Drugstore,
11. Dry cleaning and laundry branch offices or pickup agency, but not including plant and main office,
12. Garden supplies shop,
13. Gift shop,
14. Grocery, fruit or vegetable store,
15. Mini warehouse;
16. Restaurants,
17. Self-service laundry and cleaning,
18. Service stations, provided there shall be no repairing, repainting, reconstruction, or sale of motor vehicles from the premises,
19. Shoe repair shop,
20. Accessory buildings when located on the same lot;

C. Uses customarily incidental to any of the uses set forth in this section;

D. Any use not listed which is nearly identical to a permitted use, as judged by the administrative official, may be permitted. In such cases, all adjacent property owners shall be given official notification for an opportunity to appeal such decisions within ten working days pursuant to Title 15A of this code, Project permit application process. (Ord. 96-19 (part), 1996; Ord. 83-Z-2 (part), 1983; Res. 83-10, 1983).

17.32.030 Lot size required. The minimum lot size for all dwelling units shall meet the requirements of the residential district. No sale or conveyance of any portion of a lot, for other than a public purpose, shall leave a structure on the remainder of the lot with less than the minimum lot, yard or setback requirements of this district. (Res. 83-10, 1983).

1. Prior history: Ords. 76-3, 69-3, 2.

17.32.040 Yard requirements – Front. There shall be a front yard having a minimum depth of twenty feet, unless a previous building line less than this has been established, in which case the minimum front yard for interior lots shall be the average of the setbacks of the main structures on abutting lots on either side if both lots are occupied; if one lot is occupied and the other vacant, the setback shall be the setback of the occupied lot, plus one-half the remaining distance to the required twenty-foot setback. If neither of the abutting side lots or tracts are occupied by a structure, the setback shall be twenty feet long. (Res. 83-10, 1983).

17.32.050 Yard requirements – Side. There are no side yard requirements, except property abutting a residential district, in which case the side yard on the abutting side shall be the same as that required for the abutting property. On a side abutting a street the setback shall be a minimum of ten feet for all structures. Side yards for dwelling units shall meet the requirements of the residential district. (Res. 83-10, 1983).

17.32.060 Yard requirements – Rear. There are no rear yard requirements. However, if a rear yard is provided, the minimum depth shall be twelve feet. (Res. 83-10, 1983).

17.32.070 Maximum structure height. The maximum height of any structure shall be two and one-half stories or thirty-five feet, whichever is less. (Res. 83-10, 1983).

17.32.090 Access requirement. All lots in this district shall abut a public street, or shall have such other access as deemed suitable by the board. (Ord. 83-Z-2 (part), 1983: Res. 83-10, 1983).

17.32.110 Setback for vehicle service businesses. Setback regulations for drive-in businesses, or minimum site standards for vehicle service businesses shall conform to the diagram on the following page. (Res. 83-10, 1983).

Chapter 17.36

PLANNED UNIT DEVELOPMENT ZONE[1]

Sections:

17.36.010 Purpose and intent.
17.36.020 Uses permitted.
17.36.030 Preliminary development plan.
17.36.040 Final development plan.
17.36.050 Permit issuance and conditions.
17.36.060 Required improvements.

17.36.010 Purpose and intent. The purpose of this chapter is to provide for and encourage a harmonious mixture of land uses with greater flexibility in land use controls than is generally permitted by other sections of this title. (Ord. 90-6 (part), 1990: Res. 83-10, 1983).

17.36.020 Uses permitted. The following uses may be permitted:

A. All residential uses including multifamily structures;

B. Hotels, motels, condominiums;

C. Retail businesses;

D. Commercial-recreation businesses;

E. Restaurants, cafes, taverns, cocktail bars;

F. Any other similar uses deemed by the planning commission to be consistent with the purpose and intent of this chapter. Such determination shall be made during review of the development plan required under Section 17.36.030. (Ord. 90-6 (part), 1990: Res. 83-10, 1983).

17.36.030 Preliminary development plan. Any persons or corporation applying for a planned unit development zone shall file a preliminary development plan with an application for zone change. The development plan shall include all of the following:

A. A vicinity map showing the location of the site and its relationship to surrounding areas;

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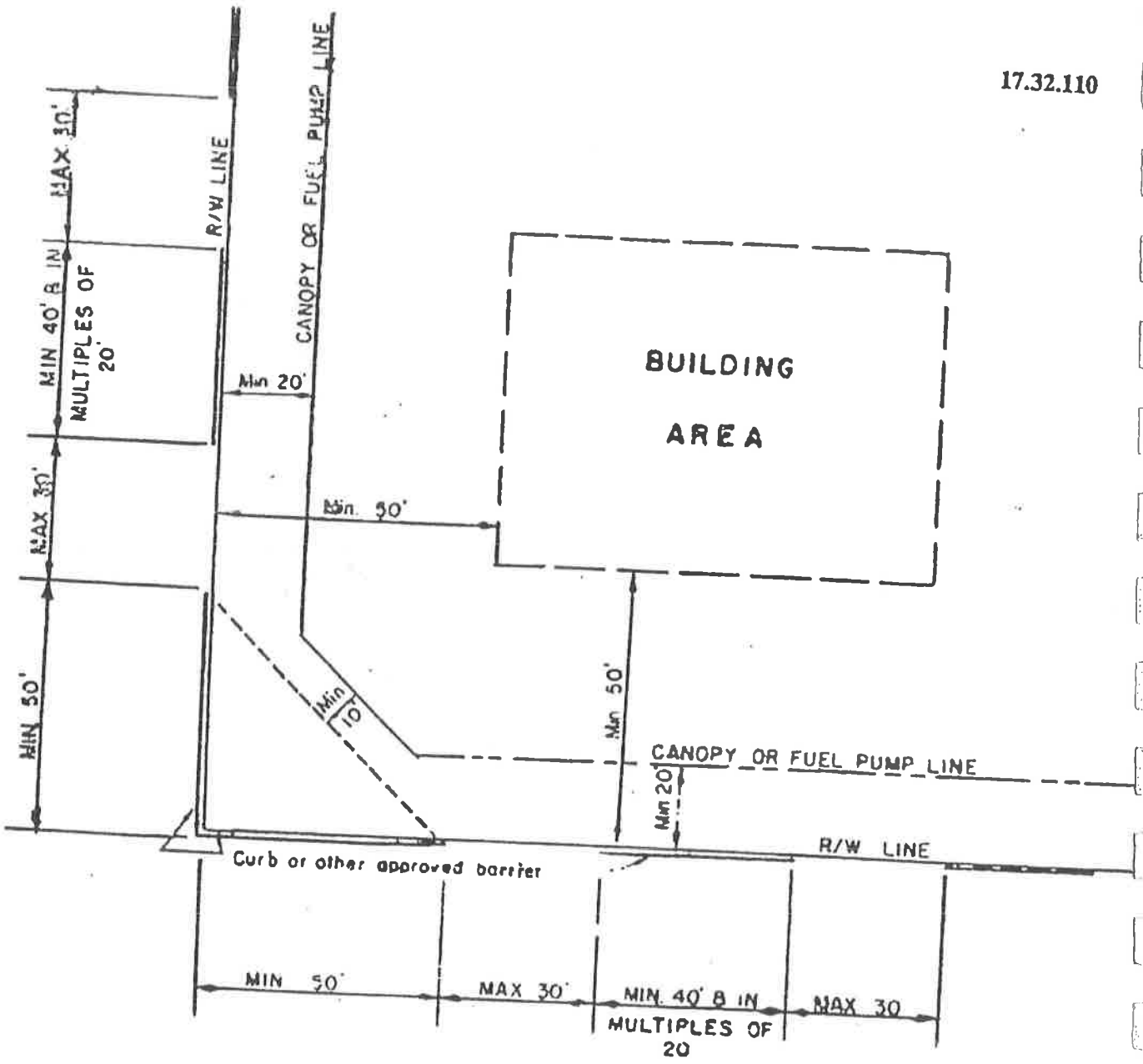
1. Prior history: Ords. 74-6, 2.



* NOTE: Includes all drive-in businesses
Service canopies allowed as shown

BOARD OF COUNTY COMMISSIONERS
KITTITAS COUNTY

JOE McMANAMY CHAIRMAN

HOWARD P SORENSON

MCY A LUMACO

Office of County Road Engineer
KITTITAS COUNTY

COUNTY ROAD PLAN NO. 1

STANDARD PLAN
VEHICLE SERVICE BUSINESS*

Drawn by B.S. Date 1-30-69

APPROVED 1/30/69 Milton E. Hoos
Date Acting County Engineer

B. A map of the site drawn to a scale, no smaller than two hundred feet to the inch showing the following:

1. Arrangement of land uses by type (residential, commercial, open spaces, etc.). A statement on the approximate percentage of land in each category. The map should show proposed traffic circulation;

2. Names and dimensions of dedicated roads bounding or near the site;

3. Planned off-street parking areas including approximate number of spaces to be provided;

4. Elevation contours of no more than twenty-foot intervals;

C. A statement relating the development plan to adjacent development and natural areas;

D. A statement of the developer's intent with regard to providing landscaping and retention of open spaces;

E. A statement outlining future land ownership patterns within the development including homeowners associations if planned;

F. Proposed water supply, storage and distribution system, sewage disposal/treatment plan, solid waste collection plan;

G. Documentation from the planning department that environmental review (SEPA) has been completed;

H. Statement of planned residential (housing) densities expressed in terms of living units per building and per net acre (total acreage minus dedicated rights-of-way). (Ord. 90-6 (part), 1990: Res. 83-10, 1983).

17.36.040 Final development plan. Following approval of the preliminary development plan by the county and before lot sales or building construction commences, the developer (owner) shall submit a final development plan for approval by the board of county commissioners which shall include all of the following:

A. A staging plan describing the timing or sequence of construction for all the elements of the plan. Subdivision lot sales may precede other elements of the development upon final plat approval;

B. A map or maps of the site drawn at a scale no smaller than one hundred feet to one inch showing the following:

1. Preliminary engineering plans including site grading, road improvements, drainage and public utilities extensions;

2. Arrangement of all buildings which shall be identified by type;

3. Preliminary building plans including floor plans and exterior design and/or elevation views;

4. Location and number of off-street parking areas including type and estimated cost of surfacing;

5. The location and dimensions of roads and driveways including type and estimated cost of surfacing and road maintenance plans;

6. The location and total area of common open spaces;

7. Proposed location of fire protection facilities;

8. Proposed storm drainage plan;

C. Certification from state and local health authorities that water and sewer systems are available to accommodate the development;

D. Provisions to assure permanence and maintenance of common open spaces;

E. Statement of intent including estimated cost for landscaping and restoration of natural areas despoiled by construction including tree planting. (Ord. 96-19 (part), 1996; Ord. 90-6 (part), 1990: Res. 83-10, 1983).

17.36.050 Permit issuance and conditions. Building permits and other permits required for the construction or development of property under provision of this section shall be issued only when, in the opinion of the county building inspector, the work to be performed substantially conforms with the final development plan approved by the board of county commissioners. (Ord. 96-19 (part), 1996; Ord. 90-6 (part), 1990: Res. 83-10, 1983).

17.36.060 Required improvements. All improvements including parking lots, driveways, landscaping, which are a part of the approved plan, but which do not otherwise require building permits, shall be completed or bonded before occupancy permits are issued by the building inspector. The amount of the bond shall be determined by the building inspector on the basis of information presented with the final

development plan. (Ord. 90-6 (part), 1990: Res. 83-10, 1983).

Chapter 17.40

C-G – GENERAL COMMERCIAL ZONE[1]

Sections:

17.40.010 Purpose and intent.
17.40.020 Uses permitted.
17.40.030 Lot size required.
17.40.040 Maximum lot coverage.
17.40.050 Maximum floor area.
17.40.060 Yard requirements.
17.40.070 Height restriction.
17.40.080 Off-street parking and loading.
17.40.090 Access requirement.
17.40.100 Half streets.
17.40.110 New residences.

17.40.010 Purpose and intent. The purpose and intent of the general commercial zone is to provide a classification consistent with existing business districts in unincorporated towns (i.e., Vantage, Easton) where a wide range of community retail shops and services are available. (Ord. 83-Z-2 (part), 1983).

17.40.020 Uses permitted. Permitted uses are as follows:

A. Any use permitted in a C-L zone;

B. Any of the following uses:

1. Amusement enterprises, including bowling alleys, dance halls, pool halls, and billiard halls and shooting galleries;
2. Auto and trailer sales,
3. Banks,
4. Cabinet shop,
5. Custom cannery,
6. Department store,
7. Frozen food lockers,
8. Garage or auto repair, when conducted wholly within a building,
9. Hospitals, general and accessory buildings,
10. Hotels,
11. Lumberyard and building materials, retail only. Any open storage shall be enclosed by a sight-obscuring fence not less than six feet nor more than seven feet high,
12. Office, governmental,
13. Physical culture and health services including reducing salons, masseurs and public baths,
14. Radio or television studio,
15. Retail stores of all descriptions where merchandise is displayed and sold within the building,
16. School, private or parochial,
17. Sign shop,
18. Tavern,
19. Theater, auditorium or drive-in theater,
20. Tire shop,
21. Trailer court,
22. Wholesale office and showrooms, merchandise on the premises limited to samples only,
23. Auction sales of personal property, other than livestock;

C. The following uses may be permitted if their location is first approved by the board of adjustment:

1. Mortuary or funeral home,
2. Public camp,
3. Athletic stadium,
4. Animal hospital or boarding kennels,
5. Animal sales yard (livestock sales yard),
6. Hazardous waste on-site treatment or storage;

D. Uses customarily incidental to any of the above uses when located on the same lot may be allowed provided that such uses, operations or products are not objectionable due to odor, dust, smoke, noise, vibration or other similar causes;

E. Any use not listed which is nearly identical to a permitted use, as judged by the administrative official, may be permitted. In such cases, all adjacent property owners shall be given official notification for an opportunity to appeal such decisions within ten working days pursuant to Title 15A of this code, Project permit application process. (Ord. 96-19 (part), 1996; Ord. 93-1 (part), 1993; Res. 83-10, 1983).

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1. Prior history: Ord. 69-7, Ord. 2.

17.40.030 Lot size required. There shall be no limitation. (Res. 83-10, 1983).

17.40.040 Maximum lot coverage. There shall be no limitation. (Res. 83-10, 1983).

17.40.050 Maximum floor area. There shall be no limitation. (Res. 83-10, 1983).

17.40.060 Yard requirements. A. Front Yard. No front yard is required.

B. Side Yard. No side yard is required.

C. Rear Yard. No rear yard is required; however, if a rear yard is provided, the minimum depth shall be twelve feet. (Res. 83-10, 1983).

17.40.070 Height restriction. There shall be no limitation. (Res. 83-10, 1983).

17.40.080 Off-street parking and loading. Off-street parking and loading shall be provided as required in Chapter 17.64.[1] (Res. 83-10, 1983).

17.40.090 Access requirement. All lots in this district shall abut a public street, or shall have such other access as deemed suitable by the commission and board. (Ord. 83-Z-2 (part), 1983: Res. 83-10, 1983).

17.40.100 Half streets. In an area adjacent to a half street and opposite or outside the plat including the dedication of said half street, structures shall be set back from said half street a distance sufficient to provide for an additional half street and the yard requirements. (Res. 83-10, 1983).

17.40.110 New residences. No new residence shall be permitted in this district except that related to the business or enterprises allowed in this district such as janitor or night watchman. Any such residence shall meet the requirements of the residential zone. (Res. 83-10, 1983).

1. Editor's note: Ch. 17.64 was repealed by Ord. 83-Z-2.

Chapter 17.44

C-H HIGHWAY COMMERCIAL ZONE

Sections:

17.44.010 Purpose and intent.
17.44.020 Uses permitted.
17.44.030 Conditional uses.
17.44.040 Minimum lot size.
17.44.050 Yard requirements.
17.44.060 Building height.
17.44.070 Off-street parking.
17.44.080 Access.

17.44.010 Purpose and intent. It is the purpose and intent of the highway commercial zone to provide for motorist- tourist dependent businesses having little interdependence and requiring convenient access to passing traffic. (Ord. 83-Z-2 (part), 1983).

17.44.020 Uses permitted. In any highway commercial zone, only the following uses are permitted:

A. Motels;

B. Restaurants, cafes;

C. Commercial recreation establishments;

D. Retail sales of souvenirs, gifts, novelties, curios, and handicraft products;

E. Offices whose activities are directly related to tourism and recreation;

F. Public and commercial museums and art galleries;

G. Gas service stations including truck stop operations, with minor repair work permitted only;

H. Fruit stands;

I. Cocktail lounges;

J. Public transportation, deadhead stations;

K. Grocery stores, not to exceed two thousand five hundred square feet gross area;

L. Any use not listed which is nearly identical to a permitted use, as judged by the administrative official, may be permitted. In such cases, all adjacent property owners shall be given official notification for an opportunity to appeal such decisions within ten working days pursuant to Title 15A of this code, Project permit application process. (Ord. 96-19 (part), 1996; Ord. 83-Z-2 (part), 1983).

17.44.030 Conditional uses. Conditional uses are as follows:

A. Public utilities;

B. Public transportation, passenger terminals;

C. Recreation vehicle parks. (Ord. 83-Z-2 (part), 1983).

17.44.040 Minimum lot size. It is the intent of this chapter that each business be situated on a site of sufficient size to provide all off-street parking, loading and necessary driveways. (Ord. 83-Z-2 (part), 1983).

17.44.050 Yard requirements. A. Front Yard. There shall be a minimum front yard depth of fifteen feet. Off-street parking and maneuvering area shall not be considered as front yard;

B. Side Yard. Ten feet;

C. Rear Yard. Ten feet. (Ord. 83-Z-2 (part), 1983).

17.44.060 Building height. The maximum height of any structure shall be two and one-half stories or thirty-five feet, whichever is less. (Ord. 83-Z-2 (part), 1983).

17.44.070 Off-street parking. Off-street parking and loading shall be provided as required in Chapter 17.64.[1] (Ord. 83- Z-2 (part), 1983).

17.44.080 Access. All lots in this district shall abut a public street, or shall have such other access as deemed suitable by the board. (Ord. 83-Z-2 (part), 1983).

Chapter 17.48

I-L LIGHT INDUSTRIAL ZONE[2]

Sections:

17.48.010 Purpose and intent.
17.48.020 Permitted uses.
17.48.030 Conditional uses.
17.48.040 Front, side and rear yard requirements.
17.48.050 Setbacks.
17.48.060 Height restrictions.
17.48.070 Lot coverage.

17.48.010 Purpose and intent. The light industrial district is established to preserve areas for industrial and related uses of such a nature that they do not create serious problems of compatibility with other kinds of land uses and to protect such districts from encroachment by conflicting land uses. The regulations set out in this chapter shall apply to the light industrial district. (Ord. 83-Z-2 (part), 1983).

17.48.020 Permitted uses. No building, structure or land shall be used and no building or structure shall be hereafter erected in this district except for the following uses:

A. Wholesale business, storage buildings and warehouses;

B. Freighting and trucking yard or terminal;

C. Research, experimental or testing laboratories;

D. The manufacturing, processing, compounding, storage, packaging or treatment of such products as drugs, bakery goods, candy, food and beverage products, dairy products, agricultural products, cosmetics and toiletries;

E. The manufacture, assembly, compounding or treatment of articles or merchandise from the following materials: bone, cellophane, canvas, cloth, cork, feathers, felt, fibre, fur, glass, hair, horn, leather, metal, paper, plastics, precious or semi-precious metals or stones, shell, textiles, tobacco, wood, yarns and paint;

F. Any use not listed which is nearly identical to a permitted use, as judged by the administrative official, may be permitted. In such cases all adjacent property owners shall be given official notification for an opportunity to appeal such decisions within ten working days of notification to the county board of adjustment pursuant to Title 15A of this code, Project permit application process;

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1. Code reviser's note: Ch. 17.64 was repealed by Ord. 83-Z-2.

2. Prior legislation: Ord. 2 §§ 13, 13.01, 13.02.01, 13.02.02, 13.02.03, 13.02.04, 13.02.05, Ord. 71-5 and Ord. 76-3.

G. Farming, gardening, but not to include livestock feedyards, sales yards or slaughterhouses;

H. Uses customarily incidental to any of the above listed, including dwellings or shelters for the occupancy of the operators and employees necessary to the operation of a business or agricultural use. (Ord. 96-19 (part), 1996; Ord. 83-Z-2 (part), 1983).

17.48.030 Conditional uses. Conditional uses are as follows:

A. Off-site hazardous waste storage and/or treatment. (Ord. 93-1 (part), 1993).

17.48.040 Front, side and rear yard requirements. There are no yard requirements, unless the property abuts a parcel of land of more restricted nature such as a commercial zone, in which case the requirements on the abutting side shall be those of the abutting property. (Ord. 83-Z-2 (part), 1983).

17.48.050 Setbacks. No building or permanent structure may be constructed closer than fifty-five feet from the centerline of any public right-of-way. If any use in this district abuts or faces any residential district, a setback of fifty feet on the side abutting or facing the residential district shall be provided, with tree planting or other conditions necessary to preserve the character of the residential district. The board of adjustment shall determine what these conditions shall be. (Ord. 83-Z-2 (part), 1983).

17.48.060 Height restrictions. There shall be no limitations. (Ord. 83-Z-2 (part), 1983).

17.48.070 Lot coverage. No structure or combination of structures, including buildings, shall occupy or cover more than fifty percent of the total lot area. (Ord. 93-1 (part), 1993).

Chapter 17.52

I-G GENERAL INDUSTRIAL ZONE[1]

Sections:

17.52.010 Purpose and intent.
17.52.020 Uses permitted.
17.52.030 Conditional uses.
17.52.040 Front, side and rear yard requirements.
17.52.050 Setbacks.
17.52.060 Height restrictions.
17.52.080 Access.

17.52.010 Purpose and intent. This district is intended to accommodate certain industrial structures and uses that could create serious problems of compatibility with other kinds of land uses and to protect such districts from encroachment by conflicting land uses. (Ord. 83-Z-2 (part), 1983).

17.52.020 Uses permitted. Any use permitted in the I-L zone. (Ord. 83-Z-2 (part), 1983).

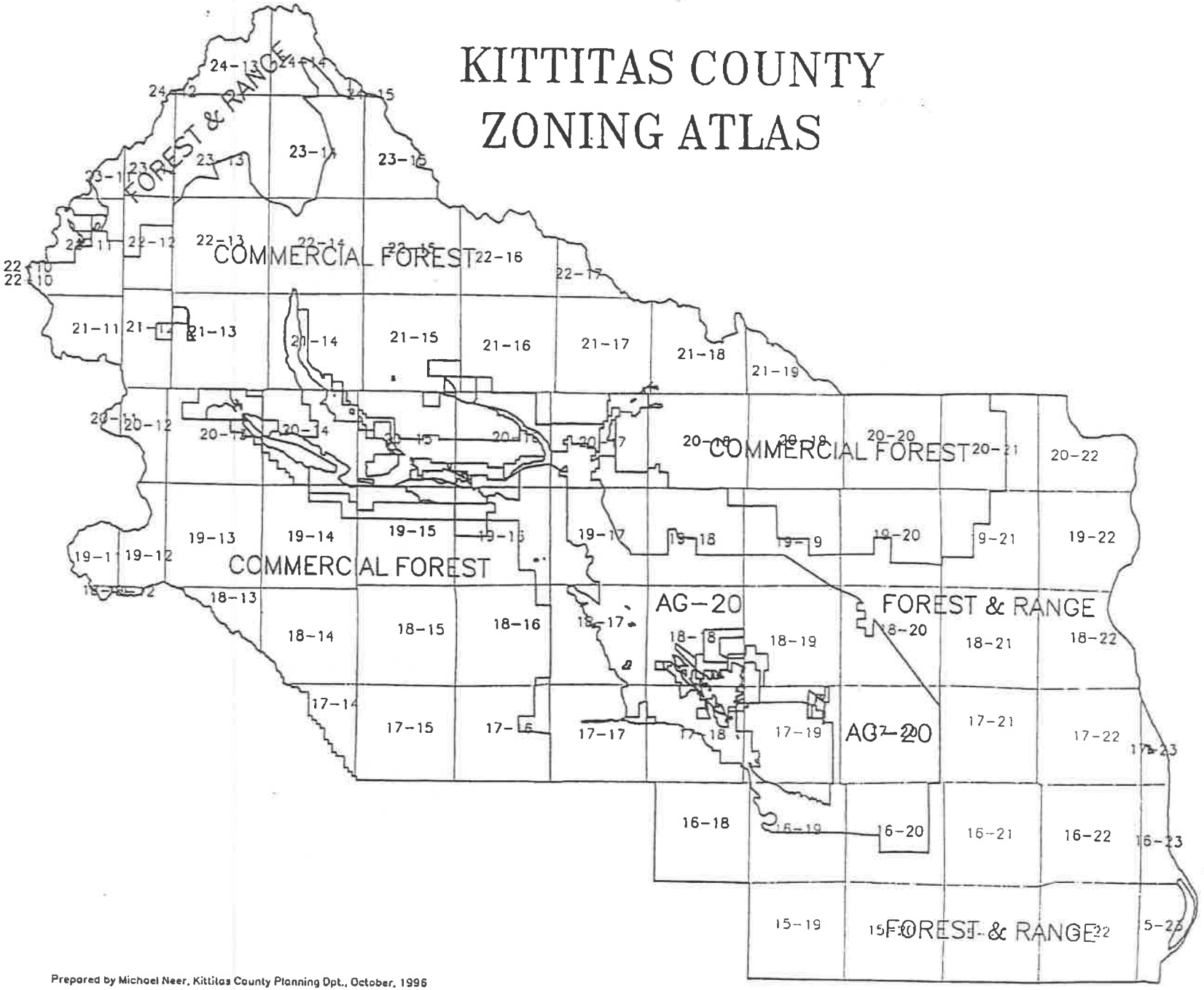
17.52.030 Conditional uses. A. Because of considerations of odor, dust, smoke, noise, fumes, vibration or hazard, the following uses shall not be permitted in the industrial district unless a conditional use permit authorizing such use has been granted by the board of adjustment:

1. All chemical manufacture, storage and/or packaging;
2. Asphalt manufacture, mixing, or refining;
3. Automobile dismantling, wrecking or junk yards;
4. Blast furnaces or coke ovens;
5. Cement, lime, gypsum or plaster of paris manufacture;
6. Drop forge industries;
7. Explosives, storage or manufacture;
8. Reduction or disposal of garbage, offal or similar refuse;
9. Oil refining;
10. Rubber reclaiming;
11. Feed yards, livestock sales yards or slaughterhouses;
12. Smelting, reduction or refining of metallic ores;
13. Tanneries;
14. Wineries;
15. Manufacturing of industrial or household adhesives, glues, cements, or component parts thereof, from vegetable, animal or synthetic plastic materials;
16. Waste (refuse) recycling and processing;
17. On-site and off-site hazardous waste storage and/or treatment. Off-site materials shall be accepted only from Kittitas County source sites.

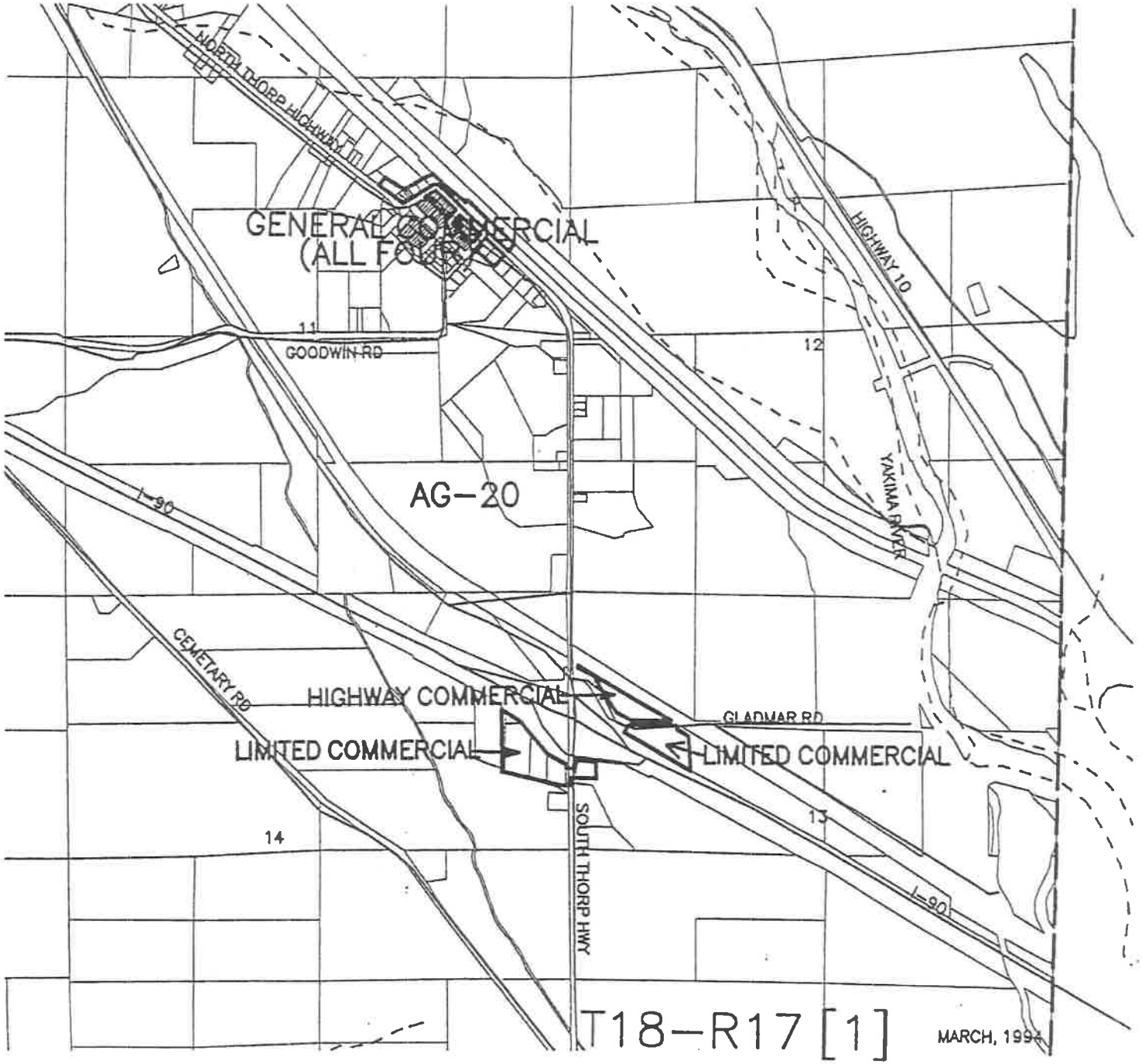
B. In considering the issuance of conditional use permits for the foregoing listed uses, the board of adjustment shall:

1. Prior legislation: Ord. 2 §§ 14, 14.01, 14.02.01, 14.02.02, 14.02.03, 14.02.04, 14.02.05, 14.03 and Ord. 76-3.

KITTITAS COUNTY ZONING ATLAS



Prepared by Michael Neer, Kittitas County Planning Dpt., October, 1996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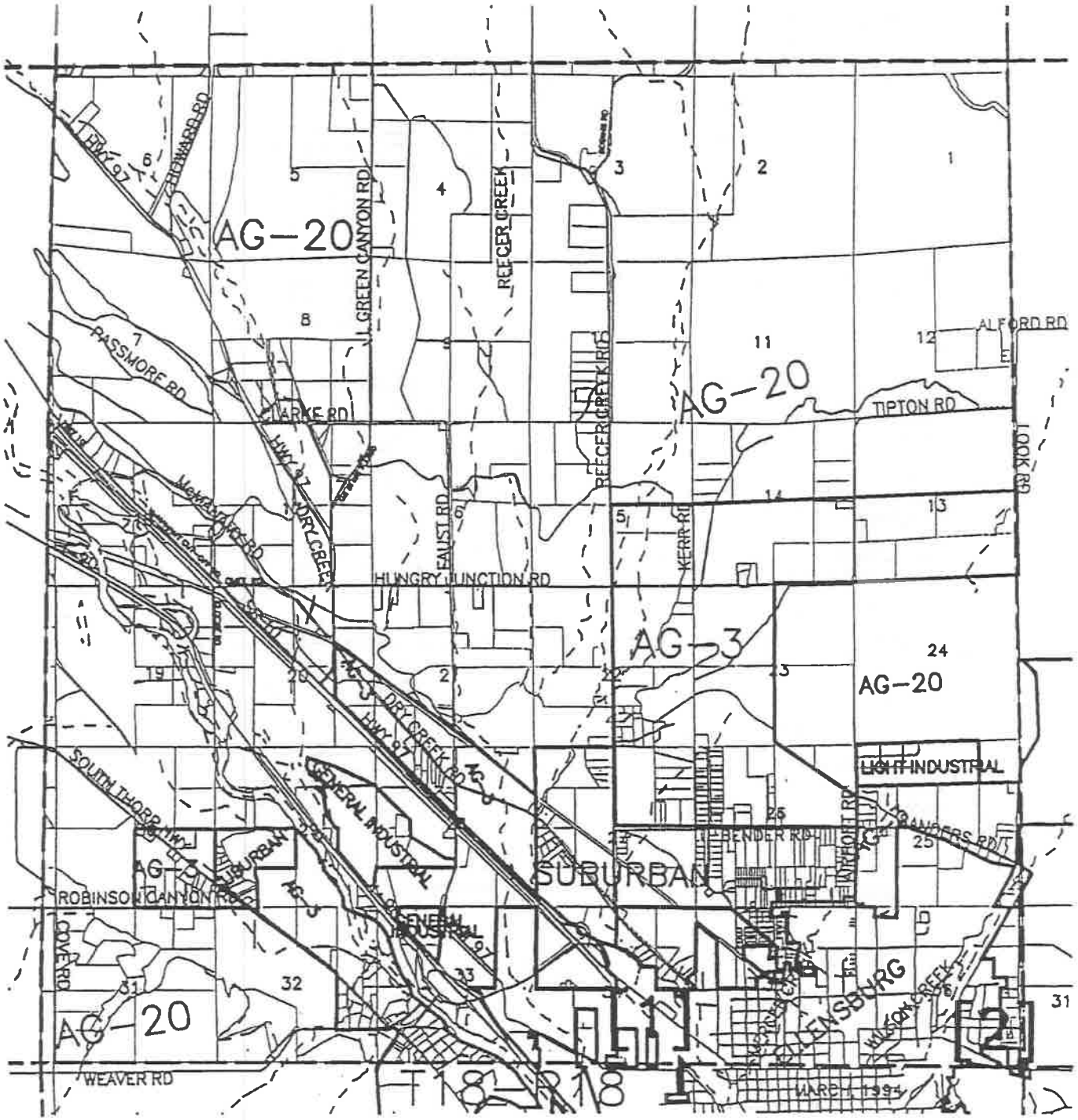
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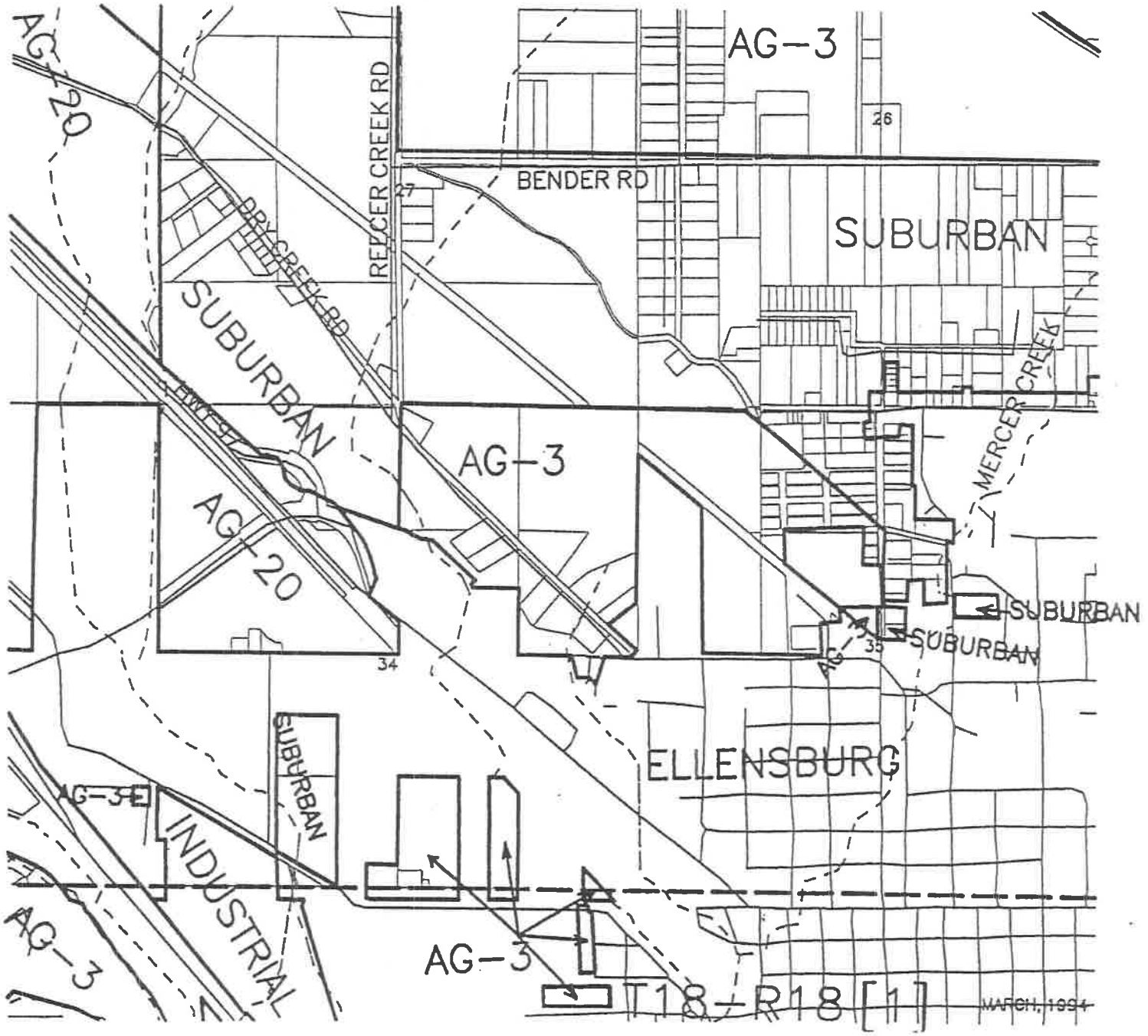
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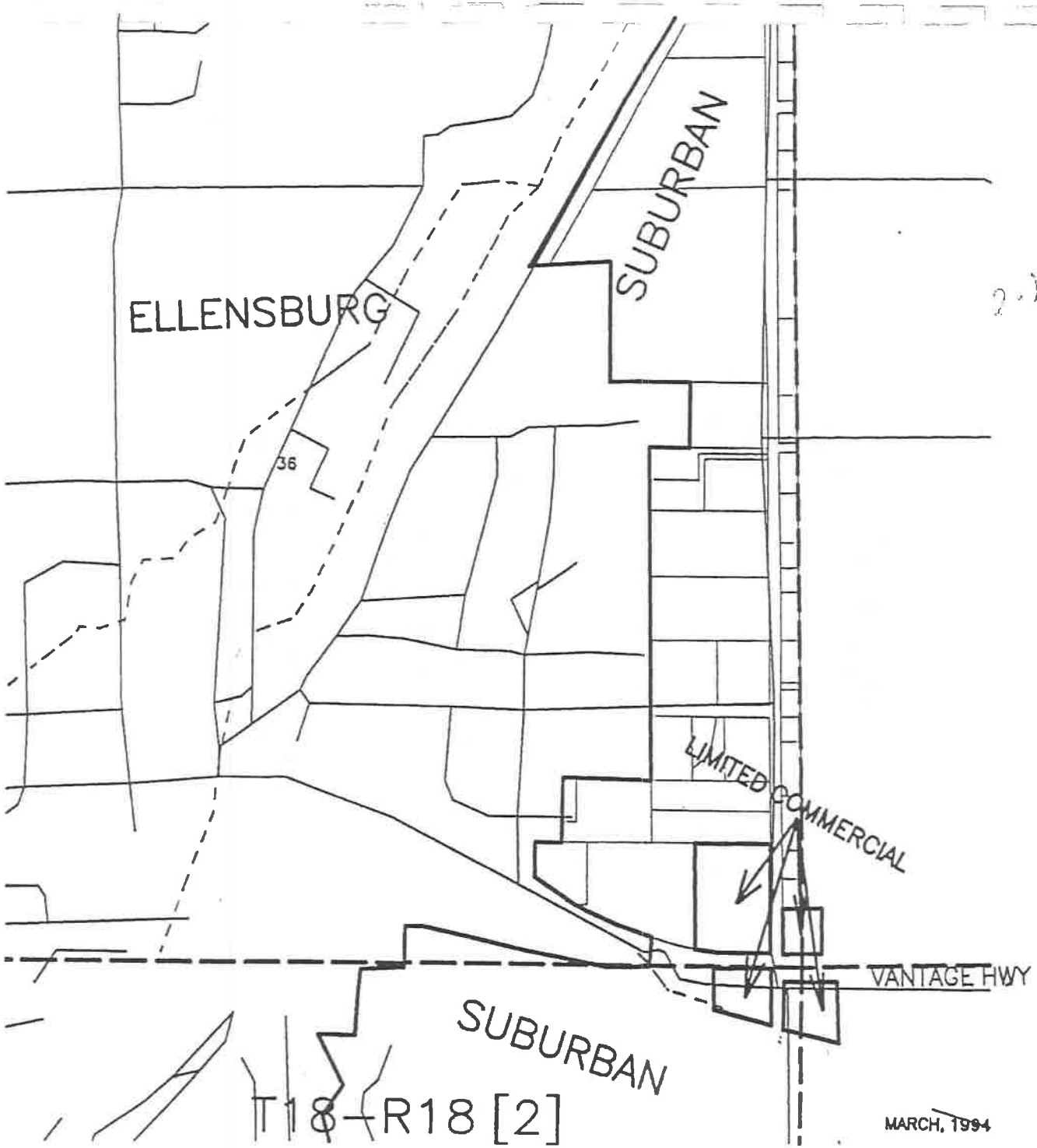
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SUBURBAN
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LIMITED COMMERCIAL
VANTAGE HWY
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MARCH, 1994

CITY OF ELLENSBURG

ZONING ORDINANCE

Updated: December 1997

Chapter 13.12

RESIDENTIAL SUBURBAN ZONE (R-S)

Sections:

13.12.02	INTENT.
13.12.04	PERMITTED USES.
13.12.06	CONDITIONAL USES.
13.12.08	BUILDING SITE AREA.
13.12.10	YARDS.
13.12.12	HEIGHT LIMIT.
13.12.14	OFF-STREET PARKING.
13.12.16	SIGNS.

13.12.02 INTENT.

The R-S zone is intended to comprise single family low density residential areas where such development is desirable. Regulations are designed to stabilize and protect the essential single family nature of the R-S zone. The R-S zone intends to retain the semirural character of the area through the preservation of open space. Certain essential and complementary uses are also permitted under conditions and standards which assure their compatibility with the character of the R-S zone. (Ord. 2810 s6.01, 1970)

13.12.04 PERMITTED USES.

In the R-S zone, the following uses shall be permitted:

(a) All agricultural uses, subject to the following restrictions:

(1) The raising of swine, poultry or goats shall be restricted to youth educational projects or limited household consumption occurring on the same lot, or lots of record.

(2) No nuisances, such as noise, odor, air pollution, wastes, vibration, traffic or physical hazards shall result therefrom.

(3) Fencing and housing adequate to certain livestock shall be provided where livestock are kept, and all livestock shall be kept and maintained in accordance with applicable laws and regulations.

(b) Single family dwellings;

(c) Parks, playgrounds, golf courses and similar public or private uses;

(d) Public utilities;

(e) Commercial nurseries and greenhouses;

(f) Home occupations, except that public notice of application and the appeal procedure be sent to property owners within 300 feet of the requesting property 10 days prior to any staff decision or interpretation. Such notice shall include the applicable appeal procedures;

(g) Accessory buildings, such as are ordinarily appurtenances to single family dwellings or necessary as described in subdivision (a), provided that any such building must be located on the lot in accordance with Section 13.12.10, and provided also that all such buildings shall have exteriors compatible with those of the primary dwellings in the R-S zone. In addition, such exteriors must be completed and finished within ninety days following issuance of a building permit for such building, or within ninety days of date of beginning of construction of such building, whichever may be the earlier. One private garage structure shall also be specifically permitted provided that it meets the requirements of Section 13.12.10;

(h) Gardening or fruit raising;

(i) Family day care homes. (Ord. 3106 s2(part), 1976; Ord. 2810 s6.02,

1970)

(Ord. 4096, Amended, 07/07/1997)

13.12.06 CONDITIONAL USES.

The following conditional uses may be permitted within the R-S zone through the granting of a conditional use permit as described in Chapter 13.50:

(a) Churches;

(b) Schools;

(c) Hospitals and nursing homes;

(d) Cemeteries and mausoleums;

(e) Public uses;

(f) Commercial recreation;

(g) Child day care centers. (Ord. 3955 s3, 1994; Ord. 3106 s3(part), 4(part), 1976; Ord. 2810 s6.04, 1970)

13.12.08 BUILDING SITE AREA.

Every building hereafter constructed or structurally altered in an R-S zone shall have a lot area of not less than seven thousand square feet with a minimum frontage of sixty feet on a public street or highway. Sixty percent of the area of all sites must be left in open spaces free from buildings or structures; except where a lot has less than the required area or frontage as described above as shown by the last conveyance of record prior to March 16, 1970, then this chapter shall be deemed to permit a single family dwelling and its accessory buildings, unless such lot has less than five thousand square feet, in which event no buildings or structures shall be permitted. (Ord. 2810 s6.06, 1970)

13.12.10 YARDS.

(a) Front yards. There shall be a front yard minimum depth of fifteen feet. On corner lots which abut alleys, the side yard on the flanking street along all but the front thirty feet, may be reduced to a minimum depth of five feet; except where carports or garages are entered from the flanking street, the carport or garage shall be set back a minimum distance of fifteen feet from the property line.

(b) Rear yard. There shall be a rear yard minimum depth of ten feet.

(c) Side yard abutting interior lot lines. There shall be a side yard of not less than five feet in width on one interior side lot line, and a side yard of not less than ten feet in width on the opposite interior side lot line; provided, however, that on a lot presently having a width of less than sixty feet as shown on a conveyance of record March 16, 1970, there shall be a side yard on each interior side lot line of not less than five feet in width. Lots having access on a dedicated and improved alley contiguous with the rear lot line may provide a minimum side yard of five feet on each side of the lot.

(d) Interior side yard of corner lots. The interior side yard of a corner lot shall be not less than five feet in width. (Ord. 2962 s3, 1973; Ord. 2810 s6.08, 1970)

13.12.12 HEIGHT LIMIT.

No building shall exceed a height of thirty-five feet. (Ord. 2810 s6.10, 1970)

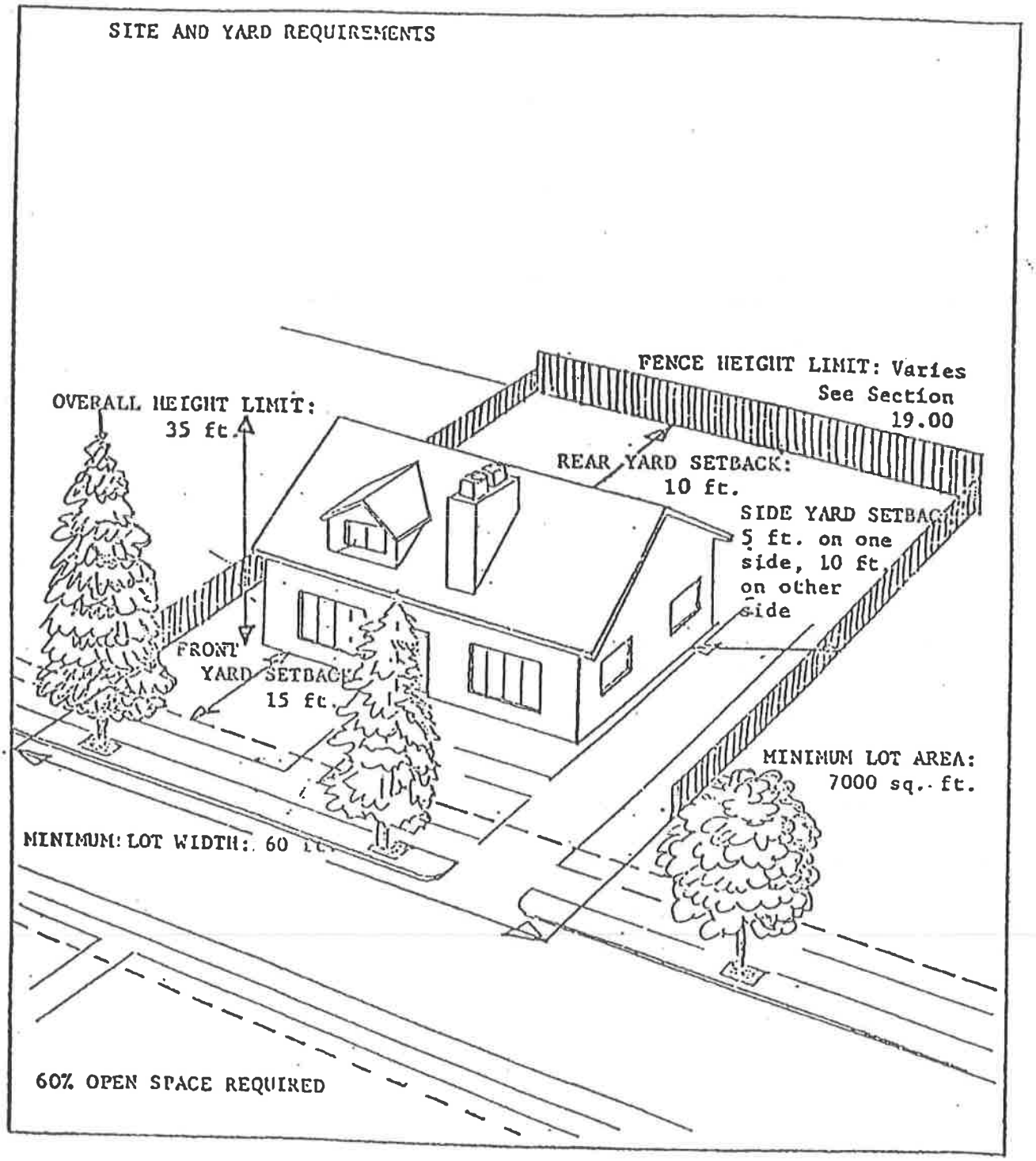
13.12.14 OFF-STREET PARKING.

Off-street parking facilities as described in Chapter 13.42 shall be provided. (Ord. 2810 s6.12, 1970)

13.12.16 SIGNS.

No billboard sign shall be permitted in the R-S zone. (Ord. 2810 s6.14, 1970)

RS and RL RESIDENTIAL DISTRICTS



Chapter 13.14

RESIDENTIAL LOW DENSITY ZONE (R-L)

13.14.02 INTENT. The R-L zone is intended primarily to comprise single family residential area with conditional use options for the development of multifamily structures and essential complementary services and institutions. (Ord. 2810 s7.01, 1970)

13.14.04 PERMITTED USES. In the R-L zone, the following uses shall be permitted:

(a) Single family dwellings;

(b) Noncommercial gardens and orchards;

(c) Accessory uses;

(d) Public utilities;

(e) Family day care homes. (Ord. 3106 s2(part), 1976; Ord. 2810 s7.02, 1970)

13.14.06 CONDITIONAL USES. The following conditional uses may be permitted within the R-L zone through the granting of a conditional use permit as described in Chapter 13.50:

(a) Churches;

(b) Schools;

(c) Public uses;

(d) Home occupations;

(e) Multi-family residential structures not to exceed four dwellings per structure. Multi-family developments which submit to and complete the design review process may apply for adjustments to building site area requirements.

(f) Hospitals and nursing homes;

(g) Child day care centers;

(h) Commercial radio stations. (Ord. 3973 s1, 1995; Ord. 3955 s4, 1994; Ord. 3152 s1, 1977; Ord. 3106 s3(part), 4(part), 1976; Ord. 2962 s6, 1973; Ord. 2810 s7.04, 1970)

13.14.08 BUILDING SITE AREA. Every building hereafter constructed, or structurally altered in an R-L zone shall have a lot area of not less than seven thousand square feet with a minimum frontage of sixty feet on a public street or highway. Sixty percent of the area of all sites developed with single

family dwellings must be maintained as open spaces free from buildings or structures; providing, if an existing lot of record as of March 16, 1970 has less than the required area or frontage, a single family dwelling may be constructed if minimum variances are considered and granted by the Board of Adjustment. All required setback areas for single family dwelling units must be maintained free from buildings or structures, building eaves which project more than two feet into the setback, or paved vehicle parking and maneuvering areas; except for driveway ingress/egress access to rights-of-way.

Multi-family residential dwellings which consist of duplex or larger buildings shall be required to maintain all required setback areas plus an additional fifteen (15) percent of the total lot area as open space. The open space shall remain free of structures, and vehicle parking or maneuvering areas, except for driveway ingress/egress access to rights-of-way, minimum projections of vehicle maneuvering areas approved by the City in the parking lot permit process, and building eave projections greater than two feet into the required setbacks. (Ord. 4012 s1, 1995; Ord. 3973 s2, 1995; Ord. 2810 s7.06, 1970)

13.14.10 YARDS. (a) Front yards. There shall be a front yard minimum depth of fifteen feet. On corner lots which abut alleys, the side yard on the flanking street along all but the front thirty feet, may be reduced to a minimum depth of five feet; except where carports or garages are entered from the flanking street, the carport or garage shall be set back a minimum distance of fifteen feet from the property line.

(b) Rear yard. On lots of normal size, providing seven thousand square feet or more, there shall be a rear yard minimum depth of ten feet.

(c) Side yard abutting interior lot lines. There shall be a side yard of not less than five feet in width on either interior side lot line and a side yard of not less than ten feet in width on the opposite interior side lot line, providing, however, that on a lot having a width of less than fifty feet as shown by a conveyance of record March 16, 1970, there shall be a side yard on each interior side lot line of not less than five feet in width. Lots having access on a dedicated and improved alley contiguous with the rear lot line may provide a minimum side yard of five feet in width on each side of the lot.

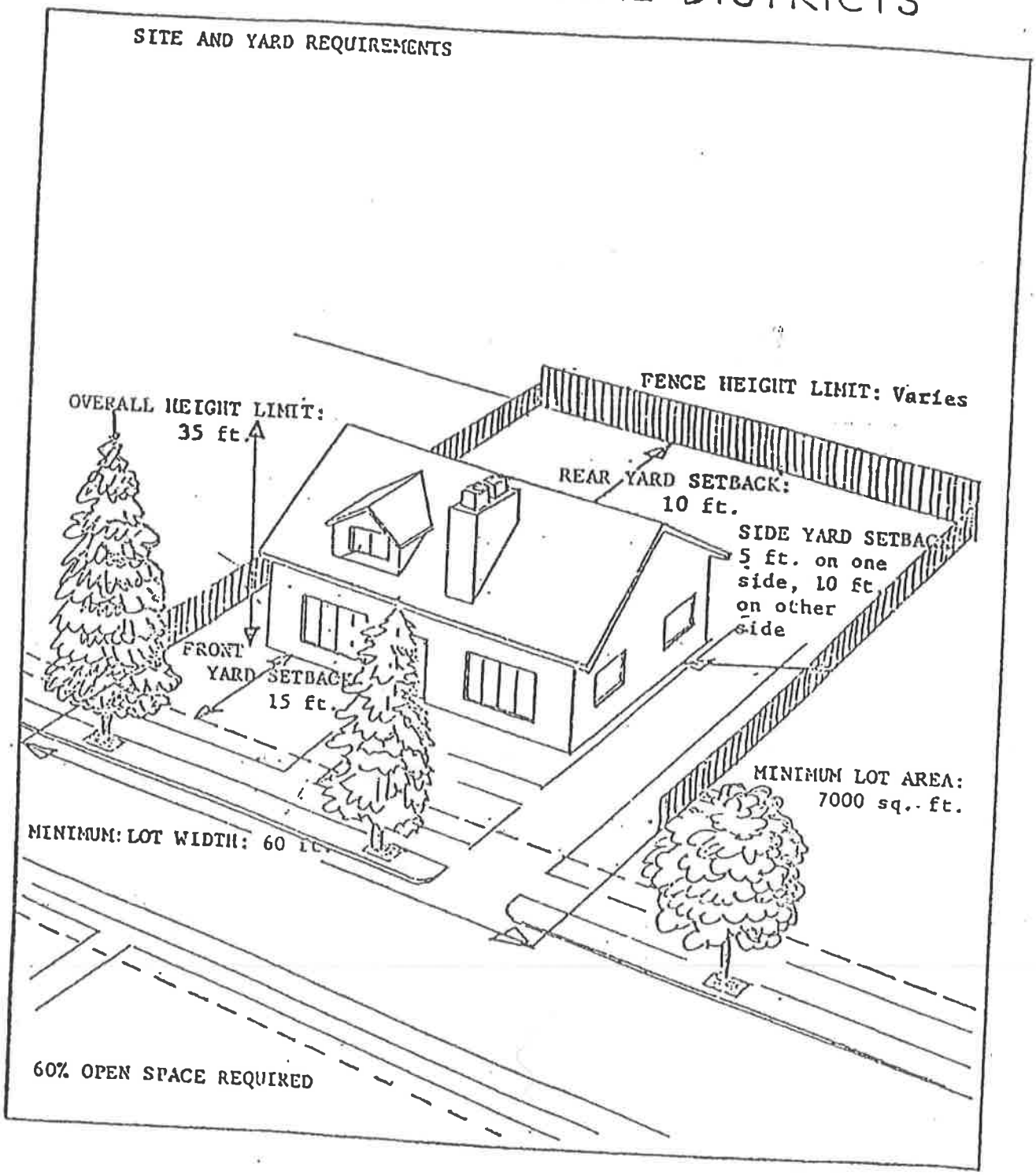
(d) Interior side yard of corner lots. The interior side yard of a corner lot shall be not less than five feet in width. (Ord. 2962 s4, 1973; Ord. 2810 s7.08, 1970)

13.14.12 HEIGHT LIMIT. No building shall exceed a height of thirty-five feet. (Ord. 2810 s7.10, 1970)

13.14.14 OFF-STREET PARKING. Off-street parking facilities as required in Chapter 13.42 shall be provided. (Ord. 2810 s7.12, 1970)

13.14.16 SIGNS. Billboard signs shall not be permitted in the R-L zone. (Ord. 2810 s7.14, 1970)

RS and RL RESIDENTIAL DISTRICTS



Chapter 13.16

RESIDENTIAL MEDIUM DENSITY ZONE (R-M)

13.16.02 INTENT. The R-M zone is intended to comprise areas for single family and multifamily uses with conditional use options for the development of higher density multifamily uses and for essential complementary services and institutions. (Ord. 2810 s8.01, 1970)

13.16.04 PERMITTED USES. In the R-M zone, the following uses shall be permitted:

(a) Single family dwellings;

(b) Multi-family residential structures not to exceed four dwellings per structure;

(c) Accessory uses;

(d) Public utilities;

(e) Family day care homes. (Ord. 3973 s3, 1995; Ord. 3106 s2(part), 1976; Ord. 2962 s7, 1973; Ord. 2810 s8.02, 1970)

13.16.06 CONDITIONAL USES. The following conditional uses may be permitted within the R-M zone through the granting of a conditional use permit as described in Chapter 13.50:

(a) Churches;

(b) Schools;

(c) Public uses;

(d) Boarding houses, lodging houses, sororities, fraternities;

(e) Home occupations;

(f) Hospitals and nursing homes;

(g) Multi-family residential structures larger than four dwellings per structure. Multi-family residential developments which submit to and complete the design review process may apply for adjustments to the building site area requirements.

(h) Child day care centers. (Ord. 3973 s4, 1995; Ord. 3955 s5, 1994; Ord. 3106 s3(part), 4(part), 1976; Ord. 2810 s8.04, 1970)

13.16.08 BUILDING SITE AREA. Every building hereafter constructed or structurally altered in an R-M zone shall provide a lot area of not less than six thousand square feet with a minimum frontage of fifty feet on a public street or highway. Fifty percent of the area of all sites developed with single family dwellings in an R-M zone must be maintained as open spaces free from buildings or structures. All required setback areas for single family dwelling units must be maintained free from buildings or structures, building eaves which project more than two feet into the setback, or paved vehicle parking and maneuvering areas, except for driveway ingress/egress access to rights-of-way.

Multi-family residential dwellings, consisting of duplex or larger buildings, shall be required to maintain all required setback areas plus an additional fifteen (15) percent of the total lot area as open space. The open space shall remain free of structures, and vehicle parking or maneuvering areas, except for driveway ingress/egress access to rights-of-way, minimum projections of vehicle maneuvering areas approved by the City in the parking lot permit process, and building eave projections greater than two feet into the required setbacks. (Ord. 4012 s2, 1995; Ord. 3973 s5, 1995; Ord. 2810 s8.06, 1970)

13.16.10 YARDS. (a) Front yards. There shall be a front yard minimum depth of fifteen feet. On corner lots which abut alleys, the side yard on the flanking street along all but the front thirty feet, may be reduced to a minimum depth of five feet; except where carports or garages are entered from the flanking street, the carport or garage shall be set back a minimum distance of fifteen feet from the property line.

(b) Rear yard. On lots of normal size, providing six thousand square feet or more, there shall be a rear yard minimum depth of ten feet.

(c) Side yard abutting interior lot lines. There shall be a side yard of not less than five feet in width on either interior side lot line and a side yard of not less than ten feet in width on the opposite interior side lot line, providing, however, that on a lot having access to a dedicated and improved alley contiguous with the rear lot line, a minimum side yard of not less than five feet in width on each interior side lot line may be provided.

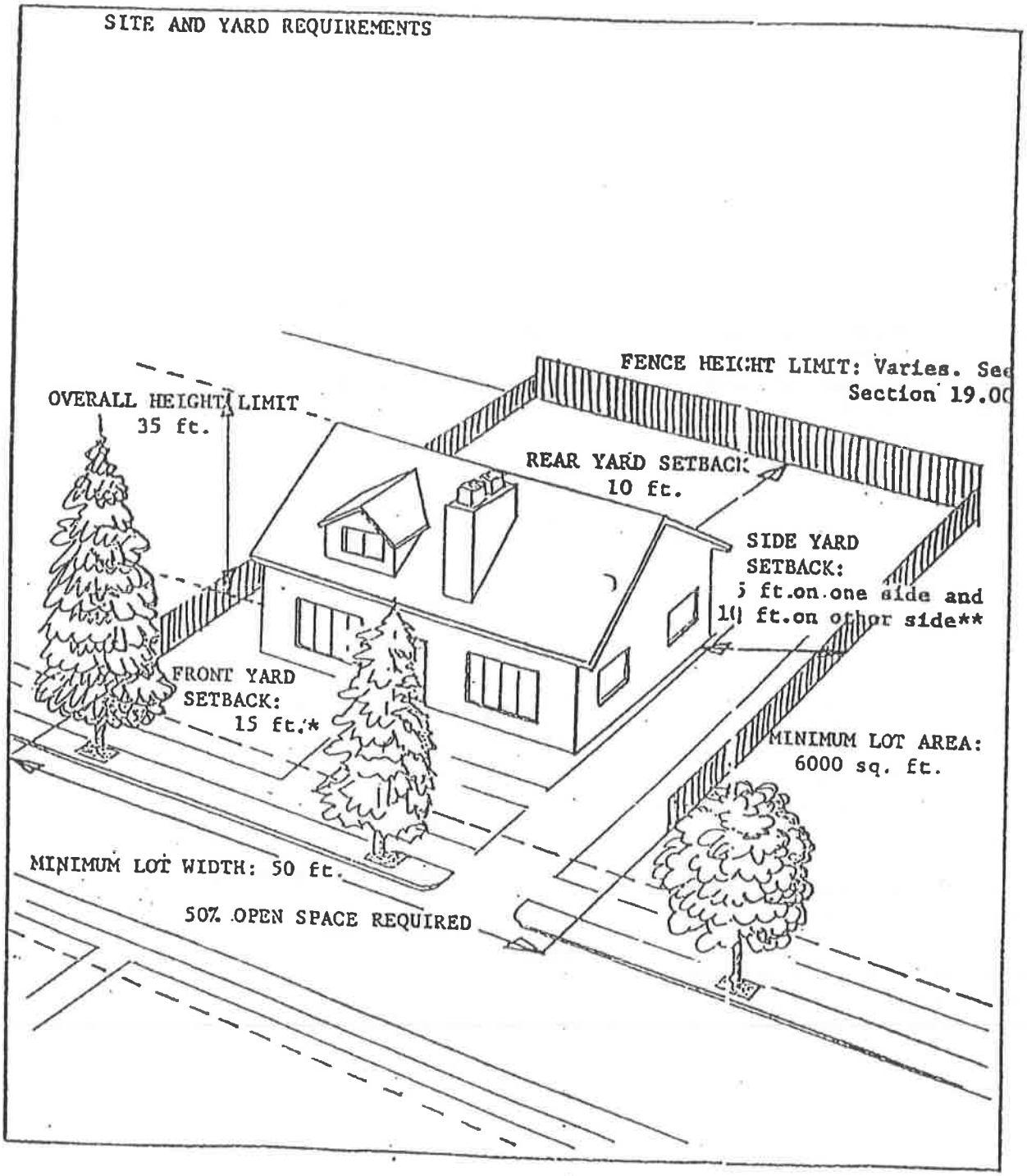
(d) Interior side yard of corner lots. The interior side yard of a corner lot shall be not less than five feet in width. (Ord. 2962 s5, 1973; Ord. 2810 s8.08, 1970)

13.16.12 HEIGHT LIMIT. No building shall exceed a height of thirty-five feet. (Ord. 2810 s8.10, 1970)

13.16.14 OFF-STREET PARKING. Off-street parking facilities as required in Chapter 13.42 shall be provided. (Ord. 2810 s8.12, 1970)

13.16.16 SIGNS. Billboard signs shall not be permitted in the R-M zone. (Ord. 2810 s8.14, 1970)

RM and RO RESIDENTIAL DISTRICTS



** WITH ALLEY, ONLY 5 ft. SIDE YARD ON EACH SIDE

Chapter 13.18

RESIDENTIAL OFFICE ZONE (R-0)

Sections:

13.18.02 INTENT.
13.18.04 PERMITTED USES.
13.18.06 CONDITIONAL USES.
13.18.08 BUILDING SITE AREA.
13.18.10 YARDS.
13.18.12 HEIGHT LIMIT.
13.18.14 OFF-STREET PARKING.

13.18.02 INTENT.

This district is intended to serve as a transition zone separating a more intensive use and will generally occur between commercial and residential districts. It is also intended that all nonresidential uses, within this district, be compatible with existing residential development. (Ord. 2962 s7-A, 1973; Ord. 2810 s9.01, 1970)

13.18.04 PERMITTED USES.

In the R-O zone, the following uses shall be permitted:

(a) Any use listed as a permitted use in the R-L or R-M zones;

(b) Business or professional offices, not including veterinary clinics;

(c) Parking facilities;

(d) Retirement homes;

(e) Hospitals, clinics and nursing homes;

(f) Churches;

(g) Multi-family residential structures. Multi-family residential developments which submit to and complete the design review process may apply for adjustments to building site area requirements.

(h) Home occupations, except that public notice of application and the appeal procedure be sent to property owners within 300 feet of the requesting property 10 days prior to any staff decision or interpretation. Such notice shall include the applicable appeal procedures;

(i) Public utilities;

(j) Personal services;

(k) Family day care homes. (Ord. 3973 s6, 1995; Ord. 3106 s2(part), 1976; Ord. 2810 s9.02, 1970)

(Ord. 4096, Amended, 07/07/1997)

13.18.06 CONDITIONAL USES.

The following uses may be permitted in the R-O zone through the granting of a conditional use permit as described in Chapter 13.50:

(a) Public uses;

(b) Fraternities and sororities;

(c) Boarding houses and lodging houses;

(d) Buildings in excess of thirty-five feet in height;

(e) Private lodges and clubs;

(f) Any use otherwise permitted but which provides off- street parking on a lot or parcel which is not contiguous with the lot on which the primary use is located;

(g) Child day care centers.

(h) Veterinary offices and clinics, subject to the following conditions:

(1) Clinic activities shall be restricted to the medical care and treatment of small animals during regular office hours, and the confinement of such animals on the premises shall be limited to essential and usually occasional overnight care,

(2) The boarding and breeding of animals shall be prohibited,

(3) Clinic activities shall be completely contained within enclosed buildings which shall be so constructed as to prevent emission of any noise or odor,

(4) All refuse shall be stored within a completely enclosed container,

(5) Clinic locations shall be limited to lots of record which are adjacent to and have frontage on an arterial street.

(Ord. 3955 s6, 1994; Ord. 3432 s1, 1984; Ord. 306 s3(part), 4(part), 1976; Ord. 3015 s1, 1974; Ord. 2810 s9.04, 1970)

(Ord. 4082, Amended, 03/03/1997)

13.18.08 BUILDING SITE AREA.

Every building hereafter constructed, or structurally altered in an R-O zone shall have a lot area of not less than six thousand square feet for residential uses with a minimum frontage of fifty feet on a public street or highway. Fifty percent of the area of all sites used for single family residential uses must be maintained as open spaces free from buildings or structures. Where an existing lot has less than the required frontage and/or less than the required area as shown by the last conveyance of record on the effective date of the ordinance codified in this section, then this section shall be deemed to permit construction of a single family dwelling, provided minimum variances are considered and granted by the Board of Adjustment. All required setback areas for single family dwelling units must be maintained free from buildings or structures, building eaves which project more than two feet into the setback, or paved vehicle parking and maneuvering areas, except for driveway ingress/egress access to rights-of- way.

Multi-family residential dwellings and all non-residential uses included under the R-O zone as permitted or conditional uses shall be required to maintain all required setback areas plus an additional fifteen (15) percent of the total lot area as open space. The open space shall remain free of structures, and vehicle parking or maneuvering areas, except for driveway ingress/egress access to rights-of-way, minimum projections of vehicle maneuvering areas approved by the City in the parking lot permit process, and building eave projections greater than two feet into the required setbacks. (Ord. 4012 s3, 1995; Ord. 3973 s7, 1995; Ord. 2962 s8, 1973; Ord. 2810 s9.06, 1970)

13.18.10 YARDS.

(a) Front yards. There shall be a front yard minimum depth of fifteen feet. On corner lots which abut alleys, the side yard on the flanking street along all but the front thirty feet, may be reduced to a minimum depth of five feet; except where carports or garages are entered from the flanking street, the carport or garage shall be set back a minimum distance of fifteen feet from the property line.

(b) Rear yard. There shall be a rear yard of ten feet in depth.

(c) Side yard abutting interior lot lines. There shall be a side yard of not less than five feet in width on either interior side lot line and a side yard of not less than ten feet in width on the opposite interior lot line;

provided, however, that on an existing lot having a width of less than fifty feet as shown by a conveyance of record March 16, 1970, there shall be a side yard on each interior side lot line of not less than five feet in width. Lots having access on a dedicated and improved alley contiguous with the rear lot line may provide a minimum side yard of five feet in width on each side of the lot.

(d) Interior side yard of corner lots. The interior side yard of a corner lot shall be not less than five feet in width. (Ord. 2962 s9, 1973; Ord. 2810 s9.08, 1970)

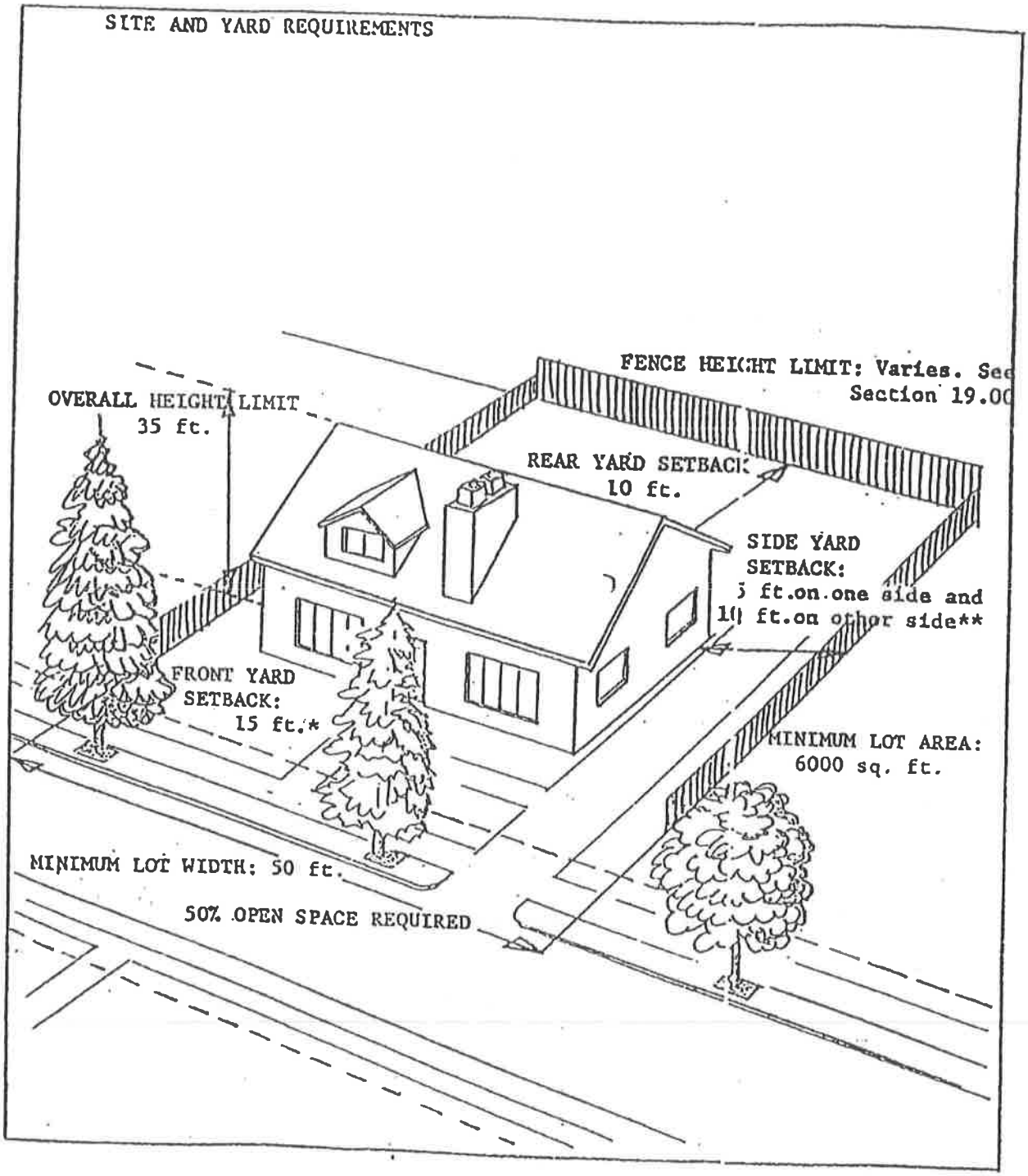
13.18.12 HEIGHT LIMIT.

No building shall exceed a height of thirty-five feet except as conditionally permitted pursuant to Section 13.18.06(d). (Ord. 2810 s9.10, 1970)

13.18.14 OFF-STREET PARKING.

Off-street parking facilities as required in Chapter 13.42 shall be provided. (Ord. 2810 s9.12, 1970)

RM and RO RESIDENTIAL DISTRICTS



** WITH ALLEY, ONLY 5 ft. SIDE YARD ON EACH SIDE

(m) Supermarkets;

(n) Restaurants;

(o) Souvenir and gift shops;

(p) Travel trailer park, providing development and layout is in accord with state statutes and applicable regulations of the State Health Department;

(q) Cocktail lounges;

(r) Taverns;

(s) Public utilities.

(t) Personal services. (Ord. 3982 s3, 1995; Ord. 3347 s1, 1982; Ord. 3241 s5, 1979; Ord. 3059 s2, 1975; Ord. 2810 s12.02, 1975)

13.24.06 CONDITIONAL USES. Conditional uses for the C-H zone shall be as follows:

(a) Golf driving range;

(b) Veterinary offices and clinics, subject to the following conditions;

(1) Clinic activities shall be restricted to the medical care and treatment of small animals during regular office hours, and the confinement of such animals on the premises shall be limited to essential and usually occasional overnight care,

(2) The boarding and breeding of animals shall be prohibited,

(3) Clinic activities shall be completely contained within enclosed buildings which shall be so constructed as to prevent emission of any noise or odor,

(4) All refuse shall be stored within a completely enclosed container;

(c) Lesser building setbacks than the fifteen feet required in Section 13.24.12(a);

(d) Building heights in excess of thirty-five feet;

(e) Miniwarehouses;

(f) Any use otherwise permitted but which provides off-street parking on a lot or parcel which is not contiguous with the lot on which the primary use is located;

Chapter 13.24

HIGHWAY COMMERCIAL ZONE (C-H)

13.24.02 INTENT. The C-H zone is intended to accommodate diversified commercial establishments having little interdependence and requiring maximum exposure to passing traffic -- characteristics which are generally incompatible with the intended character of neighborhood, regional and core area commercial districts. It is further intended that the C-H zone be restricted to locations along arterial streets and highways. (Ord. 2810 s12.01, 1970)

13.24.04 PERMITTED USES. In the C-H zone, the following uses shall be permitted:

(a) Sales of new and used autos, trucks, boats, mobile homes, construction equipment, trailers, cargo trailers, agricultural implements, lawn furniture, nursery stock and home gardening supplies and equipment;

(b) Mortuaries or other funeral establishments;

(c) Drive-in establishments such as banks, car washes, cleaners and laundries, food and drink places;

(d) Repair and construction service establishments having enclosed workshops combined with retail outlet, showrooms and offices, such as heating and plumbing equipment, electrical fixtures, air conditioning, custom awning fabrication, auto, truck, boat, motorcycle, and bicycles, farm equipment, auto body repair and painting, tire retreading, and welding and similar activities not more objectionable in character.

(e) Sale of secondhand merchandise and used auto parts, rental of tools, equipment, and machinery;

(f) Commercial recreation establishments;

(g) Governmental services, public utility offices and exchanges;

(h) Hay and grain sales, but not including milling;

(i) Gas service stations;

(j) Hotels and motels;

(k) Lumber sales;

(l) Fruit and produce stand;

(g) Child day care centers;

(h) Real estate sales and management offices;

(i) Public transportation, passenger terminals. If such use is abutting a residential zone, screening shall be provided suitable to serve as a visual and acoustic barrier between the residential property and the passenger terminal;

(j) Public transportation, deadhead stations;

(k) Freeway-oriented free-standing sign;

(l) Onsite hazardous waste treatment and storage facilities. (Ord. 3648 s6, 1989; Ord. 3432 s1, 1984; Ord. 3403 s2, 1983; Ord. 3241 s6, 1979; Ord. 3210 s1, 1979; Ord. 3176 s2, 1978; Ord. 3106 s4(part), 1978; Ord. 3015 s2, 1974; Ord. 2810 s12.04, 1970)

13.24.08 ACCESSORY USES. Accessory uses permitted in the C-H zone shall be as follows: Accessory buildings, structures an uses which are customarily incidental to a permitted principal use, except as otherwise provided in this title. (Ord. 2810 s12.05, 1970)

13.24.10 BUILDING SITE AREA. The required minimum lot area allowed shall be determined by the aggregate area of the buildings, required yards, off-street parking and loading space, and any other specified lot area requirements applicable to the proposed use. (Ord. 2810 s12.06, 1970)

13.24.12 YARDS. (a) Front yard. The minimum building setback from any street shall be fifteen feet.

(b) Side yards. None shall be required except as follows:

(1) If a building abuts a residential district there shall be a minimum side yard requirement of five feet in width;

(2) Where no alley access is provided there shall be a minimum side yard of ten feet in width on at least one side of the building.

(c) Rear yard. Rear yards shall have a minimum depth of ten feet. (Ord. 2810 s12.08, 1970)

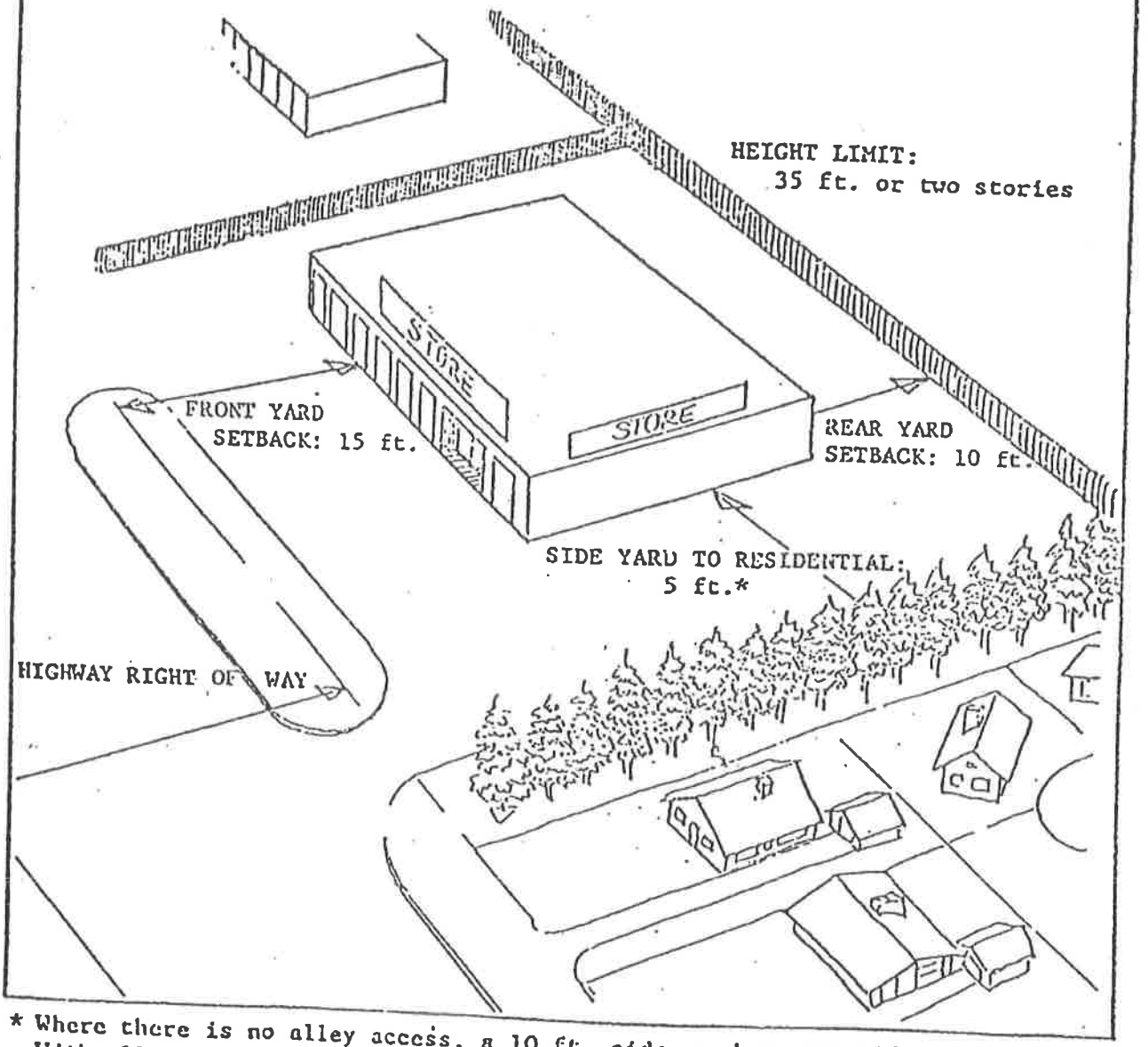
13.24.14 HEIGHT LIMITS. There shall be a maximum height limit of two stories or thirty-five feet whichever is greater. (Ord. 2810 s12.10, 1970)

13.24.16 OFF-STREET PARKING. Off-street parking as stipulated in Chapter 13.42 shall be provided. (Ord. 2810 s12.12, 1970)

13.24.18 ACCESSORY BUILDING. No accessory building, whether attached or detached, shall be erected in any required front or side yard. (Ord. 2810 s12.14, 1970)

HIGHWAY COMMERCIAL DISTRICT

MINIMUM AREA: Determined by the aggregate area of the buildings, required yards, offstreet parking and loading space, and any other specified lot area requirements applicable to the proposed use.



* Where there is no alley access, a 10 ft. side yard on one side is required. With alley access, no side yard is required.

NO ACCESSORY BUILDINGS IN REQUIRED FRONT OR SIDE YARDS

Chapter 13.26

PUBLIC RESERVE ZONE (P-R)

Sections:

13.26.02	INTENT.
13.26.04	PERMITTED USES.
13.26.06	CONDITIONAL USES.
13.26.08	PROHIBITED USES.
13.26.10	LOT OR DEVELOPMENT AREA.
13.26.12	BUILDING LIMITATIONS.
13.26.14	SETBACK REQUIREMENTS.
13.26.16	OPEN SPACE.
13.26.18	OFF-STREET PARKING.
13.26.20	LANDSCAPING AND SCREENING.
13.26.22	MASTER PLANS.

13.26.02 INTENT.

The P-R zone is a special use classification established to provide necessary area within the city for open spaces, parks and playgrounds, and to provide existing and future areas where governmental, educational, recreational, cultural and other public uses may be allowed to develop. It is anticipated that the uses allowed may be unique and may involve a combination of uses not permitted outright in any other zoning districts. (Ord. 4005 s1, 1995; 2810 s13.00, 1970)

13.26.04 PERMITTED USES.

In the P-R zone, the permitted uses are those which provide a public service or fill a public need. Such uses include but are not limited to the following:

(a) Governmental buildings, facilities and other uses of federal, state, county, municipal or other governmental subdivisions such as city hall, governmental shop and warehouse facilities, courthouses, fire and police stations, public hospitals, and fairgrounds;

(b) Public educational institutions, including public colleges and universities but excluding private or non-profit commercial schools for which the principal course work is business, vocational or technical;

(c) Public libraries, art galleries, museums, performing arts facilities, senior citizen centers and community centers;

(d) Public parks, playgrounds, tennis courts, and other public recreational uses;

(e) Public utility facilities;

(f) Public airports;

(g) Services such as food, pharmacies, gift shops, bookstores, newsstands, flower shops and similar uses, and facilities such as vehicle service and repair, storage yards, and physical plants, that are associated with a permitted use, integral to the operation of the permitted use itself, and owned and operated by the public institution involved or conducted through a lease or contract with a private individual or entity;

(h) Facilities for caretakers or on-duty public employees are allowed within the principal building(s);

(i) Facilities accessory to an institution, such as housing and dining facilities for students, staff or faculty of colleges, universities, and hospitals, are allowed within the principal building(s);

(j) Retail services, such as concessions and rental facilities usually associated with public parks, fairgrounds, other public recreation facilities, and public educational institutions;

(k) Helipads operated in conjunction with a public hospital;

(l) Human medical offices, such as doctor or dentist facilities, operated in conjunction with a public hospital. (Ord. 4005 s2, 1995)

13.26.06 CONDITIONAL USES.

The following uses may be permitted within the P-R zone through the granting of a conditional use permit according to the procedures set out in Chapter 13.50:

(a) Buildings located within 100 feet of a residential zone and intended to be higher than 35 feet;

(b) Facilities to: 1) sell, service and store airplanes; 2) service airport patrons; and, 3) those ordinarily incidental and essential to the operation of a municipal airport;

(c) Airport landing areas; (Ord. 4005 s2, 1995)

13.26.08 PROHIBITED USES.

The following uses are prohibited in the P-R zone:

(a) Retail business uses associated with commercial zones other than those permitted herein; and

(b) All other uses except as provided in Sections 13.26.04, 13.26.06 and 13.26.08 of this code. (Ord. 4005 s2, 1995)

13.26.10 LOT OR DEVELOPMENT AREA.

The lot or development area shall be sufficient to accommodate parking, vehicle maneuvering areas, landscaping, open space, and other development standards required by this ordinance in the site plan review process. In those cases where lots exceed three (3) acres in size, development areas shall be based upon similar buildings and facilities, or major functional design of the public facilities. Such development areas for lots in excess of three (3) acres will be determined by mutual agreement between the City and the public agency involved, and shall then function as a lot for the above purposes of evaluating site requirements. Master site plans, approved as a means of satisfying the requirements of this ordinance, shall be the determining factors in assessing the specific project and its fulfillment of the standards required under the site plan review process. (Ord. 4005 s2, 1995)

13.26.12 BUILDING LIMITATIONS.

Height and site coverage shall be as follows:

(a) There are no building height limits in the P-R zone except as required by conditional use approval pursuant to Section 13.26.06;

(b) Public and private utility facilities, within 200 feet of a residential zone, including non-structural facilities such as antennas and satellite dishes, shall not exceed thirty-five (35) feet except as a conditional use permitted pursuant to Section 13.26.06. (Ord. 4005 s2, 1995)

13.26.14 SETBACK REQUIREMENTS.

Setback requirements of adjacent zones to the P-R lot shall apply: (Ord. 4005 s2, 1995)

13.26.16 OPEN SPACE.

Fifteen (15) percent of the total lot or development area shall be maintained as landscaped open space. The open space shall remain free of buildings, structures, and vehicle parking or maneuvering areas, except for driveway ingress/egress access to rights-of-way, minimum projections of vehicle maneuvering areas approved by the City in the parking lot permit process, and building eave projections not to exceed two (2) feet. (Ord. 4005 s2, 1995)

13.26.18 OFF-STREET PARKING.

Off-street parking facilities shall be provided as required by Chapter 13.42 of the Ellensburg City Code. (Ord. 4005 s2, 1995).

13.26.20 LANDSCAPING AND SCREENING.

Landscaping and screening requirements shall be provided as follows:

(a) Landscaping for all projects in the P-R zone shall be equal to fifteen (15) percent of the total lot area or development area. Required landscaping may include grass swales if required for surface drainage.

(b) In all required off-street parking lots, for every nine (9) consecutive parking spaces a minimum landscaped area equal to one (1) parking space in size shall be provided in the parking facility. For every 18 parking spaces double row a minimum landscaped area equal to two (2) parking spaces in size shall be provided in the parking facility. This landscaped area may be distributed throughout the entire parking facility.

(c) Compliance with the mandatory requirements of this section shall be verified by the City Manager or the manager's designee prior to the issuance of an occupancy permit or final approval of a public works construction project; PROVIDED, that if weather or other conditions exist which render compliance impossible or impractical upon completion of the project, at the City Manager's discretion, compliance may be deferred only until the earliest possible date which would permit compliance herewith. (Ord. 4005 s2, 1995)

(Ord. 4094, Amended, 06/16/1997)

13.26.22 MASTER PLANS.

Recognizing that some institutions require long-range development plans and consist of large areas of land with multiple land uses, a Master Plan may be prepared for all, or a portion, of an entity's land area which is subject to this chapter and which master planned land encompasses an area of three (3) acres or more. The intent of the Master Plan is to permit appropriate institutional development within specific boundaries while minimizing impacts, and to balance the public benefits of the growth and change of the community's major institutions with the livability and vitality of the community's neighborhoods. The Master Plan components shall include at a minimum: boundaries, land uses, circulation within and adjacent to the area, parking, utilities, open spaces, landscaping, and development standards.

Prior to the approval and adoption of the Master Plan by City Council, the underlying zoning requirements shall apply. Upon the approval and adoption of the Master Plan by City Council, the development standards and requirements established in the Master Plan shall apply within the boundaries of the area subject to the Master Plan. (Ord. 4005 s2, 1995)

Chapter 13.28

CENTRAL COMMERCIAL ZONE (C-C)

13.28.02 INTENT. The C-C zone is intended to encourage and accommodate the development and redevelopment of a viable central business district serving a broad trade area. The intended physical form of the district is an intensive concentration of compatible business, professional and commercial activities. (Ord. 2810 s14.01, 1970)

13.28.04 PERMITTED USES. In the C-C zone, the following uses shall be permitted:

(a) All residential uses, provided that the requirements of Chapter 13.42 are complied with, EXCEPT for residential uses located within the identified Historical Preservation District, Chapter 13.37, in which case no off-street parking spaces shall be required;

(b) All retail uses, except the following:

(1) Heavy farm and construction equipment sales and service.

(2) Hay, grain and farm supply stores, (See definition of "Farm supply," Section 13.4.38.)

(3) Trailer sales,

(4) Lumber sales,

(5) Other similar uses;

(c) All personal, professional and household service establishments; (See definition of "Household service," Section 13.4.52.)

(d) Signs;

(e) Automobile parking;

(f) Public uses;

(g) Public utilities;

(h) Churches;

(i) Family day care homes;

(j) Public transportation, passenger terminals. If such use is abutting a residential zone, screening shall be provided suitable to serve as a visual and acoustic barrier between the residential property and the passenger terminal.

(Ord. 3827 s1, 1992; Ord. 3241 s7, 1979; Ord. 3106 s2(part), 1976; Ord. 2998 s1, 1974; Ord. 2810 s14.02, 1970)

13.28.06 CONDITIONAL USES. The following uses may be permitted in the C-C zone through the granting of a conditional use permit as described in Chapter 13.50:

(a) Child day care centers.

(b) Onsite hazardous waste treatment and storage facilities. (Ord. 3955 s8, 1994; Ord. 3648 s7, 1989; Ord. 3106 s3(part), 4(part), 1976; Ord. 2810 s14.04, 1970)

13.28.08 BUILDING SITE AREA. There are no minimum lot size area requirements in the C-C zone. Provisions of section 4.38.06(b) of the Ellensburg City Code require C-C zoned developments to provide a minimum of fifteen (15) percent of the total lot area in approved landscaping. The development of C-C zoned lots may, however, use the planting of street trees in the City right-of-way in lieu of on-site landscaping not otherwise required for parking lot development. Such planting of street trees shall be accomplished in the amount and manner provided for under section 4.38.06(b) of the Ellensburg City Code. (Ord. 4059, s5, 1996; Ord. 2810 s14.06, 1970)

13.28.10 YARDS. There are no minimum yard requirements in the C-C zone. (Ord. 2810 s14.08, 1970)

13.28.12 HEIGHT LIMITS. There are no building height limits in the C-C zone. (Ord. 2810 s14.10, 1970)

13.28.14 PARKING. There are no parking requirements in the C-C zone. (Ord. 2938 s1, 1972; Ord. 2810 s14(part), 1970)

expanded on other lots of record in the C-C II zone. (Ord. 3340 s1, 1982)

13.29.06 CONDITIONAL USES. The following uses may be permitted in the C-C II zone through the granting of a conditional use permit as described in Chapter 13.50:

(a) Public transportation, passenger terminals;

(b) Child day care centers;

(c) Repair, construction service, warehousing, and food production establishments having enclosed workshops\production areas\storage areas combined with a retail outlet such as custom awning fabrication, auto, truck, boat, motorcycle and bicycles, auto body repair and painting, tire retreading, welding, storage of items intended for retail sales in a commercial zone within the City of Ellensburg, production of food or beverages intended for human consumption. Any such uses in operation on the effective date of this ordinance shall be considered permitted uses under Section 13.29.04, except that such uses shall not be relocated or expanded on other lots of record in the C-C II zone.

(d) Onsite hazardous waste treatment and storage facilities. (Ord. 4057 s4, 1996; Ord. 3955 s9 1994; Ord. 3648 s8, 1989; Ord. 3340 s1, 1982)

13.29.08 BUILDING SITE AREA. There are no minimum lot size area requirements in the C-C II zone. Provisions of section 4.38.06(b) of the Ellensburg City Code require C-C II zoned developments to provide a minimum of fifteen (15) percent of the total lot area in approved landscaping. The development of C-C II zoned lots which are occupied with principal use structures at the time of expansion may, however, use the planting of street trees in the City right-of-way in lieu of on-site landscaping not otherwise required for parking lot development. Such planting of street trees shall be accomplished in the amount and manner provided for under section 4.38.06 (b) of the Ellensburg City Code. (Ord. 4059 s6, 1996; Ord. 3340 s1, 1982)

13.29.10 YARDS. There are no minimum yard requirements in the C-C II zone. (Ord. 3340, s1, 1982)

13.29.12 HEIGHT LIMITS. There are no building height limits in the C-C II zone. (Ord. 3340, s1, 1982)

13.29.14 PARKING. Off-street parking spaces shall be required as follows:

Chapter 13.29

CENTRAL COMMERCIAL II (C-C II)

13.29.02 INTENT. The C-C II zone is intended to provide for orderly expansion of the downtown commercial core. The zone is not to be used to allow strip commercial development or C-C II zones physically separate from the downtown commercial core. (Ord. 3340 s1, 1982)

13.29.04 PERMITTED USES. In the C-C II zone, the following uses shall be permitted:

(a) All residential uses;

(b) All retail uses, except the following:

(1) Heavy farm and construction equipment sales and service.

(2) Hay, grain and farm supply stores (see definition of "Farm supply", section 13.4.38),

(3) Trailer sales,

(4) Lumber sales,

(5) Other similar uses;

(c) All personal, professional and household service establishments (see definition of "Household service", section 13.4.52);

(d) Signs;

(e) Automobile parking;

(f) Public uses;

(g) Public utilities;

(h) Churches;

(i) Family day car homes;

(j) Light Industrial (I-L) uses (except non-conforming or conditional) in existence on the effective date of this ordinance except that such uses shall not be relocated or

(a) Retail uses, personal, professional and household service establishments: 1 parking space per 600 square feet of gross floor area with a minimum of two.

(b) Repair and construction service establishments: Use parking requirements listed in Chapter 13.42, provided that off-street parking shall be located on the same lot or on an adjoining lot or lots to the building providing service.

(c) All other uses: Use parking requirements listed in Chapter 13.42. (Ord. 3340, s1, 1982)

13.29.16 SCREENING. Any non-residential uses abutting a residential zone shall provide screening suitable to serve as a visual and acoustic barrier between the non-residential use and the residential use. (Ord. 3340, s1, 1982)

13.29.18 APPLICATION. Applications for C-C II zoning shall be only for property adjoining the C-C or C-C II zones. (Ord. 3340, s1, 1982)

Chapter 13.30

LIGHT INDUSTRIAL ZONE (I-L)

13.30.02 INTENT. The I-L zone is intended to accommodate certain industrial structures and uses having physical and operational characteristics which might adversely affect the economic welfare of adjoining residential and commercial uses. Regulations are designed to permit those industrial uses which can be operated in a relatively clean, quiet and safe manner compatible with adjoining industrial uses and without serious effect, danger or hazard to nearby nonresidential uses. (Ord. 2810 s15.01, 1970)

13.30.04 PERMITTED USES. The following uses shall be permitted in the I-L zone:

(a) Wholesaling, warehousing, distribution, repair, rental and servicing of any commodity, the sale of which is permitted in any commercial district, but excluding live animals, explosives and aboveground storage of flammable liquids and gases;

(b) Food and drug processing;

(c) Bottling works;

(d) Cold storage plants;

(e) Welding and machine shops;

(f) Public uses;

(g) Manufacture and assembly of light and small items made from previously prepared materials and includes operations which do not create noise, smoke, odor, vibration or other objectionable nuisances to the extent that they are detrimental to surrounding uses;

(h) Residential uses existing at the time of adoption of the ordinance codified in this section;

(i) Public utilities;

(j) Public transportation, deadhead stations. (Ord. 3241 s8, 1979; Ord. 2962 s11, 1973; Ord. 2810 s15.02, 1970)

13.30.06 CONDITIONAL USES. Any of the following uses may be permitted upon the issuance of a conditional use permit granted in accordance with Chapter 13.50:

(a) Retail sales, eating and drinking places, medical offices, private recreation facilities and similar establishments provided that they are intended to serve the convenience needs of the district;

(b) Gas service stations;

(c) Animal hospitals;

(d) Miniwarehouses;

(e) Onsite hazardous waste treatment and storage facilities;

(f) Offsite hazardous waste treatment and storage facilities. (Ord. 3648 s9, 1989; Ord. 3403 s3, 1983; Ord. 3176 s3, 1978; Ord. 3131 s1, 1977; Ord. 2810 s15.04, 1970)

13.30.08 BUILDING SITE AREA. There shall be no minimum site area requirements in the I-L zone. (Ord. 2810 s15.06, 1970)

13.30.10 YARDS. None, except for residential uses. (Ord 2962 s12, 1973; Ord. 2810 s15.08, 1970)

13.30.12 HEIGHT LIMITS. None, except for residential uses. (Ord. 2962 s17, 1973; Ord. 2810 s15.10, 1970)

13.30.14 OFF-STREET PARKING. Off-street parking facilities as described in Chapter 13.42 shall be provided. (Ord. 2810 s15.12, 1970)

APPENDIX E

CONTAMINANT SOURCE CONTROL
BUSINESS NOTIFICATION LETTER

Date

Business
Address
City, WA, Zip Code

Dear Owner/Operator:

In order to protect the drinking water supply of the City of Ellensburg, the City is developing a Wellhead Protection Program in accordance with Washington Department of Health requirements (WAC 246-290-135). As part of our Wellhead Protection Program, the City mapped the area overlying the short-term recharge zone of our drinking water supply wells. This is called our Wellhead Protection Area.

Following the mapping of the Wellhead Protection Area, the City conducted an inventory of potential sources of ground water contamination within that area. The nature of your business (or facility), and its location within our Wellhead Protection Area, indicate that your activities may have the potential to affect the City's drinking water supply.

We hope that informing you of your location in our Wellhead Protection Area will result in an increase in precautions to ensure that above ground and/or underground storage of hazardous materials will not impact our drinking water quality. For further information, please call Rick Bollinger at the City of Ellensburg, (509) 962-7133.

Sincerely,

Rick Bollinger
City of Ellensburg

WELL OWNER NOTIFICATION LETTER

Date

Owner
Address
City, WA Zip Code

Dear Home Owner,

In order to protect the drinking water supply of the City of Ellensburg, the City is developing a Wellhead Protection Program in accordance with Washington State Department of Health requirements (WAC 246-290-135). As part of our Wellhead Protection Program, the City mapped the areas overlying the short-term recharge zone of our drinking water supply wells. This is called our Wellhead Protection Area. A map showing the approximate location of our identified Wellhead Protection Area is attached to this letter.

Following the mapping of the Wellhead Protection Area, the City conducted an inventory of other water supply wells located within the identified areas. The Washington State Department of Ecology records indicate that you may own a water supply well that is located within the identified Wellhead Protection Area. A copy of a water well report for your well is also attached to this letter.

Improperly abandoned or operated wells are a potential threat to water quality in the aquifers currently utilized by the City. We hope that informing you of your wells location in our Wellhead Protection Area will result in an increase in precautions to ensure that your well does not become a conduit for contamination to enter into the subsurface and potentially affect the water quality of the City's water supply. Furthermore, we would appreciate it if you would call or write us and let us know if your well is currently being used or if it has been abandoned. For further information, please call Rick Bollinger at the City of Ellensburg (509-962-7133).

Sincerely,

Rick Bollinger
City of Ellensburg

OWNER NOTIFICATION CONTACT LIST

1	David Burt	104 West 10th Street
2	Doug Ryder	1900 Brook Lane E-14
3	Knudson Lumber	1791 Vantage Hiway
4	Charles Scott Walker	1615 Radio Road
5	Harvey Vaughn	1408 E. Washington
6	Ron Voshall	Oak Street
7	Don Whiting	402 Locust Street
8	Doug Stalder	274 A Ellensburg
9	Les Towler	917 Sanders Road
10	Dry Cleaners	700 E 8th Ave
11	Arlene & Deb Sthroettin	Lense Road
12	Homer K. Miller	603 Pacific
13	Donald W. Jollo	1314 Brook Lane
14	Kieth Rasmussen	Look Road
15	Katheryn M. Rasmussen	405 S. Water Street
16	Andy Johnson	2111 N. Walnut Street
17	R. A. Swanson	1608 Sander Road
18	Blazing T. Ranch	Sanders Road
19	Hale & Long General Contractors	1040 Valley Mall Parkway
20	Joseph William Price	P.O. Box 805
21	Ken Eaton	503 Bender
22	Juanaita Osenbaugh	Box 410 E. Bender Rd
23	David Richard Anderson	Rt. 4 Box 1030
24	Joline Thedens	Rt. 5 Box 1015
25	Osco Tolman	704 W. Bender
26	Robert Hayes	Bender Road
27	Chuck Priebe	510 E. Bender
28	R. Mook	Idaho Street
29	George Mandelas	2407 Airport Road
30	Jack I. Morfield	701 E. 6th #204
31	Mike Sackson	1708 Ohio Street
32	Jason Bjorkman	205 E. 13th Street
33	Mike Jackson	1708 Ohio Street
34	M. D. Jackson	1708 Ohio Street
35	Lee Bivens	Rt. 4 Box 176

APPENDIX F

PW-1

Ground Water Contamination Susceptibility Assessment Survey Form

Version 2.1

GeoEngineers

MAR 0 1998

ROUTING C&L

FILE

IMPORTANT! Please complete one form for each ground water source (well, wellfield, spring) used in your water system. Photocopy as necessary.

PART I: System Information

Well owner/manager : City of Ellensburg

Water system name : Ellensburg Water Dept

County: Kittitas

Water system number: 22950 M Source number: 30-1

Well depth: 14.5' (ft.) (*From WFI form*)

Source name: City Wells

WA well identification tag number: ___ ___ ___-___ ___ ___

X well not tagged

Number of connections: 3385 Population served: 12570

Township: 18 N Range: 18 E

Section: 12 1/4 1/4 Section: SE/SE

Latitude/longitude (if available): Lat 47°-03'-31" / Lon 120°-38'-46"

How was lat./long. determined?

_____ global positioning device _____ survey X topographic map

____other: _____

* Please refer to Assistance Packet for details and explanations of all questions in Parts II through V.

PART II: Well Construction and Source Information

1) Date well originally constructed: 4 / 12 / 13 month/day/year

last reconstruction: - / 11 / 25 month/day/year

_____ information unavailable

2) Well driller: _____

_____

_____

X well driller unknown

3) Type of well:

___ Drilled: ___ rotary ___ bored ___ cable (percussion) ___ Dug

X Other: ___ spring(s) X lateral collector ~~(Ranney)~~

___ driven ___ jetted ___ other: _____

Additional comments: The well is an infiltration gallery on the site of a former spring

4) Well report available? ___ YES (attach copy to form) X NO

If no well log is available, please attach any other records documenting well construction; e.g. boring logs, "as built" sheets, engineering reports, well reconstruction logs.

5) Average pumping rate: 1300- 2350 (gallons/min)

Source of information: Actual measured pumping rate of each pump w/ a pitot tube

If not documented, how was pumping rate determined? _____

_____

___ Pumping rate unknown

6) Is this source treated?

If so, what type of treatment:

X disinfection ___ filtration ___ carbon filter ___ air stripper X other (floridation

Purpose of treatment (describe materials to be removed or controlled by treatment):

_____

_____

_____

7) If source is chlorinated, is a chlorine residual maintained: YES / NO

Residual level: .08-.10 (*At the point closest to the source.*)

PART III: Hydrogeologic Information

1) Depth to top of open interval: [check one]

X < 20 ft ___ 20-50 ft ___ 50-100 ft ___ 100-200 ft ___ >200 ft

___ information unavailable ('< ' *means less than;* '> ' *means greater than*)

2) Depth to ground water (static water level):

X < 20 ft ___ 20-50 ft ___ 50-100 ft ___ > 100 ft

___ flowing well/spring (artesian)

How was water level determined?

___well log ___ other: well level recorded daily.

___ depth to ground water unknown

3) If source is a flowing well or spring, what is the confining pressure:

_____ psi (pounds per square inch)
or
_____ feet above wellhead

4) If source is a flowing well or spring, is there a surface impoundment, reservoir, or catchment associated with this source: YES / NO

5) Wellhead elevation (height above mean sea level): _____(ft) 1609.3

How was elevation determined? ___ topographic map ___ Drilling/Well Log ___ altimeter

Xother: 1953 drawing (attached)

___ information unavailable

6) Confining layers: (This can be completed only for those sources with a drilling log, well log or geologic report describing subsurface conditions. Please refer to assistance package for example.)

___ evidence of a confining layer in well log

Xno evidence of a confining layer in well log

If there is evidence of a confining layer, is the depth to ground water more than 20 feet above the top of the open interval? ___ YES ___ NO

___ information unavailable

7) Sanitary setback:

___ < 100 ft* ___ 100-120 ft ___ 120-200 ft X > 200 ft
* if less than 100 ft describe the site conditions:

8) Wellhead construction:

X wellhead enclosed in a wellhouse

___ controlled access (describe): _____

___ other uses for wellhouse (describe): _____

___ no wellhead control

9) Surface seal:

___ 18 ft

___ < 18 ft (no Department of Ecology approval) ('< ' *means less than*)

___ < 18 ft (Approved by Ecology, include documentation) ('< ' *means less than*)

___ > 18 ft ('> ' *means greater than*)

___ depth of seal unknown

X no surface seal

10) Annual rainfall (inches per year):

X < 10 in/yr ___ 10-25 in/yr ___ > 25 in/yr

PART IV: Mapping Your Ground Water Resource

1) Annual volume of water pumped: _____(gallons) 551, 760,000

How was this determined?

X meter 1993 actual

___ estimated: ___ pumping rate (_____)

___ pump capacity (_____)

____ other: _____

2) "Calculated Fixed Radius" estimate of ground water movement:
(see Instruction Packet)

6 month ground water travel time : 2200 (ft)

1 year ground water travel time : 3110 (ft)

5 year ground water travel time: 6950 (ft)

10 year ground water travel time: 9830 (ft)

Information available on length of screened/open interval?

X YES __ NO

Length of screened/open interval: 10' (ft)

3) Is there a river, lake, pond, stream, or other obvious surface water body within the 6 month time of travel boundary? (YES) / NO (mark and identify on map).

4) Is there a stormwater and/or wastewater facility, treatment lagoon, or holding pond located within the 6 month time of travel boundary? YES (NO) (mark and identify on map).

Comments: _____

_____

_____

_____

_____

PART V: Assessment of Water Quality

1) Regional sources of risk to ground water:

Please indicate if any of the following are present within a circular area around your water source having a radius up to and including the five year ground water travel time:

	6 month	1 year	5 year	unknown
likely pesticide application			X	
stormwater injection wells				
other injection wells				
abandoned ground water well				X
landfills, dumps, disposal areas				
known hazardous materials clean-up site				
water system(s) with known quality problems				
population density > 1 house/acre				
residences commonly have septic tanks	X	X	X	
Wastewater treatment lagoons				
sites used for land application of waste				

Mark and identify on map any of the risks listed above which are located within the 6 month time of travel boundary? (*Please include a map of the wellhead and time of travel areas with this form. Please locate and mark any of the following.*)

If other recorded or potential sources of ground water contamination exist within the ten year time of travel circular zone around your water supply, please describe:

2) Source specific water quality records:

Please indicate the occurrence of any test results since 1986 that meet the following conditions: (Unless listed on assessment, MCLs are listed in assistance package.)

	YES	NO
A. Nitrate: (Nitrate MCL = 10 mg/l)		
Results greater than MCL	___	X
	YES	NO
< 2 mg/liter nitrate	X	___
2-5 mg/liter nitrate	___	X
> 5 mg/liter nitrate	___	X
___ Nitrate sampling records unavailable		
	YES	NO
B. VOCs: (VOC detection level 0.5 ug/l or 0.0005 mg/l.)		
Results greater than MCL or SAL	___	X
VOCs detected at least once	___	X
VOCs never detected	X	___
___ VOC sampling records unavailable		
	YES	NO
C. EDB/DBCP:(EDB MCL = 0.05 ug/l or 0.00005 mg/l. DBCP MCL = 0.2 ug/l or 0.0002 mg/l.)		
EDB/DBCP detected below MCL at least once	___	___
EDB/DBCP detected above MCL at least once	___	___
EDB/DBCP never detected	___	___
___ EDB/DBCP tests required but not yet completed		
X EDB/DBCP tests not required		
	YES	NO
D. Other SOCs (Pesticides):		
Other SOCs detected (pesticides and other synthetic organic chemicals).	___	___
___ Other SOC tests performed but none detected (list test methods in comments		
X Other SOC tests not performed		

If any SOCs in addition to EDB/DBCP were detected, please identify and date. If other SOC tests were performed, but no SOCs detected, list test methods here: _____

_____

_____

_____

E. Bacterial contamination:

	YES	NO
Any bacterial detection(s) in the past 3 years in samples taken from the source (not distribution sampling records).	___	X
Has source (in past 3 years) had a bacteriological contamination problem found in distribution samples that was attributed to the source.	___	X

X Source sampling records for bacteria unavailable

Part VI: Geographic or Hydrologic Factors Contributing to a Non-Circular Zone of Contribution

The following questions will help identify those ground water systems which may not be accurately represented by the calculated fixed radius (CFR) method described in Part IV. For these sources, the CFR areas should be used as a preliminary delineation of the critical time of travel zones for that source. As a system develops its Wellhead Protection Plan for theses sources, a more detailed delineation method should be considered.

1) Is there evidence of obvious hydrologic boundaries within the 10 year time of travel zone of the CFR? (Does the largest circle extend over a stream, river, lake, up a steep hillside, and/or over a mountain or ridge?)

X YES _____ NO

Describe with references to map produced in Part IV:

The Yakima River bisects the CFRS as does the steep ridge to the N.E.

2) Aquifer Material:

A) Does the drilling log, well log or other geologic/engineering reports identify that the well is located in an area where the underground conditions are identified as fractured rock and/or basalt terrain?

_____ YES X NO

B) Does the drilling log, well log or other geologic/engineering reports indicate that the well is located in an area where the underground conditions are primarily identified as coarse sand and gravel?

X YES _____ NO

3) Is the source located in an aquifer with a high horizontal flow rate? (These can include sources located on flood plains of large rivers, artesian wells with high water pressure, and/or shallow flowing wells and springs.)

X YES _____ NO

4) Are there other high capacity wells (agricultural, municipal and/or industrial) located within the CFRs?

a) Presence of ground water extraction wells removing more than approximately 500 gal/min within...

	YES	NO	unknown
< 6 month travel time	—	X	—
6 month–1 year travel time	—	X	—
1–5 year travel time	—	X	—
5–10 year travel time	—	X	—

b) Presence of ground water recharge wells (dry wells) or heavy irrigation within...

	YES	NO	unknown
< 1 year travel time	—	X	—
1–5 year travel time	—	X	—
5–10 year travel time	—	X	—

Please identify or describe additional hydrologic or geographic conditions that you believe may affect the shape of the zone of contribution for this source. Where possible, reference them to locations on the map produced in Part IV.

Suggestions and Comments

Did you attend one of the susceptibility workshops? YES / NO

Did you find it useful? YES / NO

Did you seek outside asistance to complete the assessment? YES / NO

This form and instruction packet are still in the process of development. Your comments, suggestions and questions will help us upgrade and improve this assessment form. If you found particular sections confusing or problematic please let us know. How could this susceptibility assessment be improved or made clearer? Did the instruction package help you find the information needed to complete the assessment? How much time did it take you to complete the form? Were you able to complete the assessment without additional/outside expertise? Do you feel the assessment was valuable as a learning experience? Any other comments or constructive criticisms you have would be appreciated.

PW-2

Ground Water Contamination
Susceptibility Assessment Survey Form
Version 2.1

IMPORTANT! Please complete one form for each ground water source (well, wellfield, spring) used in your water system. Photocopy as necessary.

PART I: System Information

Well owner/manager : City of Ellensburg

Water system name : Ellensburg Water Dept

County: Kittitas

Water system number: 22950 Source number: 30-2

Well depth: 232 (ft.) (*From WFI form*)

Source name: Rodeo

WA well identification tag number:___ ___ ___-___ ___ ___

X well not tagged

Number of connections: 3385 Population served: 12570

Township: 17 N Range: 18E

Section: 1 1/4 1/4 Section: NE/NW

Latitude/longitude (if available): Lat 46°-59'-59"/ Lon 120°-31'-48"

How was lat./long. determined?

_____ global positioning device _____ survey _X_ topographic map
___other: _____

* Please refer to Assistance Packet for details and explanations of all questions in Parts II through V.

PART II: Well Construction and Source Information

1) Date well originally constructed: __ / __ /46 month/day/year 1946

last reconstruction: ___ / ___ / ___ month/day/year

_____ information unavailable

2) Well driller: Unknown - Believed to be Gerald C. Hoff - see attached water right & log

___ well driller unknown

3) Type of well:

☒ Drilled: ___ rotary ___ bored ☒ cable (percussion) ___ Dug

___ Other: ___ spring(s) ___ lateral collector (Ranney)

___ driven ___ jetted ___ other: _____

Additional comments: _____

4) Well report available? ☒ YES (attach copy to form) ___ NO

If no well log is available, please attach any other records documenting well construction; e.g. boring logs, "as built" sheets, engineering reports, well reconstruction logs.

5) Average pumping rate: 840 (gallons/min)

Source of information: 1993 pumping records

If not documented, how was pumping rate determined? _____

___ Pumping rate unknown

6) Is this source treated?

If so, what type of treatment:

☒ disinfection ___ filtration ___ carbon filter ___ air stripper ☒ other flordation

Purpose of treatment (describe materials to be removed or controlled by treatment):

7) If source is chlorinated, is a chlorine residual maintained: YES / NO

Residual level: .08 - .10 (*At the point closest to the source.*)

PART III: Hydrogeologic Information

1) Depth to top of open interval: [check one]

___ < 20 ft ___ 20–50 ft ___ 50–100 ft ___ 100–200 ft X >200 ft

___ information unavailable (*'<' means less than; '>' means greater than*)

2) Depth to ground water (static water level):

___ < 20 ft X 20–50 ft ___ 50–100 ft ___ > 100 ft

___ flowing well/spring (artesian)

How was water level determined? weekly soundings

___well log ___ other: _____

___ depth to ground water unknown

3) If source is a flowing well or spring, what is the confining pressure:

_____ psi (pounds per square inch)
or
_____ feet above wellhead

4) If source is a flowing well or spring, is there a surface impoundment, reservoir, or catchment associated with this source: YES / NO

5) Wellhead elevation (height above mean sea level): _____(ft) 1560

How was elevation determined? X topographic map ___ Drilling/Well Log ___ altimeter

___ other: _____

___ information unavailable

6) Confining layers: (This can be completed only for those sources with a drilling log, well log or geologic report describing subsurface conditions. Please refer to assistance package for example.)

X evidence of a confining layer in well log

___ no evidence of a confining layer in well log

If there is evidence of a confining layer, is the depth to ground water more than 20 feet above the top of the open interval? X YES ___ NO

___ information unavailable

7) Sanitary setback:

X < 100 ft* ___ 100–120 ft ___ 120–200 ft ___ > 200 ft
* if less than 100 ft describe the site conditions:

The well house is located on county fairgrounds & we have an easement for the physical size of the well house only. well house is located adjacent to a racetrack & Rodeo stock pens

8) Wellhead construction:

X wellhead enclosed in a wellhouse

___ controlled access (describe): _____

_____

___ other uses for wellhouse (describe): _____

_____

___ no wellhead control

9) Surface seal:

___ 18 ft

___ < 18 ft (no Department of Ecology approval) ('<' *means less than*)

___ < 18 ft (Approved by Ecology, include documentation) ('<' *means less than*)

___ > 18 ft ('>' *means greater than*)

X depth of seal unknown (see attached drawing)

___ no surface seal

10) Annual rainfall (inches per year):

X < 10 in/yr ___ 10–25 in/yr ___ > 25 in/yr

PART IV: Mapping Your Ground Water Resource

1) Annual volume of water pumped: _____(gallons) 154,000,000

How was this determined?

X meter 1993 actual

___ estimated: ___ pumping rate (_____)

___ pump capacity (_____)

____ other: _____

2) "Calculated Fixed Radius" estimate of ground water movement:
(see Instruction Packet)

6 month ground water travel time : 360 (ft)

1 year ground water travel time : 510 (ft)

5 year ground water travel time: 1140 (ft)

10 year ground water travel time: 1610 (ft)

Information available on length of screened/open interval?

X YES __ NO

Length of screened/open interval: 75.' (ft)

3) Is there a river, lake, pond, stream, or other obvious surface water body within the 6 month time of travel boundary? (YES) / NO (mark and identify on map).

4) Is there a stormwater and/or wastewater facility, treatment lagoon, or holding pond located within the 6 month time of travel boundary? YES / (NO) (mark and identify on map).

Comments: _____

_____

_____

_____

_____

PART V: Assessment of Water Quality

1) Regional sources of risk to ground water:

Please indicate if any of the following are present within a circular area around your water source having a radius up to and including the five year ground water travel time:

	6 month	1 year	5 year	unknown
likely pesticide application	X	X		
stormwater injection wells				
other injection wells				
abandoned ground water well				
landfills, dumps, disposal areas				
known hazardous materials clean-up site				
water system(s) with known quality problems				
population density > 1 house/acre			X	
residences commonly have septic tanks				
Wastewater treatment lagoons				
sites used for land application of waste				

Mark and identify on map any of the risks listed above which are located within the 6 month time of travel boundary? (*Please include a map of the wellhead and time of travel areas with this form. Please locate and mark any of the following.*)

If other recorded or potential sources of ground water contamination exist within the ten year time of travel circular zone around your water supply, please describe:

Fairgrounds & adjacent park use herbicide for control of broad leaf weeds

2) Source specific water quality records:

Please indicate the occurrence of any test results since 1986 that meet the following conditions: (Unless listed on assessment, MCLs are listed in assistance package.)

	YES	NO
A. Nitrate: (Nitrate MCL = 10 mg/l)		
Results greater than MCL	___	X
	YES	NO
< 2 mg/liter nitrate	X	___
2-5 mg/liter nitrate	___	X
> 5 mg/liter nitrate	___	X
___ Nitrate sampling records unavailable		
	YES	NO
B. VOCs: (VOC detection level 0.5 ug/l or 0.0005 mg/l.)		
Results greater than MCL or SAL	___	___
VOCs detected at least once	___	___
VOCs never detected	X	___
___ VOC sampling records unavailable		
	YES	NO
C. EDB/DBCP:(EDB MCL = 0.05 ug/l or 0.00005 mg/l. DBCP MCL = 0.2 ug/l or 0.0002 mg/l.)		
EDB/DBCP detected below MCL at least once	___	___
EDB/DBCP detected above MCL at least once	___	___
EDB/DBCP never detected	___	___
___ EDB/DBCP tests required but not yet completed		
X EDB/DBCP tests not required		
	YES	NO
D. Other SOCs (Pesticides):		
Other SOCs detected (pesticides and other synthetic organic chemicals).	___	___
___ Other SOC tests performed but none detected (list test methods in comments		
X Other SOC tests not performed		

If any SOCs in addition to EDB/DBCP were detected, please identify and date. If other SOC tests were performed, but no SOCs detected, list test methods here: _____

_____

_____

_____

E. Bacterial contamination:

	YES	NO
Any bacterial detection(s) in the past 3 years in samples taken from the source (not distribution sampling records).	___	___
Has source (in past 3 years) had a bacteriological contamination problem found in distribution samples that was attributed to the source.	___	___

X Source sampling records for bacteria unavailable

Part VI: Geographic or Hydrologic Factors Contributing to a Non-Circular Zone of Contribution

The following questions will help identify those ground water systems which may not be accurately represented by the calculated fixed radius (CFR) method described in Part IV. For these sources, the CFR areas should be used as a preliminary delineation of the critical time of travel zones for that source. As a system develops its Wellhead Protection Plan for theses sources, a more detailed delineation method should be considered.

1) Is there evidence of obvious hydrologic boundaries within the 10 year time of travel zone of the CFR? (Does the largest circle extend over a stream, river, lake, up a steep hillside, and/or over a mountain or ridge?)

X YES _____ NO

Describe with references to map produced in Part IV:

_____

_____

2) Aquifer Material:

A) Does the drilling log, well log or other geologic/engineering reports identify that the well is located in an area where the underground conditions are identified as fractured rock and/or basalt terrain?

X YES _____ NO

B) Does the drilling log, well log or other geologic/engineering reports indicate that the well is located in an area where the underground conditions are primarily identified as coarse sand and gravel?

_____ YES X NO

3) Is the source located in an aquifer with a high horizontal flow rate? (These can include sources located on flood plains of large rivers, artesian wells with high water pressure, and/or shallow flowing wells and springs.)

_____ YES __X__ NO

4) Are there other high capacity wells (agricultural, municipal and/or industrial) located within the CFRs?

a) Presence of ground water extraction wells removing more than approximately 500 gal/min within...

	YES	NO	unknown
< 6 month travel time	—	X	—
6 month–1 year travel time	—	X	—
1–5 year travel time	—	X	—
5–10 year travel time	—	X	—

b) Presence of ground water recharge wells (dry wells) or heavy irrigation within...

	YES	NO	unknown
< 1 year travel time	—	X	—
1–5 year travel time	—	X	—
5–10 year travel time	—	X	—

Please identify or describe additional hydrologic or geographic conditions that you believe may affect the shape of the zone of contribution for this source. Where possible, reference them to locations on the map produced in Part IV.

Suggestions and Comments

Did you attend one of the susceptibility workshops? (YES) NO

Did you find it useful? (YES) NO

Did you seek outside asistance to complete the assessment? YES (NO)

This form and instruction packet are still in the process of development. Your comments, suggestions and questions will help us upgrade and improve this assessment form. If you found particular sections confusing or problematic please let us know. How could this susceptibility assessment be improved or made clearer? Did the instruction package help you find the information needed to complete the assessment? How much time did it take you to complete the form? Were you able to complete the assessment without additional/outside expertise? Do you feel the assessment was valuable as a learning experience? Any other comments or constructive criticisms you have would be appreciated.

PW-3

Ground Water Contamination
Susceptibility Assessment Survey Form
Version 2.1

IMPORTANT! Please complete one form for each ground water source (well, wellfield, spring) used in your water system. Photocopy as necessary.

PART I: System Information

Well owner/manager : City of Ellensburg

Water system name : Ellensburg Water Dept

County: Kittitas

Water system number: 22950 M Source number: 50-3

Well depth: 82 (ft.) (*From WFI form*)

Source name: Memorial

WA well identification tag number:___ ___ ___-___ ___ ___

X well not tagged

Number of connections: 3385 Population served: 12570

Township: 17N Range: 18E

Section: 1 1/4 1/4 Section: NW/NW

Latitude/longitude (if available): LAT 46°-59'-55" Lon 120°-32'-04"

How was lat./long. determined?

_____ global positioning device _____ survey X topographic map
____other: _____

* Please refer to Assistance Packet for details and explanations of all questions in Parts II through V.

PART II: Well Construction and Source Information

1) Date well originally constructed: 11 / 30 / 31 month/day/year

last reconstruction: 10 / 17 / 86 month/day/year

_____ information unavailable

2) Well driller: _____

_____

_____

X well driller unknown

3) Type of well:

X Drilled: ___ rotary ___ bored X cable (percussion) ___ Dug

___ Other: ___ spring(s) ___ lateral collector (Ranney)

___ driven ___ jetted ___ other: _____

Additional comments: Assumed to be cable (percussion) based on type of well & age

4) Well report available? X YES (attach copy to form) ___ NO

If no well log is available, please attach any other records documenting well construction; e.g. boring logs, "as built" sheets, engineering reports, well reconstruction logs.

5) Average pumping rate: 512 (gallons/min)

Source of information: 1993 pumping records

If not documented, how was pumping rate determined? _____

_____

___ Pumping rate unknown

6) Is this source treated?

If so, what type of treatment:

X disinfection ___ filtration ___ carbon filter ___ air stripper X other floridation

Purpose of treatment (describe materials to be removed or controlled by treatment):

_____

_____

_____

7) If source is chlorinated, is a chlorine residual maintained: YES / NO

Residual level: .08 - .10 *(At the point closest to the source.)*

PART III: Hydrogeologic Information

1) Depth to top of open interval: [check one]

___ < 20 ft ___ 20–50 ft X 50–100 ft ___ 100–200 ft ___ >200 ft

___ information unavailable ('< ' *means less than;* '> ' *means greater than*)

2) Depth to ground water (static water level):

___ < 20 ft X 20–50 ft ___ 50–100 ft ___ > 100 ft

___ flowing well/spring (artesian)

How was water level determined? none

___well log X other: well sounded weekly.

___ depth to ground water unknown

3) If source is a flowing well or spring, what is the confining pressure:

_____ psi (pounds per square inch)
or
_____ feet above wellhead

4) If source is a flowing well or spring, is there a surface impoundment, reservoir, or catchment associated with this source: YES / NO

5) Wellhead elevation (height above mean sea level): _____(ft) 1560

How was elevation determined? X topographic map ___ Drilling/Well Log ___ altimeter

___ other: _____

___ information unavailable

6) Confining layers: (This can be completed only for those sources with a drilling log, well log or geologic report describing subsurface conditions. Please refer to assistance package for example.)

___ evidence of a confining layer in well log

X no evidence of a confining layer in well log

If there is evidence of a confining layer, is the depth to ground water more than 20 feet above the top of the open interval? ___ YES ___ NO

___ information unavailable

7) Sanitary setback:

___ < 100 ft* X 100–120 ft ___ 120–200 ft ___ > 200 ft
* if less than 100 ft describe the site conditions:

8) Wellhead construction:

X wellhead enclosed in a wellhouse

___ controlled access (describe): _____

___ other uses for wellhouse (describe): _____

___ no wellhead control

9) Surface seal:

___ 18 ft

___ < 18 ft (no Department of Ecology approval) ('< ' *means less than*)

___ < 18 ft (Approved by Ecology, include documentation) ('< ' *means less than*)

X > 18 ft ('> ' *means greater than*)

___ depth of seal unknown

___ no surface seal

10) Annual rainfall (inches per year):

X < 10 in/yr ___ 10–25 in/yr ___ > 25 in/yr

PART IV: Mapping Your Ground Water Resource

1) Annual volume of water pumped: _____(gallons) 44, 276, 000

How was this determined?

X meter 1993 pumping records

___ estimated: ___ pumping rate (_____)

___ pump capacity (_____)

____ other: _____

2) "Calculated Fixed Radius" estimate of ground water movement:
(see Instruction Packet)

6 month ground water travel time : 250 (ft)

1 year ground water travel time : 360 (ft)

5 year ground water travel time: 800 (ft)

10 year ground water travel time: 1140 (ft)

Information available on length of screened/open interval?

X YES _ NO

Length of screened/open interval: 75 (ft)

3) Is there a river, lake, pond, stream, or other obvious surface water body within the 6 month time of travel boundary? YES / (NO) (mark and identify on map).

4) Is there a stormwater and/or wastewater facility, treatment lagoon, or holding pond located within the 6 month time of travel boundary? YES / (NO) (mark and identify on map).

Comments: _____

_____

_____

_____

_____

PART V: Assessment of Water Quality

1) Regional sources of risk to ground water:

Please indicate if any of the following are present within a circular area around your water source having a radius up to and including the five year ground water travel time:

	6 month	1 year	5 year	unknown
likely pesticide application	X	X		
stormwater injection wells				
other injection wells				
abandoned ground water well				
landfills, dumps, disposal areas				
known hazardous materials clean-up site				
water system(s) with known quality problems				
population density > 1 house/acre	X	X	X	
residences commonly have septic tanks				
Wastewater treatment lagoons				
sites used for land application of waste				

Mark and identify on map any of the risks listed above which are located within the 6 month time of travel boundary? (*Please include a map of the wellhead and time of travel areas with this form. Please locate and mark any of the following.*)

If other recorded or potential sources of ground water contamination exist within the ten year time of travel circular zone around your water supply, please describe:

well is locaked in a public park which uses 2-4-D for broad leaf weed control

2) Source specific water quality records:

Please indicate the occurrence of any test results since 1986 that meet the following conditions: (Unless listed on assessment, MCLs are listed in assistance package.)

	YES	NO
A. Nitrate: (Nitrate MCL = 10 mg/l)		
Results greater than MCL	___	X
	YES	NO
< 2 mg/liter nitrate	X	___
2-5 mg/liter nitrate	___	X
> 5 mg/liter nitrate	___	X
___ Nitrate sampling records unavailable		
	YES	NO
B. VOCs: (VOC detection level 0.5 ug/l or 0.0005 mg/l.)		
Results greater than MCL or SAL	___	X
VOCs detected at least once	___	X
VOCs never detected	X	___
___ VOC sampling records unavailable		
	YES	NO
C. EDB/DBCP:(EDB MCL = 0.05 ug/l or 0.00005 mg/l. DBCP MCL = 0.2 ug/l or 0.0002 mg/l.)		
EDB/DBCP detected below MCL at least once	___	___
EDB/DBCP detected above MCL at least once	___	___
EDB/DBCP never detected	___	___
___ EDB/DBCP tests required but not yet completed		
X EDB/DBCP tests not required		
	YES	NO
D. Other SOCs (Pesticides):		
Other SOCs detected (pesticides and other synthetic organic chemicals).	___	___
___ Other SOC tests performed but none detected (list test methods in comments		
X Other SOC tests not performed		

If any SOCs in addition to EDB/DBCP were detected, please identify and date. If other SOC tests were performed, but no SOCs detected, list test methods here: _____

_____

_____

_____

E. Bacterial contamination:

	YES	NO
Any bacterial detection(s) in the past 3 years in samples taken from the source (not distribution sampling records).	___	___
Has source (in past 3 years) had a bacteriological contamination problem found in distribution samples that was attributed to the source.	___	___

X Source sampling records for bacteria unavailable

Part VI: Geographic or Hydrologic Factors Contributing to a Non-Circular Zone of Contribution

The following questions will help identify those ground water systems which may not be accurately represented by the calculated fixed radius (CFR) method described in Part IV. For these sources, the CFR areas should be used as a preliminary delineation of the critical time of travel zones for that source. As a system develops its Wellhead Protection Plan for theses sources, a more detailed delineation method should be considered.

1) Is there evidence of obvious hydrologic boundaries within the 10 year time of travel zone of the CFR? (Does the largest circle extend over a stream, river, lake, up a steep hillside, and/or over a mountain or ridge?)

X YES _____ NO

Describe with references to map produced in Part IV:

_____

_____

2) Aquifer Material:

A) Does the drilling log, well log or other geologic/engineering reports identify that the well is located in an area where the underground conditions are identified as fractured rock and/or basalt terrain?

X YES _____ NO

B) Does the drilling log, well log or other geologic/engineering reports indicate that the well is located in an area where the underground conditions are primarily identified as coarse sand and gravel?

_____ YES X NO

3) Is the source located in an aquifer with a high horizontal flow rate? (These can include sources located on flood plains of large rivers, artesian wells with high water pressure, and/or shallow flowing wells and springs.)

_____ YES _X_ NO

4) Are there other high capacity wells (agricultural, municipal and/or industrial) located within the CFRs?

a) Presence of ground water extraction wells removing more than approximately 500 gal/min within...

	YES	NO	unknown
< 6 month travel time	__	X	__
6 month–1 year travel time	__	X	__
1–5 year travel time	__	X	__
5–10 year travel time	__	X	__

b) Presence of ground water recharge wells (dry wells) or heavy irrigation within...

	YES	NO	unknown
< 1 year travel time	__	X	__
1–5 year travel time	__	X	__
5–10 year travel time	__	X	__

Please identify or describe additional hydrologic or geographic conditions that you believe may affect the shape of the zone of contribution for this source. Where possible, reference them to locations on the map produced in Part IV.

Suggestions and Comments

Did you attend one of the susceptibility workshops? (YES) / NO

Did you find it useful? (YES) / NO

Did you seek outside asistance to complete the assessment? YES / (NO)

This form and instruction packet are still in the process of development. Your comments, suggestions and questions will help us upgrade and improve this assessment form. If you found particular sections confusing or problematic please let us know. How could this susceptibility assessment be improved or made clearer? Did the instruction package help you find the information needed to complete the assessment? How much time did it take you to complete the form? Were you able to complete the assessment without additional/outside expertise? Do you feel the assessment was valuable as a learning experience? Any other comments or constructive criticisms you have would be appreciated.

PW-4

Ground Water Contamination
Susceptibility Assessment Survey Form
Version 2.1

IMPORTANT! Please complete one form for each ground water source (well, wellfield, spring) used in your water system. Photocopy as necessary.

PART I: System Information

Well owner/manager : City of Ellensburg

Water system name : Ellensburg Water Dept

County: Kittitas

Water system number: 22950 M Source number: SO-4

Well depth: 485 (ft.) (*From WFI form*)

Source name: Mount Stuart

WA well identification tag number: ___ ___ ___-___ ___ ___

X well not tagged

Number of connections: 3385 Population served: 12570

Township: 18 N Range: 18 E

Section: 35 1/4 1/4 Section: SW/NE

Latitude/longitude (if available): 47°-00'-25" / 120°-33'-31"

How was lat./long. determined?

_____ global positioning device _____ survey X topographic map
____other: _____

* Please refer to Assistance Packet for details and explanations of all questions in Parts II through V.

PART II: Well Construction and Source Information

1) Date well originally constructed: 3 / 2 / 78 month/day/year

last reconstruction: ___ / ___ / ___ month/day/year

_____ information unavailable

2) Well driller: E. E. LUHDORF

MOSES LAKE, WASH

___ well driller unknown

3) Type of well:

X Drilled: X rotary ___ bored ___ cable (percussion) ___ Dug

___ Other: ___ spring(s) ___ lateral collector (Ranney)

___ driven ___ jetted ___ other: _____

Additional comments: Mud Rotary

4) Well report available? ___ YES (attach copy to form) ___ NO

If no well log is available, please attach any other records documenting well construction; e.g. boring logs, "as built" sheets, engineering reports, well reconstruction logs.

5) Average pumping rate: 814 (gallons/min)

Source of information: 1993 pumping records

If not documented, how was pumping rate determined? _____

___ Pumping rate unknown

6) Is this source treated?

If so, what type of treatment:

X disinfection ___ filtration ___ carbon filter ___ air stripper X other floridation

Purpose of treatment (describe materials to be removed or controlled by treatment):

7) If source is chlorinated, is a chlorine residual maintained: YES / NO

Residual level: .08-.1 (*At the point closest to the source.*)

PART III: Hydrogeologic Information

1) Depth to top of open interval: [check one]

___ < 20 ft ___ 20-50 ft ___ 50-100 ft ___ 100-200 ft X > 200 ft

___ information unavailable (*'< ' means less than; '> ' means greater than*)

2) Depth to ground water (static water level):

___ < 20 ft X 20-50 ft ___ 50-100 ft ___ > 100 ft

___ flowing well/spring (artesian)

How was water level determined?

___well log X other: weekly measurement

___ depth to ground water unknown

3) If source is a flowing well or spring, what is the confining pressure:

_____ psi (pounds per square inch)
or
_____ feet above wellhead

4) If source is a flowing well or spring, is there a surface impoundment, reservoir, or catchment associated with this source: YES / NO

5) Wellhead elevation (height above mean sea level): _____(ft) 1570

How was elevation determined? X topographic map ___ Drilling/Well Log ___ altimeter

___ other: _____

___ information unavailable

6) Confining layers: (This can be completed only for those sources with a drilling log, well log or geologic report describing subsurface conditions. Please refer to assistance package for example.)

X evidence of a confining layer in well log

___ no evidence of a confining layer in well log

If there is evidence of a confining layer, is the depth to ground water more than 20 feet above the top of the open interval? X YES ___ NO

___ information unavailable

7) Sanitary setback:

___ < 100 ft* X 100–120 ft ___ 120–200 ft ___ > 200 ft
* if less than 100 ft describe the site conditions:

8) Wellhead construction:

X wellhead enclosed in a wellhouse

___ controlled access (describe): well house locked - no windows

___ other uses for wellhouse (describe): _____

___ no wellhead control

9) Surface seal:

___ 18 ft

___ < 18 ft (no Department of Ecology approval) (*'<' means less than*)

___ < 18 ft (Approved by Ecology, include documentation) (*'<' means less than*)

X > 18 ft (*'>' means greater than*)

___ depth of seal unknown

___ no surface seal

10) Annual rainfall (inches per year):

X < 10 in/yr ___ 10–25 in/yr ___ > 25 in/yr

PART IV: Mapping Your Ground Water Resource

1) Annual volume of water pumped: _____(gallons) 193,000,000

How was this determined?

X meter 1993 actual

___ estimated: ___ pumping rate (_____)

___ pump capacity (_____)

____ other: _____

2) "Calculated Fixed Radius" estimate of ground water movement:
(see Instruction Packet)

6 month ground water travel time : 570 (ft)

1 year ground water travel time : 800 (ft)

5 year ground water travel time: 1800 (ft)

10 year ground water travel time: 2540 (ft)

Information available on length of screened/open interval?

X YES _ NO

Length of screened/open interval: 90' (ft)

3) Is there a river, lake, pond, stream, or other obvious surface water body within the 6 month time of travel boundary? YES (NO) (mark and identify on map).

4) Is there a stormwater and/or wastewater facility, treatment lagoon, or holding pond located within the 6 month time of travel boundary? YES (NO) (mark and identify on map).

Comments: _____

_____

_____

_____

_____

PART V: Assessment of Water Quality

1) Regional sources of risk to ground water:

Please indicate if any of the following are present within a circular area around your water source having a radius up to and including the five year ground water travel time:

	6 month	1 year	5 year	unknown
likely pesticide application	X	X	X	
stormwater injection wells				
other injection wells				
abandoned ground water well				
landfills, dumps, disposal areas				
known hazardous materials clean-up site				
water system(s) with known quality problems				
population density > 1 house/acre	X	X	X	
residences commonly have septic tanks				
Wastewater treatment lagoons				
sites used for land application of waste				

Mark and identify on map any of the risks listed above which are located within the 6 month time of travel boundary? (*Please include a map of the wellhead and time of travel areas with this form. Please locate and mark any of the following.*)

If other recorded or potential sources of ground water contamination exist within the ten year time of travel circular zone around your water supply, please describe:

Site is adjacent to a school playfield, a candidate for weed control

2) Source specific water quality records:

Please indicate the occurrence of any test results since 1986 that meet the following conditions: (Unless listed on assessment, MCLs are listed in assistance package.)

	YES	NO
A. Nitrate: (Nitrate MCL = 10 mg/l)		
Results greater than MCL	___	X
	YES	NO
< 2 mg/liter nitrate	X	___
2-5 mg/liter nitrate	___	X
> 5 mg/liter nitrate	___	X
___ Nitrate sampling records unavailable		
	YES	NO
B. VOCs: (VOC detection level 0.5 ug/l or 0.0005 mg/l.)		
Results greater than MCL or SAL	___	X
VOCs detected at least once	___	X
VOCs never detected	X	___
___ VOC sampling records unavailable		
	YES	NO
C. EDB/DBCP:(EDB MCL = 0.05 ug/l or 0.00005 mg/l. DBCP MCL = 0.2 ug/l or 0.0002 mg/l.)		
EDB/DBCP detected below MCL at least once	___	___
EDB/DBCP detected above MCL at least once	___	___
EDB/DBCP never detected	___	___
___ EDB/DBCP tests required but not yet completed		
X EDB/DBCP tests not required		
	YES	NO
D. Other SOCs (Pesticides):		
Other SOCs detected (pesticides and other synthetic organic chemicals).	___	___
___ Other SOC tests performed but none detected (list test methods in comments		
X Other SOC tests not performed		

If any SOCs in addition to EDB/DBCP were detected, please identify and date. If other SOC tests were performed, but no SOCs detected, list test methods here: _____

_____

_____

_____

E. Bacterial contamination:

	YES	NO
Any bacterial detection(s) in the past 3 years in samples taken from the source (not distribution sampling records).	___	___
Has source (in past 3 years) had a bacteriological contamination problem found in distribution samples that was attributed to the source.	___	___

X Source sampling records for bacteria unavailable

Part VI: Geographic or Hydrologic Factors Contributing to a Non-Circular Zone of Contribution

The following questions will help identify those ground water systems which may not be accurately represented by the calculated fixed radius (CFR) method described in Part IV. For these sources, the CFR areas should be used as a preliminary delineation of the critical time of travel zones for that source. As a system develops its Wellhead Protection Plan for theses sources, a more detailed delineation method should be considered.

1) Is there evidence of obvious hydrologic boundaries within the 10 year time of travel zone of the CFR? (Does the largest circle extend over a stream, river, lake, up a steep hillside, and/or over a mountain or ridge?)

_____ YES X NO

Describe with references to map produced in Part IV:

_____

_____

2) Aquifer Material:

A) Does the drilling log, well log or other geologic/engineering reports identify that the well is located in an area where the underground conditions are identified as fractured rock and/or basalt terrain?

X YES _____ NO

B) Does the drilling log, well log or other geologic/engineering reports indicate that the well is located in an area where the underground conditions are primarily identified as coarse sand and gravel?

_____ YES X NO

3) Is the source located in an aquifer with a high horizontal flow rate? (These can include sources located on flood plains of large rivers, artesian wells with high water pressure, and/or shallow flowing wells and springs.)

____ YES X NO

4) Are there other high capacity wells (agricultural, municipal and/or industrial) located within the CFRs?

a) Presence of ground water extraction wells removing more than approximately 500 gal/min within...

	YES	NO	unknown
< 6 month travel time	—	X	—
6 month–1 year travel time	—	X	—
1–5 year travel time	—	X	—
5–10 year travel time	—	X	—

b) Presence of ground water recharge wells ~~(dry wells)~~ or heavy irrigation within...

	YES	NO	unknown
< 1 year travel time	—	—	—
1–5 year travel time	X	—	—
5–10 year travel time	X	—	—

Please identify or describe additional hydrologic or geographic conditions that you believe may affect the shape of the zone of contribution for this source. Where possible, reference them to locations on the map produced in Part IV.

Most of the agricultural land North & west of site is flood irrigated

Suggestions and Comments

Did you attend one of the susceptibility workshops? (YES) / NO

Did you find it useful? (YES) NO

Did you seek outside asistance to complete the assessment? YES / (NO)

This form and instruction packet are still in the process of development. Your comments, suggestions and questions will help us upgrade and improve this assessment form. If you found particular sections confusing or problematic please let us know. How could this susceptibility assessment be improved or made clearer? Did the instruction package help you find the information needed to complete the assessment? How much time did it take you to complete the form? Were you able to complete the assessment without additional/outside expertise? Do you feel the assessment was valuable as a learning experience? Any other comments or constructive criticisms you have would be appreciated.

PW-5

Ground Water Contamination
Susceptibility Assessment Survey Form
Version 2.1

IMPORTANT! Please complete one form for each ground water source (well, wellfield, spring) used in your water system. Photocopy as necessary.

PART I: System Information

Well owner/manager : City of Ellensburg

Water system name : Ellensburg Water Dept

County: Kittitas

Water system number: 22950 M Source number: 30-5

Well depth: 490 * (ft.) (*From WFI form*) * Depth to top of 1st perf

Source name: Kiwanis Park well

WA well identification tag number: ___ ___ ___-___ ___ ___

X well not tagged

Number of connections: 3385 Population served: 12570

Township: 18 N Range: 18 E

Section: 35 1/4 1/4 Section: NW/SE

Latitude/longitude (if available): LAT 47°-00'-21" / LON 120°-32'-52"

How was lat./long. determined?

_____ global positioning device _____ survey X topographic map
___other: _____

* Please refer to Assistance Packet for details and explanations of all questions in Parts II through V.

PART II: Well Construction and Source Information

1) Date well originally constructed: 10/29/87 month/day/year

last reconstruction: ___/___/___ month/day/year

_____ information unavailable

2) Well driller: BACH Drilling Co
3340 Wilson Creek Rd
Ellensburg Wa 98926

___ well driller unknown

3) Type of well:

X Drilled: ___ rotary ___ bored X cable (percussion) ___ Dug

___ Other: ___ spring(s) ___ lateral collector (Ranney)

___ driven ___ jetted ___ other: _____

Additional comments: _____

_____

4) Well report available? X YES (attach copy to form) ___ NO

If no well log is available, please attach any other records documenting well construction; e.g. boring logs, "as built" sheets, engineering reports, well reconstruction logs.

5) Average pumping rate: 870 gpm (gallons/min)

Source of information: 1993 pumping records

If not documented, how was pumping rate determined? _____

_____

___ Pumping rate unknown

6) Is this source treated? yes

If so, what type of treatment:

X disinfection ___ filtration ___ carbon filter ___ air stripper X other Cfl

Purpose of treatment (describe materials to be removed or controlled by treatment):

_____

_____

_____

7) If source is chlorinated, is a chlorine residual maintained? YES / NO

Residual level: .08-.1 (*At the point closest to the source.*)

PART III: Hydrogeologic Information

1) Depth to top of open interval: [check one]

___ < 20 ft ___ 20-50 ft ___ 50-100 ft ___ 100-200 ft X > 200 ft

___ information unavailable (*'< ' means less than; '> ' means greater than*)

2) Depth to ground water (static water level):

___ < 20 ft X 20-50 ft ___ 50-100 ft ___ > 100 ft

___ flowing well/spring (artesian)

How was water level determined?

___well log X other: well sounded weekly

___ depth to ground water unknown

3) If source is a flowing well or spring, what is the confining pressure:

_____ psi (pounds per square inch)
or
_____ feet above wellhead

4) If source is a flowing well or spring, is there a surface impoundment, reservoir, or catchment associated with this source: YES / NO

5) Wellhead elevation (height above mean sea level): 1570.5 (ft)

How was elevation determined? ___ topographic map ___ Drilling/Well Log ___ altimeter

X other: Construction drawings

___ information unavailable

6) Confining layers: (This can be completed only for those sources with a drilling log, well log or geologic report describing subsurface conditions. Please refer to assistance package for example.)

X evidence of a confining layer in well log

___ no evidence of a confining layer in well log

If there is evidence of a confining layer, is the depth to ground water more than 20 feet above the top of the open interval? X YES ___ NO

___ information unavailable

7) Sanitary setback:

___ < 100 ft* X 100-120 ft ___ 120-200 ft ___ > 200 ft
* if less than 100 ft describe the site conditions:

well & house are in a public park. The adjacent property is condemned but there is a residence within the 100' radius.

8) Wellhead construction:

X wellhead enclosed in a wellhouse

___ controlled access (describe): _____

_____

___ other uses for wellhouse (describe): _____

_____

___ no wellhead control

9) Surface seal:

___ 18 ft

___ < 18 ft (no Department of Ecology approval) ('< ' *means less than*)

___ < 18 ft (Approved by Ecology, include documentation) ('< ' *means less than*)

X > 18 ft ('> ' *means greater than*)

___ depth of seal unknown

___ no surface seal

10) Annual rainfall (inches per year):

X < 10 in/yr ___ 10-25 in/yr ___ > 25 in/yr

PART IV: Mapping Your Ground Water Resource

1) Annual volume of water pumped: _____(gallons) 142,365,000 gallons

How was this determined?

X meter 1993 actual

___ estimated: ___ pumping rate (_____)

___ pump capacity (_____)

____ other: _____

2) "Calculated Fixed Radius" estimate of ground water movement:
(see Instruction Packet)

6 month ground water travel time : 360 (ft)

1 year ground water travel time : 510 (ft)

5 year ground water travel time: 1140 (ft)

10 year ground water travel time: 1610 (ft)

Information available on length of screened/open interval?

X YES _ NO

Length of screened/open interval: 125' (ft)

3) Is there a river, lake, pond, stream, or other obvious surface water body within the 6 month time of travel boundary? (YES) NO (mark and identify on map).

4) Is there a stormwater and/or wastewater facility, treatment lagoon, or holding pond located within the 6 month time of travel boundary? YES (NO) (mark and identify on map).

Comments: _____

PART V: Assessment of Water Quality

1) Regional sources of risk to ground water:.

Please indicate if any of the following are present within a circular area around your water source having a radius up to and including the five year ground water travel time:

	6 month	1 year	5 year	unknown
likely pesticide application	X			
stormwater injection wells				
other injection wells				
abandoned ground water well				
landfills, dumps, disposal areas				
known hazardous materials clean-up site				
water system(s) with known quality problems				
population density > 1 house/acre	X	X	X	
residences commonly have septic tanks				
Wastewater treatment lagoons				
sites used for land application of waste				

Mark and identify on map any of the risks listed above which are located within the 6 month time of travel boundary? (*Please include a map of the wellhead and time of travel areas with this form. Please locate and mark any of the following.*)

If other recorded or potential sources of ground water contamination exist within the ten year time of travel circular zone around your water supply, please describe:

The well is located in a city park where there occurs annual applications of 2-4-D for broadleaf weed control & annual applications of fertilizer.

2) Source specific water quality records:

Please indicate the occurrence of any test results since 1986 that meet the following conditions: (Unless listed on assessment, MCLs are listed in assistance package.)

	YES	NO
A. Nitrate: (Nitrate MCL = 10 mg/l)		
Results greater than MCL	___	X
	YES	NO
< 2 mg/liter nitrate	X	___
2-5 mg/liter nitrate	___	X
> 5 mg/liter nitrate	___	X
___ Nitrate sampling records unavailable		
	YES	NO
B. VOCs: (VOC detection level 0.5 ug/l or 0.0005 mg/l.)		
Results greater than MCL or SAL	___	X
VOCs detected at least once	___	X
VOCs never detected	X	___
___ VOC sampling records unavailable		
	YES	NO
C. EDB/DBCP:(EDB MCL = 0.05 ug/l or 0.00005 mg/l. DBCP MCL = 0.2 ug/l or 0.0002 mg/l.)		
EDB/DBCP detected below MCL at least once	___	___
EDB/DBCP detected above MCL at least once	___	___
EDB/DBCP never detected	___	___
___ EDB/DBCP tests required but not yet completed		
X EDB/DBCP tests not required		
	YES	NO
D. Other SOCs (Pesticides):		
Other SOCs detected (pesticides and other synthetic organic chemicals).	___	___
___ Other SOC tests performed but none detected (list test methods in comments		
X Other SOC tests not performed		

If any SOCs in addition to EDB/DBCP were detected, please identify and date. If other SOC tests were performed, but no SOCs detected, list test methods here: _____

_____

_____

_____

E. Bacterial contamination:

	YES	NO
Any bacterial detection(s) in the past 3 years in samples taken from the source (not distribution sampling records).	___	___
Has source (in past 3 years) had a bacteriological contamination problem found in distribution samples that was attributed to the source.	___	___

X Source sampling records for bacteria unavailable

Part VI: Geographic or Hydrologic Factors Contributing to a Non-Circular Zone of Contribution

The following questions will help identify those ground water systems which may not be accurately represented by the calculated fixed radius (CFR) method described in Part IV. For these sources, the CFR areas should be used as a preliminary delineation of the critical time of travel zones for that source. As a system develops its Wellhead Protection Plan for theses sources, a more detailed delineation method should be considered.

1) Is there evidence of obvious hydrologic boundaries within the 10 year time of travel zone of the CFR? (Does the largest circle extend over a stream, river, lake, up a steep hillside, and/or over a mountain or ridge?)

X YES ___ NO

Describe with references to map produced in Part IV:

All of the CFRs are Bi-Sected by Mercer Creek North/South

2) Aquifer Material:

A) Does the drilling log, well log or other geologic/engineering reports identify that the well is located in an area where the underground conditions are identified as fractured rock and/or basalt terrain?

X YES ___ NO

B) Does the drilling log, well log or other geologic/engineering reports indicate that the well is located in an area where the underground conditions are primarily identified as coarse sand and gravel?

___ YES X NO

3) Is the source located in an aquifer with a high horizontal flow rate? (These can include sources located on flood plains of large rivers, artesian wells with high water pressure, and/or shallow flowing wells and springs.)

_____ YES __X__ NO

4) Are there other high capacity wells (agricultural, municipal and/or industrial) located within the CFRs?

a) Presence of ground water extraction wells removing more than approximately 500 gal/min within...

	YES	NO	unknown
< 6 month travel time	—	X	—
6 month–1 year travel time	—	X	—
1–5 year travel time	—	X	—
5–10 year travel time	—	X	—

b) Presence of ground water recharge wells (dry wells) or heavy irrigation within...

	YES	NO	unknown
< 1 year travel time	—	X	—
1–5 year travel time	—	X	—
5–10 year travel time	—	X	—

Please identify or describe additional hydrologic or geographic conditions that you believe may affect the shape of the zone of contribution for this source. Where possible, reference them to locations on the map produced in Part IV.

Suggestions and Comments

Did you attend one of the susceptibility workshops? (YES) NO

Did you find it useful? (YES) / NO

Did you seek outside asistance to complete the assessment? YES (NO)

This form and instruction packet are still in the process of development. Your comments, suggestions and questions will help us upgrade and improve this assessment form. If you found particular sections confusing or problematic please let us know. How could this susceptibility assessment be improved or made clearer? Did the instruction package help you find the information needed to complete the assessment? How much time did it take you to complete the form? Were you able to complete the assessment without additional/outside expertise? Do you feel the assessment was valuable as a learning experience? Any other comments or constructive criticisms you have would be appreciated.

PW-6

Ground Water Contamination
Susceptibility Assessment Survey Form
Version 2.1

IMPORTANT! Please complete one form for each ground water source (well, wellfield, spring) used in your water system. Photocopy as necessary.

PART I: System Information

Well owner/manager : City of Ellensburg

Water system name : Ellensburg Water Dept

County: Kittitas

Water system number: 22950 M Source number: 30-6

Well depth: 573 (ft.) (*From WFI form*)

Source name: WHITNEY PARK

WA well identification tag number: ___ ___ ___-___ ___ ___

X well not tagged

Number of connections: 3385 Population served: 12570

Township: 18N Range: 18E

Section: 1 1/4 1/4 Section: SW/NE

Latitude/longitude (if available): LAT 46°-59'-32" / LON 120°-31'-35"

How was lat./long. determined?

_____ global positioning device _____ survey X topographic map
___other: _____

* Please refer to Assistance Packet for details and explanations of all questions in Parts II through V.

PART II: Well Construction and Source Information

1) Date well originally constructed: 5 / 6 / 88 month/day/year

last reconstruction: ___ / ___ / ___ month/day/year

_____ information unavailable

2) Well driller: Bach Drilling Co
3340 Wilson Creek Rd
Ellensburg WA 98926

___ well driller unknown

3) Type of well:

X Drilled: ___ rotary ___ bored X cable (percussion) ___ Dug

___ Other: ___ spring(s) ___ lateral collector (Ranney)

___ driven ___ jetted ___ other: _____

Additional comments: _____

_____

4) Well report available? X YES (attach copy to form) ___ NO

If no well log is available, please attach any other records documenting well construction; e.g. boring logs, "as built" sheets, engineering reports, well reconstruction logs.

5) Average pumping rate: 789 GPM (gallons/min)

Source of information: 1993 pumping records

If not documented, how was pumping rate determined? _____

_____

___ Pumping rate unknown

6) Is this source treated?

If so, what type of treatment:

X disinfection ___ filtration ___ carbon filter ___ air stripper X other (floridation)

Purpose of treatment (describe materials to be removed or controlled by treatment):

_____

_____

_____

7) If source is chlorinated, is a chlorine residual maintained: YES / NO

Residual level: .08-.1 (*At the point closest to the source.*)

PART III: Hydrogeologic Information

1) Depth to top of open interval: [check one]

___ < 20 ft ___ 20–50 ft ___ 50–100 ft ___ 100–200 ft X > 200 ft

___ information unavailable (*'< ' means less than; '> ' means greater than*)

2) Depth to ground water (static water level):

___ < 20 ft X 20–50 ft ___ 50–100 ft ___ > 100 ft

___ flowing well/spring (artesian)

How was water level determined?

X well log ___ other: well sounded each week

___ depth to ground water unknown

3) If source is a flowing well or spring, what is the confining pressure:

_____ psi (pounds per square inch)
or
_____ feet above wellhead

4) If source is a flowing well or spring, is there a surface impoundment, reservoir, or catchment associated with this source: YES / NO

5) Wellhead elevation (height above mean sea level): _____(ft) 1550

How was elevation determined? ___ topographic map ___ Drilling/Well Log ___ altimeter

X other: Surveyed.

___ information unavailable

6) Confining layers: (This can be completed only for those sources with a drilling log, well log or geologic report describing subsurface conditions. Please refer to assistance package for example.)

X evidence of a confining layer in well log

___ no evidence of a confining layer in well log

If there is evidence of a confining layer, is the depth to ground water more than 20 feet above the top of the open interval? X YES ___ NO

___ information unavailable

7) Sanitary setback:

___ < 100 ft* X 100–120 ft ___ 120–200 ft ___ > 200 ft
* if less than 100 ft describe the site conditions:

wells located in a public park adjacent to a parking lot

8) Wellhead construction:

X wellhead enclosed in a wellhouse

X controlled access (describe): well house kept locked - No windows

___ other uses for wellhouse (describe): _____

_____

___ no wellhead control

9) Surface seal:

___ 18 ft

___ < 18 ft (no Department of Ecology approval) ('< ' *means less than*)

___ < 18 ft (Approved by Ecology, include documentation) ('< ' *means less than*)

X > 18 ft (20 ft) ('> ' *means greater than*)

___ depth of seal unknown

___ no surface seal

10) Annual rainfall (inches per year):

X < 10 in/yr ___ 10–25 in/yr ___ > 25 in/yr

PART IV: Mapping Your Ground Water Resource

1) Annual volume of water pumped: _____(gallons) 138, 230, 000

How was this determined?

X meter 1993 production

___ estimated: ___ pumping rate (_____)

___ pump capacity (_____)

____ other: _____

2) "Calculated Fixed Radius" estimate of ground water movement:
(see Instruction Packet)

6 month ground water travel time : 360 (ft)

1 year ground water travel time : 510 (ft)

5 year ground water travel time: 1140 (ft)

10 year ground water travel time: 1610 (ft)

Information available on length of screened/open interval?

X YES __ NO

Length of screened/open interval: 184 (ft)

3) Is there a river, lake, pond, stream, or other obvious surface water body within the 6 month time of travel boundary? YES (NO) (mark and identify on map).

4) Is there a stormwater and/or wastewater facility, treatment lagoon, or holding pond located within the 6 month time of travel boundary? YES (NO) (mark and identify on map).

Comments: _____

_____

_____

_____

_____

PART V: Assessment of Water Quality

1) Regional sources of risk to ground water:

Please indicate if any of the following are present within a circular area around your water source having a radius up to and including the five year ground water travel time:

	6 month	1 year	5 year	unknown
likely pesticide application	X	X	X	
stormwater injection wells				
other injection wells				
abandoned ground water well				
landfills, dumps, disposal areas				
known hazardous materials clean-up site				
water system(s) with known quality problems				
population density > 1 house/acre		X	X	
residences commonly have septic tanks				
Wastewater treatment lagoons				
sites used for land application of waste				

Mark and identify on map any of the risks listed above which are located within the 6 month time of travel boundary? (*Please include a map of the wellhead and time of travel areas with this form. Please locate and mark any of the following.*)

If other recorded or potential sources of ground water contamination exist within the ten year time of travel circular zone around your water supply, please describe:

The well is locaked in a park adjacent to a high school & elementary school - park & playground are likely to use 2-4-2 products for weed control

2) Source specific water quality records:

Please indicate the occurrence of any test results since 1986 that meet the following conditions: (Unless listed on assessment, MCLs are listed in assistance package.)

	YES	NO
A. Nitrate: (Nitrate MCL = 10 mg/l)		
Results greater than MCL	___	X
	YES	NO
< 2 mg/liter nitrate	X	___
2-5 mg/liter nitrate	___	X
> 5 mg/liter nitrate	___	X
___ Nitrate sampling records unavailable		
	YES	NO
B. VOCs: (VOC detection level 0.5 ug/l or 0.0005 mg/l.)		
Results greater than MCL or SAL	___	X
VOCs detected at least once	___	X
VOCs never detected	X	___
___ VOC sampling records unavailable		
	YES	NO
C. EDB/DBCP:(EDB MCL = 0.05 ug/l or 0.00005 mg/l. DBCP MCL = 0.2 ug/l or 0.0002 mg/l.)		
EDB/DBCP detected below MCL at least once	___	___
EDB/DBCP detected above MCL at least once	___	___
EDB/DBCP never detected	___	___
___ EDB/DBCP tests required but not yet completed		
X EDB/DBCP tests not required		
	YES	NO
D. Other SOCs (Pesticides):		
Other SOCs detected (pesticides and other synthetic organic chemicals).	___	___
___ Other SOC tests performed but none detected (list test methods in comments		
X Other SOC tests not performed		

If any SOCs in addition to EDB/DBCP were detected, please identify and date. If other SOC tests were performed, but no SOCs detected, list test methods here: _____

_____

_____

_____

E. Bacterial contamination:

	YES	NO
Any bacterial detection(s) in the past 3 years in samples taken from the source (not distribution sampling records).	___	___
Has source (in past 3 years) had a bacteriological contamination problem found in distribution samples that was attributed to the source.	___	___

X Source sampling records for bacteria unavailable

Part VI: Geographic or Hydrologic Factors Contributing to a Non-Circular Zone of Contribution

The following questions will help identify those ground water systems which may not be accurately represented by the calculated fixed radius (CFR) method described in Part IV. For these sources, the CFR areas should be used as a preliminary delineation of the critical time of travel zones for that source. As a system develops its Wellhead Protection Plan for theses sources, a more detailed delineation method should be considered.

1) Is there evidence of obvious hydrologic boundaries within the 10 year time of travel zone of the CFR? (Does the largest circle extend over a stream, river, lake, up a steep hillside, and/or over a mountain or ridge?)

_____ YES _X_ NO

Describe with references to map produced in Part IV:

_____

_____

2) Aquifer Material:

A) Does the drilling log, well log or other geologic/engineering reports identify that the well is located in an area where the underground conditions are identified as fractured rock and/or basalt terrain?

_X_ YES _____ NO

B) Does the drilling log, well log or other geologic/engineering reports indicate that the well is located in an area where the underground conditions are primarily identified as coarse sand and gravel?

_____ YES _X_ NO

3) Is the source located in an aquifer with a high horizontal flow rate? (These can include sources located on flood plains of large rivers, artesian wells with high water pressure, and/or shallow flowing wells and springs.)

_____ YES __X__ NO

4) Are there other high capacity wells (agricultural, municipal and/or industrial) located within the CFRs?

a) Presence of ground water extraction wells removing more than approximately 500 gal/min within...

	YES	NO	unknown
< 6 month travel time	__	X	__
6 month–1 year travel time	__	X	__
1–5 year travel time	__	X	__
5–10 year travel time	__	X	__

b) Presence of ground water recharge wells (dry wells) or heavy irrigation within...

	YES	NO	unknown
< 1 year travel time	__	X	__
1–5 year travel time	__	X	__
5–10 year travel time	__	X	__

Please identify or describe additional hydrologic or geographic conditions that you believe may affect the shape of the zone of contribution for this source. Where possible, reference them to locations on the map produced in Part IV.

Suggestions and Comments

Did you attend one of the susceptibility workshops? (YES) / NO

Did you find it useful? (YES) / NO

Did you seek outside asistance to complete the assessment? YES / (NO)

This form and instruction packet are still in the process of development. Your comments, suggestions and questions will help us upgrade and improve this assessment form. If you found particular sections confusing or problematic please let us know. How could this susceptibility assessment be improved or made clearer? Did the instruction package help you find the information needed to complete the assessment? How much time did it take you to complete the form? Were you able to complete the assessment without additional/outside expertise? Do you feel the assessment was valuable as a learning experience? Any other comments or constructive criticisms you have would be appreciated.

PW-7

Ground Water Contamination
Susceptibility Assessment Survey Form
Version 2.1

IMPORTANT! Please complete one form for each ground water source (well, wellfield, spring) used in your water system. Photocopy as necessary.

PART I: System Information

Well owner/manager : Central Washington University

Water system name : Ellensburg Water Dept (see attached agreement)

County: Kittitas

Water system number: 22950 M Source number: 307

Well depth: 600 (ft.) (*From WFI form*)

Source name: Brooklane well

WA well identification tag number: ___ ___ ___-___ ___ ___

X well not tagged

Number of connections: 3385 Population served: 12570

Township: 18N Range: 18 E

Section: 12 1/4 1/4 Section: SE/SE

Latitude/longitude (if available): Lat 47° 03' 31" / Lon 120° 38' 46"

How was lat./long. determined?

_____ global positioning device _____ survey X topographic map
___other: _____

* Please refer to Assistance Packet for details and explanations of all questions in Parts II through V.

PART II: Well Construction and Source Information

1) Date well originally constructed: 4 / 14 / 72 month/day/year

last reconstruction: ___ / ___ / ___ month/day/year

_____ information unavailable

2) Well driller: Larry Webley
Goldendale Wash

___ well driller unknown

3) Type of well:

X Drilled: ___ rotary ___ bored X cable (percussion) ___ Dug

___ Other: ___ spring(s) ___ lateral collector (Ranney)

___ driven ___ jetted ___ other: _____

Additional comments: _____

4) Well report available? X YES (attach copy to form) ___ NO

If no well log is available, please attach any other records documenting well construction; e.g. boring logs, "as built" sheets, engineering reports, well reconstruction logs.

5) Average pumping rate: 1100 (gallons/min)

Source of information: pump curve

If not documented, how was pumping rate determined? _____

___ Pumping rate unknown

6) Is this source treated?

If so, what type of treatment:

X disinfection ___ filtration ___ carbon filter ___ air stripper ___ other

Purpose of treatment (describe materials to be removed or controlled by treatment):

7) If source is chlorinated, is a chlorine residual maintained: YES / NO

Residual level: 0.08-0.10 (*At the point closest to the source.*)

PART III: Hydrogeologic Information

1) Depth to top of open interval: [check one]

___ < 20 ft ___ 20–50 ft ___ 50–100 ft ___ 100–200 ft X > 200 ft

___ information unavailable ('< ' *means less than;* '> ' *means greater than*)

2) Depth to ground water (static water level):

___ < 20 ft ___ 20–50 ft ___ 50–100 ft X > 100 ft

___ flowing well/spring (artesian)

How was water level determined?

___well log X other: Sounded

___ depth to ground water unknown

3) If source is a flowing well or spring, what is the confining pressure:

_____ psi (pounds per square inch)
or
_____ feet above wellhead

4) If source is a flowing well or spring, is there a surface impoundment, reservoir, or catchment associated with this source: YES / NO

5) Wellhead elevation (height above mean sea level): _____(ft) 1640

How was elevation determined? X topographic map ___ Drilling/Well Log ___ altimeter

___ other: _____

___ information unavailable

6) Confining layers: (This can be completed only for those sources with a drilling log, well log or geologic report describing subsurface conditions. Please refer to assistance package for example.)

X evidence of a confining layer in well log

___ no evidence of a confining layer in well log

If there is evidence of a confining layer, is the depth to ground water more than 20 feet above the top of the open interval? X YES ___ NO

___ information unavailable

7) Sanitary setback:

___ < 100 ft* ☒ 100-120 ft ___ 120-200 ft ___ > 200 ft
* if less than 100 ft describe the site conditions:

_____
_____
_____

8) Wellhead construction:

☒ wellhead enclosed in a wellhouse

___ controlled access (describe): _____

_____

___ other uses for wellhouse (describe): _____

_____

___ no wellhead control

9) Surface seal:

___ 18 ft

___ < 18 ft (no Department of Ecology approval) (*'< ' means less than*)

___ < 18 ft (Approved by Ecology, include documentation) (*'< ' means less than*)

☒ > 18 ft (*'> ' means greater than*)

___ depth of seal unknown

___ no surface seal

10) Annual rainfall (inches per year):

☒ < 10 in/yr ___ 10-25 in/yr ___ > 25 in/yr

PART IV: Mapping Your Ground Water Resource

1) Annual volume of water pumped: _____(gallons) 250,000,000

How was this determined?

___ meter

X estimated: ___ pumping rate (_____)

X pump capacity (1100 gpm for 1160 days

___ other: _____

2) "Calculated Fixed Radius" estimate of ground water movement:
(see Instruction Packet)

6 month ground water travel time : 570 (ft)

1 year ground water travel time : 800 (ft)

5 year ground water travel time: 1800 (ft)

10 year ground water travel time: 2540 (ft)

Information available on length of screened/open interval?

X YES ___ NO

Length of screened/open interval: 290' (ft)

3) Is there a river, lake, pond, stream, or other obvious surface water body within the 6 month time of travel boundary? (YES) NO (mark and identify on map).

4) Is there a stormwater and/or wastewater facility, treatment lagoon, or holding pond located within the 6 month time of travel boundary? YES (NO) (mark and identify on map).

Comments: _____

_____

_____

_____

_____

PART V: Assessment of Water Quality

1) Regional sources of risk to ground water:

Please indicate if any of the following are present within a circular area around your water source having a radius up to and including the five year ground water travel time:

	6 month	1 year	5 year	unknown
likely pesticide application	X	X	X	
stormwater injection wells				
other injection wells				
abandoned ground water well				
landfills, dumps, disposal areas				
known hazardous materials clean-up site				
water system(s) with known quality problems				
population density > 1 house/acre	X	X	X	
residences commonly have septic tanks				
Wastewater treatment lagoons				
sites used for land application of waste				

Mark and identify on map any of the risks listed above which are located within the 6 month time of travel boundary? (*Please include a map of the wellhead and time of travel areas with this form. Please locate and mark any of the following.*)

If other recorded or potential sources of ground water contamination exist within the ten year time of travel circular zone around your water supply, please describe:

well is located on college campus where 2-4-D is used for broadleaf weed control.

2) Source specific water quality records:

Please indicate the occurrence of any test results since 1986 that meet the following conditions: (Unless listed on assessment, MCLs are listed in assistance package.)

	YES	NO
A. Nitrate: (Nitrate MCL = 10 mg/l)		
Results greater than MCL	___	X
	YES	NO
< 2 mg/liter nitrate	X	___
2-5 mg/liter nitrate	___	X
> 5 mg/liter nitrate	___	X
___ Nitrate sampling records unavailable		
	YES	NO
B. VOCs: (VOC detection level 0.5 ug/l or 0.0005 mg/l.)		
Results greater than MCL or SAL	___	___
VOCs detected at least once	___	___
VOCs never detected	X	___
X VOC sampling records unavailable		
	YES	NO
C. EDB/DBCP:(EDB MCL = 0.05 ug/l or 0.00005 mg/l. DBCP MCL = 0.2 ug/l or 0.0002 mg/l.)		
EDB/DBCP detected below MCL at least once	___	___
EDB/DBCP detected above MCL at least once	___	___
EDB/DBCP never detected	___	___
___ EDB/DBCP tests required but not yet completed		
X EDB/DBCP tests not required		
	YES	NO
D. Other SOCs (Pesticides):		
Other SOCs detected (pesticides and other synthetic organic chemicals).	___	___
___ Other SOC tests performed but none detected (list test methods in comments		
X Other SOC tests not performed		

If any SOCs in addition to EDB/DBCP were detected, please identify and date. If other SOC tests were performed, but no SOCs detected, list test methods here: _____

_____

_____

_____

E. Bacterial contamination:

	YES	NO	
Any bacterial detection(s) in the past 3 years in samples taken from the source (not distribution sampling records).	___	X	(*)
Has source (in past 3 years) had a bacteriological contamination problem found in distribution samples that was attributed to the source.	___	___	

X Source sampling records for bacteria unavailable

Part VI: Geographic or Hydrologic Factors Contributing to a Non-Circular Zone of Contribution

The following questions will help identify those ground water systems which may not be accurately represented by the calculated fixed radius (CFR) method described in Part IV. For these sources, the CFR areas should be used as a preliminary delineation of the critical time of travel zones for that source. As a system develops its Wellhead Protection Plan for theses sources, a more detailed delineation method should be considered.

1) Is there evidence of obvious hydrologic boundaries within the 10 year time of travel zone of the CFR? (Does the largest circle extend over a stream, river, lake, up a steep hillside, and/or over a mountain or ridge?)

X YES _____ NO

Describe with references to map produced in Part IV:

_____

_____

2) Aquifer Material:

A) Does the drilling log, well log or other geologic/engineering reports identify that the well is located in an area where the underground conditions are identified as fractured rock and/or basalt terrain?

X YES _____ NO

B) Does the drilling log, well log or other geologic/engineering reports indicate that the well is located in an area where the underground conditions are primarily identified as coarse sand and gravel?

_____ YES X NO

(*) Sample taken in 1993 was first attributed to source water but was later traced to downstream wet well.

3) Is the source located in an aquifer with a high horizontal flow rate? (These can include sources located on flood plains of large rivers, artesian wells with high water pressure, and/or shallow flowing wells and springs.)

____ YES X NO

4) Are there other high capacity wells (agricultural, municipal and/or industrial) located within the CFRs?

a) Presence of ground water extraction wells removing more than approximately 500 gal/min within...

	YES	NO	unknown
< 6 month travel time	—	X	—
6 month–1 year travel time	—	X	—
1–5 year travel time	—	X	—
5–10 year travel time	—	X	—

b) Presence of ground water recharge wells (dry wells) or heavy irrigation within...

	YES	NO	unknown
< 1 year travel time	X	—	—
1–5 year travel time	X	—	—
5–10 year travel time	X	—	—

Please identify or describe additional hydrologic or geographic conditions that you believe may affect the shape of the zone of contribution for this source. Where possible, reference them to locations on the map produced in Part IV.

There are no dry wells, or recharge wells, but the area North of this well is heavily flood irrigated

Suggestions and Comments

Did you attend one of the susceptibility workshops? YES / NO

Did you find it useful? YES NO

Did you seek outside asistance to complete the assessment? YES / NO

This form and instruction packet are still in the process of development. Your comments, suggestions and questions will help us upgrade and improve this assessment form. If you found particular sections confusing or problematic please let us know. How could this susceptibility assessment be improved or made clearer? Did the instruction package help you find the information needed to complete the assessment? How much time did it take you to complete the form? Were you able to complete the assessment without additional/outside expertise? Do you feel the assessment was valuable as a learning experience? Any other comments or constructive criticisms you have would be appreciated.

APPENDIX G

APPENDIX G.
CONTINGENCY PLANS

GENERAL

The City of Ellensburg has developed contingency plans that describe actions to be implemented if water quality monitoring detects a degradation of water quality in a production well, and/or an emergency event occur which results in the City not being able to utilize one or more production wells.

The City of Ellensburg contingency planning addresses the following:

- The impact of the loss of the water systems highest producing well.
- Potential interties to other public water supply systems.
- Current emergency response procedures.
- Potential future water sources.
- Emergency contacts relevant to wellhead protection.

CONTAMINATION IN PRODUCTION WELL CONTINGENCY PLAN

General

The detection of a contaminant in water obtained from one of the City's production wells would require the City to respond in a proactive manner. The method of response will be determined based on the type and concentration of the contaminated that is detected in the well.

The City has adopted preventive action limits (PALs) for regulated volatile and synthetic organic compounds (VOCs and SOCs). The purpose of the PALs is to establish threshold levels that increase water quality awareness, and indicate when actions may be implemented by the City to protect the water supply. The City has adopted PALs equal to 25 percent of the primary maximum contaminant levels (MCLs) for VOCs/SOCs and 50 percent of the primary MCL for inorganics.

Contingency Plan

Figure G-1 is a flow chart that show actions that should be taken if a potential contaminant is detected in one or more of the City's production wells. The production well should be re-sampled immediately if a potential contaminant is detected at a concentration greater than the appropriate PAL. The contingency plan will not be implemented if re-sampling does not detect the contaminant at a concentration greater than the PAL.

A preliminary evaluation of the potential threat to the production wells will be conducted if the PAL is exceeded. The assessment will be made to identify the potential source of the contamination and evaluate what is the overall threat to the City's water system. If the City can not identify the source of the contamination and the concentration is less than the MCL, the City may consider continuing to use the well while additional investigations are being conducted. The City will also notify one or more of the following regulatory agencies if the contaminant is detected at levels greater than the PAL.

- Kittitas County Health Department
- Washington State Department of Health
- Washington State Department of Ecology

If the concentration of the contaminant is greater than the MCL, the City will immediately notify the appropriate regulatory agencies and discontinue using the well. The City will then explore other options such are remediation and/or water treatment.

EMERGENCY RESPONSE CONTINGENCY PLAN

An affective emergency response plan has to be flexible enough to be implemented under a wide range of circumstances. The most common types of emergencies that are relevant to the City's wellhead protection areas are: (1) spills of hazardous material during a traffic and/or rail accident, (2) failure of tanks storing hazardous materials, (3) rupture of a sanitary sewer interceptor line, and (4) fire at a facility that stores or uses hazardous materials. An outline of the City's emergency response procedure is presented in the flow chart shown on Figure G-2.

The City of Ellensburg Fire Departments would assume command at most emergencies that would threaten the City's water supply. Other agencies that may be contacted, as needed, include the City Sewer Department, Washington State Department of Transportation (WSDOT) Emergency Response Team, County Health Department and Ecology. A list of emergency contact names and phone numbers is shown below.

1. Fire Department (911)
2. Water Department (509-962-7133)
3. WSDOT (425-649-7000)
4. Washington State Department of Health (509-456-2466)
5. Kittitas County Department of Health (509-962-7515)
6. Washington State Department of Ecology (509-454-7844)

The City's Water Department Operations Supervisor will fully participate in all emergency situations that threaten the City's water supply. The Operations Supervisors course of action in an emergency situation is outlined in the flowchart presented in Figure G-2.

WATER SUPPLY CONTINGENCY PLAN

General

The City has a comprehensive water supply contingency plan that can be implemented if one or more of the City's highest producing wells is taken out of service due to operational or contamination problems. The City's Emergency Water Supply Contingency Plan (WSCP) is a multi-staged plan designed to be implemented as progressively more serious conditions develop with respect to meeting system demands including domestic supply, equalizing storage, fire storage and irrigation requirements. A summary of the actions for each of the three stages is presented on Table G-1.

The WSCP includes:

- *City of Ellensburg Actions.* Includes information on actions, which can be taken and are controllable by the City.
- *Customer Conservation Actions.* Includes conservation actions that will be requested or required of Water Utility customers in order to meet needed reductions in consumption.
- *Public Information Actions.* A summary of the various means used to inform the public of current water supply situation at each stage and what actions they will be requested to take.
- *Enforcement Actions.* Includes information about what enforcement actions the City will take in stages requiring mandatory water use restrictions.

Unfortunately, there are no water purveyors located close enough to the City to make interties practical.

Stage I - Minor Shortage Potential

Stage I of the WSCP is implemented when the system remains below 85% of the total storage capacity over a 24-hour period. This type of shortage is generally realized during the summer months, the focus of the shortage response would be to reduce outdoor water use.

Following is a description of actions that could be implemented in a Stage I situation.

- *City of Ellensburg Actions.* The City will eliminate all non-essential operating system water uses including hydrant flushing, pipeline flushing, and other uses.
- *Customer Conservation Actions.* In addition to system management conservation actions, the City will ask for voluntary reductions in outdoor water use by all customers. This would be a public appeal to voluntarily limit lawn sprinkling, car washing and other outdoor uses. At this point, all customer actions are voluntary. No surcharges or other economic incentives will be used.
- *Public Information Actions.* The success of implementing the WSCP at Stage I largely depends on the cooperation of the general public in voluntarily reducing their outdoor water consumption. It will be important to acquaint the public with the nature of the water supply problem. In directly addressing the potential emergency situation, however, the public information effort shall be tempered in the event that weather conditions change, and/or the status of the water supply improves. In addition to informing the public of the developing emergency situation, public information efforts at Stage I will attempt to create public attitudes that are receptive to conservation measures and inform water users of the most effective ways to reduce outdoor water use. To accomplish these objectives, public information efforts will utilize the mass media and specially developed materials, as well as the existing conservation program to promote conservation.
- *Enforcement Actions.* The City will not take enforcement actions in Stage I situations.

Stage II - Serious Shortage

Stage II is implemented when total system storage remains below 60% of the total storage capacity over a 24-hour period, system inflows continue to be low and weather forecasts predict a continuing trend of warmer and drier than normal conditions. A Sage II situation would also occur if the City lost 20 percent of their ground water source capacity.

Following is a description of actions that could be implemented in a Stage II situation.

- ***City of Ellensburg Actions.*** The City will eliminate all non-essential operating system water uses including hydrant flushing, pipeline flushing, and other uses.
- ***Customer Conservation Actions.*** Because of the need for substantial reductions in water demand, the City of Ellensburg Water Utility would require outdoor water use restrictions for all customers. Non-commercial irrigation would be limited, and customers would be asked to eliminate all other outdoor uses of water. Commercial/industrial customers would also be asked to reduce water consumption.
- ***Public Information Actions.*** The public information actions under taken in a Stage II situation will be similar to the actions proposed for Stage I situations. With the imposition of outdoor water use restrictions, it will be necessary to adequately inform the public of those restrictions and any related enforcement efforts in order to gain maximum compliance. To improve compliance with the imposed restrictions, public information requires repetition of the conservation message using multiple communication mediums. As public information intensifies, all projects of existing conservation program would focus primarily on the shortage and direct more time to special public information efforts.
- ***Enforcement Actions.*** The City is currently investigating enforcement methods used elsewhere. Realistically, however, enforcement of the water use restrictions will likely employ peer group pressure and observations by the City's Water Utility field employees during their regular work schedule. Penalty for Violation is addressed in the Ellensburg City Code Chapter 9.13.20.

Stage III - Critical Emergency

Stage III is implemented when customer demands and system pressure requirements cannot be met and major reductions in water use are required. The Stage III emergency situation would be equal to a 50 percent loss of water source capacity. It is extremely unlikely that a shortage would ever become this severe. Nonetheless, it is necessary to plan for such an event.

Following is a description of actions that could be implemented in a Stage II situation.

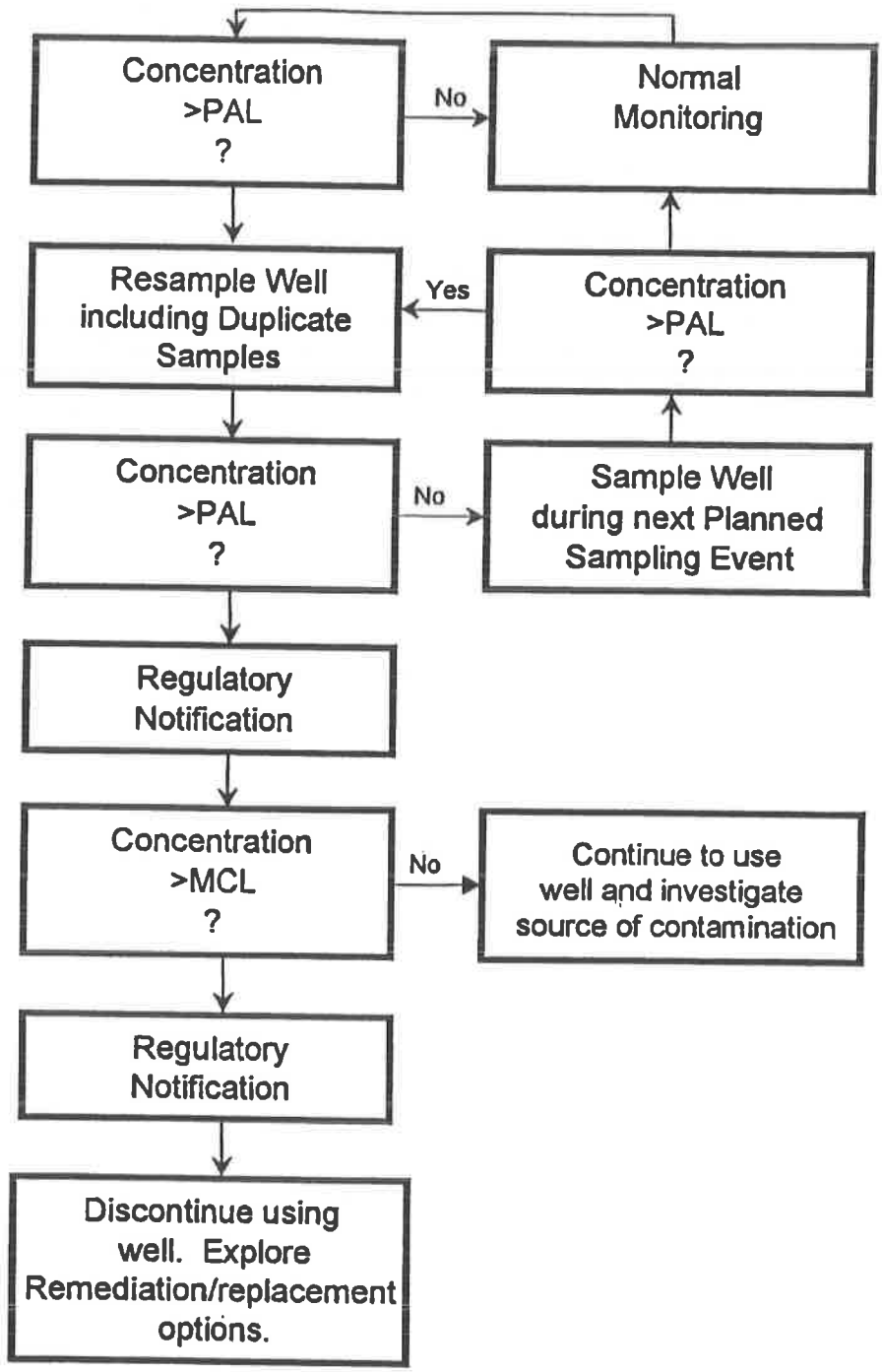
- ***City of Ellensburg Actions.*** Water system management actions would be the same as in Stage I. In addition, system pressure may be reduced due to a lower availability of water in the storage reservoir. Local fire department would be advised of any changes in system pressure that could impact fire flows.
- ***Customer Conservation Actions.*** Stage III would require water rationing. When rationing is put into effect, user categories would be established and maximum water allocations would be set for each category. Commercial/Industrial customers would be asked to curtail

use except for essential services. Customers would be required to reduce water use to the minimum amount possible. The goal for water rationing would be a 40% reduction in overall water use.

- ***Public Information Actions.*** If the shortage condition warrants implementation of Stage III of the WSCP, people would have to be totally and constantly aware of conserving water. Public information would play a key role at this point in maintaining people's incentive to reduce water consumption. The seriousness of the situation should be reflected in all public information efforts. Once rationing is in place, public information would be used to inform customers of enforcement measures and effective means of reducing water consumption while still maintaining personal health and safety.
- ***Enforcement Actions.*** The City is currently investigating enforcement methods used elsewhere. Realistically, however, enforcement of the water use restrictions will likely employ peer group pressure and observations by the City's Water Utility field employees during their regular work schedule. Penalty for Violation is addressed in the Ellensburg City Code Chapter 9.13.20.

TABLE G-1. WATER SUPPLY CONTINGENCY PLAN

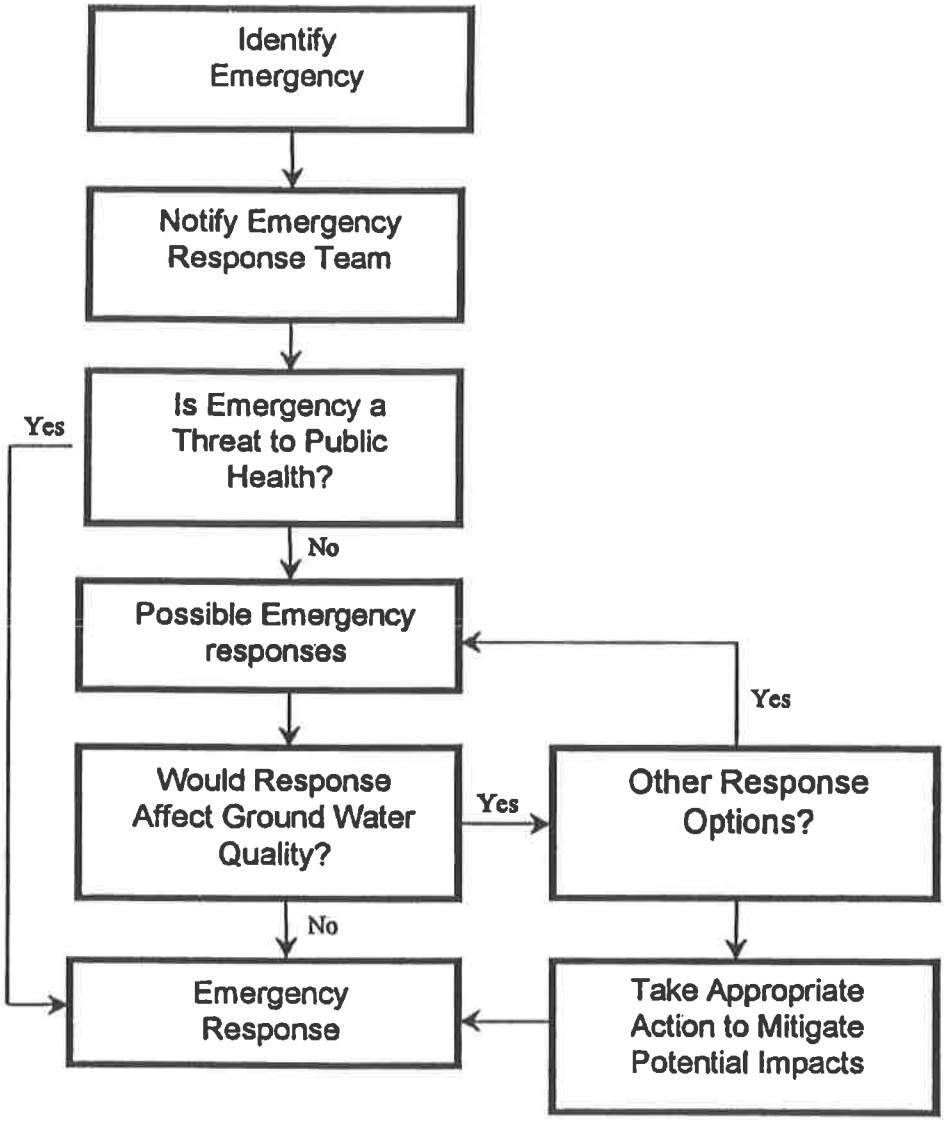
Action Stage	I	II	III
STORAGE	Total Storage Less Than: 85%	60%	35%
EQUIPMENT	MINOR LOSS OF CAPACITY	LOSS OF 20% WELL CAPACITY	LOSS OF 50% WELL CAPACITY
DEMAND REDUCTION ACTIONS	Voluntary conservation. Initiate public awareness through media. Suggest watering lawns every 3rd day. Car wash from bucket with shutoff.	Eliminate non-essential outdoor use. *Mandatory*: Impose mandatory outside water use restrictions sufficient to meet system conditions.	Eliminate outdoor use. No lawn watering. No car washing. Curtail commercial/industrial use except for essential services. Advise wholesale customers to impose restrictions.
CITY OF ELLENSBURG ACTIONS:	General media notice regarding conservation. Bi-weekly watering letter.	Reduce system use. Main flushing, sewer cleaning, and hydrant flushing.	Continue with reduced system use.



Geo Engineers

CONTAMINATION IN PRODUCTION WELL FLOW CHART

FIGURE G-1



GeoEngineers

EMERGENCY RESPONSE FLOW CHART

FIGURE G-2

AIRPORT WELL ANALYSIS

AIRPORT WELL WELLHEAD ANALYSIS

Analysis

Presented here is an amendment to the City's Wellhead Protection Plan completed by GeoEngineers, Inc. in 1999. The City of Ellensburg has added an additional source near the airport to the north of Town. The discussion in this document is restricted to the Airport Well.

The well log indicates a 12-inch casing to a depth of 290 feet, a 10-inch well from 290 to 580 feet, and an 8-inch casing from 580 feet to the final depth of 730 feet. The 8-inch casing is perforated from a depth of 580 feet to a depth of 660 feet. Based upon the hydraulic nomenclature from the GeoEngineers report, the Airport Well is completed in Unit C. At time of completion, the well was pumped at 750 gallons per minute with an observed drawdown of 10 feet.

The wellhead protection area was estimated using the hydrogeological model TWODAN, a two dimensional analytical model. The model was used in a steady state mode and a single uniform aquifer with no vertical leakage parameters. The hydrogeoloic model was calibrated to observed conditions using two general conditions. The first condition was to match the groundwater contours (slope) presented in the GeoEnginners 1999 report (Figure 5). The second condition was to match the 10 feet of drawdown observed during the pump testing of the well at the time of drilling. The modeled drawdown was approximately 12 feet. However, since the model is steady state, (i.e. assumes constant pumping of 750 gallons per minute, the duration of the pump test unknown) additional drawdown greater than that observed is not unexpected. |

Table 1 presents the parameters utilized in the current model and for comparative purposes the parameters used by GeoEngineers.

Table 1
Hydrogeological Model Parameters

	Model	GeoEngineers
Permeability (ft/day)	80	53
Aquifer Thickness (ft)	80	60
Transmissivity (ft^2/day)	6400	3180
Effective porosity	0.2	0.25
Gradient	0.003	0.003
Groundwater velocity (ft/day)	1.2	0.66
Drawdown	12	10

The resulting 1-year, 5-year, and 10-year wellhead protection zones for the Airport Well are shown on the enclosed figure.

Possible Contamination Sites

In order to asses what if any possible site for contamination exist within the wellhead protection area, various list and publications were consulted to determine what risk lies within the wellhead protection area of the Airport Well. The majority of the wellhead protection area for the Airport Well falls within the Bowers Field Airport.

The State of Washington keeps a comprehensive list of underground storage tanks (UST), leaking underground storage tanks (LUST), and confirmed and suspected contaminated site lists (CSCSL). These lists were last updated in February 2007. Table 2 presents the sites that were located on these lists and which publication they came form.

Table 2
Possible Sites of Contamination

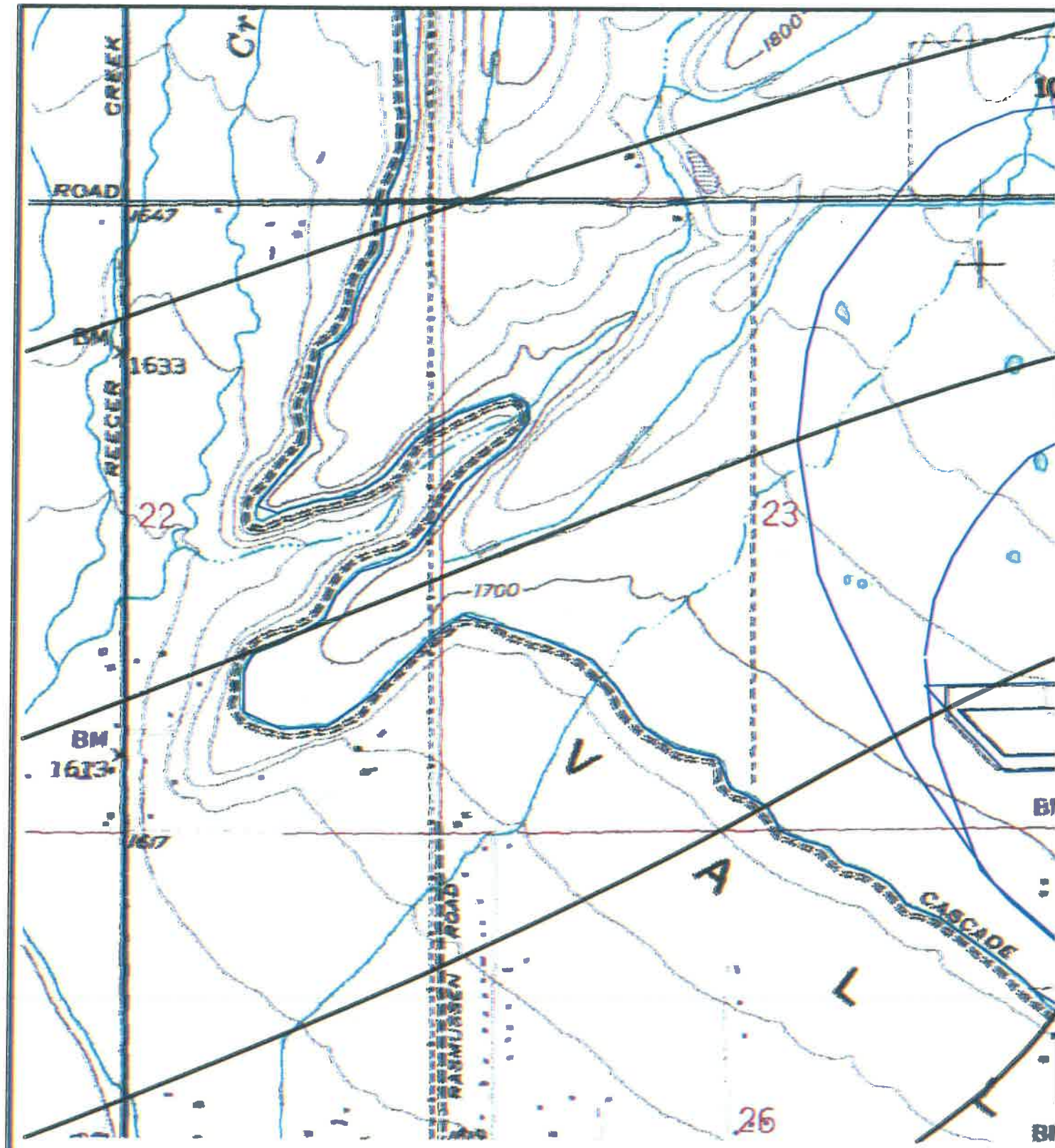
Name	Location	Classification	Zone of Contribution
Washington DNR	713 E Bowers Rd	LUST	1-Year
Midstate Aviation	1101 E Bowers Rd	UST	1-Year

There were 5 tanks associated with the Washington DNR site. These are in various stages of cleanup for groundwater and soil remediation. There were 2 tanks associated with Midstate Aviation. The list indicates that these underground storage tanks have been removed.

Conclusion

The Bowers Field Airport is a possible point of contamination for the Airport Well. However, the depth of the Airport Well mitigates the amount of time in which a possible contaminant could reach the layer that the aquifer is drawn from. The Airport Well is located with Unit C aquifer based on the GeoEngineers 1999 report. Unit A separates Unit C from the surface and a relatively low permeability silt/clay units between Units A and C will significantly inhibit the downward migration of a potential contaminant plume.

As a precautionary measure, the City will notify the Bowers Field Airport and the businesses associated with it that they reside within the potential zones of contribution for the Airport Well. The City has a contingency plan in place which can also be found in the GeoEngineers 1999 report.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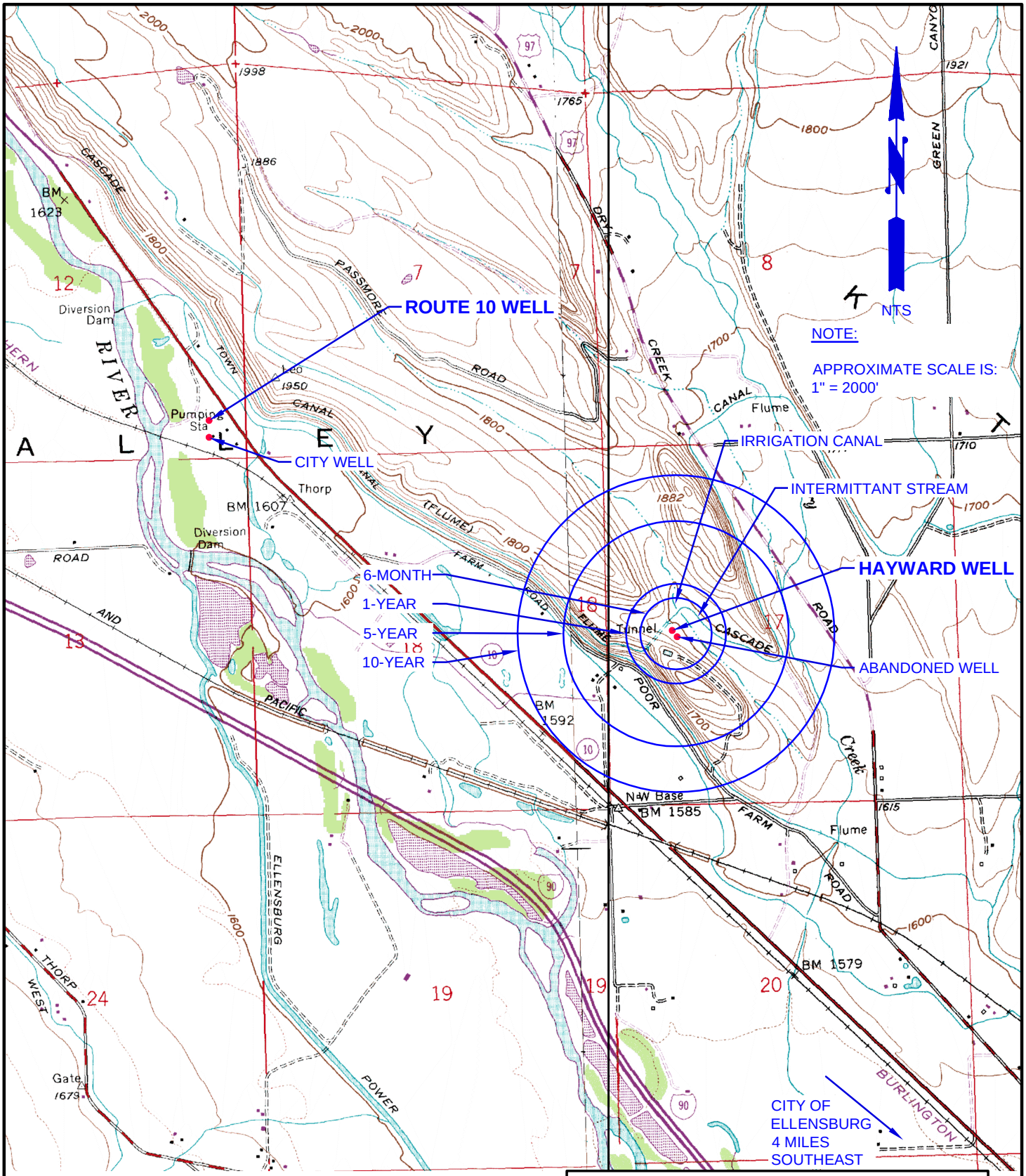
HAYWARD SUSCEPTIBILITY ASSESSMENT AND WHPA DELINEATION



CITY OF ELLENSBURG

HAYWARD WELL
SOURCE APPROVAL
CFR MAP

Gray & Osborne, Inc.
CONSULTING ENGINEERS

L:\ELLENSBURG\11046-WELL SOURCE APPROVAL\FIGURES\HYWRD CFR MAP

Ground Water Contamination
Susceptibility Assessment Survey Form
Version 2.2

IMPORTANT! Please complete one form for each ground water source (well, wellfield, spring) used in your water system.
Photocopy as necessary.

PART I: System Information

Well owner/manager: City of Ellensburg/John Akers

Water system name: Ellensburg Water Dept.

County: Kittitas

Water system number: 22950 Source number: S10

Well depth: 1028 feet (From WFI form)

Source name: Hayward Well

WA well identification tag number: A A S - 2 5 2

❑ Well not tagged

Number of connections: 9201 Population served: 18250

Township: 18N Range: 18E

Section: 17 ¼ ¼ Section: NWSW

Latitude/longitude (if available): /

How was latitude/longitude determined?

Global positioning device survey topographical map
other:

*****Please refer to Assistance Packet for details and explanations of all questions in Parts II through V.

PART II: Well Construction and Source Information

1) Date well originally constructed: 6 / 5 / 09 month/day/year

last reconstruction: ___/___/___month/day/year

❑ Information unavailable

2) Well driller: Steve Schneider/Schneider Equipment, Inc.

21881 River Road NE

St. Paul, OR, 97137

☐ Well driller unknown

3) Type of well:

_X_ Drilled: ☑ rotary ☐ bored ☐ cable (percussion) ☐ Dug

___ other: ☐ spring(s) ☐ lateral collector (Ranney)

☐ driven ☐ jetted ☐ other:

4) Well report available ☑ Yes (attach copy to form) ☐ No

5) Average pumping rate: 1800 (gallons/min)

Source of information Water Well Report

If not documented, how was pumping rate determined?

☐ Pumping rate unknown

6) Is this source treated?

If so, what type of treatment:

☑ disinfection ☐ filtration ☐ carbon filter ☐ air stripper ☐ other

Purpose of treatment (describe materials to be removed or controlled by treatment):

To provide chlorine and fluoride residual

7) If source is chlorinated, is a chlorine residual maintained: ☑ Yes ☐ No

Residual level: 1 mg/L (At the point closest to the source.)

PART III: Hydrogeologic Information

1) Depth to top of open interval: [check one]

❑ <20 ft ❑ 20-50ft ❑ 50-100ft ❑ 100-200ft ☑ >200ft

❑ information unavailable

2) Depth to ground water (static water level):

❑ <20ft ❑ 20-50ft ❑ 50-100ft ☑ >100ft

❑ flowing well/spring (artesian)

How was water level determined?

☑ well log ❑ other _____

❑ depth to ground water unknown

3) If source is a flowing well or spring, what is the confining pressure:

_____ psi (pounds per square inch) **or**

_____feet above wellhead

4) If source is a flowing well or spring, is there a surface impoundment, reservoir, or catchment associated with this source: ❑ Yes ❑ No

5) Wellhead elevation (height above mean sea level): 1780 feet

How was elevation determined? ❑ topographic map ❑ Drilling/Well Log ❑ altimeter

☑ other: Google Earth with topographic map check

❑ information unavailable

6) Confining layers: (This can be completed only for those sources with a drilling log, well log or geologic report describing subsurface conditions. Please refer to assistance package for example.)

_____X_____ evidence of a confining layer in well log

_____ no evidence of a confining layer in well log

If there is evidence of a confining layer, is the depth to ground water more than 20 feet above the **bottom** of the **lowest confining layer**? ☑ Yes ❑ No

❑ information unavailable

7) Sanitary setback:

❑ < 100ft* ☑ 100-120ft ❑ 120-200 ft ❑ >200ft

* If less than 100ft, describe the site conditions:

_____

_____

_____

_____

8) Wellhead construction:

☑ wellhead enclosed in a wellhouse

❑ controlled access (describe): _____

_____

❑ other uses for wellhouse (describe): _____

_____

❑ no wellhead control

9) Surface seal:

☑ 18 ft *Note: surface seal is greater than 18 feet.*

❑ <18 ft (no Department of Ecology approval)

❑ <18 ft (Approved by Ecology, include documentation)

❑ depth of seal unknown

❑ no surface seal

10) Annual rainfall (inches per year):

☑ <10 in/yr ❑ 10-25 in/yr ❑ >25 in/yr

PART IV: Mapping Your Ground Water Resource

1) Annual volume of water pumped: 473,040,000 (gallons)

How was this determined?

☐ meter

☑ estimated: ☐ pumping rate (_____)

☑ pump capacity (1200 gpm running 75% of the time)

☐ other: _____

2) "Calculated Fixed Radius" estimate of ground water movement:
(see Instruction Packet)

6-month ground water travel time: 530 feet

1-year ground water travel time: 740 feet

5-year ground water travel time: 1670 feet

10-year ground water travel time: 2350 feet

Information available on length of screened/open interval?

☑ Yes ☐ No

Length of screened/open interval: 165 feet

3) Is there a river, lake, pond, stream, or other obvious surface water body within the 6-month time of travel boundary?

☑ Yes ☐ No (mark and identify on map)

4) Is there a stormwater and/or wastewater facility, treatment lagoon, or holding pond located within the 6-month time of travel boundary?

☐ Yes ☑ No (mark and identify on map)

Comments: _____

PART V: Assessment of Water Quality

1) Regional sources of risk to ground water:

Please indicate if any of the following are present within a circular area around your water source having a radius up to and including the five-year ground water travel time:

	6 month	1 year	5 year	unknown
• likely pesticide application				X
• stormwater injection wells	No	No	No	
• other injection wells				X
• abandoned ground water well	Yes*	Yes*	Yes*	
• landfills, dumps, disposal areas	No	No	No	
• known hazardous materials clean-up site	No	No	No	
• water system(s) with known quality problems	No	No	No	
• population density >1 house/acre	No	No	No	
• residences commonly have septic tanks	No	No	Yes	
• Wastewater treatment lagoons	No	No	No	
• sites used for land application of waste	No	No	No	

***Decommissioned in accordance with WAC 173-160.*

Mark and identify on map any of the risks listed above which are located within the 6-month time of travel boundary. (Please include a map of the wellhead and time of travel areas with this form. Please locate and mark any of the following.)

If other recorded or potential sources of ground water contamination exist within the ten-year time of travel circular zone around your water supply, please describe:

_____

_____

_____

_____

_____

2) Source-specific water quality records:

(Unless listed on assessment, MCLs are listed in assistance package.)

A. **Nitrate:** (Nitrate MCL = 10 mg/l)	YES
Results greater than MCL	
<2 mg/liter nitrate	X
2-5 mg/liter nitrate	
<5 mg/liter nitrate	
Nitrate sampling records unavailable	

B. **VOCs:** (VOC detection level 0.5 ug/l or 0.0005 mg/l)	YES
Results greater than MCL or SAL	
VOCs detected at least once	
VOCs never detected	X
VOC sampling records unavailable	

C. **EDB/DBCP:**	YES
(EDB MCL = 0.05 ug/l or 0.00005 mg/l. DBCP MCL = 0.2 ug/l or 0.0002 mg/l.)	
EDB/DBCP detected below MCL at least once	
EDB/DBCP detected above MCL at least once	
EDB/DBCP never detected	X
EDB/DBCP tests required but not yet completed	
EDB/DBCP tests not required	

D. **Other SOCs (Pesticides):**	YES
Other SOCs detected	
(pesticides and other synthetic organic chemicals)	
Other SOC tests performed but none detected	
(list test methods in comments)	X
Other SOC tests not performed	

If any SOCs in addition to EDB/DBCP were detected, please identify and date. If other SOC tests were performed, but no SOCs detected, list test methods here:

EPA Methods 508.1, 515.4, 525.2, 531.2

E. **Bacterial contamination:**	YES
Any bacterial detection(s) in the past 3 years in samples taken from the source (not distribution sampling records)?	NO

Has source (in past 3 years) had a bacteriological contamination problem found in distribution samples that was attributed to the source? NO

Source sampling records for bacteria unavailable _____

PART VI: Geographic or Hydrologic Factors Contributing to a Non-Circular Zone of Contribution

The following questions will help identify those ground water systems which may not be accurately represented by the calculated fixed radius (CFR) method described in Part IV. For these sources, the CFR areas should be used as a preliminary delineation of the critical time of travel zones for that source. As a system develops its Wellhead Protection Plan for these sources, a more detailed delineation method should be considered.

1) Is there evidence of obvious hydrologic boundaries within the 10-year time of travel zone of the CFR? (Does the largest circle extend over a stream, river, lake, up a steep hillside, and/or over a mountain or ridge?)

☑ Yes ❑ No

Describe with references to map produced in Part IV:
Well is located near a ridgeline with steep slopes.

2) Aquifer Material:

A) Does the drilling log, well log or other geologic/engineering reports identify that the well is located in an area where the underground conditions are identified as fractured rock and/or basalt terrain?
❑ Yes ☑ No

B) Does the drilling log, well log or other geologic/engineering reports indicate that the well is located in an area where the underground conditions are primarily identified as coarse sand and gravel?
☑ Yes ❑ No

3) Is the source located in an aquifer with a high horizontal flow rate? (These can include sources located on flood plains of large rivers, artesian wells with high water pressure, and/or shallow flowing wells and springs.)
❑ Yes ☑ No

4) Are there other high capacity wells (agricultural, municipal and/or industrial) located within the CFRs?

a) Presence of ground water extraction wells removing more than approximately 500 gal/min within…

	YES	NO	unknown
<6-month travel time		X	
6 month—1 year travel time		X	
1—5 year travel time		X	
5—10 year travel time		X	

b) Presence of ground water recharge wells (dry wells) or heavy irrigation within…

	YES	NO	unknown
<1-year travel time		X	
1—5 year travel time		X	
5—10 year travel time		X	

Please identify or describe additional hydrologic or geographic conditions that you believe may affect the shape of the zone of contribution for this source. Where possible, reference them to locations on the map produced in Part IV.

Suggestions and Comments

Did you attend one of the susceptibility workshops? ❑ Yes ☑ No

Did you find it useful? ❑ Yes ❑ No

Did you seek outside assistance to complete the assessment? ❑ Yes ☑ No

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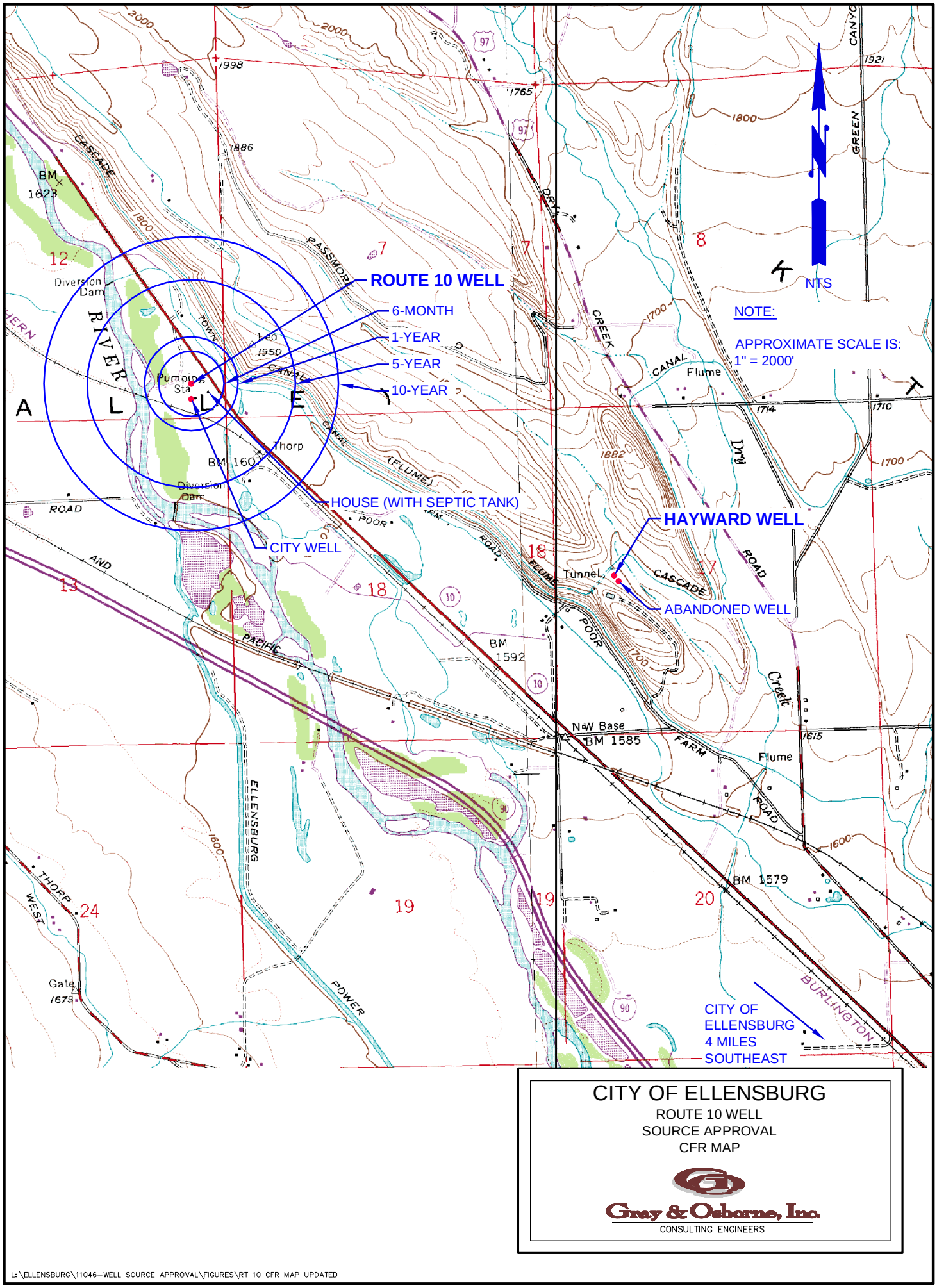
This form and instruction packet is still in the process of development. Your comments, suggestions and questions will help us upgrade and improve this assessment form. If you found particular sections confusing or problematic, please let us know. How could this susceptibility assessment be improved or made clearer? Did the instruction package help you find the information needed to complete the assessment? How much time did it take you to complete the form? Were you able to complete the assessment without additional/outside expertise? Do you feel the assessment was valuable as a learning experience? Any other comments or constructive criticisms you have would be appreciated.

ROUTE 10 SUSCEPTIBILITY ASSESSMENT AND WHPA DELINEATION



CITY OF ELLENSBURG

ROUTE 10 WELL
SOURCE APPROVAL
CFR MAP

Gray & Osborne, Inc.
CONSULTING ENGINEERS

L:\ELLENSBURG\11046-WELL SOURCE APPROVAL\FIGURES\RT 10 CFR MAP UPDATED

Ground Water Contamination
Susceptibility Assessment Survey Form
Version 2.2

IMPORTANT! Please complete one form for each ground water source (well, wellfield, spring) used in your water system.
Photocopy as necessary.

PART I: System Information

Well owner/manager: City of Ellensburg/John Akers

Water system name: Ellensburg Water Dept.

County: Kittitas

Water system number: 22950 Source number: S09

Well depth: 818 feet (From WFI form)

Source name: Route 10 Well

WA well identification tag number: A A S - 1 5 2

❑ Well not tagged

Number of connections: 9201 Population served: 18250

Township: 18N Range: 17E

Section: 12 ¼ ¼ Section: SESE

Latitude/longitude (if available): /

How was latitude/longitude determined?

Global positioning device survey topographical map
other:

*****Please refer to Assistance Packet for details and explanations of all questions in Parts II through V.

PART II: Well Construction and Source Information

1) Date well originally constructed: 9 / 24 / 09 month/day/year

last reconstruction: / / month/day/year

❑ Information unavailable

2) Well driller: Steve Schneider/Schneider Equipment, Inc.

21881 River Road NE

St. Paul, OR, 97137

☐ Well driller unknown

3) Type of well:

_X_ Drilled: ☑ rotary ☐ bored ☑ cable (percussion) ☐ Dug

___ other: ☐ spring(s) ☐ lateral collector (Ranney)

☐ driven ☐ jetted ☐ other: _____

4) Well report available ☑ Yes (attach copy to form) ☐ No

5) Average pumping rate: 1190 (gallons/min)

Source of information Water Well Report

If not documented, how was pumping rate determined? _____

☐ Pumping rate unknown

6) Is this source treated?

If so, what type of treatment:

☑ disinfection ☐ filtration ☐ carbon filter ☐ air stripper ☐ other

Purpose of treatment (describe materials to be removed or controlled by treatment):

To provide chlorine and fluoride residual

7) If source is chlorinated, is a chlorine residual maintained: ☑ Yes ☐ No

Residual level: 1 mg/L (At the point closest to the source.)

PART III: Hydrogeologic Information

1) Depth to top of open interval: [check one]

❑ <20 ft ❑ 20-50ft ❑ 50-100ft ❑ 100-200ft ☑ >200ft

❑ information unavailable

2) Depth to ground water (static water level):

❑ <20ft ❑ 20-50ft ❑ 50-100ft ❑ >100ft

☑ flowing well/spring (artesian)

How was water level determined?

☑ well log ❑ other _____

❑ depth to ground water unknown

3) If source is a flowing well or spring, what is the confining pressure:

4 psi (pounds per square inch) **or**

_____feet above wellhead

4) If source is a flowing well or spring, is there a surface impoundment, reservoir, or catchment associated with this source: ❑ Yes ☑ No

5) Wellhead elevation (height above mean sea level): 1640 feet

How was elevation determined? ❑ topographic map ❑ Drilling/Well Log ❑ altimeter

☑ other: Google Earth with topographic map check

❑ information unavailable

6) Confining layers: (This can be completed only for those sources with a drilling log, well log or geologic report describing subsurface conditions. Please refer to assistance package for example.)

X evidence of a confining layer in well log

_____ no evidence of a confining layer in well log

If there is evidence of a confining layer, is the depth to ground water more than 20 feet above the **bottom** of the **lowest confining layer**? ☑ Yes ❑ No

❑ information unavailable

7) Sanitary setback:

❑ < 100ft* ☑ 100-120ft ❑ 120-200 ft ❑ >200ft

* If less than 100ft, describe the site conditions:

_____

_____

_____

_____

8) Wellhead construction:

☑ wellhead enclosed in a wellhouse

❑ controlled access (describe): _____

_____

❑ other uses for wellhouse (describe): _____

_____

❑ no wellhead control

9) Surface seal:

☑ 18 ft *Note: surface seal is greater than 18 feet.*

❑ <18 ft (no Department of Ecology approval)

❑ <18 ft (Approved by Ecology, include documentation)

❑ depth of seal unknown

❑ no surface seal

10) Annual rainfall (inches per year):

☑ <10 in/yr ❑ 10-25 in/yr ❑ >25 in/yr

PART IV: Mapping Your Ground Water Resource

1) Annual volume of water pumped: 473,040,000 (gallons)

How was this determined?

❑ meter

☑ estimated: ❑ pumping rate (_____)

☑ pump capacity (1200 gpm running 75% of the time)

❑ other: _____

2) "Calculated Fixed Radius" estimate of ground water movement:
(see Instruction Packet)

6-month ground water travel time: 530 feet

1-year ground water travel time: 760 feet

5-year ground water travel time: 1690 feet

10-year ground water travel time: 2390 feet

Information available on length of screened/open interval?

☑ Yes ❑ No

Length of screened/open interval: 160 feet

3) Is there a river, lake, pond, stream, or other obvious surface water body within the 6-month time of travel boundary?

❑ Yes ☑No (mark and identify on map) *Note: Irrigation canal and Yakima River are within the 1-year time of travel*

4) Is there a stormwater and/or wastewater facility, treatment lagoon, or holding pond located within the 6-month time of travel boundary?

❑ Yes ☑No (mark and identify on map)

Comments: _____

PART V: Assessment of Water Quality

1) Regional sources of risk to ground water:

Please indicate if any of the following are present within a circular area around your water source having a radius up to and including the five-year ground water travel time:

	6 month	1 year	5 year	unknown
• likely pesticide application				X
• stormwater injection wells	No	No	No	
• other injection wells				X
• abandoned ground water well	No	No	No	
• landfills, dumps, disposal areas	No	No	No	
• known hazardous materials clean-up site	No	No	No	
• water system(s) with known quality problems	No	No	No	
• population density >1 house/acre	No	No	No	
• residences commonly have septic tanks	Yes	Yes	Yes	
• Wastewater treatment lagoons	No	No	No	
• sites used for land application of waste	No	No	No	

Mark and identify on map any of the risks listed above which are located within the 6-month time of travel boundary. (Please include a map of the wellhead and time of travel areas with this form. Please locate and mark any of the following.)

If other recorded or potential sources of ground water contamination exist within the ten-year time of travel circular zone around your water supply, please describe:

2) Source-specific water quality records:

(Unless listed on assessment, MCLs are listed in assistance package.)

A. **Nitrate:** (Nitrate MCL = 10 mg/l)	YES
Results greater than MCL	
<2 mg/liter nitrate	X
2-5 mg/liter nitrate	
<5 mg/liter nitrate	
Nitrate sampling records unavailable	

B. **VOCs:** (VOC detection level 0.5 ug/l or 0.0005 mg/l)	YES
Results greater than MCL or SAL	
VOCs detected at least once	
VOCs never detected	X
VOC sampling records unavailable	

C. **EDB/DBCP:**	YES
(EDB MCL = 0.05 ug/l or 0.00005 mg/l. DBCP MCL = 0.2 ug/l or 0.0002 mg/l.)	
EDB/DBCP detected below MCL at least once	
EDB/DBCP detected above MCL at least once	
EDB/DBCP never detected	X
EDB/DBCP tests required but not yet completed	
EDB/DBCP tests not required	

D. **Other SOCs (Pesticides):**	YES
Other SOCs detected	
(pesticides and other synthetic organic chemicals)	
Other SOC tests performed but none detected	
(list test methods in comments)	X
Other SOC tests not performed	

If any SOCs in addition to EDB/DBCP were detected, please identify and date. If other SOC tests were performed, but no SOCs detected, list test methods here:

EPA Methods 508.1, 515.4, 525.2, 531.2

E. **Bacterial contamination:**	YES
Any bacterial detection(s) in the past 3 years in samples taken from the source (not distribution sampling records)?	NO

Has source (in past 3 years) had a bacteriological contamination problem found in distribution samples that was attributed to the source? NO

Source sampling records for bacteria unavailable _____

PART VI: Geographic or Hydrologic Factors Contributing to a Non-Circular Zone of Contribution

The following questions will help identify those ground water systems which may not be accurately represented by the calculated fixed radius (CFR) method described in Part IV. For these sources, the CFR areas should be used as a preliminary delineation of the critical time of travel zones for that source. As a system develops its Wellhead Protection Plan for these sources, a more detailed delineation method should be considered.

1) Is there evidence of obvious hydrologic boundaries within the 10-year time of travel zone of the CFR? (Does the largest circle extend over a stream, river, lake, up a steep hillside, and/or over a mountain or ridge?)

☑ Yes ❑ No

Describe with references to map produced in Part IV:
Well is located near the Yakima River.

2) Aquifer Material:

A) Does the drilling log, well log or other geologic/engineering reports identify that the well is located in an area where the underground conditions are identified as fractured rock and/or basalt terrain?
❑ Yes ☑ No

B) Does the drilling log, well log or other geologic/engineering reports indicate that the well is located in an area where the underground conditions are primarily identified as coarse sand and gravel?
☑ Yes ❑ No

3) Is the source located in an aquifer with a high horizontal flow rate? (These can include sources located on flood plains of large rivers, artesian wells with high water pressure, and/or shallow flowing wells and springs.)
☑ Yes ❑ No

4) Are there other high capacity wells (agricultural, municipal and/or industrial) located within the CFRs?

a) Presence of ground water extraction wells removing more than approximately 500 gal/min within…

	YES	NO	unknown
<6-month travel time	X*		
6 month—1 year travel time		X	
1—5 year travel time		X	
5—10 year travel time		X	

b) Presence of ground water recharge wells (dry wells) or heavy irrigation within…

	YES	NO	unknown
<1-year travel time		X	
1—5 year travel time		X	
5—10 year travel time		X	

Please identify or describe additional hydrologic or geographic conditions that you believe may affect the shape of the zone of contribution for this source. Where possible, reference them to locations on the map produced in Part IV.

*The City Well is an infiltration gallery owned by the City of Ellensburg

Suggestions and Comments

Did you attend one of the susceptibility workshops? ❑ Yes ☑ No

Did you find it useful? ❑ Yes ❑ No

Did you seek outside assistance to complete the assessment? ❑ Yes ☑ No

---

This form and instruction packet is still in the process of development. Your comments, suggestions and questions will help us upgrade and improve this assessment form. If you found particular sections confusing or problematic, please let us know. How could this susceptibility assessment be improved or made clearer? Did the instruction package help you find the information needed to complete the assessment? How much time did it take you to complete the form? Were you able to complete the assessment without additional/outside expertise? Do you feel the assessment was valuable as a learning experience? Any other comments or constructive criticisms you have would be appreciated.

APPENDIX G

HAYWARD DOH OR LHJ WELL SITE INSPECTION REPORT

Department of Health / Drinking Water Division

Well Site Inspection Form

Water System: City of Ellensburg

Location: Hayward Hill

Group A	COMM	NTNC		Group B
		TNC		

¼	¼	S	T: N	R: E	County
		17	18	18	Kittitas

Owner Name: City of Ellensburg

Address: 501 N. Anderson St
Ellensburg, WA. 98926

Phone # : (509) 962 - 7230

Name of owner or representative present during Inspection: John Akers

Date Received:	9-27-11
Date Inspected:	10-11-11
Inspected by:	Holly Duncan

Well means the spot where the well will be or is already drilled. Well Site means the entire area within 100' of the well. Beyond 100 ' if determined, there will be a significant impact on the well.

Source: 5010

Unique Well ID: AA5252

1) Map provided was accurate, based upon your observation at well site.
YES NO N/A

2) Slope of ground within well site is such that contamination due to run-off and flooding potential is at a minimum.
YES NO N/A

3) Site is safe from natural and manmade disasters.
YES NO N/A

4) Public or private roads are avoided as far as possible.
YES NO N/A

5) Roads, if any, within the well site are paved and properly ditched or drained to exclude surface run-off from the well.
YES NO N/A

6) Contamination sources such as septic tanks, chemicals, underground storage tanks, surface water, and dry wells are absent from well site.
YES NO N/A

7) If the well is existing or has already been drilled:
a) The surface seal is present and satisfactory.
YES NO N/A

b) The sanitary seal is satisfactory and properly installed.
YES NO N/A

c) Casing terminates at least 12" above floor, (6" questionable).
YES NO N/A

d) The air vent or access port is satisfactory and screened.
YES NO N/A
not yet

e) If well is in a pit, pit is constructed to prevent flooding.
YES NO N/A
Drain:

f) General housekeeping is satisfactory.
YES NO N/A
Locked: Drain:

g) The wellhead is accessible for maintenance.
YES NO N/A

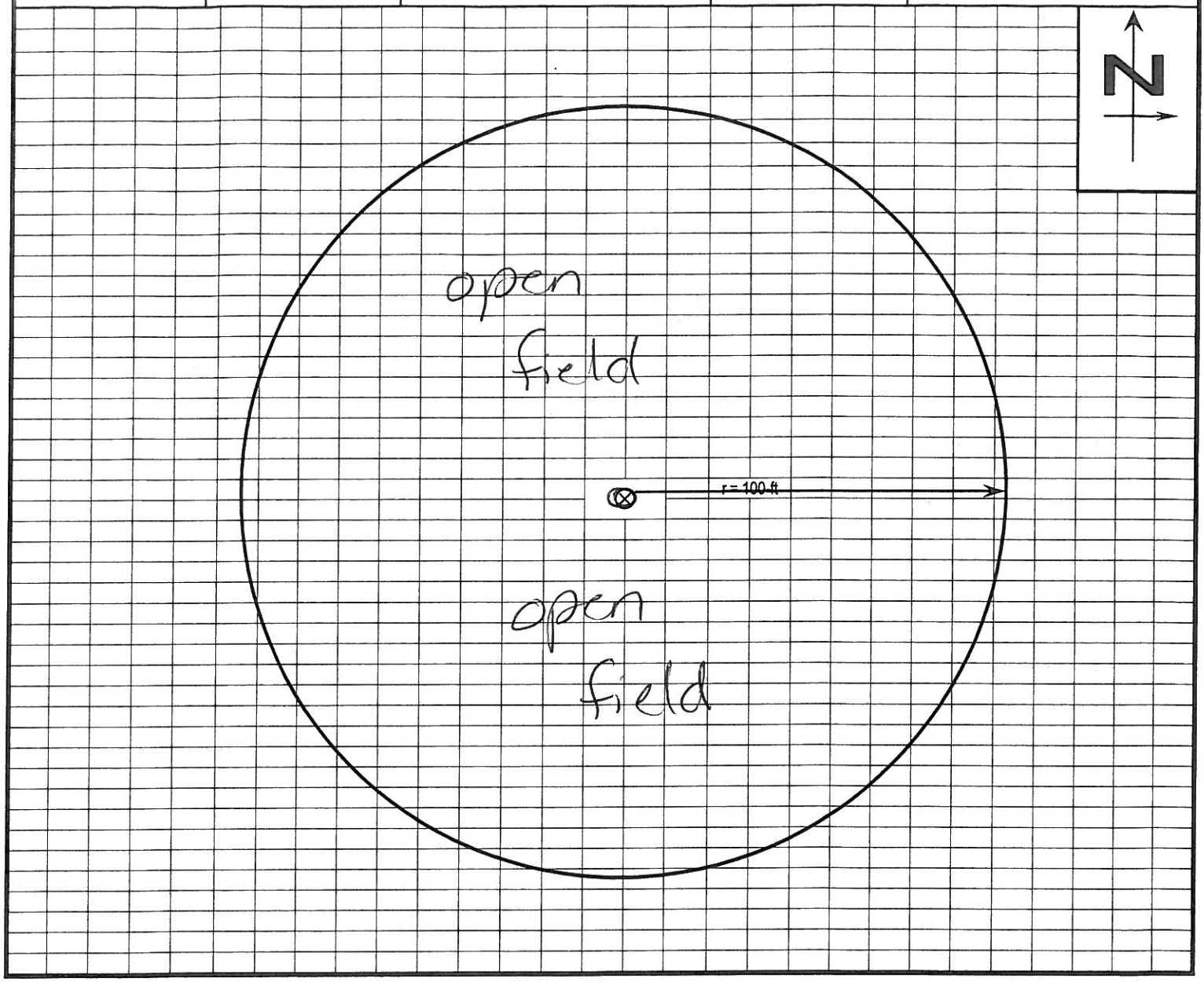
h) Source meter is installed.
YES NO N/A
not yet developed

8) Well site is legally protected against contamination, (via title, protective covenants, restrictive covenants).
YES NO N/A

9) In your opinion, overall, is the well and / or well site:
- [x] Satisfactory.
- [ ] Satisfactory, with correctable deficiencies.
- [ ] Not Satisfactory
- [ ] Requesting DOH to review site

Comments:
City of Ellensburg owns 5 acre site around well

Source - ⊗	Structure - S#	Contaminant Source - CS#	Other - X#	Lines, Roads, etc. —



Site:

North of source:

South of source:

East of source:

West of source:

Kittitas County Public Health Department

WS-11-00005

RECEIVED
SEP 27 2011
BY:

To Protect and Promote the Health and the Environment of the People of Kittitas County

Request for Well Site Inspection

Please complete form below and attach 8 1/2 by 11 parcel or plat map.

Office Use Only
Date received: 9-27-11
Date Inspected: _____
Inspected by: Holly Duncan

Group A	COMM	NTNC	Group B

¼	¼	S	T: N	R: E	County
		17	18	18	Kittitas

TYPE OF SYSTEM INTENDED (check one): **GROUP A** ☒ **GROUP B** ☐ **INDIVIDUAL WELL** ☐

Water System Name (if public): City of Ellensburg - Hayward Hill Well

Location of Water System: Ellensburg Urban Growth Area

Directions to Property: West of Ellensburg, take Hwy 97 towards Wenatchee. Left on Passmore Road, right on Valley Vista Drive. Well is at 544 Valley Vista Dr.

Parcel Number: 954918 (18-18-17000-0042) Subdivision: Unincorporated

Owner Name: City of Ellensburg

Address: 501 N Anderson St., Ellensburg, WA 98926

Contact Phone Number: (509) 962-7230

Name of owner or representative that will be present during inspection: John Akers, Public Wrks Dir.

Fees must be paid in advance

Please make checks payable to Kittitas County Health Department

****After fees are collected you will be contacted by the inspector to schedule inspection appointment.**

Requested By: _____ **Date:** _____

Fees: $200 **Date:** 9/27/11 **Receipt:** 12357

Kittitas County
Public Health Department
507 N. Nanum Street, Suite 102
Ellensburg, WA 98926
T: 509.962.7515
F:509.962.7581

www.co.kittitas.wa.us/health/

Environmental
Health Services
507 N. Nanum Street, Suite 102
Ellensburg, WA 98926
T: 509.962.7515
F: 509.962.7052

Well Locations

Map Center: Township:18 Range:18 Section:18

Kittitas County Disclaimer
Kittitas County makes every effort to produce and publish the most current and accurate information possible. No warranties, expressed or implied, are provided for the data, its use, or its interpretation. Kittitas County does not guarantee the accuracy of the material contained herein and is not responsible for any use, misuse or representations by others regarding this information or its derivatives.

HAYWARD HILL WELL SITE

KITTITAS COUNTY PERMIT CENTER
411 N. RUBY STREET, ELLENSBURG, WA 98926

RECEIPT NO.: 00012357

COMMUNITY DEVELOPMENT SERVICES
(509) 962-7506

PUBLIC HEALTH DEPARTMENT
(509) 962-7698

DEPARTMENT OF PUBLIC WORKS
(509) 962-7523

Account name: 024352

Date: 9/27/2011

Applicant: JOHN AKERS CITY OF ELLENSBURG

Type: check # 105221

Permit Number	Fee Description	Amount
WS-11-00005	GROUP A WELL SITE INSPECTION	200.00
	Total:	200.00

Attachment 2

City of Ellensburg, Wellhead Protection Plan: 2013 Addendum, prepared by Golder Associates Inc., June 26, 2013

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CITY OF ELLENSBURG WELLHEAD PROTECTION PLAN: 2013 ADDENDUM

REPORT

Submitted To: John Akers, City of Ellensburg Public Works Director
501 N Anderson St.
Ellensburg, WA 98926

Submitted By: Golder Associates Inc.
18300 NE Union Hill Road, Suite 200
Redmond, WA 98052 USA

Distribution:

2 copies – Russell Mau, ERO Drinking Water, Department of Health
1 copy – John Akers, City of Ellensburg Department of Public Works
1 copy – Golder Associates Inc.

June 26, 2013 **113-93432.006**

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Golder Associates

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EXECUTIVE SUMMARY

Golder Associates (Golder) delineated the Wellhead Protection Areas (WHPAs) for water supply wells that have been established by the City of Ellensburg (the City) since 1999 (Airport Wells #1 and #3, and Hayward and Route 10 Wells) and provided an updated contaminant inventory for all of the City of Ellensburg drinking water sources. A summary of findings by source is provided below, and detailed in the following report.

PW-1 (City Wells)

No new potential contaminant sources were identified within the WHPA. PW-1 is a Ranney well completed in shallow alluvium and is considered to be highly susceptible to surface contamination. The proximity of the BNSF Railway and Route 10 are potential sources of contamination due to transport or derailment involving hazardous materials.

PW-2 (Memorial) and PW-3 (Rodeo) Wells

A single WHPA is defined for PW-2 and PW-3 because they are close to each other. The presence of a surface seal on PW-2 is unknown and the well is considered moderately susceptible to surface contamination. PW-2 is located within the City's Rodeo Grounds and adjacent to stock holding pens that are a potential source of organic contaminants. An examination of nitrate data from 1994 to present does not indicate that any contamination has occurred. PW-3 is considered to be of low susceptibility to surface contamination. There are several potential and confirmed contaminant sources within the WHPAs of these wells that warrant monitoring.

PW-4 (Mt. Stuart Well)

PW-4 is considered to be of low susceptibility and low vulnerability to surface contamination.

PW-5 (Kiwanis Well)

PW-5 is considered to be of low susceptibility to surface contamination. There are two confirmed contaminated sites within the 1-year WHPA but they are unlikely to affect groundwater quality at PW-5 because of protective aquifer properties.

PW-6 (Whitney Well)

PW-5 is considered to be of low susceptibility to surface contamination due to the depth of the screened interval and intervening clayey layers. There are several potential contamination sources within the 500 feet buffer zone that warrant monitoring.

PW-7 (Brooklane Well)

PW-7 is considered to be of low susceptibility to surface contamination. One site within the 500-foot buffer zone and was the only potential contaminant source identified, and warrants monitoring.

PW-8 (Airport Well 1) and PW-11 (Airport Well 3)

PW-8 is considered moderately susceptible to surface contamination because the presence of a surface seal is unknown. PW-11 is considered to be of low susceptibility to surface contamination. Most of the area within the WHPAs is zoned as light industrial and consequently there are numerous potential sources of contamination. There are three registered State Cleanup Sites within the 1-year WHPA boundary, and one within the 5-year boundary.

PW-9 (Route 10 Well) & PW-10 (Hayward Well)

PW-9 and PW-10 are considered to be of low susceptibility to surface contamination due to the depth of the screened interval, deep well seals (i.e., several hundred feet) and intervening clayey layers.

Recommendations

1. Sanitary control areas should be assessed whenever City personnel are on site.
2. Notification letters should be issued to businesses that are potential contamination sources in the WHPAs.

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Attachment A EDR Radius Report

1.0 INTRODUCTION

This report is an addendum to the Wellhead Protection Plan (WHPP) produced by GeoEngineers (1999[1]) for the City of Ellensburg (the City), as outlined in the Scope of Work dated December 13, 2013. This addendum presents a contaminant inventory update to the 1999 WHPP, and provides additional information for wells that have been established or acquired by the City since 1999. These new wells include Airport Well 1 (PW-8), Route 10 Well (PW-9), Hayward Well (PW-10), and Airport Well 3 (PW-11). Tasks performed by Golder include:

- Delineating Wellhead Protection Areas (WHPAs) for the new wells using the Calculated Fixed Radius (CFR) method.
- Completing contaminant source inventories for new wells and updating contaminant source inventories for existing wells.
- Completing Susceptibility Assessments and documentation for new wells, as required by the Washington Department of Health (WA DOH).
- Site reconnaissance for sanitary control areas to verify previously identified contaminant sources and to identify any additional contaminant sources.

[1] GeoEngineers. 1999. Report of Hydrogeologic Services, Wellhead Protection Plan, Ellensburg Washington. Submitted to the City of Ellensburg on May 3.

2.0 WELLHEAD PROTECTION AREA DELINEATION

The Calculated Fixed Radius (CFR) method was used to delineate the WHPAs for each of the City's new wells (PW-8, PW-9, PW-10, and PW-11). The CFR method incorporates porosity, pumping rate, and well screen length to estimate a radial distance for 6-month, 1-year, 5-year, and 10-year groundwater travel times. The parameters used in the CFR method are presented in Table 2-1. There is insufficient information to justify more sophisticated analysis.

Table 2-1: Parameters used in WHPA Delineation (CFR Method)

Well	Latitude	Longitude	Screen Length (feet)	Pumping Rate (gpm)	Porosity
PW-8 (Airport 1)	47.027081	-120.535228	80	450*	0.1
PW-9 (Route 10)	47.059505	-120.647355	160	1,190	0.1
PW-10 (Hayward)	47.050072	-120.620405	155	1,800	0.1
PW-11 (Airport Well 3)	47.027748	-120.531244	30	600**	

Notes: Well parameters obtained from DOH Water Facilities Inventory Form, except where indicated
* Pumping rate determined as residual from shared water right for PW-8 and PW-11 (1,050 gpm) and the design capacity for PW-11 (600 gpm).
** Determined as well design capacity

2.1 Hydrogeologic Parameters

Aquifer porosity was identified by GeoEngineers (1999) to range from 0.1 to 0.25 for the screened hydrologic units. A value of 0.1 was selected as input for all WHPA delineation for new wells, because it is representative of the Upper Ellensburg Formation in which the delineations were completed. Additionally, the screened interval is used rather than the entire aquifer thickness, further increasing the radius of WHPAs and providing a conservatively larger safety factor.

Stratigraphic interpretation of well logs (Appendix A) and drilling records allowed for qualitative analysis of the susceptibility of each new well to contamination. Well logs were examined for evidence of confining conditions of the aquifer at the screened interval. This data was used in conjunction with well construction details to provide a qualitative rating of a well's general susceptibility to surface contamination. All new wells showed evidence of confining conditions.

2.2 Well Parameters

Well construction reports were used to identify the screened interval and surface seal information for each new well. This data was used as input for the CFR method to identify WHPAs and to qualitatively define the susceptibility of a well to surface contamination.

With the exception of PW-8 and PW-11, pumping rates for new wells were determined from WA DOH Water Facilities Inventory (WFI) forms as the well design capacity. Pumping rates for PW-11 was determined as the design capacity (600 gallons per minute [gpm]). The pumping rate for PW-8 was determined as the residual from the shared water right PW-8 and PW-11 (1,050 gpm) and the well design capacity of PW-11 (600 gpm).

2.3 Wellhead Protection Areas

The WHPAs for each of the City's wells are presented in Table 2-2 and Figures 2-1 and 2-2. The WHPA for each well consists of concentric time of travel (TOT) boundaries that represent the length of time it would take a particle of water to travel from the zone boundary to the well. For existing wells (PW-1 thru PW-7), GeoEngineers (1999) used a numerical model to delineate WHPAs. Consequently, the WHPAs for these wells extend in a direction opposite to the groundwater flow direction. Vertical travel times are not included in WHPA delineation and it is important to note that travel times can be significantly greater than those indicated by time-of-travel boundaries.

Table 2-2: Maximum Wellhead Protection Area Extents (GeoEngineers [1999], except where noted)

Well	1-year TOT (feet from well)	5-year TOT (feet from well)	10-year TOT (feet from well)	Direction from Well
PW-1 (City Wells)	2,660	5,420	5,420	NW
PW-2 (Rodeo)	990	2,510	5,070	NNW
PW-3 (Memorial)	957	2,450	4,910	NNW
PW-4 (Memorial)	1,300	3,300	5,340	NW
PW-5 (Kiwanis)	1,130	3,970	5,990	NNW
PW-6 (Whitney)	1,200	2,560	3,550	N
PW-7 (Brooklane)	1,490	3,570	6,430	N
PW-8 (Airport 1)*	1,120	2,510	3,550	Radial
PW-9 (Route 10)*	1,290	2,880	4,080	Radial
PW-10 (Hayward)*	1,610	3,600	5,100	Radial
PW-11 (Airport 3)*	2,120	4,730	6,690	Radial

Note: * WHPA delineated by Golder using CFR method

2.4 Susceptibility Assessment Forms

Washington Department of Health Susceptibility Assessment Forms were completed for the each of the City's new wells. These forms are included as Appendix B for submission to WA DOH.

3.0 CONTAMINANT INVENTORY

A report of the available government and institutional records concerning all potential contaminant sources was obtained from Environmental Data Resources (EDR; Attachment A). This report was reviewed and interpreted to provide an assessment of the risk of each potential contaminant source located within WHPAs. A "windshield survey" was conducted on January 16, 2013 to identify potential contaminant sources that were not identified in the EDR report. A map of the City's sewer system was used in conjunction with aerial imagery to identify dwellings that are likely to have septic systems. Wellhead Protection Areas and potential contaminant sources were located using GIS (Figures 2-1 and 2-2). To maintain consistency with the 1999 WHPP, the ranking criteria developed by GeoEngineers (1999) was used to provide a qualitative assessment of risk associated with each potential contaminant sources (Table 3-1).

Table 3-1: Risk Ranking Criteria (modified from GeoEngineers 1999)

Aquifer Susceptibilty[1]		Well Construction[2]		Toxicity[3]		Source Distance		Total Score	
Low	1	Good	1	Low	1	Buffer	0	Low Risk	0-13
Moderate	5	Moderate	5	Moderate	5	10-year TOT	1	Moderate Risk	14-25
High	10	Poor	10	High	10	5-year TOT	5	High Risk	26-45
--		--		--		1-year TOT	10	--	
--		--		--		6-month TOT	15	--	

Notes:

1. Ranking based on aquifer confining conditions and permeability
2. "Good" indicates a well screen depth greater than 75 feet with at least an 18-foot surface seal
   "Moderate" indicates no surface seal, and well screen depths greater than 75 feet
   "Low" indicates no surface seal and well screen depths less than 75 feet
3. "Low" indicates non carcinogenic compounds
   "Moderate" indicates suspected carcinogenic compound
   "High" indicates carcinogenic compounds

The potential contaminant sources identified within each of the WHPAs are presented in Table 3-2. Based on the established ranking criteria, PW-1, PW-2, and PW-8 are the most susceptible to surface contamination due to well properties. Special attention should be given to activities near these wells.

3.1 Known Releases

There are confirmed contaminated sites within all of the WHPAs located in city limits. The Ken's Autowash site contains an actively monitored leaking underground storage tank (LUST) located within the 1-year WHPA for PW-2 and PW-3; the monitoring status of this site should be routinely examined by the City. Multiple state cleanup sites are present within the WHPA for PW-8 and PW-11; Midstate Aviation, the Washington Department of Natural resources (WADNR), and the City's maintenance Department are located within the 6-month, 1-year, and 5-year WHPAs, respectively. Each of these sites has been a state cleanup site and the status of these sites should be explicitly monitored.

3.2 Potential Contaminant Sources

The potential contaminant sources identified from available records are listed in Table 4-1. The table includes a list of available mailing addresses for the potential sources identified within WHPAs. Planning of future construction and activities should consider WHPAs, especially for those areas currently zoned as industrial or commercial.

3.3 Existing Sanitary Control Areas

The sanitary control areas (SCAs) for PW-1 through PW-7 are unchanged from the conditions reported by GeoEngineers (1999). The SCA for PW-2 has a radius of less than 100 feet due to the stock holding pens and access road that are adjacent to the well house. No concerns were identified within 100 feet of all other wellheads.

SCAs for new wells should be established. PW-8 is located within a 15-foot-by-30-foot concrete-block well house that is securely locked when City personnel are not at the site; the area within the 100-foot radius is generally covered with grass, and a gravel access road is present leading to the south side of the building. At the time this work was completed, well house construction was underway for PW-9 and PW-10 and was scheduled for PW-11; this construction will be completed prior to operation of these wells. Declarations of Covenant (DoCs) are contained in Appendix C.

3.4 Notify Operators and Landowners within Wellhead Protection Areas

A letter should be sent to all owners and operators of known and potential sources of groundwater contamination within WHPAs. A copy of this letter and a list of recipients should be provided to comply with WA DOH requirements. A list of owners and operators is located in Table 3-2 and an example notification letter is included in Appendix D.

4.0 CLOSING

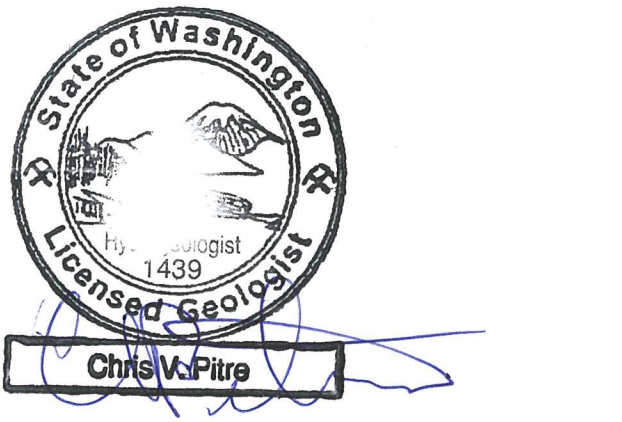
We sincerely appreciate this opportunity to provide these services to you.

GOLDER ASSOCIATES INC.

Andrew Austreng
Staff Hydrogeologist

Chris V. Pitre, L.Hg
Associate, Water Resources

AA/CVP/sb



TABLE

Table 3-2: Potential Contaminant Sources

Source Number	Contaminant Source	Potential Contaminant	Time of Travel	Risk Level[2]		Comments	Mailing Address
City Wells (PW-1): High susceptibility[1]							
	USTs						
	none	--	--	--			
	Major Roads & Railways						
1	*BNSF and Route 10 hwy*	General hazardous material	6 month	**High**		Surface contamination (transport of hazardous material)	N/A
Rodeo Well (PW-2): Moderate susceptibility[1] and **Memorial Well (PW-3)**: Low Susceptibility[1]							
				Rodeo	**Memorial**		
	USTs						
2	*WA Mil 050*	Petroleum products	1 year	**High**	Moderate	3 Removed	901 E 7th AVE
3	*Seven-Eleven Store 2301*	Petroleum products	1 year	**High**	Moderate	3 Operational	1001 E University Wy
4	*Ken's Auto Wash II*	Petroleum products	1 year	**High**	Moderate	3 Removed, actively monitered LUST	1013 E University Wy
	Hazardous Material Handlers						
5	*Superior Dry Cleaners*	Chlorinated solvents	Buffer	Moderate	Moderate	RCRA handeling violation	700 E 8th St
6	*Plaza Laundry*	Chlorinated solvents	5 year	Moderate	Low	Inactive (2012)	1801 N Walnut St
	Hazardous Waste Generators						
7	*Sherwinn Williams 1735*	Solvents, paint products	1 year	Moderate	Moderate		710 N Chestnut St
	Spills						
8	*Kittitas County Fairgrounds*	Unknown	1 year	Moderate	Moderate	Independent cleanup, no further action (2005)	*Near 1007 E 8th Ave*
18	*Kittitas County Fair (Hoctor Property)*	Unknown	Buffer	Low	Low	Independent cleanup (1993)	*Not listed*
Mt. Stuart Well (PW-4): Low susceptibility[1]							
	Cemetery						
9	*Holy Cross Cemetery*	Embalming chemicals, microbiological	5- 10 year	Low			Dry Creek Rd
Kiwanis Well (PW-5): Low susceptibility[1]							
	USTs						
10	*Ellensburg Maintenance Shop*	Petroleum products	Buffer	Low		3 Removed	15th & Okanogan
	Hazardous Material Handlers						
11	*My Carpet Cleaners*	Chlorinated solvents	5 year	Moderate		Inactive in 2012	1705 N College Pl
	Hazardous Waste Generators						
12	*Clandestine Drug Lab*	Metals, reactive materials	5 year	Moderate		Discovery date unknown	2113 Parklane Ave
	Spills						
13	*Chevron (Wondrack Site)*	Petroleum	1 year	Moderate		State Cleanup Site, contaminated soil, no further action (2011)	*15TH Ave & Water St*
14	*TV Cable Trench TPH*	Petroleum	Buffer	Low		Active State Cleanup (2000) contaminated soil and groundwater	419-421 W 15th St
33	*Water Street Creamery*	Petroleum	1 year	Moderate		State Cleanup Site, contaminated soil, no further action (2002)	1505 N Water St
	Stormwater						
15	*McCintosh (SunRidge) Plat*	Stormawater runoff	10 year	Low		Shallow injection well for stormwater (NPDES)	2500 N Elington St
Whitney Well (PW-6): Low susceptibility[1]							
	USTs						
2	*WA Mil 050*	Petroleum products	Buffer	Low		3 Removed	901 E 7th Ave
3	*Seven-Eleven Store 2301*	Petroleum products	Buffer	Low		3 Operational	1001 E University Wy
4	*Ken's Auto Wash II*	Petroleum products	Buffer	Low		3 Removed, actively monitered LUST	1013 E University Wy
16	*Ellesnburg School Distrct*	Petroleum, general hazardous material	Buffer	Low		Status unknown, noted during windshield survey	1504 Capitol Ave
	Hazardous Material Handlers						
5	*Superior Dry Cleaners*	Chlorinated solvents	Buffer	Low		RCRA handeling violation	700 E 8th St
17	*Nomis Body Shop*	Petroleum, General trade materials	5 year	Low		Historical auto station (2000)	305 N Anderson St
	Spills						
18	*Kittitas County Fair (Hoctor Property)*	Unknown	10 year	Low		Independent cleanup (1993)	Not Listed
Brooklane Well (PW-7): Low susceptibility[1]							
	USTs						
22	*Midstate Aviation*	Petroleum Products	Buffer	Low		Tank status unknown, State Cleanup Site, no further action (2002)	
	Hazardous Waste Handlers						1101 Bowers Rd
22	*Midstate Aviation*	Petroleum Products	Buffer	Low		Handler of petroleum products, 1 AST (windshield survey)	
Airport Well #1 (PW-8): Moderate susceptibility[1] and **Airport Well #3 (PW-11)**: Low susceptibility[1]							
				Well 1	**Well 3**		
	USTs						
19	*Ellensburg City Maintenance Dept.*	Petroleum products	5 year	Moderate	Moderate	LUST state cleanup (1999), 2 tanks removed, 1 closed	607 Industrial Wy
20	*WA DNR*	Petroleum products	1 year	**High**	Moderate	LUST state cleanup (1998), 3 tanks removed, cleaned/monitoring	713 E. Bowers Rd
21	*Dale & Clara Ball Property*	Petroleum products	1 year	**High**	Moderate	1 tank closed in place	710 E Elmview Rd
22	*Midstate Aviation*	Petroleum products	6 month	**High**	**High**	Tank status unknown, State Cleanup Site, no further action (2002)	1101 Bowers Rd
	Hazardous Material Handlers						
23	*Caribou Creek Logging*	Petroleum products	6 month	**High**	**High**	Handler of general hazardous material (petroleum)	701 S Industrial Wy
24	*WA AGR Kittitas (1)*	Pesticides; general	1 year	Moderate	Moderate	Historic handler of pesticides; Handler- general hazardous material	715 E. Bowers Rd
19	*Ellensburg City Maintnenance Dept.*	Ignitable and reactive material	5 year	Low	Low	Handler of petroleum and maintenance materials (metals, oxidizers)	607 Industrial Wy
22	*Midstate Aviation*	Petroleum products	6 month	**High**	**High**	Handler of petroleum products, 1 AST (windshield survey)	1101 Bowers Rd
25	*City of Kittitas Public Works*	General hazardous materials	5 year	Moderate	Low	Materials for emergency response (tier 2)	600 Industrial wy
26	*Elmview Recycle*	General hazardous material	6 month	Moderate	Moderate	Energy recovery (exempt)	804 Elmview Rd
	Spills						
27	*Kittitas Trap and Skeet Club*	Metals (unspecified)	1 year	**High**	**High**	State Cleanup Site (2008), awaiting cleanup (soil)	3102 N Airport Rd
	Stormwater						
28	*The Grove*	General surface runoff	5 year	Low	Low		2420 Airport Rd
Route 10 Well (PW-9): Low susceptibility[1]							
	USTs						
29	*Arco AM PM*	Petroleum	10 year	Low		3 Active USTs	410 Gladmar Rd, Thorp, WA
	Hazardous Waste Storage						
30	*Cascade Irrigation District*	Pesticides	1 year	Moderate		Pesticide storage for aquatic weed control	8063 Hwy 10
	Septic Systems						
31	Rural Dwellings	Organic and microbiological	5- 10 year	Low		Less than 6 known septic systems currently present	*Various*
Haywood Well (PW-10): Low susceptibility[1]							
30	***Hazardous Waste Storage***						
	Cascade Irrigation District	Pesticides	1 year	Low		Pesticide storage for aquatic weed control	8063 Hwy 10
	Septic Systems						
	Rural Dwellings	Organic and microbiological	5- 10 year	Low		Less than 12 known septic systems currently present	*Various*
	Stormwater						
32	*Ellensburg Cement (Powell Pond)*	General Surface Runoff	5 year	Low		Stormwater retention pond	860 Klocke Rd

Notes: [1]General well susceptibility to surface contamination is based on aquifer properties and well characteristics (established by GeoEngineers,1999).

[2]Risk level is based on the source location, contaminant properties, and well susceptibility.

FIGURES

PW-8
PW-11
PW-7
PW-4
PW-5
PW-3
PW-2
PW-6

Notes:
PW-2: Rodeo Well
PW-3: Memorial Well
PW-4: Mt. Stuart Well
PW-5: Kiwanis Well
PW-6: Whitney Well
PW-7: Brooklane Well
PW-8: Airport Well #1
PW-11: Airport Well #3

TOT Boundaries for PW-2 thru PW-7 taken from GeoEngineers (1999)

LEGEND

Six Month TOT
One Year TOT
Five Year TOT
Five and Ten Year TOT
Ten Year TOT
Buffer TOT
Source ID
Well

0 1,000 2,000
Scale in Feet

Map Projection:
Washington State Plane
North Zone
NAD 1983

N

This figure was originally produced in color. Reproduction in black and white may result in a loss of information.

Sources:
Golder Associates, Inc.,
GeoEngineers (1999), USGS

FIGURE **2-1**

WHPA AND SOURCE LOCATION MAP 1
CITY OF ELLENSBURG WHPP 2013 ADDENDUM

Path: M:\Projects\2011\11393432_COE_AirportWell3\GIS\Final figures\F3_Sources1_v10_aa2.mxd

Golder Associates

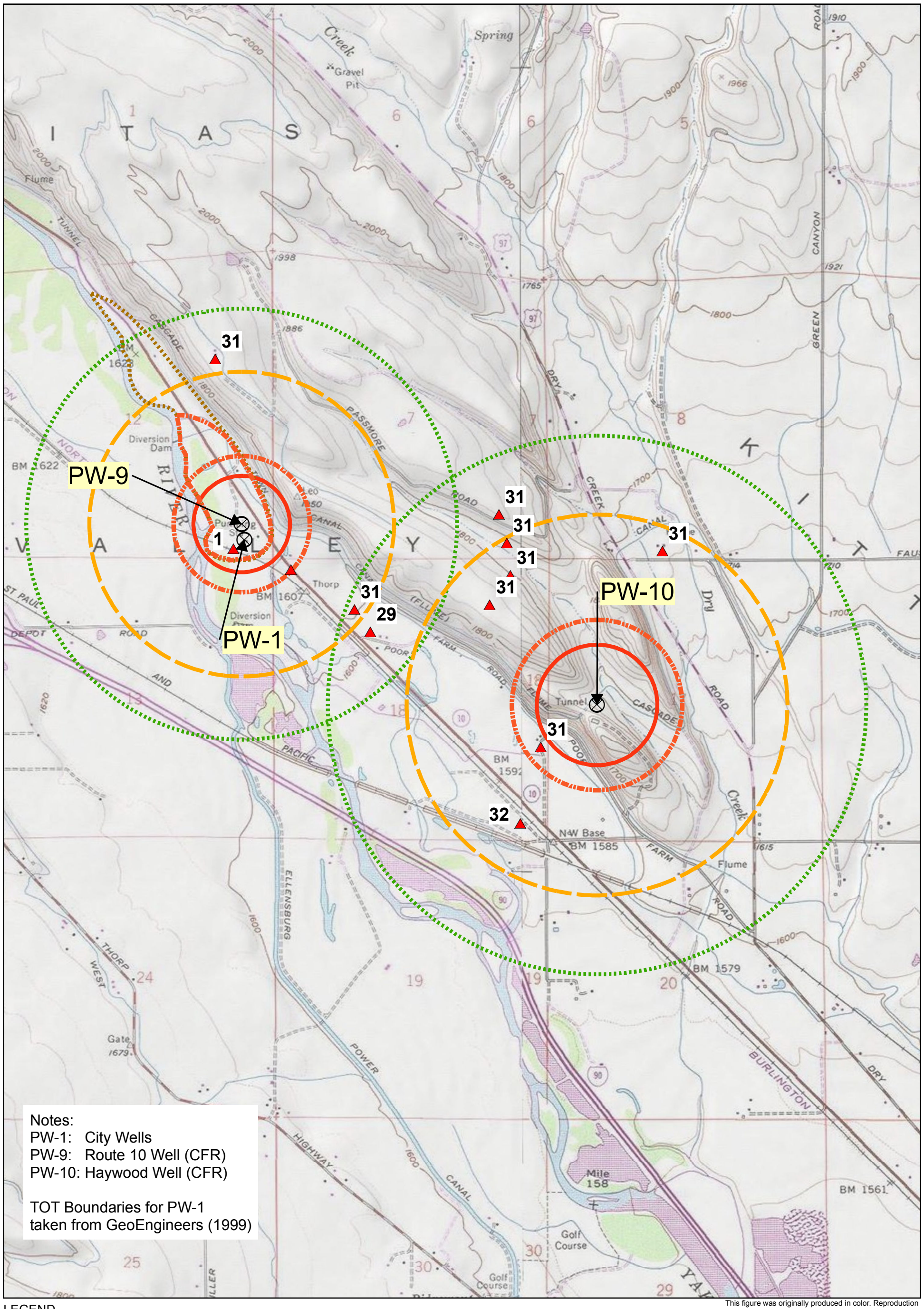


FIGURE **2-2**

WHPA AND SOURCE LOCATION MAP 2

CITY OF ELLENSBURG WHPP 2013 ADDNEDUM

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Golder Associates

APPENDIX A
WELL LOGS FOR NEW WELLS

The Department of Ecology does NOT Warranty the Data and/or the Information on this Well Report.I Report.

STATE OF WASHINGTON
DEPARTMENT OF CONSERVATION
AND DEVELOPMENT

WELL LOG No.1 No. Appli. 5359

Date 9-24, 19 59

Record by

Source driller's record

Location: State of WASHINGTON

County Kittitas

Area

Map

NE¼NW¼NW¼ sec. 25 T 18 N., R 18 E. XX

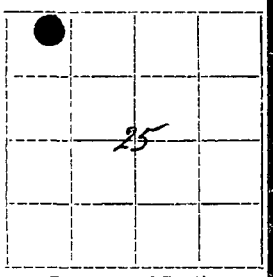


Diagram of Section

Drilling Co.

Address

Method of Drilling Date July 4, 19 43

Owner City of Ellensburg

Address

Land surface, datum ft above/below

CORRELATION	MATERIAL	THICKNESS (feet)	DEPTH (feet)
	Clay & gravel	42	42
	Clay	20	62
	Clay & gravel	9	71
	Sand & clay	51	122
	Clay	68	190
	Clay, sand & gravel	60	250
	Sand & clay	32	282
	Boulder, some clay	13	295
	Sand, gravel & clay	75	370
	Clay	66	436
	Sand, gravel & clay	129	565
	Sandstone	15	580
	Sand & clay	106	686
	4' decomposed granite brown clay	40	730
	PUMP TEST:		
	Dim. 730'x12" casing to 290' and 10" casing to 580'		

(Transcribe driller's terminology literally but paraphrase as necessary, in parentheses. If material water-bearing, so state and record static level if reported Give depths in feet below land-surface datum unless otherwise indicated Correlate with stratigraphic column, if feasible. Following log of materials, list all casings, perforations, screens, etc.)

(over)

Turn up Sheet ....of ....sheets

The Department of Ecology does NOT Warranty the Data and/or the Information on this Well Report.I Report.

WELL LOG.—Continued No. A/5359 #1

CORRELATION	MATERIAL	THICKNESS (feet)	DEPTH (feet)
	City of Ellensburg Depth forward	———	
	Type & size of pump: Pomona turbine 16 BHP ¢ 1750 r.p.m.		
	Type & size of motor: Westinghouse 15 h.p.		
	SWL: 68 ft.		
	DD: 78 Ft.		
	Yield: 600 g.p.m.		
	CASING:		
	12" diam. from 0 to -290 ft.		
	10" " from -292.5 to -580 ft.		
	8" " perforated line from -580 to -660 ft.		

S. F. No. 7[illegible]—12-54—3M. [illegible]08.

The Department of Ecology does NOT Warranty the Data and/or the Information on this Well Report.I Report.

R0420209

WASHINGTON STATE DEPARTMENT OF ECOLOGY

UNIQUE WELL I.D. NUMBER AEL853
X Y Z 1 2 3

WELL TAGGING FORM

Date of Field Visit 4-20-00 By Holly Duncan

ADDITIONAL WELL IDENTIFIERS

Department of Health System ID Number 22950 Source Number SO 1

USGS Site Identification _____

RECORD VERIFICATION

- ☐ Well Report available *(please attach)*
- ☐ Well Report not available
- ☐ Verification inconclusive

WELL OWNERSHIP, IF DIFFERENT FROM WELL REPORT

Name City of Ellensburg

Street address _____

City _____ State _____

LOCATION OF WELL, IF DIFFERENT FROM WELL REPORT

Well Address _____

City _____ County _____

T._____N. R._____ ___ W.M. Sec._____ _____¼ of the _____¼

Latitude _____° _____' _____" ☐ GPS (raw data) ☐ GPS (corrected) ☐ Topographic Map ☐ Survey ☐ Computer generated ☐ Other _____

Longitude _____° _____' _____"

Elevation at land surface _____ feet/meters *(circle one)* ☐ Digital Altimeter ☐ Topographic Map ☐ Other _____

The Department of Ecology does NOT Warranty the Data and/or the Information on this Well Report.

Please print, sign and return to the Department of Ecology

RECEIVED
OCT 23 2009
DEPARTMENT OF ECOLOGY - CENTRAL REGIONAL OFFICE

Water Well Report

Original – Ecology, 1st copy – owner, 2nd copy – driller

363504

Construction/Decommission

☑ Construction
☐ Decommission *ORIGINAL INSTALLATION* Notice of Intent Number _____

2009 OCT 19 A 9:19

Current Notice of Intent No. WE09314

Unique Ecology Well ID Tag No. AAS 152

Water Right Permit No. CG4-GWC926D

Property Owner Name City of Ellensburg

Well Street Address 7640 Route 10, Ellensburg, WA

City Ellensburg County Kittitas

Location SE 1/4-1/4 SE 1/4 Sec 12 Twn 18 R 17 EWM or WWM ☑ circle one

Lat/Long (s, t, r still REQUIRED) Lat Deg _____ Lat Min/Sec _____ Long Deg _____ Long Min/Sec _____

Tax Parcel No. 933233

PROPOSED USE: ☐ Domestic ☐ Industrial ☑ Municipal ☐ DeWater ☐ Irrigation ☐ Test Well ☐ Other

DEPT OF ECOLOGY FISCAL or BUDGET

TYPE OF WORK: Owner's number of well (if more than one) Route 10, Well 2

☑ New well ☐ Reconditioned ☐ Deepened Method: ☐ Dug ☐ Bored ☐ Driven ☑ Cable ☑ Rotary ☐ Jetted

DIMENSIONS: Diameter of well 20 inches, drilled 841 ft.
Depth of completed well 818 ft.

CONSTRUCTION DETAILS

Casing Installed: ☑ Welded 20" Diam. from +11.8 ft. to 401 ft.
☐ Liner installed 24" Diam. from 0 ft. to 50 ft.
☐ Threaded _____" Diam. from _____ ft. to _____ ft.

Perforations: ☐ Yes ☑ No
Type of perforator used _____
SIZE of perfs _____ in by ____ in and no. of perfs ____ from ____ ft. to ____ ft.

Screens: ☑ Yes ☐ No ☐ K-Pac. Location _____
Manufacturer's Name Johnson
Type V-wire wrap Model No. 304SS
Diam. 12 PS Slot size .080 from * ft. to * ft.
Diam. _____ Slot size _____ from _____ ft. to _____ ft.

Gravel/Filter packed: ☑ Yes ☐ No ☐ Size of gravel/sand CSSI 6x9
Materials placed from 369 ft. to 841 ft.

Surface Seal: ☑ Yes ☐ No To what depth? 50 & 401 ft.
Material used in seal cement
Did any strata contain unusable water? ☐ Yes ☐ No
Type of water? _____ Depth of strata _____
Method of sealing strata off _____

PUMP: Manufacturer's Name _____
Type _____ H.P. _____

WATER LEVELS: Land-surface elevation above mean sea level _____ ft.
Static level _____ ft. below top of well Date _____
Artesian pressure 4 lbs. per square inch Date 8/25/09
Artesian water is controlled by valve & capped casing extension (cap, valve, etc.)

WELL TESTS: Drawdown is amount water level is lowered below static level
Was a pump test made? ☑ Yes ☐ No If yes, by whom? Schneider
Yield: 1190 gal./min. with 262 ft. drawdown after 72 hrs.
Yield: _____ gal./min. with _____ ft. drawdown after _____ hrs.
Yield: _____ gal./min. with _____ ft. drawdown after _____ hrs.

Recovery data (time taken as zero when pump turned off) (water level measured from well top to water level)

Time	Water Level	Time	Water Level	Time	Water Level

Date of test. 9/8/09-9/11/09
Bailer test _____ gal./min. with _____ ft. drawdown after _____ hrs.
Airtest _____ gal./min with stem set at _____ ft. for _____ hrs.
Artesian flow _____ g.p.m. Date _____
Temperature of water 60 F Was a chemical analysis made? ☑ Yes ☐ No

CONSTRUCTION OR DECOMMISSION PROCEDURE

Formation: Describe by color, character, size of material and structure, and the kind and nature of the material in each stratum penetrated, with at least one entry for each change of information indicate all water encountered. (USE ADDITIONAL SHEETS IF NECESSARY)

MATERIAL	FROM	TO
See attached formation log.		
* Screen Assembly as follows (all welded).		
J-receptor and 16x12 concentric bell reducer	369	373
A53 -12 x .375 blank	373	393
* screen	393	398
A53 -12 x .375 blank	398	478
* screen	478	506
A53 -12 x .375 blank	506	548
* screen	548	593
A53 -12 x .375 blank	593	603
* screen	603	628
A53 -12 x .375 blank	628	678
* screen	678	688
A53 -12 x .375 blank	688	742
* screen	742	749
A53 -12 x .375 blank	749	758
* screen	758	798
A53 -12 x .375 blank w/plate bottom.	798	818
Steel plate is welded between 24" and 20" casings		
8" flanged horizontal discharge w/.25" valved gauge		
port is welded onto 20" casing just above 24" casing.		
It is also equipped with an 8" wafer butterfly valve		
and a 8" flange x flange spool with 8" blind flange		
20" casing has flange connection at ~2.5' above		
ground surface. Top of 20" casing has welded plate		
with 2" access port.		

Start Date 11/11/08 Completed Date 9/24/09

WELL CONSTRUCTION CERTIFICATION: I constructed and/or accept responsibility for construction of this well, and its compliance with all Washington well construction standards. Materials used and the information reported above are true to my best knowledge and belief.

Driller/Engineer/Trainee Name (Print) ~~Steve~~ Schneider
Driller/Engineer/Trainee Signature Stephen J. Schneider
Driller or trainee License No. 0643

Drilling Company Schneider Equipment, Inc.
Address 21881 River Road NE
City, State, Zip St. Paul, OR 97137
Contractor's Registration No. SCHNEEI940R8 Date 10/14/09

If TRAINEE,
Driller's Licensed No. _____
Driller's Signature _____

Ecology is an Equal Opportunity Employer. ECY 050-1-20 (Rev. 2/03)

The Department of Ecology does NOT Warranty the Data and/or the Information on this Well Report.

363504

CITY OF ELLENSBURG

ROUTE 10, Well #2 - Formation Log

by Schneider Drilling Co.

NOI # WE09314 Tag # AAS 152

FM	TO	DESCRIPTION
0	14	Gravel, 8"minus, sand & silt, brown
14	16	Clay, tan, medium, sandy
16	35	Clay, tan, soft w/gravel, 4" minus
35	43	Gravel & sand, coarse w/clay, tan, soft-medium
43	46	Clay, tan, medium w/some gravel
46	48	Clay, tan, soft w/some sand, coarse-fine
48	50	Clay, tan, medium w/some gravel
50	56	Boulders & cobbles w/clay, tan, soft
56	189	Cobbles, boulders, gravel & clay, tan
189	226	Gravel, cobbles & clay, tan
226	272	Clay, tan w/ sand, fine
272	302	Sand & gravel w/cementation & some clay, tan, soft
302	310	Clay, brown w/gravel, 1" minus
310	320	Sand & gravel w/cementation
320	350	Sand & gravel w/cementation & some clay, brown, soft
350	360	Clay, tan, sandy
360	407	Sand & gravel w/cementation & clay, brown
407	410	Sand, black & brown, fine-medium w/gravel, multi-colored, 1/2"minus; w/cementation
410	448	Sand, black & gravel, pea; w/cementation
448	458	Sand, black, medium & gravel, small w/claystone, green
458	495	Sand, black, medium & gravel, pea
495	543	Sand, black, medium-fine w/gravel, multi-colored, 2"minus; some cobbles & cementation
543	661	Sand, black, medium-fine w/gravel, multi-colored, 2"minus; some clay, tan, soft
661	678	Sand, black & gravel & clay, tan, soft
678	733	Gravel, 1/2"minus w/sand, black, medium
733	736	Sand, black w/gravel, small
736	761	Gravel, 1/2"minus w/sand, brown, medium
761	799	Gravel, pea & sand & claystone, blue-green
799	801	Gravel, multi-colored, 1"minus w/sand, balck & brown, fine-medium & claystone, blue-brown
801	816	Gravel, multi-colored, 1"minus w/clay, green-grey, soft & some sand
816	841	Clay, green-grey, soft w/some gravel, multi-colored, 1"minus & sand, black-brown, fine-medium

The Department of Ecology does NOT Warranty the Data and/or the Information on this Well Report.

Please print, sign and return to the Department of Ecology

Water Well Report

Original - Ecology, 1st copy - owner, 2nd copy - driller

Construction/Decommission 345519

☑ Construction

☐ Decommission *ORIGINAL INSTALLATION Notice of Intent Number* _____

Current

Notice of Intent No. WE 090089 (replaced unusable well AE05075)

Unique Ecology Well ID Tag No. AAS 252

Water Right Permit No. CG4-GWC226D

Property Owner Name City of Ellensburg

Well Street Address not assigned

City Ellensburg County Kittitas

Location NW 1/4-1/4 SW 1/4 Sec 17 Twn 18 R 18 EWM ☑ or WWM ☐ (circle one)

Lat/Long (s, t, r still REQUIRED) Lat Deg _____ Lat Min/Sec _____

Long Deg _____ Long Min/Sec _____

Tax Parcel No. 953671 2ND ATTEMPT

PROPOSED USE: ☐ Domestic ☐ Industrial ☑ Municipal ☐ DeWater ☐ Irrigation ☐ Test Well ☐ Other _____

TYPE OF WORK: Owner's number of well (if more than one) Route 10, Well 1

☑ New well ☐ Reconditioned ☐ Deepened

Method ☐ Dug ☐ Bored ☐ Driven ☐ Cable ☑ Rotary ☐ Jetted

DIMENSIONS: Diameter of well 20 inches, drilled 1055 ft

Depth of completed well 1028 ft

CONSTRUCTION DETAILS

Casing Installed: ☑ Welded 20" Diam from +4 ft to 600 ft.

☐ Liner installed _____" Diam from _____ ft to _____ ft.

☐ Threaded _____" Diam from _____ ft to _____ ft.

Perforations: ☐ Yes ☑ No

Type of perforator used _____

SIZE of perfs _____ in by _____ in and no. of perfs _____ from _____ ft to _____ ft

Screens: ☑ Yes ☐ No ☐ K-Pac Location _____

Manufacturer's Name Johnson

Type V-wire wrap Model No 304SS XHD

Diam 12 PS Slot size .060 from * ft. to * ft.

Diam _____ Slot size _____ from _____ ft. to _____ ft.

Gravel/Filter packed: ☑ Yes ☐ No ☐ Size of gravel/sand CSSI 8x12

Materials placed from 551.5 ft to 1055 ft

Surface Seal: ☑ Yes ☐ No To what depth? 600 ft

Material used in seal cement

Did any strata contain unusable water? ☐ Yes ☐ No

Type of water? _____ Depth of strata _____

Method of sealing strata off _____

PUMP: Manufacturer's Name _____

Type _____ H.P. _____

WATER LEVELS: Land-surface elevation above mean sea level _____ ft.

Static level 123 ft. below top of well Date 6/5/09

Artesian pressure _____ lbs. per square inch Date _____

Artesian water is controlled by _____ (cap, valve, etc.)

WELL TESTS: Drawdown is amount water level is lowered below static level

Was a pump test made? ☑ Yes ☐ No If yes, by whom? Schneider

Yield 1800 gal./min with 364 ft drawdown after 24 hrs.

Yield: _____ gal./min with _____ ft drawdown after _____ hrs.

Yield: _____ gal./min with _____ ft drawdown after _____ hrs.

Recovery data (time taken as zero when pump turned off) (water level measured from well top to water level)

Time	Water Level	Time	Water Level	Time	Water Level

Date of test 6/1-2/09

Bailer test _____ gal./min with _____ ft drawdown after _____ hrs

Airtest _____ gal./min. with stem set at _____ ft for _____ hrs.

Artesian flow _____ g.p.m. Date _____

Temperature of water 65F Was a chemical analysis made? ☑ Yes ☐ No

CONSTRUCTION OR DECOMMISSION PROCEDURE

Formation: Describe by color, character, size of material and structure, and the kind and nature of the material in each stratum penetrated, with at least one entry for each change of information indicate all water encountered (USE ADDITIONAL SHEETS IF NECESSARY)

MATERIAL	FROM	TO
See attached formation log.		
* Screen Assembly as follows (all welded)		
J-receptor and 16x12 concentric bell reducer	551.5	556
A53-12 x .375 blank	556	581.5
* screen	581.5	586.5
A53-12 x .375 blank	586.5	716.5
* screen	716.5	736.5
A53-12 x .375 blank	736.5	801.5
* screen	801.5	821.5
A53-12 x .375 blank	821.5	901.5
* screen	901.5	1021.5
A53-12 x .375 blank	1021.5	1042.5
cement grout plug inside tailpipe of screen assembly	1028	1042.5

RECEIVED

JUL 09 2009

DEPARTMENT OF ECOLOGY - CENTRAL REGIONAL OFFICE

Start Date 1/15/09 Completed Date 6/5/09

WELL CONSTRUCTION CERTIFICATION: I constructed and/or accept responsibility for construction of this well, and its compliance with all Washington well construction standards. Materials used and the information reported above are true to my best knowledge and belief.

Driller/Engineer/Trainee Name (Print) Steve Schneider

Driller/Engineer/Trainee Signature Stephen J. Schneider

Driller or trainee License No. 0643

Drilling Company Schneider Equipment, Inc.

Address 21881 River Road NE

City, State, Zip St. Paul, OR 97137

Contractor's Registration No SCHNEEI940R8 Date 6/30/09

If TRAINEE,

Driller's Licensed No. _____

Driller's Signature _____

The Department of Ecology does NOT Warranty the Data and/or the Information on this Well Report.

345519

CITY OF ELLENSBURG

ROUTE 10, Well #1 - Formation Log

by Schneider Drilling Co.

NOI # WE090989 Tag # AAS 252

WE09089

FM	TO	DESCRIPTION
0	3	Topsoil
3	11	Sand & gravel w/cobbles, cemented
11	21	Sand & gravel, cemented w/cobbles & clay, tan, soft
21	86	Gravel w/sand, cemented
86	152	Sand & gravel, cemented w/cobbles & clay, tan, soft
152	167	Clay, grey, sandy w/gravel, 1" minus
167	220	Sand & gravel
220	238	Clay, tan, silty, soft
238	342	Sand & gravel, 2" minus w/clay, tan, soft in lenses
342	354	Clay, brown, soft
354	356	Clay, sand & gravel, medium, cemented
356	359	Cobbles
359	380	Clay, sand & gravel, medium, cemented
380	408	Clay, light brown, medium
408	436	Gravel & sand, medium, cemented
436	452	Clay, grey, sandy
452	497	Gravel, cemented w/clay, tan, soft
497	528	Clay, tan w/gravel, 1.5" minus
528	610	Clay, tan, soft-medium, sandy w/gravel, 1/4" minus
610	671	Clay, tan w/sand & gravel, small
671	720	Clay, tan w/sand & gravel, medium
720	725	Sand, brown, medium-fine, cemented, soft
725	745	Sand, brown, medium-fine & clay, brown, medium w/gravel, pea, cemented
745	754	Sand, brown, fine-coarse w/gravel, pea
754	763	Gravel, 4" minus w/clay, tan, soft
763	772	Sand, brown, medium-fine w/clay, tan, soft
772	790	Clay, tan, soft-medium w/sand, brown, medium-fine
790	819	Sand, brown, medium-fine w/clay, tan, soft
819	832	Gravel w/sand, grey, medium-fine & clay, tan, soft
832	846	Gravel, w/sand, grey, medium-fine
846	855	Gravel w/sand, grey, medium-fine & clay, tan, soft
855	890	Gravel & sand, medium-fine w/clay, tan, medium
890	930	Sand, medium w/gravel, small & some clay
930	949	Sand, medium w/gravel, medium & some clay
949	970	Sand, medium w/gravel, large & some clay
970	975	Sand, gravel, clay & rock, hard
975	1000	Rock, multicolored w/clay, multicolored, hard
1000	1010	Sand, green-black, fine-medium
1010	1032	Sand, green-black, fine-medium, w/rock, multicolored
1032	1055	Rock, black w/clay, green, med, hard & some clay, greenish-grey, soft

RECEIVED
JUL 09 2009
DEPARTMENT OF ECOLOGY - CENTRAL REGIONAL OFFICE

The Department of Ecology does NOT Warranty the Data and/or the Information on this Well Report.

Please print, sign and return to the Department of Ecology

WE09089

Water Well Report

Original - Ecology, 1st copy - owner, 2nd copy - driller

Current Notice of Intent No. AE05075(unusable well, replaced by NOI WE09089)

Unique Ecology Well ID Tag No. AAS253

Water Right Permit No. NA-Decommissioned CG4-GWC 926-D

Property Owner Name City of Ellensburg

Well Street Address not assigned

City Ellensburg County Kittitas

Location NW 1/4-1/4 SW 1/4 Sec 17 Twn 18 R 18 EWM or WWM (circle one)

Lat/Long (s, t, r still REQUIRED) Lat Deg _____ Lat Min/Sec _____ Long Deg _____ Long Min/Sec _____

Tax Parcel No. 953671 1st Attempt M

☐ Construction ☑ Decommission 19 34 55 35

ORIGINAL INSTALLATION Notice of Intent Number _____

PROPOSED USE: ☐ Domestic ☐ Industrial ☑ Municipal ☐ DeWater ☐ Irrigation ☐ Test Well ☑ Other Decommiss

TYPE OF WORK: Owner's number of well (if more than one) Rte 10, Well 1-abd

☑ New well ☐ Reconditioned ☐ Deepened Method: ☐ Dug ☐ Bored ☐ Driven ☐ Cable ☑ Rotary ☐ Jetted

DIMENSIONS: Diameter of well 20 inches, drilled 564 ft. Depth of completed well 0 ft.

CONSTRUCTION DETAILS

Casing Installed: ☑ Welded 20 " Diam. from 5 ft. to 400 ft. ☐ Liner installed " Diam. from ft. to ft. ☐ Threaded " Diam. from ft. to ft.

Perforations: ☐ Yes ☑ No

Type of perforator used _____

SIZE of perfs in by in. and no. of perfs from ft. to ft.

Screens: ☐ Yes ☑ No ☐ K-Pac Location _____

Manufacturer's Name _____

Type _____ Model No. _____

Diam Slot size from ft. to ft.

Diam Slot size from ft. to ft.

Gravel/Filter packed: ☐ Yes ☑ No ☐ Size of gravel/sand _____

Materials placed from ft. to ft.

Surface Seal: ☑ Yes ☐ No To what depth? 400 ft.

Material used in seal cement

Did any strata contain unusable water? ☐ Yes ☐ No

Type of water? _____ Depth of strata _____

Method of sealing strata off _____

RECEIVED JUL 09 2009 DEPARTMENT OF ECOLOGY - CENTRAL REGIONAL OFFICE

PUMP: Manufacturer's Name _____

Type _____ H.P.

WATER LEVELS: Land-surface elevation above mean sea level _____ ft.

Static level decommissioned ft. below top of well Date _____

Artesian pressure _____ lbs. per square inch. Date _____

Artesian water is controlled by _____ (cap, valve, etc)

WELL TESTS: Drawdown is amount water level is lowered below static level

Was a pump test made? ☐ Yes ☑ No If yes, by whom? _____

Yield _____ gal./min. with _____ ft. drawdown after _____ hrs.

Yield _____ gal./min. with _____ ft. drawdown after _____ hrs.

Yield _____ gal./min. with _____ ft. drawdown after _____ hrs.

Recovery data (time taken as zero when pump turned off) (water level measured from well top to water level)

Time	Water Level	Time	Water Level	Time	Water Level

Date of test _____

Bailer test _____ gal./min. with _____ ft. drawdown after _____ hrs.

Airtest _____ gal./min. with stem set at _____ ft. for _____ hrs.

Artesian flow _____ g.p.m. Date _____

Temperature of water _____ Was a chemical analysis made? ☐ Yes ☐ No

CONSTRUCTION OR DECOMMISSION PROCEDURE

Formation: Describe by color, character, size of material and structure, and the kind and nature of the material in each stratum penetrated, with at least one entry for each change of information. Indicate all water encountered. (USE ADDITIONAL SHEETS IF NECESSARY)

MATERIAL	FROM	TO
Top soil, brown	0	3
Sand, gravel & occasional cobbles & boulders, cem	3	90
Gravel, 1.5" minus & sand	90	155
Clay, light grey, sandy w/gravel, 1.5" minus	155	165
Sand, gravel & occasional cobbles & boulders, cem.	165	220
Clay, tan, soft-medium, silty w/occasional gravel, 1"-	220	240
Sand & gravel, 2" minus w/some clay, tan	240	284
Sand & gravel, 2" minus, cemented w/occ. clay lenses	284	289
Gravel, 2" minus & sand, medium, cemented	289	300
Clay, light grey, soft	300	329
Sand & gravel, cemented	329	341
Clay, brown, medium & gravel, 1/4" minus	341	352
Clay, sand & gravel, medium, cemented	352	358
Sandstone & gravel, cemented	358	370
Clay, brownish grey, medium	370	380
Sand & gravel, 1.5" minus, cemented	380	436
Clay, light grey, sandy, soft	436	440
Gravel, 3" minus, cemented	440	444
Clay, brown, medium w/gravel, pea	444	451
Gravel, 1.5" minus, cemented w/clay, tan, med-soft	451	481
Gravel, 2" minus w/clay, brown, soft	481	484
Clay, tan, sandy, soft w/some gravel, 1.5" minus	484	504
Gravel, 1.5" minus w/clay, tan, sandy, soft	504	522
Clay, tan, sandy, soft w/some gravel, 1" minus	522	525
Clay, tan, soft, w/some gravel, pea	525	532
Clay, tan, sandy, soft	532	538
Clay, tan, silty, soft & gravel, pea	538	564
Well collapsed, tools lost in well	~445	564
Decommissioned per discussions with Avery	5	~445
Richardson, WAC's and variance dated 2/25/09		
Casing cut off 5' bgs and backfilled w/native mat'ls	0	5

Start Date 9/30/08 Completed Date 6/3/09

WELL CONSTRUCTION CERTIFICATION: I constructed and/or accept responsibility for construction of this well, and its compliance with all Washington well construction standards. Materials used and the information reported above are true to my best knowledge and belief.

Driller/Engineer/Trainee Name (Print) Steve Schneider

Driller/Engineer/Trainee Signature Steve Schneider

Driller or trainee License No. 0643

Drilling Company Schneider Equipment, Inc.

Address 21881 River Road NE

City, State, Zip St. Paul, OR 97137

Contractor's Registration No. SCHNEEI940R8 Date 6/30/09

If TRAINEE, Driller's Licensed No. _____ Driller's Signature _____

Ecology is an Equal Opportunity Employer. ECY 050-1-20 (Rev 2/03)

The Department of Ecology does NOT Warranty the Data and/or the Information on this Well Report.

WATER WELL REPORT

Original & 1st copy – Ecology, 2nd copy – owner, 3rd copy – driller

Construction/Decommission ("x" in circle) 445179

- (●) Construction
- ( ) Decommission *ORIGINAL INSTALLATION Notice of Intent Number* _____

CURRENT
Notice of Intent No. W273512
Unique Ecology Well ID Tag No. BCF685
Water Right Permit No. 5359
Property Owner Name City of Ellensburg
Well Street Address Piper road
City Ellensburg County Kittitas
Location NW 1/4-1/4 NW 1/4 Sec 25 Twn 18 R 18 (E)WM or WWM (circle one)
Lat/Long (s, t, r Still **REQUIRED**) Lat Deg 47 Lat Min/Sec 0274092 Long Deg 120 Long Min/Sec 531695
Tax Parcel No. 18-18-25068-0021 (955292)

PROPOSED USE: ☐ Domestic ☐ Industrial ■ Municipal ☐ DeWater ☐ Irrigation ☐ Test Well ☐ Other _____

TYPE OF WORK: Owner's number of well (if more than one) _____
■ New well ☐ Reconditioned *Method* ☐ Dug ☐ Bored ☐ Driven ☐ Deepened ■ Cable ■ Rotary ☐ Jetted

DIMENSIONS: Diameter of well 16 X 12 inches, drilled 771 ft.
Depth of completed well 771 ft.

CONSTRUCTION DETAILS
Casing Installed: ■ Welded 16 " Diam. from +3 ft. to 335 ft.
☐ Liner installed 12 " Diam. from +4 ft. to 730 ft.
☐ Threaded _____ " Diam. from _____ ft. to _____ ft.

Perforations: ☐ Yes ■ No
Type of perforator used _____
SIZE of perfs _____ in. by _____ in. and no. of perfs _____ from _____ ft. to _____ ft.

Screens: ■ Yes ☐ No ■ K-Pac Location 675
Manufacturer's Name Johnson
Type _____ Model No. _____
Diam. 8 Slot size 0.080 from 715 ft. to 720 ft.
Diam. 8 Slot size 0.080 from 741 ft. to 766 ft.

Gravel/Filter packed: ☐ Yes ■ No ☐ Size of gravel/sand _____
Materials placed from _____ ft. to _____ ft.

Surface Seal: ■ Yes ☐ No To what depth? 20 ft.
Material used in seal bentonite
Did any strata contain unusable water? ☐ Yes ■ No
Type of water? _____ Depth of strata _____
Method of sealing strata off _____

PUMP: Manufacturer's Name _____
Type: _____ H.P. _____

WATER LEVELS: Land-surface elevation above mean sea level 1715 ft.
Static level 167.8 ft. below top of well Date NOV. 28/2010
Artesian pressure _____ lbs. per square inch Date _____
Artesian water is controlled by _____ (cap, valve, etc.)

WELL TESTS: Drawdown is amount water level is lowered below static level
Was a pump test made? ■ Yes ☐ No If yes, by whom? Bach
Yield: 692 gal./min. with 267 ft. drawdown after 72 hrs.
Yield: _____ gal./min. with _____ ft. drawdown after _____ hrs.
Yield: _____ gal./min. with _____ ft. drawdown after _____ hrs.
Recovery data (time taken as zero when pump turned off) (water level measured from well top to water level)

Time	Water Level	Time	Water Level	Time	Water Level

Date of test 12/14 – 12/17
Bailer test _____ gal./min. with _____ ft. drawdown after _____ hrs.
Airtest _____ gal./min. with stem set at _____ ft. for _____ hrs.
Artesian flow _____ g.p.m. Date _____
Temperature of water 64° Was a chemical analysis made? ■ Yes ☐ No

DEPT OF ECOLOGY Received APR 02 2012 CENTRAL REGION OFFICE

CONSTRUCTION OR DECOMMISSION PROCEDURE
Formation: Describe by color, character, size of material and structure, and the kind and nature of the material in each stratum penetrated, with at least one entry for each change of information. (USE ADDITIONAL SHEETS IF NECESSARY.)

MATERIAL	FROM	TO
topsoil/cobbles	0	10
cemented gravel	10	20
clay	20	30
clay/sandstone	30	45
cemented gravel w/clay	45	52
clay/sandstone	52	95
cement gravel	95	120
clay/sandstone	120	130
sandstone	130	150
sandstone/clay	150	195
cemented gravel	195	210
brown decomposed rock	210	240
Sandstone	240	308
Cemented gravel	308	355
medium-hard cemented grav.	355	362
Sandstone some gravel	362	395
hard cemented gravel	395	410
soft sandstone	410	435
sandstone grape sized gravel	435	442
Sandstone/gravel	442	450
cemented gravel	450	468
Sandstone/gravel	468	500
cemented gravel	500	518
Sandstone/gravel	518	532
Cemented gravel	532	540
Sandstone/gravel	540	575
Cemented gravel	575	578
heavy sticky clay	578	585
clay-medium sand gravules	585	600
hard yellow clay	600	605
hard sticky clay	605	612

Start Date 11/18/2010 Completed Date NOV. 28/2011

WELL CONSTRUCTION CERTIFICATION: I constructed and/or accept responsibility for construction of this well, and its compliance with all Washington well construction standards. Materials used and the information reported above are true to my best knowledge and belief.

■ Driller ☐ Engineer ☐ Trainee Name (Print) Mike Bach
Driller/Engineer/Trainee Signature Mike Bach
Driller or trainee License No. _____

Drilling Company Bach Drilling
Address 3340 W. Ison Creek
City, State, Zip Ellensburg WA 98926
Contractor's Registration No MIKEBDC942RA6 Date NOV. 28/2011

If TRAINEE,
Driller's Licensed No. _____
Driller's Signature _____

Ecology is an Equal Opportunity Employer.

ECY 050-1-20 (Rev 3/05) **The Department of Ecology does NOT warranty the Data and/or Information on this Well Report.**

RACHDRILLING.COM

Continued from [redacted] previous page

WATER WELL REPORT

Original & 1st copy – Ecology, 2nd copy – owner, 3rd copy – driller

Construction/Decommission ("x" in circle) 445179

○ Construction

○ Decommission *ORIGINAL INSTALLATION Notice of Intent Number* _____

CURRENT

Notice of Intent No. W273512

Unique Ecology Well ID Tag No. BCF685

Water Right Permit No. 5359

Property Owner Name City of Ellensburg

Well Street Address Piper road

City Ellensburg County Kittitas

Location NW 1/4-1/4 NW 1/4 Sec 25 Twn 18 R 18 EWM or WWM (circle one)

Lat/Long (s, t, r Still **REQUIRED**) Lat Deg 47 Lat Min/Sec 0274092 Long Deg 120 Long Min/Sec 5311695

Tax Parcel No. 18-18-25068-0021 (955292)

PROPOSED USE: ☐ Domestic ☐ Industrial ☐ Municipal ☐ DeWater ☐ Irrigation ☐ Test Well ☐ Other _____

TYPE OF WORK: Owner's number of well (if more than one) _____

☐ New well ☐ Reconditioned *Method:* ☐ Dug ☐ Bored ☐ Driven ☐ Deepened ☐ Cable ☐ Rotary ☐ Jetted

DIMENSIONS: Diameter of well _____ inches, drilled _____ ft. Depth of completed well _____ ft.

CONSTRUCTION DETAILS

Casing Installed: ☐ Welded _____" Diam. from _____ ft. to _____ ft. ☐ Liner installed _____" Diam. from _____ ft. to _____ ft. ☐ Threaded _____" Diam. from _____ ft. to _____ ft.

Perforations: ☐ Yes ☐ No

Type of perforator used _____

SIZE of perfs _____ in. by _____ in. and no. of perfs _____ from _____ ft. to _____ ft.

Screens: ☐ Yes ☐ No ☐ K-Pac Location _____

Manufacturer's Name _____

Type _____ Model No. _____

Diam. _____ Slot size _____ from _____ ft. to _____ ft.

Diam. _____ Slot size _____ from _____ ft. to _____ ft.

Gravel/Filter packed: ☐ Yes ☐ No ☐ Size of gravel/sand _____

Materials placed from _____ ft. to _____ ft.

Surface Seal: ☐ Yes ☐ No To what depth? _____ ft.

Material used in seal _____

Did any strata contain unusable water? ☐ Yes ☐ No

Type of water? _____ Depth of strata _____

Method of sealing strata off _____

PUMP: Manufacturer's Name _____

Type: _____ H.P. _____

WATER LEVELS: Land-surface elevation above mean sea level _____ ft.

Static level _____ ft. below top of well Date _____

Artesian pressure _____ lbs. per square inch Date _____

Artesian water is controlled by _____ (cap, valve, etc.)

WELL TESTS: Drawdown is amount water level is lowered below static level

Was a pump test made? ☐ Yes ☐ No If yes, by whom? _____

Yield: _____ gal./min. with _____ ft. drawdown after _____ hrs.

Yield: _____ gal./min. with _____ ft. drawdown after _____ hrs.

Yield: _____ gal./min. with _____ ft. drawdown after _____ hrs.

Recovery data (time taken as zero when pump turned off) (water level measured from well top to water level)

Time	Water Level	Time	Water Level	Time	Water Level

Date of test _____

Bailer test _____ gal./min. with _____ ft. drawdown after _____ hrs.

Airtest _____ gal./min. with stem set at _____ ft. for _____ hrs.

Artesian flow _____ g.p.m. Date _____

Temperature of water _____ Was a chemical analysis made? ☐ Yes ☐ No

CONSTRUCTION OR DECOMMISSION PROCEDURE

Formation: Describe by color, character, size of material and structure, and the kind and nature of the material in each stratum penetrated, with at least one entry for each change of information. (USE ADDITIONAL SHEETS IF NECESSARY.)

MATERIAL	FROM	TO
[redacted]		
Sticky clay	612	620
hard yellowish clay	620	625
Sand-gravel layer	625	628
hard clay	628	630
cement Sand + gravel	630	635
Sandstone	635	730
hard sandstone	730	750
cemented gravel	750	771

DEPT OF ECOLOGY Received APR 02 2012 CENTRAL REGION OFFICE

Start Date _____ Completed Date _____

WELL CONSTRUCTION CERTIFICATION: I constructed and/or accept responsibility for construction of this well, and its compliance with all Washington well construction standards. Materials used and the information reported above are true to my best knowledge and belief.

☐ Driller ☐ Engineer ☐ Trainee Name (Print) _____

Driller/Engineer/Trainee Signature _____

Driller or trainee License No. Mike Bach

Drilling Company Bach Drilling

Address 3340 Wilson Creek

City, State, Zip Ellensburg WA 98926

Contractor's Registration No. MTKEBDC942RA Date Nov 28/2011

If TRAINEE, Driller's Licensed No. _____

Driller's Signature _____

Ecology is an Equal Opportunity Employer

ECY 050-1-20 (Rev 3/05) **The Department of Ecology does NOT warranty the Data and/or Information on this Well Report.**

BACHDRILLING.COM

The Department of Ecology does NOT Warranty the Data and/or the Information on this Well Report.

APPENDIX B
SUSCEPTIBILITY ASSESSMENT FORMS FOR NEW WELLS

Washington State Department of Health
Environmental Health Programs
Division of Drinking Water

Ground Water Contamination
Susceptibility Assessment Survey Form

Complete **one** form for **eac**h ground water source (well, well of a wellfield, spring, spring of a springfield) used in your water system (photocopy as necessary). Contact your regional WA DOH office if you need a copy of the Instruction Packet.

PART I: System Information

Well owner/manager: City of Ellensburg

Water system name: Ellensburg Water Department

County: Kittitas

Water system ID number: 22950 Source number: 08

Well depth: 730 feet

Source name: Airport Well (#1)

WA well tag identification number: A F L - 8 5 3

❑ Well not tagged

Number of connections: 9246 Population served: 18320

Township: 18N Range: 18E

Section: 25 ¼ ¼ Section: NWNE

Latitude/longitude (if available): 47.026828 N / -120.535669 W

How was latitude/longitude determined?

_____Global positioning device_____survey_____topographical map
__✓__other: Aerial Imagery (Google Earth)

*****Please see Instruction Packet for details and explanations of all questions in Parts II through V.

PART II: Well Construction and Source Information

1) Date well originally constructed: 7/ 4 / 1943 month/day/year

Date well last reconstructed: 3 / 15 / 2002 month/day/year

❑ Information unavailable

2) Well driller: Department of the Army

❑ Well driller unknown

3) Type of well: ✓ Drilled: ❑ rotary ❑ bored ❑ cable (percussion) ❑ Dug

___ other: ❑ spring(s) ❑ lateral collector (Ranney)

❑ driven ❑ jetted ❑ other:

4) Well report available ☒ Yes (attach copy to form) ❑ No

5) Average pumping rate: 450 (gallons/min)

Source of information *Associated water right for Airport Well (#1) There is an additional point of withdrawal for this water right (Airport Well 3).*

If not documented, how was pumping rate determined? *The Qi for the associated water right forAirport Well (#1) is 1,050 gpm. The additional point of withdrawal for this water right (Airport Well 3) has a design capacity of 600 gpm. The pumping rate for Airport Well (#1) was determined as the difference of the Qi (1050) and withdrawals from Airport Well #3 (600 gpm).*

❑ Pumping rate unknown

6) Is this source treated?

If so, what type of treatment:

☒ disinfection ❑ filtration ❑ carbon filter ❑ air stripper ☒ other fluoridation

Purpose of treatment (describe materials to be removed or controlled by treatment):

7) If source is chlorinated, is a chlorine residual maintained: ☒ Yes ❑ No

Residual level: 1 mg/L (At the point closest to the source.)

PART III: Hydrogeologic Information

1) Depth to top of open interval: [check one]

❑ less than 20 ft ❑ 20-49ft ❑ 50-99ft ❑ 100-200ft ☒ greater than 200ft

❑ information unavailable

2) Depth to ground water (static water level):

❑ less than 20ft ❑ 20-49ft ☒50-100ft ❑ greater than 100ft

❑ flowing well/spring (artesian)

How was water level determined?

❑ well log ☒ other manual sounding

❑ depth to ground water unknown

3) If source is a flowing well or spring, what is the confining pressure:

_____ psi (pounds per square inch) **or**

_____feet above wellhead

4) If source is a flowing well or spring, is there a surface impoundment, reservoir, or catchment associated with this source: ❑ Yes ❑ No

5) Wellhead elevation (height above mean sea level): 1710 feet

How was elevation determined? ❑ topographic map ❑ Drilling/Well Log ❑ altimeter

☒other: 10-meter DEM

❑ information unavailable

6) Confining layers: (This can be completed only for those sources with a drilling log, well log or geologic report describing subsurface conditions. Please refer to Instruction Packet for example.)

_____✓_____ evidence of confining layer(s) in well log

_____ no evidence of confining layer(s) in well log

If there is evidence of a confining layer, is the depth to ground water more than 20 feet above the **bottom** of the **lowest confining layer**? ☒Yes ❑ No

❑ information unavailable

7) Sanitary setback:

❑ less than 100ft* ❑ 100-120ft ❑ 120-200 ft ☒greater than 200ft

* If less than 100ft, describe the site conditions:

_____

_____

8) Wellhead construction:

☒wellhead enclosed in a wellhouse

❑ controlled access (describe): _____

_____

❑ other uses for wellhouse (describe): _____

_____

❑ no wellhead control

9) Surface seal:

❑ 18 ft

❑ greater than 18 ft

❑ less than 18 ft (no Department of Ecology approval)

❑ less than 18 ft (approved by Department of Ecology, include documentation)

☒ depth of seal unknown

❑ no surface seal

10) Annual rainfall (inches per year):

☒ less than 10 in/yr ❑ 10-25 in/yr ❑ greater than 25 in/yr

PART IV: Mapping Your Ground Water Resource

1) Annual volume of water pumped: 236,520,000 (gallons)

How was this determined?

☐ meter

☒ estimated: ☒ pumping rate (450)

☐ pump capacity ( )

☐ pumping rate and capacity ( )

☒ other (describe): *A rate of 450 gpm was chosen for the purposes of WHPA delineation and was determined from the Qi of 1,050 gpm and the design capacity of the additional point of withdrawal (600 gpm, Airport Well 3)*

2) Determined time of travel using:

☒ "Calculated Fixed Radius" estimate of ground water movement:
Travel times calculated by using 450 gpm, determined from the associated water right for Airport Well 1 and Airport Well 3*

☐ Alternate Numerical Model

6-month ground water travel time: 790 feet

1-year ground water travel time: 1120 feet

5-year ground water travel time: 2510 feet

10-year ground water travel time: 3550 feet

Information available on length of screened/open interval?

☒ Yes ☐ No

Length of screened/open interval: 80 feet

3) Is there a river, lake, pond, stream, or other obvious surface water body within the 6- month time of travel boundary?

☐ Yes ☒ No (mark and identify on map)

4) Is there a stormwater and/or wastewater facility, treatment lagoon, or holding pond located within the 6-month time of travel boundary?

☐ Yes ☒ No (mark and identify on map)

Comments:

PART V: Assessment of Water Quality

1) **Regional sources of risk to ground water**:

Please indicate if any of the following are present within a circular area around your water source having a radius up to and including the five-year ground water travel time. If you do not know if one of the following is present, mark the "unknown" space.

	6-month	1-year	5-year	unknown
• likely pesticide application				
• stormwater injection wells				
• other injection wells				
• abandoned ground water well				
• landfills, dumps, disposal areas				
• known hazardous materials clean-up site	✓	✓	✓	
• known water quality problems				
• population density less than 1 house/acre				
• residences commonly have septic tanks				
• Wastewater treatment lagoons				
• sites used for land application of waste				

Please include a map of the wellhead and time of travel areas with this form. Mark and identify on the map any of the risks listed above.

If other recorded or potential sources of ground water contamination exist within the ten-year time of travel circular zone around your water supply, please describe:

Caribou Creek Logging and Elmview Recycle are located within the six-month circular time of travel zone. These sites are likely to handle small quantities of hazardous materials.

2) **Source-specific water quality records**: For each type of test below, **mark the row that applies to the sample results for this source**. Consider all the sample results from the past 12 years. Maximum Contaminant Levels (MCLs) and State Advisory Levels (SALs) are noted next to the specific test and are listed in the Instruction Packet.

A. **Nitrate:** (Nitrate MCL = 10 mg/liter)

- ❑ Results greater than MCL
- ☒ less than 2 mg/liter nitrate
- ❑ 2-5 mg/liter nitrate
- ❑ greater than 5 mg/liter nitrate

B. **VOCs:** (VOC detection level is 0.5 ug/liter or 0.0005 mg/liter)

- ❑ Results greater than MCL or SAL
- ❑ VOCs detected at least once
- ☒ VOCs never detected
- ❑ VOC sampling records unavailable

C. **EDB/DBCP:**
(EDB MCL = 0.05 ug/l or 0.00005 mg/l. DBCP MCL = 0.2 ug/l or 0.0002 mg/l.)

- ❑ EDB/DBCP detected below MCL at least once
- ❑ EDB/DBCP detected above MCL at least once
- ☒ EDB/DBCP never detected
- ❑ EDB/DBCP tests required but not yet completed
- ❑ EDB/DBCP tests not required

D. **Other SOCs (Pesticides, Herbicides, or SOCs other than EDB/DBCP):**

- ❑ Other SOCs detected
  (pesticides, herbicides or other synthetic organic chemicals)
- ☒ Other SOC tests performed but none detected
  (list test methods in comments)
- ❑ Other SOC tests not performed

If any SOCs in addition to EDB/DBCP were detected, please identify and date. If other SOC tests were performed, but no SOCs detected, list test methods here:

EPA Methods 525.2, 515.4, 531.2, and 508.1 for state drinking water compliance

E. **Bacterial contamination:**

Any bacterial detection(s) in the past 3 years in samples taken from the source (not distribution sampling records)? ❑ Yes ☒ No

Any bacterial detection(s) in the past 3 years in the distribution system that have been attributed to the source? ❑ Yes ☒ No

Source sampling records for bacteria unavailable ☒ Yes ❑ No

PART VI: Geographic or Hydrologic Factors Contributing to a Non-Circular Zone of Contribution

The following questions will help identify those ground water sources which may not be accurately represented by the calculated fixed radius (CFR) method described in Part IV. For these sources, the CFR areas should be used as a preliminary delineation of the critical time of travel zones for that source. As a system develops its Wellhead Protection Plan for these sources, a more detailed delineation method should be considered.

1) Is there evidence of obvious hydrologic boundaries within the 10-year time of travel zone of the CFR? (Does the largest circle extend over a stream, river, lake, up a steep hillside, and/or over a mountain or ridge?)

❑ Yes ☒ No

Describe with references to map produced in Part IV:

_____

_____

2) Aquifer Material:

A) Does the drilling log, well log or other geologic/engineering reports identify that the well is located in an area where the underground conditions are identified as fractured rock and/or basalt terrain?

❑ Yes ☒No

B) Does the drilling log, well log or other geologic/engineering reports indicate that the well is located in an area where the underground conditions are primarily identified as coarse sand and gravel?

❑ Yes ☒No

3) Is the source located in an aquifer with a high horizontal flow rate? (These can include sources located on flood plains of large rivers, artesian wells with high water pressure, and/or shallow flowing wells and springs.)

❑ Yes ☒No

4) Are there other high capacity wells (agricultural, municipal and/or industrial) located within the CFRs?

a) Presence of ground water extraction wells removing more than approximately 500 gal/min within…

	YES	NO	unknown
Less than 6-month travel time	✓		
6 month—1 year travel time		✓	
1—5 year travel time		✓	
5—10 year travel time		✓	

b) Presence of ground water recharge wells (dry wells) or heavy irrigation within…

	YES	NO	unknown
Less than 1-year travel time		✓	
1—5 year travel time		✓	
5—10 year travel time		✓	

Please identify or describe additional hydrologic or geographic conditions that you believe may affect the shape of the zone of contribution for this source. Where possible, reference them to locations on the map produced in Part IV.

Airport Well 3 (S11) is located 1000 feet east and 60 feet north of Airport Well 1 (S08) and is screened in the same hydrologic unit. A pumping rate of 1,050 gpm and screen length of 96 feet was selected for the Calculated Fixed Rate method to represent the combined withdrawal from Airport well 1 and Airport Well 3. The centroid of the time of travel boundaries is equidistant from the two wells.

FORM COMPLETED BY:

Andrew Austreng, Golder Associates, Inc. 1/15/13
Print Name Date

Signature

Washington State Department of Health
Environmental Health Programs
Division of Drinking Water

Ground Water Contamination
Susceptibility Assessment Survey Form

Complete **one** form for **eac**h ground water source (well, well of a wellfield, spring, spring of a springfield) used in your water system (photocopy as necessary). Contact your regional WA DOH office if you need a copy of the Instruction Packet.

PART I: System Information

Well owner/manager: City of Ellensburg

Water system name: Ellensburg Water Department

County: Kittitas

Water system ID number: 22950 Source number: 09

Well depth: 730 feet

Source name: Route 10 Well

WA well tag identification number: A A S - 1 5 2

❑ Well not tagged

Number of connections: 9246 Population served: 18320

Township: 18N Range: 17E

Section: 12 ¼ ¼ Section: SE SE

Latitude/longitude (if available): -120.647355 / 47.059505

How was latitude/longitude determined?

✓ Global positioning device survey topographical map
other:

*****Please see Instruction Packet for details and explanations of all questions in Parts II through V.

PART II: Well Construction and Source Information

1) Date well originally constructed: 08 /10 /2009 month/day/year

Date well last reconstructed: ____/___/___month/day/year

❑ Information unavailable

2) Well driller: Schneider Equipment and Drilling, Inc.

❑ Well driller unknown

3) Type of well: ✓ Drilled: ☒ rotary ❑ bored ❑ cable (percussion) ❑ Dug

___ other: ❑ spring(s) ❑ lateral collector (Ranney)

❑ driven ❑ jetted ❑ other:

4) Well report available ☒ Yes (attach copy to form) ❑ No

5) Average pumping rate: 1200 (gallons/min)

Source of information *Route 10 Well Installation and Testing* (Golder Associates, 2009)

If not documented, how was pumping rate determined? Recommended pumping rate from well testing.

❑ Pumping rate unknown

6) Is this source treated?

If so, what type of treatment:

☒ disinfection ❑ filtration ❑ carbon filter ❑ air stripper ☒ other Fluoridation

Purpose of treatment (describe materials to be removed or controlled by treatment):

7) If source is chlorinated, is a chlorine residual maintained: ☒ Yes ❑ No

Residual level: 1 mg/L (At the point closest to the source.)

PART III: Hydrogeologic Information

1) Depth to top of open interval: [check one]

❑ less than 20 ft ❑ 20-49ft ❑ 50-99ft ❑ 100-200ft ☒ greater than 200ft

❑ information unavailable

2) Depth to ground water (static water level):

❑ less than 20ft ❑ 20-49ft ☒50-100ft ❑ greater than 100ft

❑ flowing well/spring (artesian)

How was water level determined?

☒well log ❑ other _____

❑ depth to ground water unknown

3) If source is a flowing well or spring, what is the confining pressure:

4 psi (pounds per square inch) **or**

_____feet above wellhead

4) If source is a flowing well or spring, is there a surface impoundment, reservoir, or catchment associated with this source: ❑ Yes ☒ No

5) Wellhead elevation (height above mean sea level): 1626 feet

How was elevation determined? ❑ topographic map ❑ Drilling/Well Log ❑ altimeter

☒ other: 10-meter DEM

❑ information unavailable

6) Confining layers: (This can be completed only for those sources with a drilling log, well log or geologic report describing subsurface conditions. Please refer to Instruction Packet for example.)

✓ evidence of confining layer(s) in well log

_____ no evidence of confining layer(s) in well log

If there is evidence of a confining layer, is the depth to ground water more than 20 feet above the **bottom** of the **lowest confining layer**? ☒Yes ❑ No

❑ information unavailable

7) Sanitary setback:

❑ less than 100ft* ☒100-120ft ❑ 120-200 ft ❑greater than 200ft

* If less than 100ft, describe the site conditions:

_____

_____

8) Wellhead construction:

☒wellhead enclosed in a wellhouse

❑ controlled access (describe): _____

_____

❑ other uses for wellhouse (describe): _____

_____

❑ no wellhead control

9) Surface seal:

❑ 18 ft

☒ greater than 18 ft *20-inch intermediate casing cemented to 401 feet*

❑ less than 18 ft (no Department of Ecology approval)

❑ less than 18 ft (approved by Department of Ecology, include documentation)

❑ depth of seal unknown

❑ no surface seal

10) Annual rainfall (inches per year):

☒ less than 10 in/yr ❑ 10-25 in/yr ❑ greater than 25 in/yr

PART IV: Mapping Your Ground Water Resource

1) Annual volume of water pumped: 6254640000 (gallons)

How was this determined?

❑ meter

☒ estimated: ☒ pumping rate (_____)

☒ pump capacity (1,190; DOH Water Facilities Inventory)

❑ pumping rate and capacity (_____)

❑ other (describe): _____

2) Determined time of travel using:

☒ "Calculated Fixed Radius" estimate of ground water movement:

❑ Alternate Numerical Model

6-month ground water travel time: 910 feet

1-year ground water travel time: 1290 feet

5-year ground water travel time: 2880 feet

10-year ground water travel time: 4080 feet

Information available on length of screened/open interval?

☒ Yes ❑ No

Length of screened/open interval: 160 feet

3) Is there a river, lake, pond, stream, or other obvious surface water body within the 6- month time of travel boundary?

☒ Yes ❑ No (mark and identify on map)

4) Is there a stormwater and/or wastewater facility, treatment lagoon, or holding pond located within the 6-month time of travel boundary?

❑ Yes ☒ No (mark and identify on map)

Comments: The Yakima River crosses the six-month time of travel boundary. The upward gradient of the aquifer indicates that the Yakima River does not represent a recharge boundary for the Route 10 Well.

PART V: Assessment of Water Quality

1) **Regional sources of risk to ground water**:

Please indicate if any of the following are present within a circular area around your water source having a radius up to and including the five-year ground water travel time. If you do not know if one of the following is present, mark the "unknown" space.

	6-month	1-year	5-year	unknown
• likely pesticide application			✓	
• stormwater injection wells				
• other injection wells				
• abandoned ground water well				✓
• landfills, dumps, disposal areas				
• known hazardous materials clean-up site				
• known water quality problems				
• population density less than 1 house/acre		✓		
• residences commonly have septic tanks			✓	
• Wastewater treatment lagoons				
• sites used for land application of waste				

Please include a map of the wellhead and time of travel areas with this form. Mark and identify on the map any of the risks listed above.

If other recorded or potential sources of ground water contamination exist within the ten-year time of travel circular zone around your water supply, please describe:

2) **Source-specific water quality records**: For each type of test below, **mark the row that applies to the sample results for this source**. Consider all the sample results from the past 12 years. Maximum Contaminant Levels (MCLs) and State Advisory Levels (SALs) are noted next to the specific test and are listed in the Instruction Packet.

A. **Nitrate:** (Nitrate MCL = 10 mg/liter)

- ❑ Results greater than MCL
- ☒ less than 2 mg/liter nitrate
- ❑ 2-5 mg/liter nitrate
- ❑ greater than 5 mg/liter nitrate

B. **VOCs:** (VOC detection level is 0.5 ug/liter or 0.0005 mg/liter)

- ❑ Results greater than MCL or SAL
- ❑ VOCs detected at least once
- ☒ VOCs never detected
- ❑ VOC sampling records unavailable

C. **EDB/DBCP:**
(EDB MCL = 0.05 ug/l or 0.00005 mg/l. DBCP MCL = 0.2 ug/l or 0.0002 mg/l.)

- ❑ EDB/DBCP detected below MCL at least once
- ❑ EDB/DBCP detected above MCL at least once
- ☒ EDB/DBCP never detected
- ❑ EDB/DBCP tests required but not yet completed
- ❑ EDB/DBCP tests not required

D. **Other SOCs (Pesticides, Herbicides, or SOCs other than EDB/DBCP):**

- ❑ Other SOCs detected
  (pesticides, herbicides or other synthetic organic chemicals)
- ☒ Other SOC tests performed but none detected
  (list test methods in comments)
- ❑ Other SOC tests not performed

If any SOCs in addition to EDB/DBCP were detected, please identify and date. If other SOC tests were performed, but no SOCs detected, list test methods here: EPA Methods 525.2, 515.4, 531.2, and 508.1 for state drinking water compliance

E. **Bacterial contamination:**

Any bacterial detection(s) in the past 3 years in samples taken from the source (not distribution sampling records)? ❑ Yes ☒ No

Any bacterial detection(s) in the past 3 years in the distribution system that have been attributed to the source? ❑ Yes ☒ No

Source sampling records for bacteria unavailable ☒ Yes ❑ No

PART VI: Geographic or Hydrologic Factors Contributing to a Non-Circular Zone of Contribution

The following questions will help identify those ground water sources which may not be accurately represented by the calculated fixed radius (CFR) method described in Part IV. For these sources, the CFR areas should be used as a preliminary delineation of the critical time of travel zones for that source. As a system develops its Wellhead Protection Plan for these sources, a more detailed delineation method should be considered.

2) Is there evidence of obvious hydrologic boundaries within the 10-year time of travel zone of the CFR? (Does the largest circle extend over a stream, river, lake, up a steep hillside, and/or over a mountain or ridge?)

☒Yes ❑ No

Describe with references to map produced in Part IV:

The Yakima River is within the 1-year time of travel zone. Confined artesian conditions for the screened interval indicate an upward gradient. The Yakima River is not considered to be a recharge boundary for the Route 10 well.

2) Aquifer Material:

A) Does the drilling log, well log or other geologic/engineering reports identify that the well is located in an area where the underground conditions are identified as fractured rock and/or basalt terrain?

❑ Yes ☒No

B) Does the drilling log, well log or other geologic/engineering reports indicate that the well is located in an area where the underground conditions are primarily identified as coarse sand and gravel?

❑ Yes ☒No

3) Is the source located in an aquifer with a high horizontal flow rate? (These can include sources located on flood plains of large rivers, artesian wells with high water pressure, and/or shallow flowing wells and springs.)

❑ Yes ☒No

4) Are there other high capacity wells (agricultural, municipal and/or industrial) located within the CFRs?

a) Presence of ground water extraction wells removing more than approximately 500 gal/min within…

	YES	NO	unknown
Less than 6-month travel time	✓**		
6 month—1 year travel time		✓	
1—5 year travel time		✓	
5—10 year travel time		✓	

A Ranney well (S01) is located within the 6-month time of travel boundary. This Ranney well is located in shallow alluvium with no hydrologic connection with the Route 10 well

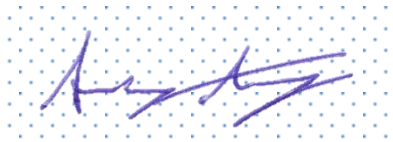
b) Presence of ground water recharge wells (dry wells) or heavy irrigation within…

	YES	NO	unknown
Less than 1-year travel time		✓	
1—5 year travel time		✓	
5—10 year travel time		✓	

Please identify or describe additional hydrologic or geographic conditions that you believe may affect the shape of the zone of contribution for this source. Where possible, reference them to locations on the map produced in Part IV.

FORM COMPLETED BY:

Andrew Austreng, Golder Associates, Inc. 1/15/13
Print Name Date



Signature

Washington State Department of Health
Environmental Health Programs
Division of Drinking Water

Ground Water Contamination
Susceptibility Assessment Survey Form

Complete **one** form for **eac**h ground water source (well, well of a wellfield, spring, spring of a springfield) used in your water system (photocopy as necessary). Contact your regional WA DOH office if you need a copy of the Instruction Packet.

PART I: System Information

Well owner/manager: City of Ellensburg

Water system name: Ellensburg Water Department

County: Kittitas

Water system ID number: 22950 Source number: 10

Well depth: 1055 feet

Source name: Hayward Well

WA well tag identification number: A A S - 2 5 2

❑ Well not tagged

Number of connections: 9246 Population served: 18320

Township: 18N Range: 18E

Section: 17 ¼ ¼ Section: NW SW

Latitude/longitude (if available): -120.620405 / 47.050072

How was latitude/longitude determined?

✓ Global positioning device survey topographical map
other:

*****Please see Instruction Packet for details and explanations of all questions in Parts II through V.

PART II: Well Construction and Source Information

1) Date well originally constructed: 2 / 15/ 2009 month/day/year

Date well last reconstructed: ___/___/___month/day/year

❑ Information unavailable

2) Well driller: Schneider Drilling and Equipment Inc.

❑ Well driller unknown

3) Type of well: ✓ Drilled: ☒rotary ❑ bored ❑cable (percussion) ❑ Dug

___ other: ❑ spring(s) ❑ lateral collector (Ranney)

❑ driven ❑ jetted ❑ other:

4) Well report available ☒ Yes (attach copy to form) ❑ No

5) Average pumping rate: 1600 (gallons/min)

Source of information Recommended Maximum pumping rate obtained from *Hayward Well Installation and Testing* (Golder Associates, 2009)

If not documented, how was pumping rate determined?

❑ Pumping rate unknown

6) Is this source treated?

If so, what type of treatment:

☒ disinfection ❑ filtration ❑ carbon filter ❑ air stripper ☒ other Fluoridation

Purpose of treatment (describe materials to be removed or controlled by treatment):

7) If source is chlorinated, is a chlorine residual maintained: ☒Yes ❑ No

Residual level: 1 mg/L (At the point closest to the source.)

PART III: Hydrogeologic Information

1) Depth to top of open interval: [check one]

❑ less than 20 ft ❑ 20-49ft ❑ 50-99ft ❑ 100-200ft ☒greater than 200ft

❑ information unavailable

2) Depth to ground water (static water level):

❑ less than 20ft ❑ 20-49ft ❑ 50-100ft ☒ greater than 100ft

❑ flowing well/spring (artesian)

How was water level determined?

☒well log ❑ other _____

❑ depth to ground water unknown

3) If source is a flowing well or spring, what is the confining pressure:

_____ psi (pounds per square inch) **or**

_____feet above wellhead

4) If source is a flowing well or spring, is there a surface impoundment, reservoir, or catchment associated with this source: ❑ Yes ❑ No

5) Wellhead elevation (height above mean sea level): 1720 feet

How was elevation determined? ❑ topographic map ❑ Drilling/Well Log ❑ altimeter

☒ other: 10-meter DEM

❑ information unavailable

6) Confining layers: (This can be completed only for those sources with a drilling log, well log or geologic report describing subsurface conditions. Please refer to Instruction Packet for example.)

✓ evidence of confining layer(s) in well log

_____ no evidence of confining layer(s) in well log

If there is evidence of a confining layer, is the depth to ground water more than 20 feet above the **bottom** of the **lowest confining layer**? ☒ Yes ❑ No

❑ information unavailable

7) Sanitary setback:

❑ less than 100ft* ☒ 100-120ft ❑ 120-200 ft ❑ greater than 200ft

* If less than 100ft, describe the site conditions:

_____

_____

8) Wellhead construction:

☒ wellhead enclosed in a wellhouse

❑ controlled access (describe): _____

_____

❑ other uses for wellhouse (describe): _____

_____

❑ no wellhead control

9) Surface seal:

❑ 18 ft

☒ greater than 18 ft *20-inch casing cemented to 600 feet*

❑ less than 18 ft (no Department of Ecology approval)

❑ less than 18 ft (approved by Department of Ecology, include documentation)

❑ depth of seal unknown

❑ no surface seal

10) Annual rainfall (inches per year):

☒ less than 10 in/yr ❑ 10-25 in/yr ❑ greater than 25 in/yr

PART IV: Mapping Your Ground Water Resource

1) Annual volume of water pumped: 946,080,000 (gallons)

How was this determined?

❑ meter

❑ estimated: ❑ pumping rate (_____)

☒ pump capacity (1800 gpm (from DOH WFI))

❑ pumping rate and capacity (_____)

❑ other (describe):_____

2) Determined time of travel using:

☒ "Calculated Fixed Radius" estimate of ground water movement: (see Instruction Packet)

❑ Alternate Numerical Model

6-month ground water travel time: 1140 feet

1-year ground water travel time: 1610 feet

5-year ground water travel time: 2900 feet

10-year ground water travel time: 5100 feet

Information available on length of screened/open interval?

☒ Yes ❑ No

Length of screened/open interval: 165 feet

3) Is there a river, lake, pond, stream, or other obvious surface water body within the 6- month time of travel boundary?

❑ Yes ☒ No (mark and identify on map)

4) Is there a stormwater and/or wastewater facility, treatment lagoon, or holding pond located within the 6-month time of travel boundary?

❑ Yes ☒ No (mark and identify on map)

Comments:_____

_____

PART V: Assessment of Water Quality

1) **Regional sources of risk to ground water**:

Please indicate if any of the following are present within a circular area around your water source having a radius up to and including the five-year ground water travel time. If you do not know if one of the following is present, mark the "unknown" space.

	6-month	1-year	5-year	unknown
• likely pesticide application		✓		
• stormwater injection wells				
• other injection wells				
• abandoned ground water well				✓
• landfills, dumps, disposal areas				
• known hazardous materials clean-up site				
• known water quality problems				
• population density less than 1 house/acre		✓		
• residences commonly have septic tanks			✓	
• Wastewater treatment lagoons				
• sites used for land application of waste				

Please include a map of the wellhead and time of travel areas with this form. Mark and identify on the map any of the risks listed above.

If other recorded or potential sources of ground water contamination exist within the ten-year time of travel circular zone around your water supply, please describe:

_____

2) **Source-specific water quality records**: For each type of test below, **mark the row that applies to the sample results for this source**. Consider all the sample results from the past 12 years. Maximum Contaminant Levels (MCLs) and State Advisory Levels (SALs) are noted next to the specific test and are listed in the Instruction Packet.

A. **Nitrate:** (Nitrate MCL = 10 mg/liter)

- ☐ Results greater than MCL
- ☒ less than 2 mg/liter nitrate
- ☐ 2-5 mg/liter nitrate
- ☐ greater than 5 mg/liter nitrate

B. **VOCs:** (VOC detection level is 0.5 ug/liter or 0.0005 mg/liter)

- ❑ Results greater than MCL or SAL
- ❑ VOCs detected at least once
- ☒ VOCs never detected
- ❑ VOC sampling records unavailable

C. **EDB/DBCP:**
(EDB MCL = 0.05 ug/l or 0.00005 mg/l. DBCP MCL = 0.2 ug/l or 0.0002 mg/l.)

- ❑ EDB/DBCP detected below MCL at least once
- ❑ EDB/DBCP detected above MCL at least once
- ☒ EDB/DBCP never detected
- ❑ EDB/DBCP tests required but not yet completed
- ❑ EDB/DBCP tests not required

D. **Other SOCs (Pesticides, Herbicides, or SOCs other than EDB/DBCP):**

- ❑ Other SOCs detected
  (pesticides, herbicides or other synthetic organic chemicals)
- ☒ Other SOC tests performed but none detected
  (list test methods in comments)
- ❑ Other SOC tests not performed

If any SOCs in addition to EDB/DBCP were detected, please identify and date. If other SOC tests were performed, but no SOCs detected, list test methods here:

EPA Methods 525.2, 515.4, 531.2, and 508.1 for state drinking water compliance

E. **Bacterial contamination:**

Any bacterial detection(s) in the past 3 years in samples taken from the source (not distribution sampling records)? ❑ Yes ☒ No
**The source was tested during well installation and testing (Golder Associates, 2009)*

Any bacterial detection(s) in the past 3 years in the distribution system that have been attributed to the source? ❑ Yes ❑ No

Source sampling records for bacteria unavailable ❑ Yes ❑ No

PART VI: Geographic or Hydrologic Factors Contributing to a Non-Circular Zone of Contribution

The following questions will help identify those ground water sources which may not be accurately represented by the calculated fixed radius (CFR) method described in Part IV. For these sources, the CFR areas should be used as a preliminary delineation of the critical time of travel zones for that source. As a system develops its Wellhead Protection Plan for these sources, a more detailed delineation method should be considered.

3) Is there evidence of obvious hydrologic boundaries within the 10-year time of travel zone of the CFR? (Does the largest circle extend over a stream, river, lake, up a steep hillside, and/or over a mountain or ridge?)

❑ Yes ☒ No

Describe with references to map produced in Part IV:

Hayward Well is located on a topographic high. The CFR extends to the valley floor (downgradient).

2) Aquifer Material:

A) Does the drilling log, well log or other geologic/engineering reports identify that the well is located in an area where the underground conditions are identified as fractured rock and/or basalt terrain?

❑ Yes ☒ No

B) Does the drilling log, well log or other geologic/engineering reports indicate that the well is located in an area where the underground conditions are primarily identified as coarse sand and gravel?

❑ Yes ☒ No

3) Is the source located in an aquifer with a high horizontal flow rate? (These can include sources located on flood plains of large rivers, artesian wells with high water pressure, and/or shallow flowing wells and springs.)

❑ Yes ☒No

4) Are there other high capacity wells (agricultural, municipal and/or industrial) located within the CFRs?

a) Presence of ground water extraction wells removing more than approximately 500 gal/min within…

	YES	NO	unknown
Less than 6-month travel time		✓	
6 month—1 year travel time		✓	
1—5 year travel time		✓	
5—10 year travel time		✓	

b) Presence of ground water recharge wells (dry wells) or heavy irrigation within…

	YES	NO	unknown
Less than 1-year travel time		✓	
1—5 year travel time		✓	
5—10 year travel time		✓	

Please identify or describe additional hydrologic or geographic conditions that you believe may affect the shape of the zone of contribution for this source. Where possible, reference them to locations on the map produced in Part IV.

FORM COMPLETED BY:

Andrew Austreng, Golder Associates, Inc. 1/15/2013
Print Name Date

Signature

Washington State Department of Health
Environmental Health Programs
Division of Drinking Water

Ground Water Contamination
Susceptibility Assessment Survey Form

Complete **one** form for **eac**h ground water source (well, well of a wellfield, spring, spring of a springfield) used in your water system (photocopy as necessary). Contact your regional WA DOH office if you need a copy of the Instruction Packet.

PART I: System Information

Well owner/manager: City of Ellensburg

Water system name: Ellensburg Water Department

County: Kittitas

Water system ID number: 22950 Source number: 11

Well depth: 771 feet

Source name: Airport Well #3

WA well tag identification number: B C F - 6 8 5

❑ Well not tagged

Number of connections: 9246 Population served: 18320

Township: 18N Range: 18E

Section: 25 ¼ ¼ Section: NE/NW

Latitude/longitude (if available): 47° 1'38.89"N / 120°31'51.11"W

How was latitude/longitude determined?

_____Global positioning device_____survey_____topographical map
___✓___other: Aerial Imagery (Google Earth)__

*****Please see Instruction Packet for details and explanations of all questions in Parts II through V.

PART II: Well Construction and Source Information

1) Date well originally constructed: 11/ 28/11 month/day/year

Date well last reconstructed: ___/___/___month/day/year

❑ Information unavailable

2) Well driller: Bach Drilling

3340 Wilson Creek Rd, Ellensburg WA, 98926

❑ Well driller unknown

3) Type of well: _X_ Drilled: ☒ rotary ❑ bored ☒ cable (percussion) ❑ Dug

___ other: ❑ spring(s) ❑ lateral collector (Ranney)

❑ driven ❑ jetted ❑ other:

4) Well report available ☒ Yes (attach copy to form) ❑ No

5) Average pumping rate: 600 (gallons/min)

Source of information

If not documented, how was pumping rate determined? *Designed operating flow rate*

❑ Pumping rate unknown

6) Is this source treated?

If so, what type of treatment:

☒ disinfection ❑ filtration ❑ carbon filter ❑ air stripper ☒ other floridation

Purpose of treatment (describe materials to be removed or controlled by treatment):

7) If source is chlorinated, is a chlorine residual maintained: ☒ Yes ❑ No

Residual level: 2.0 mg/L (At the point closest to the source.)

PART III: Hydrogeologic Information

1) Depth to top of open interval: [check one]

❑ less than 20 ft ❑ 20-49ft ❑ 50-99ft ❑ 100-200ft ☒ greater than 200ft

❑ information unavailable

2) Depth to ground water (static water level):

❑ less than 20ft ❑ 20-49ft ❑ 50-100ft ☒ greater than 100ft

❑ flowing well/spring (artesian)

How was water level determined?

☒ well log ☒ other Sounding before/after pump test

❑ depth to ground water unknown

3) If source is a flowing well or spring, what is the confining pressure:

_____ psi (pounds per square inch) **or**

_____feet above wellhead

4) If source is a flowing well or spring, is there a surface impoundment, reservoir, or catchment associated with this source: ❑ Yes ❑ No

5) Wellhead elevation (height above mean sea level): 1720 feet

How was elevation determined? ❑ topographic map ☒ Drilling/Well Log ❑ altimeter

☒ other: 10-meter DEM

❑ information unavailable

6) Confining layers: (This can be completed only for those sources with a drilling log, well log or geologic report describing subsurface conditions. Please refer to Instruction Packet for example.)

X evidence of confining layer(s) in well log

_____ no evidence of confining layer(s) in well log

If there is evidence of a confining layer, is the depth to ground water more than 20 feet above the **bottom** of the **lowest confining layer**? ☒ Yes ❑ No

❑ information unavailable

7) Sanitary setback:

❑ less than 100ft* ☒ 100-120ft ❑ 120-200 ft ❑ greater than 200ft

* If less than 100ft, describe the site conditions:

_____

_____

8) Wellhead construction:

☒ wellhead enclosed in a wellhouse

❑ controlled access (describe): _____

_____

❑ other uses for wellhouse (describe): _____

_____

❑ no wellhead control

9) Surface seal:

❑ 18 ft

☒ greater than 18 ft: *Bentonite surface seal to 20 feet below ground surface*

❑ less than 18 ft (no Department of Ecology approval)

❑ less than 18 ft (approved by Department of Ecology, include documentation)

❑ depth of seal unknown

❑ no surface seal

10) Annual rainfall (inches per year):

☒ less than 10 in/yr ❑ 10-25 in/yr ❑ greater than 25 in/yr

PART IV: Mapping Your Ground Water Resource

1) Annual volume of water pumped: 315,360,000 (gallons)

How was this determined?

❑ meter

☒ estimated: ❑ pumping rate (_____)

☒ pump capacity (600 gpm)

❑ pumping rate and capacity (_____)

❑ other (describe):_____

2) Determined time of travel using:

☒ "Calculated Fixed Radius" estimate of ground water movement:

Travel times calculated by using Qi (1,050 gpm) for associated water right for Airport Well 1 and Airport Well 3*

❑ Alternate Numerical Model

6-month ground water travel time: 1980 feet

1-year ground water travel time: 2800 feet

5-year ground water travel time: 6260 feet

10-year ground water travel time: 8850 feet

Information available on length of screened/open interval?

☒ Yes ❑ No

Length of screened/open interval: 30 feet

3) Is there a river, lake, pond, stream, or other obvious surface water body within the 6- month time of travel boundary?

❑ Yes ☒No (mark and identify on map)

4) Is there a stormwater and/or wastewater facility, treatment lagoon, or holding pond located within the 6-month time of travel boundary?

❑ Yes ☒No (mark and identify on map)

Comments:_____

PART V: Assessment of Water Quality

1) **Regional sources of risk to ground water**:

Please indicate if any of the following are present within a circular area around your water source having a radius up to and including the five-year ground water travel time. If you do not know if one of the following is present, mark the "unknown" space.

	6-month	1-year	5-year	unknown
• likely pesticide application				
• stormwater injection wells				
• other injection wells				
• abandoned ground water well	✓			
• landfills, dumps, disposal areas				
• known hazardous materials clean-up site	✓	✓	✓	
• known water quality problems				
• population density less than 1 house/acre				
• residences commonly have septic tanks				
• Wastewater treatment lagoons				
• sites used for land application of waste				

Please include a map of the wellhead and time of travel areas with this form. Mark and identify on the map any of the risks listed above.

If other recorded or potential sources of ground water contamination exist within the ten-year time of travel circular zone around your water supply, please describe:

Caribou Creek Logging and Elmview Recycle are located within the six-month circular time of travel zone. These sites are likely to handle small quantities of hazardous materials.

2) **Source-specific water quality records**: For each type of test below, **mark the row that applies to the sample results for this source**. Consider all the sample results from the past 12 years. Maximum Contaminant Levels (MCLs) and State Advisory Levels (SALs) are noted next to the specific test and are listed in the Instruction Packet.

A. **Nitrate:** (Nitrate MCL = 10 mg/liter)

- ❑ Results greater than MCL
- ☒ less than 2 mg/liter nitrate
- ❑ 2-5 mg/liter nitrate
- ❑ greater than 5 mg/liter nitrate

B. **VOCs:** (VOC detection level is 0.5 ug/liter or 0.0005 mg/liter)

- ❑ Results greater than MCL or SAL
- ❑ VOCs detected at least once
- ☒ VOCs never detected
- ❑ VOC sampling records unavailable

C. **EDB/DBCP:**
(EDB MCL = 0.05 ug/l or 0.00005 mg/l. DBCP MCL = 0.2 ug/l or 0.0002 mg/l.)

- ❑ EDB/DBCP detected below MCL at least once
- ❑ EDB/DBCP detected above MCL at least once
- ☒ EDB/DBCP never detected
- ❑ EDB/DBCP tests required but not yet completed
- ❑ EDB/DBCP tests not required

D. **Other SOCs (Pesticides, Herbicides, or SOCs other than EDB/DBCP):**

- ❑ Other SOCs detected
  (pesticides, herbicides or other synthetic organic chemicals)
- ☒ Other SOC tests performed but none detected
  (list test methods in comments)
- ❑ Other SOC tests not performed

If any SOCs in addition to EDB/DBCP were detected, please identify and date. If other SOC tests were performed, but no SOCs detected, list test methods here:_____

EPA Methods 525.2, 515.4, 531.2, and 508.1 for state drinking water compliance

E. **Bacterial contamination:**

Any bacterial detection(s) in the past 3 years in samples taken from the source (not distribution sampling records)? ❑ Yes ☒ No

Any bacterial detection(s) in the past 3 years in the distribution system that have been attributed to the source? ❑ Yes ☒No

Source sampling records for bacteria unavailable ❑ Yes ☒ No

PART VI: Geographic or Hydrologic Factors Contributing to a Non-Circular Zone of Contribution

The following questions will help identify those ground water sources which may not be accurately represented by the calculated fixed radius (CFR) method described in Part IV. For these sources, the CFR areas should be used as a preliminary delineation of the critical time of travel zones for that source. As a system develops its Wellhead Protection Plan for these sources, a more detailed delineation method should be considered.

4) Is there evidence of obvious hydrologic boundaries within the 10-year time of travel zone of the CFR? (Does the largest circle extend over a stream, river, lake, up a steep hillside, and/or over a mountain or ridge?)

❑ Yes ☒ No

Describe with references to map produced in Part IV:

_____

2) Aquifer Material:

A) Does the drilling log, well log or other geologic/engineering reports identify that the well is located in an area where the underground conditions are identified as fractured rock and/or basalt terrain?

❑ Yes ☒No

B) Does the drilling log, well log or other geologic/engineering reports indicate that the well is located in an area where the underground conditions are primarily identified as coarse sand and gravel?

❑ Yes ☒No

3) Is the source located in an aquifer with a high horizontal flow rate? (These can include sources located on flood plains of large rivers, artesian wells with high water pressure, and/or shallow flowing wells and springs.)

❑ Yes ☒ No

4) Are there other high capacity wells (agricultural, municipal and/or industrial) located within the CFRs?

a) Presence of ground water extraction wells removing more than approximately 500 gal/min within…

	YES	NO	unknown
Less than 6-month travel time	✓		
6 month—1 year travel time		✓	
1—5 year travel time		✓	
5—10 year travel time		✓	

b) Presence of ground water recharge wells (dry wells) or heavy irrigation within…

	YES	NO	unknown
Less than 1-year travel time		✓	
1—5 year travel time		✓	
5—10 year travel time		✓	

Please identify or describe additional hydrologic or geographic conditions that you believe may affect the shape of the zone of contribution for this source. Where possible, reference them to locations on the map produced in Part IV.

FORM COMPLETED BY:

Andrew Austreng 1/15/2013
Print Name Date

Signature

APPENDIX C
DECLARATION OF COVENANTS FOR SANITARY CONTROL AREAS

TREASURER'S USE ONLY	RECORDER'S USE ONLY
REVIEWED BY: A Fogle DEPUTY, KITTITAS COUNTY TREASURER DATE: 6-6-12 STANDS BEFORE ME, Debbie Keno REPRESENTING City of Ellensburg STATING THAT NO CONSIDERATION IS BEING PAID.	06/06/2012 10:47:42 AM 201206060002 $63.00 Page 1 of 2 Covenants CITY EBG Kittitas County Auditor

Return To:
City Attorney's Office
501 N. Anderson St.
Ellensburg, WA 98926

Kittitas County Auditor/Recorder's Indexing Form

Please Print Or Type All Information

A. ***Document Titles (or transactions contained therein):***
1. Declaration of Covenant - Route 10 Well
2. _____

B. ***Grantor (last name, first name, middle initial):***
1. City of Ellensburg Water Department
2. _____

Additional grantors on page____ of document.

C. ***Grantee (last name, first name, middle initial):***
1. WA State Dept. of Health
2. _____

Additional grantees on page____ of document.

D. ***Legal description (lot, block, plat or section, township, range):***
All of SE 1/4 of SE 1/4, Sec. 12, T18N, R17E WM
east of ROW northern Pacific Railway Co.
Additional legal description on page____ of document.

E. ***Assessor's property tax parcel/account number(s):***
933233; 18-17-12010-0003

F. ***Reference numbers of documents assigned or released:***
_____

Additional references on page____ of document.

The auditor or recording officer will rely on the information provided on this form. The staff will not read the document to verify the accuracy of or the completeness of the indexing information provided herein.

DECLARATION OF COVENANT
Route 10 Well

Whereas the City of Ellensburg Water Department (Grantor) is the fee simple owner of the following described land, we hereby declare this covenant and place same on record of the following described land parcel for the purposes of establishing a sanitary control area around the well located on the parcel and operated by the City of Ellensburg as a water source to the Ellensburg Water Utility:

> All of the Southeast 1/4 of the Southeast 1/4 of Section 12, Township 18 North, Range 17 East, W.M. lying east of the right-of-way of the northern Pacific Railway Company located in Kittitas County, State of Washington.

The grant of this covenant serves as recognition of the City's obligation to keep the water supplied from the well located on the above described property free from impurities which might be injurious to the public health.

It is the purpose of this covenant to prevent certain practices hereinafter enumerated in the use of said grantor water supply.

NOW, THEREFORE, the grantor agrees and covenants that said grantor, successors and assigns will not construct, maintain, or suffer to be constructed or maintained upon the said land of the grantor and within 100 feet of the well on the land herein described, so long as the same is operated to furnish water for public consumption, any potential source of contamination, such as septic tanks and drain fields, sewer lines, underground storage tanks, roads, railroad tracks, vehicles, structures, barns, feed stations, grazing animals, enclosures for maintaining fowl or animal manure, liquid or dry chemical storage, herbicides, insecticides, hazardous waste, or garbage of any kind or description.

These covenants shall run with the land and shall be binding to all parties having or acquiring any right, title, or interest in the land described herein or any part thereof, and shall inure to the benefit of each owner thereof.

By: _____
Bruce Tabb, Mayor

Witness:
State of Washington)
County of Kittitas)

I, the undersigned, a Notary Public in and for the above named County and State, do hereby certify that on this 4th day of June, 20 12, personally appeared before me Bruce Tabb to me known to be the individual described in and who executed the within instrument, and acknowledge that (s)he (they) signed and sealed the same as free and voluntary act and deed, for the uses and purposes therein mentioned.

GIVEN under my hand and official seal the day and year last above written.

Notary Public
State of Washington
COREEN M RENO
MY COMMISSION EXPIRES
August 1, 2014

_____
Notary Public in and for the State of Washington, residing at Ellensburg

My Commission Expires: 8-1-14

TREASURER'S USE ONLY	RECORDER'S USE ONLY
REVIEWED BY: A Fagle DEPUTY, KITTITAS COUNTY TREASURER DATE: 6-6-12 STANDS BEFORE ME, Debbie Keno REPRESENTING City of Ellensburg STATING THAT NO CONSIDERATION IS BEING PAID.	06/06/2012 10:47:42 AM 201206060001 $63.00 Page 1 of 2 Covenants CITY EBG Kittitas County Auditor

Return To:
City Attorney's Office
501 N. Anderson St.
Ellensburg, WA 98926

Kittitas County Auditor/Recorder's Indexing Form

Please Print Or Type All Information

A. ***Document Titles (or transactions contained therein):***
1 Declaration of Covenant - Hayward Hill Well
2 _____

B. ***Grantor (last name, first name, middle initial):***
1 City of Ellensburg Water Dept.
2 _____
Additional grantors on page____ of document.

C. ***Grantee (last name, first name, middle initial):***
1 WA State Dept. of Health
2 _____
Additional grantees on page____ of document.

D. ***Legal description (lot, block, plat or section, township, range):*** Parcel 1 Survey 12-5-07, BK 34, pgs 178-179, SW ¼, Sec. 17, Additional legal description on page____ of document. T 18 N, R 18 E WM

E. ***Assessor's property tax parcel/account number(s):***
951918; 18-18-17000-0042

F. ***Reference numbers of documents assigned ~~or released~~:***
Auditor's File No. 200712050006
Additional references on page____ of document.

The auditor or recording officer will rely on the information provided on this form. The staff will not read the document to verify the accuracy of or the completeness of the indexing information provided herein.

DECLARATION OF COVENANT
Hayward Hill Well

Whereas the City of Ellensburg Water Department (Grantor) is the fee simple owner of the following described land, we hereby declare this covenant and place same on record of the following described land parcel for the purposes of establishing a sanitary control area around the well located on the parcel and operated by the City of Ellensburg as a water source to the Ellensburg Water Utility:

> A parcel of real property situated in Kittitas County, State of Washington which is legally described as Parcel 1 of that certain survey as recorded December 5, 2007 in Book 34 of surveys as pages 178-179, under Auditors File No. 200712050006, Records of Kittitas County, being a portion of the Southwest Quarter of Section 17, Township 18 North, Range 18 East, W.M. in the County of Kittitas, State of Washington.

The grant of this covenant serves as recognition of the City's obligation to keep the water supplied from the well located on the above described property free from impurities which might be injurious to the public health.

It is the purpose of this covenant to prevent certain practices hereinafter enumerated in the use of said grantor water supply.

NOW, THEREFORE, the grantor agrees and covenants that said grantor, successors and assigns will not construct, maintain, or suffer to be constructed or maintained upon the said land of the grantor and within 100 feet of the well on the land herein described, so long as the same is operated to furnish water for public consumption, any potential source of contamination, such as septic tanks and drain fields, sewer lines, underground storage tanks, roads, railroad tracks, vehicles, structures, barns, feed stations, grazing animals, enclosures for maintaining fowl or animal manure, liquid or dry chemical storage, herbicides, insecticides, hazardous waste, or garbage of any kind or description.

These covenants shall run with the land and shall be binding to all parties having or acquiring any right, title, or interest in the land described herein or any part thereof, and shall inure to the benefit of each owner thereof.

By: _____
Bruce Tabb, Mayor

Witness:
State of Washington)
County of Kittitas)

I, the undersigned, a Notary Public in and for the above named County and State, do hereby certify that on this 4th day of June, 20 12, personally appeared before me Bruce Tabb to me known to be the individual described in and who executed the within instrument, and acknowledge that (s)he (they) signed and sealed the same as free and voluntary act and deed, for the uses and purposes therein mentioned.

GIVEN under my hand and official seal the day and year last above written.

Notary Public
State of Washington
COREEN M RENO
MY COMMISSION EXPIRES
August 1, 2014

_____
Notary Public in and for the State of Washington, residing at Ellensburg

My Commission Expires: 8-1-14

DECLARATION OF COVENANT
Airport Well No. 3

Whereas the City of Ellensburg Water Department (Grantor) is the fee simple owner of the following described land, it hereby declares this covenant and places same on record of the following described land parcel for the purposes of establishing a Sanitary Control Area, in conformance with WAC 246-291-100, around the well located on the parcel and operated by the City of Ellensburg as a water source to the Ellensburg Water Utility:

Lot C-21A and C-21 as shown on Kittitas County Airport Amended Binding Site Plan BS-10-0001, recorded June 28, 2010 in Book 11, Page 249-255, receiving number 201006280055, Kittitas County Records, Excepting therefrom the southerly 170 feet of Lot C-21, containing 1.09 acres.

The grant of this covenant serves as recognition of the City's obligation to keep the water supplied from the well located on the above described property free from impurities which might be injurious to the public health.

It is the purpose of this covenant to prevent certain practices hereinafter enumerated in the use of said water source.

NOW, THEREFORE, the Grantor agrees and covenants that said Grantor, successors and assigns will not construct, maintain, or suffer to be constructed or maintained upon the said land of the Grantor and within 100 feet of the well on the land herein described, so long as the same is operated to furnish water for public consumption, any potential source of contamination, such as septic tanks and drain fields, sewer lines, underground storage tanks, roads, railroad tracks, vehicles, structures, barns, feed stations, grazing animals, enclosures for maintaining fowl or animal manure, liquid or dry chemical storage, herbicides, insecticides, hazardous waste, or garbage of any kind or description.

This covenant shall run with the land and shall be binding to all parties having or acquiring any right, title, or interest in the land described herein or any part thereof, and shall inure to the benefit of each owner thereof.

By: _____
Bruce Tabb, Mayor

Witness:)
State of Washington)
County of Kittitas)

I, the undersigned, a Notary Public in and for the above named County and State, do hereby certify that on this 4th day of March, 20 13, personally appeared before me Bruce Tabb to me known to be the individual described in and who executed the within instrument, and acknowledge that (s)he (they) signed and sealed the same as free and voluntary act and deed, for the uses and purposes therein mentioned.

GIVEN under my hand and official seal the day and year last above written.

Notary Public
State of Washington
COREEN M RENO
MY COMMISSION EXPIRES
August 1, 2014

_____
Notary Public in and for the State of Washington, residing at Ellensburg

My Commission Expires: 8-1-14

TREASURER'S USE ONLY	RECORDER'S USE ONLY
	06/07/2013 11:19:05 AM 201306070002 $74.00 Page 1 of 3 Covenants CITY OF EBG Kittitas County Auditor

Return To:
Ellensburg City Attorney
501 North Anderson St.
Ellensburg WA 98926

Kittitas County Auditor/Recorder's Indexing Form

Please Print Or Type All Information

A. Document Titles (or transactions contained therein):
1 Declaration of Covenant - Airport Well No. 1
2 _____

B. Grantor (last name, first name, middle initial):
1 City of Ellensburg
2 Kittitas County
Additional grantors on page____ of document.

C. Grantee (last name, first name, middle initial):
1 WA State Dept. of Health
2 _____
Additional grantees on page____ of document.

D. Legal description (lot, block, plat or section, township, range): Lot C-27 and portion of Lot C-28 of Kittitas County Airport Binding Site Additional legal description on page 1 of document. Plan, Book 11 of Plats, pg 110

E. Assessor's property tax parcel/account number(s): Parcel # 955298 - Map # 18-18-25068-0027 and Parcel # 955299 - Map # 18-18-25068-0028

F. Reference numbers of documents assigned or released:
_____
Additional references on page____ of document.

The auditor or recording officer will rely on the information provided on this form. The staff will not read the document to verify the accuracy of or the completeness of the indexing information provided herein.

DECLARATION OF COVENANT
Airport Well No. 1

Whereas the City of Ellensburg, and Kittitas County, (Hereinafter Grantors) are the fee simple owners of the following described lands:

Lot C-27 and a portion of Lot C-28 of the Kittitas County Airport Binding Site Plan recorded on February 20, 2009, in Book 11 of Plats at page 110, located in portions of sections 23,24,25,26, T. 18N., R. 18E., W.M.

We hereby declare and place this covenant on the described lands for the purposes of establishing a Sanitary Control Area, in conformance with WAC 246-291-100, around the well located on subject property and operated by the City of Ellensburg as a water source to the Ellensburg Water Utility as shown on attached Exhibit A.

The grant of this covenant serves as recognition of the City's and County's obligation to keep the water supplied from the well located on the above described properties free from impurities which might be injurious to the public health.

It is the purpose of this covenant to prevent certain practices hereinafter enumerated within 100 feet of the said water source.

NOW, THEREFORE, the Grantors agree and covenant that said Grantors, successors and assigns will not construct, maintain, or suffer to be constructed or maintained upon the said land of the Grantors within 100 feet of the well on the land herein described, so long as the same is operated to furnish water for public consumption, any potential source of contamination, such as septic tanks and drain fields, sewer lines, underground storage tanks, roads, railroad tracks, vehicles, structures, barns, feed stations, grazing animals, enclosures for maintaining fowl or animal manure, liquid or dry chemical storage, herbicides, insecticides, hazardous waste, or garbage of any kind or description.

This covenant shall run with the land and shall be binding to all parties having or acquiring any right, title, or interest in the land described herein or any part thereof, and shall inure to the benefit of each owner thereof.

By:
City of Ellensburg, Grantor

Bruce Tabb, Mayor

By:
Kittitas County, Grantor

Obie O'Brien, Chairperson, BOCC

Paul Jewell, Vice-Chairperson, BOCC

Gary Berndt, Commissioner, BOCC

FOR THE CITY OF ELLENSBURG;

State of Washington)
) ss.
County of Kittitas)

I, the undersigned, a Notary Public in and for the above named County and State, do hereby certify that on this 3rd day of June, 2013, Bruce Tabb personally appeared before me and is known to be the individual described in and who executed the within instrument, and acknowledge that (s)he (they) signed and sealed the same as free and voluntary act and deed, for the uses and purposes therein mentioned.

GIVEN under my hand and official seal the day and year last above written.

LAURIE L. GIGSTEAD NOTARY PUBLIC STATE OF WASHINGTON COMMISSION EXPIRES 8-08-14

Laurie L. Gigstead
Notary Public in and for the State of Washington, residing at
Ellensburg
My Commission Expires: 8-8-14

FOR KITTITAS COUNTY;

State of Washington)
) ss.
County of Kittitas)

I, the undersigned, a Notary Public in and for the above named County and State, do hereby certify that on this 21st day of May, 2013, Obie O'Brien, Paul Jewell and Gary Berndt personally appeared before me and are known to be the individual described in and who executed the within instrument, and acknowledge that (s)he (they) signed and sealed the same as free and voluntary act and deed, for the uses and purposes therein mentioned.

GIVEN under my hand and official seal the day and year last above written.

JULIE A. KORSVIK NOTARY PUBLIC STATE OF WASHINGTON COMMISSION EXPIRES 2-19-14

Julie A. Korsvik
Notary Public in and for the State of Washington, residing at
Ellensburg
My Commission Expires: 2-19-14

PUBLIC WORKS DEPARTMENT
501 N. ANDERSON ST.
ELLENSBURG, WA 98926
PHONE (509) 962-7230
FAX (509) 962-7127

DESIGN TEAM
JA

AIRPORT WELL #1
EXHIBIT A

SCALE = NONE

DATE = 02/14/13

PROJECT # 10-061

p:\projects\2010\10-061 airport replacement well\well 1.dwg

APPENDIX D
EXAMPLE NOTIFICATION LETTER TO OWNERS/OPERATORS WITHIN WHPAS

Appendix D: Sample Notification Letters

Example Letter 1 **To local jurisdictions / agencies**

Dear (Agency/Local Government):

We are writing to let you know that businesses or facilities you regulate are in our public water system wellhead protection area. Please take all reasonable steps to ensure that land use activities within this area do not contaminate our drinking water sources.

Our water company has 450 service connections, and serves about 1,071 people. The Washington State Department of Health rated our system as "highly susceptible."

The enclosed map shows the 6-month and 1-, 5- and 10-year time-of-travel boundaries for our wellhead protection area. We're also sending you a list of the facilities or activities of concern. Any groundwater contamination that occurs within this wellhead protection area has a high potential to reach our well.

Thank you for your support in protecting our drinking water.

Sincerely,

Example Letter 2 **To potential source owners/operators**

Dear (Owner/Operator):

To protect the drinking water supply for the customers of Taylor's Gulch Water System, we are developing a wellhead protection program as required by state law. As part of our wellhead protection program, we mapped the area overlying the short-term recharge zone of our drinking water supply wells. This is called our wellhead protection area.

Following the mapping of the wellhead protection area, we conducted an inventory of **potential** groundwater contamination sources within the area. The nature of your business and its location within our wellhead protection area means that your activities have the potential to affect our customers' drinking water supply.

We have notified the agency or agencies that regulate(s) your type of business/facility that you are in our wellhead protection area. You should contact them to request technical assistance to help manage your business in a way that will best prevent groundwater contamination. We realize you are already careful to protect the environment as you conduct your business. We hope that learning that you are in our wellhead protection area will result in more precautions to ensure that your activities will not affect our drinking water quality.

Sincerely,

ATTACHMENT A
EDR RADIUS REPORT

Route 10, Haywood, and City Wells
410 Gladmar Rd
Ellensburg, WA 98926

Inquiry Number: 3491048.1s
January 09, 2013

EDR Summary Radius Map Report

EDR® Environmental Data Resources Inc

440 Wheelers Farms Road
Milford, CT 06461
Toll Free: 800.352.0050
www.edrnet.com

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Thank you for your business.
Please contact EDR at 1-800-352-0050
with any questions or comments.

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EXECUTIVE SUMMARY

A search of available environmental records was conducted by Environmental Data Resources, Inc (EDR). The report was designed to assist parties seeking to meet the search requirements of EPA's Standards and Practices for All Appropriate Inquiries (40 CFR Part 312), the ASTM Standard Practice for Environmental Site Assessments (E 1527-05) or custom requirements developed for the evaluation of environmental risk associated with a parcel of real estate.

TARGET PROPERTY INFORMATION

ADDRESS

410 GLADMAR RD
ELLENSBURG, WA 98926

COORDINATES

Latitude (North):	47.0539000 - 47° 3' 14.04''
Longitude (West):	120.6376000 - 120° 38' 15.36''
Universal Tranverse Mercator:	Zone 10
UTM X (Meters):	679424.1
UTM Y (Meters):	5213643.5
Elevation:	1603 ft. above sea level

USGS TOPOGRAPHIC MAP ASSOCIATED WITH TARGET PROPERTY

Target Property:	TP
Source:	USGS 7.5 min quad index

Target Property:	E
Source:	USGS 7.5 min quad index

AERIAL PHOTOGRAPHY IN THIS REPORT

Photo Year:	2009
Source:	USDA

MAPPED SITES SUMMARY

Target Property Address:
410 GLADMAR RD
ELLENSBURG, WA 98926

Click on Map ID to see full detail.

MAP ID	SITE NAME	ADDRESS	DATABASE ACRONYMS	RELATIVE ELEVATION	DIST (ft.) DIRECTION
A1	ARCO AM PM THORP	410 GLADMAR RD	FINDS		TP
A2	ARCO AM PM THORP	410 GLADMAR RD	RCRA-NonGen		TP
A3	ARCO AM PM THORP	410 GLADMAR RD	ALLSITES, MANIFEST, Financial Assurance		TP
A4	ARCO AM PM THORP	410 GLADMAR RD	UST		TP
5	CASCADE IRRIGATION D	8063 HWY 10	FINDS, ALLSITES, NPDES	Higher	1905, NW
6	DEAN SCHWARTZ PROPER	7081 HWY 97	ALLSITES	Higher	4993, ENE
B7	ELLENSBURG CEMENT PO	KLOCKE RD	ALLSITES	Lower	5304, SE
B8	ELLENSBURG CEMENT PO	KLOCKE ROAD	FINDS	Lower	5304, SE
9	WESTSIDE IRRIGATING	8545 HWY 97	ALLSITES, NPDES	Higher	6755, NNE
C10	PSE KITTITAS SERV CT	8400 THORP HWY S	RCRA-CESQG, FINDS, ALLSITES, MANIFEST, Financial...	Higher	7145, West
C11	KITTITAS SERVICE CEN	I90 & THORP HWY INT	ALLSITES, UST	Higher	7145, West
12	BINGO FUEL STOP	EXIT 101 & I90	RCRA-NonGen, FINDS, CSCSL, ALLSITES, HSL, INST...	Higher	7165, West
D13		ADJ TO 860 KLOCKE RO	SPILLS	Lower	7225, SSE
D14	ELLENSBURG CEMENT WI	860 KLOCKE RD	FINDS	Lower	7225, SSE
15	PSE THORP STORAGE YA	THORP HWY E SIDE 1 M	RCRA-NonGen, FINDS, ALLSITES	Higher	7330, West
16	PUGET SOUND ENERGY	MCMANAMY RD & HWY 97	SPILLS	Higher	9169, SE
E17	CASCADE MOTORS	11 S 1ST ST	ALLSITES, UST	Higher	9546, WNW
E18	CITY OF ROSLYN	13 S. 1ST ST.	ICR	Higher	9547, WNW
19	ELLENSBURG TELEPHONE	61 3RD ST	FINDS, ALLSITES	Higher	10390, WNW

EXECUTIVE SUMMARY

TARGET PROPERTY SEARCH RESULTS

The target property was identified in the following records. For more information on this property see page 7 of the attached EDR Radius Map report:

Site	Database(s)	EPA ID
ARCO AM PM THORP 410 GLADMAR RD THORP, WA 98946	FINDS	N/A
ARCO AM PM THORP 410 GLADMAR RD THORP, WA 98946	RCRA-NonGen	WAH000032789
ARCO AM PM THORP 410 GLADMAR RD THORP, WA 98946	ALLSITES MANIFEST Financial Assurance	N/A
ARCO AM PM THORP 410 GLADMAR RD THORP, WA 98946	UST	N/A

SURROUNDING SITES: SEARCH RESULTS

Surrounding sites were identified in the following databases.

Elevations have been determined from the USGS Digital Elevation Model and should be evaluated on a relative (not an absolute) basis. Relative elevation information between sites of close proximity should be field verified. Sites with an elevation equal to or higher than the target property have been differentiated below from sites with an elevation lower than the target property.
Page numbers and map identification numbers refer to the EDR Radius Map report where detailed data on individual sites can be reviewed.

Sites listed in ***bold italics*** are in multiple databases.

Unmappable (orphan) sites are not considered in the foregoing analysis.

STANDARD ENVIRONMENTAL RECORDS

Federal RCRA generators list

RCRA-CESQG: A review of the RCRA-CESQG list, as provided by EDR, and dated 09/11/2012 has revealed that there is 1 RCRA-CESQG site within approximately 2 miles of the target property.

Equal/Higher Elevation	Address	Direction / Distance	Map ID	Page
PSE KITTITAS SERV CT	***8400 THORP HWY S***	***W 1 - 2 (1.353 mi.)***	***C10***	***8***

EXECUTIVE SUMMARY

State- and tribal - equivalent NPL

HSL: A review of the HSL list, as provided by EDR, and dated 08/23/2012 has revealed that there is 1 HSL site within approximately 2 miles of the target property.

Equal/Higher Elevation	Address	Direction / Distance	Map ID	Page
BINGO FUEL STOP	***EXIT 101 & I90***	***W 1 - 2 (1.357 mi.)***	***12***	***8***
Facility Type: Hazardous Sites List				

State- and tribal - equivalent CERCLIS

CSCSL: A review of the CSCSL list, as provided by EDR, and dated 10/23/2012 has revealed that there is 1 CSCSL site within approximately 2 miles of the target property.

Equal/Higher Elevation	Address	Direction / Distance	Map ID	Page
BINGO FUEL STOP	***EXIT 101 & I90***	***W 1 - 2 (1.357 mi.)***	***12***	***8***

State and tribal registered storage tank lists

UST: A review of the UST list, as provided by EDR, and dated 08/20/2012 has revealed that there are 2 UST sites within approximately 2 miles of the target property.

Equal/Higher Elevation	Address	Direction / Distance	Map ID	Page
KITTITAS SERVICE CEN	***I90 & THORP HWY INT***	***W 1 - 2 (1.353 mi.)***	***C11***	***8***
CASCADE MOTORS	***11 S 1ST ST***	***WNW 1 - 2 (1.808 mi.)***	***E17***	***9***

State and tribal institutional control / engineering control registries

INST CONTROL: A review of the INST CONTROL list, as provided by EDR, and dated 11/13/2012 has revealed that there is 1 INST CONTROL site within approximately 2 miles of the target property.

Equal/Higher Elevation	Address	Direction / Distance	Map ID	Page
BINGO FUEL STOP	***EXIT 101 & I90***	***W 1 - 2 (1.357 mi.)***	***12***	***8***

State and tribal voluntary cleanup sites

ICR: A review of the ICR list, as provided by EDR, and dated 12/01/2002 has revealed that there is 1 ICR site within approximately 2 miles of the target property.

EXECUTIVE SUMMARY

Equal/Higher Elevation	Address	Direction / Distance	Map ID	Page
CITY OF ROSLYN	13 S. 1ST ST.	WNW 1 - 2 (1.808 mi.)	E18	10

ADDITIONAL ENVIRONMENTAL RECORDS

Local Lists of Hazardous waste / Contaminated Sites

ALLSITES: A review of the ALLSITES list, as provided by EDR, and dated 11/06/2012 has revealed that there are 10 ALLSITES sites within approximately 2 miles of the target property.

Equal/Higher Elevation	Address	Direction / Distance	Map ID	Page
CASCADE IRRIGATION D	***8063 HWY 10***	***NW 1/4 - 1/2 (0.361 mi.)***	***5***	***7***
DEAN SCHWARTZ PROPER	7081 HWY 97	ENE 1/2 - 1 (0.946 mi.)	6	7
WESTSIDE IRRIGATING	***8545 HWY 97***	***NNE 1 - 2 (1.279 mi.)***	***9***	***8***
PSE KITTITAS SERV CT	***8400 THORP HWY S***	***W 1 - 2 (1.353 mi.)***	***C10***	***8***
KITTITAS SERVICE CEN	***I90 & THORP HWY INT***	***W 1 - 2 (1.353 mi.)***	***C11***	***8***
BINGO FUEL STOP	***EXIT 101 & I90***	***W 1 - 2 (1.357 mi.)***	***12***	***8***
PSE THORP STORAGE YA	***THORP HWY E SIDE 1 M***	***W 1 - 2 (1.388 mi.)***	***15***	***9***
CASCADE MOTORS	***11 S 1ST ST***	***WNW 1 - 2 (1.808 mi.)***	***E17***	***9***
ELLENSBURG TELEPHONE	***61 3RD ST***	***WNW 1 - 2 (1.968 mi.)***	***19***	***10***

Lower Elevation	Address	Direction / Distance	Map ID	Page
ELLENSBURG CEMENT PO	KLOCKE RD	SE 1 - 2 (1.005 mi.)	B7	8

Records of Emergency Release Reports

SPILLS: A review of the SPILLS list, as provided by EDR, and dated 09/24/2012 has revealed that there are 2 SPILLS sites within approximately 2 miles of the target property.

Equal/Higher Elevation	Address	Direction / Distance	Map ID	Page
PUGET SOUND ENERGY	MCMANAMY RD & HWY 97	SE 1 - 2 (1.737 mi.)	16	9

Lower Elevation	Address	Direction / Distance	Map ID	Page
Not reported	ADJ TO 860 KLOCKE RO	SSE 1 - 2 (1.368 mi.)	D13	9

Other Ascertainable Records

RCRA-NonGen: A review of the RCRA-NonGen list, as provided by EDR, and dated 09/11/2012 has revealed that there are 2 RCRA-NonGen sites within approximately 2 miles of the target property.

Equal/Higher Elevation	Address	Direction / Distance	Map ID	Page
BINGO FUEL STOP	***EXIT 101 & I90***	***W 1 - 2 (1.357 mi.)***	***12***	***8***
PSE THORP STORAGE YA	***THORP HWY E SIDE 1 M***	***W 1 - 2 (1.388 mi.)***	***15***	***9***

EXECUTIVE SUMMARY

FINDS: A review of the FINDS list, as provided by EDR, and dated 10/23/2011 has revealed that there are 7 FINDS sites within approximately 2 miles of the target property.

Equal/Higher Elevation	Address	Direction / Distance	Map ID	Page
CASCADE IRRIGATION D	***8063 HWY 10***	***NW 1/4 - 1/2 (0.361 mi.)***	***5***	***7***
PSE KITTITAS SERV CT	***8400 THORP HWY S***	***W 1 - 2 (1.353 mi.)***	***C10***	***8***
BINGO FUEL STOP	***EXIT 101 & I90***	***W 1 - 2 (1.357 mi.)***	***12***	***8***
PSE THORP STORAGE YA	***THORP HWY E SIDE 1 M***	***W 1 - 2 (1.388 mi.)***	***15***	***9***
ELLENSBURG TELEPHONE	***61 3RD ST***	***WNW 1 - 2 (1.968 mi.)***	***19***	***10***

Lower Elevation	Address	Direction / Distance	Map ID	Page
ELLENSBURG CEMENT PO	KLOCKE ROAD	SE 1 - 2 (1.005 mi.)	B8	8
ELLENSBURG CEMENT WI	860 KLOCKE RD	SSE 1 - 2 (1.368 mi.)	D14	9

MANIFEST: A review of the MANIFEST list, as provided by EDR, and dated 12/31/2011 has revealed that there is 1 MANIFEST site within approximately 2 miles of the target property.

Equal/Higher Elevation	Address	Direction / Distance	Map ID	Page
PSE KITTITAS SERV CT	***8400 THORP HWY S***	***W 1 - 2 (1.353 mi.)***	***C10***	***8***

NPDES: A review of the NPDES list, as provided by EDR, and dated 10/23/2012 has revealed that there are 2 NPDES sites within approximately 2 miles of the target property.

Equal/Higher Elevation	Address	Direction / Distance	Map ID	Page
CASCADE IRRIGATION D	***8063 HWY 10***	***NW 1/4 - 1/2 (0.361 mi.)***	***5***	***7***
WESTSIDE IRRIGATING	***8545 HWY 97***	***NNE 1 - 2 (1.279 mi.)***	***9***	***8***

Financial Assurance: A review of the Financial Assurance list, as provided by EDR, and dated 02/24/2012 has revealed that there is 1 Financial Assurance site within approximately 2 miles of the target property.

Equal/Higher Elevation	Address	Direction / Distance	Map ID	Page
PSE KITTITAS SERV CT	***8400 THORP HWY S***	***W 1 - 2 (1.353 mi.)***	***C10***	***8***

Count: 48 records.

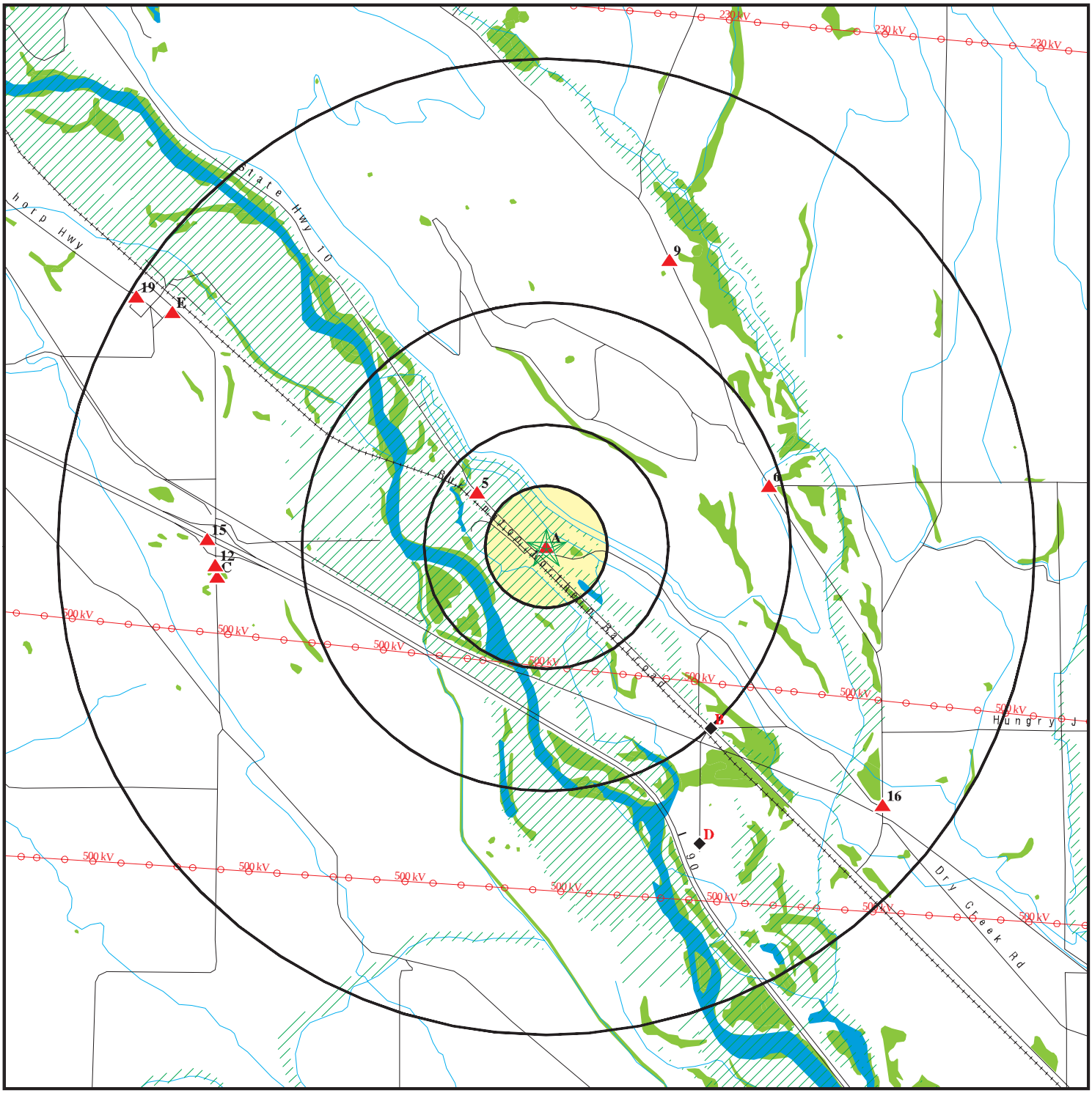
ORPHAN SUMMARY

City	EDR ID	Site Name	Site Address	Zip	Database(s)
ELLENSBURG	1000878521	US DA FHA TOM GORMAN FARM ELLENSBU	T18N & 2ND CTR	98926	RCRA-NonGen, FINDS
ELLENSBURG	S109556537	US DA FHA TOM GORMAN FARM ELLENSBU	T18N & 2ND CTR	98926	ALLSITES, CSCSL NFA
ELLENSBURG	U003028359	JOHN P WHEATLEY	RT 1	98926	ALLSITES, UST
ELLENSBURG	U003029283	ELLENSBURG REPEATER 070102	RT 1	98926	UST
ELLENSBURG	1007078022	ELLENSBURG REPEATER 070102	RT 1	98926	FINDS, ALLSITES
ELLENSBURG	U004020908	EIGHTH & MAIN	111TH E 8TH AVE & MAIN ST	98926	UST
ELLENSBURG	S106123630	EIGHTH & MAIN	111TH E 8TH AVE & MAIN ST	98926	ALLSITES, CSCSL NFA
ELLENSBURG	S110040204	VISTA VIEW EST MD JACKSON CO LLC	HWY 1500 KITTITASOFBULL RD E	98926	ALLSITES
ELLENSBURG	S103511843	CWU FACILITIES MANAGEMENT	SW 1ST & 4 OF SEC 35 T18N	98926	ICR
ELLENSBURG	U001123714	CLAUDE C BARTSMA	RT 2	98926	ALLSITES, UST
ELLENSBURG	U000922101	JESSE L GIBB	RT 2	98926	ALLSITES, UST
ELLENSBURG	U001127361	JACK JOHNSON	RT 2	98926	ALLSITES, UST
ELLENSBURG	U001126587	BILL LOWE	RT 2	98926	ALLSITES, UST
ELLENSBURG	U001123791	RONALD W BUSCH	RT 2	98926	ALLSITES, UST
ELLENSBURG	S104488216	LIQUID AIR	RT 2	98926	ICR
ELLENSBURG	1007063659	BIG Z KARDGUAND SYSTEM	2ND MAIN	98926	FINDS, ALLSITES
ELLENSBURG	U000923750	JAY P MORGAN	RT 4	98926	ALLSITES, UST
ELLENSBURG	U003028011	DICK YUSKOFF	RT 4	98926	ALLSITES, UST
ELLENSBURG	1007068089	STAMPEDE RADIO STATION CLOSED	RT 4	98926	FINDS, ALLSITES, CSCSL NFA, UST
ELLENSBURG	U003025734	JKD FARMS	RT 5	98926	ALLSITES, UST
ELLENSBURG	U003026262	ROLAND D JOHNSON	RT 5	98926	ALLSITES, UST
ELLENSBURG	U003311172	CAL JANSEN FARM	RT 6	98926	ALLSITES, CSCSL NFA, UST, ICR
ELLENSBURG	1011266383	SWIFT TRUCKING I90 EXIT 109 SPILL	I 90 EXIT 109	98926	FINDS, ALLSITES
ELLENSBURG	S109556896	MANASTASH RIDGE DRUM	14 I 90 S	98926	ALLSITES
ELLENSBURG	S111769482	STONE WINGS II HAY PRESS	3200 BLOCK KITTITAS HWY	98926	ALLSITES
ELLENSBURG	S111779715	STONE WINGS II HAY PRESS	3200 BLOCK KITTITAS HWY	98926	NPDES
ELLENSBURG	1007070254	ELLENSBURG CITY UST 3746	CANYON RD	98926	FINDS, ALLSITES, UST
ELLENSBURG	S103509099	SUN MART	1600 CANYON RD	98926	SPILLS, ICR
ELLENSBURG	1001092207	WA ECY ELLENSBURG POTATO SHED DRUM	CANYON HWY	98926	RCRA-NonGen, FINDS, ALLSITES
ELLENSBURG	S111027989	CITY OF ELLENSBURG POTW	281 CBERRY RD		SPILLS
ELLENSBURG	S111705775	CITY OF ELLENSBURG	CORNER OF UNIV WAY & CORA ST		SPILLS
ELLENSBURG	S109554535	BRETT EASON LEASED PROPERTY	1 DRY CREEK CONN	98926	ALLSITES
ELLENSBURG	S110487086	VALLEY EXCAVATING LLC PAIGE CANYON	2 HUNTER RD	98926	NPDES
ELLENSBURG	S110036182	VALLEY EXCAVATING LLC PAIGE CANYON	HUNTER RD	98926	ALLSITES
ELLENSBURG	1005445181	RENTAL SERVICE CORPORATION 559	501 SOUTH MAIN SW PORTION OF B	98926	RCRA-NonGen, FINDS, MANIFEST
ELLENSBURG	1000878555	WA ECY ELLENSBURG VAN DRUG LAB	THORP HWY	98926	RCRA-NonGen, FINDS, ALLSITES
ELLENSBURG	S110036173	ELLENSBURG CEMENT GIBSON PIT	8970 N THORP HWY	98926	ALLSITES, NPDES
ELLENSBURG	1007065281	ELLENSBURG CITY W 8TH AVE ROW	W UNIVERSITY WY	98926	FINDS
ELLENSBURG	S112204757	ROUTE 10 & HAYWOOD WELL	544 VALLEY VISTA DR	98926	ALLSITES, NPDES
ELLENSBURG	S111289209	VANTAGE ENERGY CTR LLC	30821 VANTAGE HWY	98926	CSCSL, ALLSITES
ELLENSBURG	1007070723	TANEUM RECOVERY	VANTAGE HWY	98926	FINDS, ALLSITES
ELLENSBURG	S110036230	KITTITAS CO SW PROG RYEGRASS	25900 VANTAGE HWY	98926	CSCSL, ALLSITES, CSCSL NFA, VCP
KITTITAS COUNTY	S112088226	ELK HEIGHTS GASOLINE SPILL	I90 MP 89		CSCSL, ALLSITES

Count: 48 records. ORPHAN SUMMARY

City	EDR ID	Site Name	Site Address	Zip	Database(s)
THORP	1000273479	PORKY PARK FARMS	HWY 10	98946	ALLSITES, CSCSL NFA
THORP	1003880340	PORKY PORK FARM	5MI W OF THORP	98946	CERC-NFRAP
THORP	U001127260	ELLENSBURG TELEPHONE CO THORP	THORP EXCHANGE BLDG	98946	ALLSITES, UST
THORP	S105767064	BINGO FUEL STOP	THORP HWY	98946	ICR
THORP	S104971891	WEST ELLENSBURG LANDFILL	THORP HWY	98946	ALLSITES, CSCSL NFA

OVERVIEW MAP - 3491048.1s



- Target Property
- Sites at elevations higher than or equal to the target property
- Sites at elevations lower than the target property
- Manufactured Gas Plants
- National Priority List Sites
- Dept. Defense Sites
- Indian Reservations BIA
- Power transmission lines
- Oil & Gas pipelines from USGS
- 100-year flood zone
- 500-year flood zone
- National Wetland Inventory

This report includes Interactive Map Layers to display and/or hide map information. The legend includes only those icons for the default map view.

SITE NAME: Route 10, Haywood, and City Wells	CLIENT: Golder Associates, Inc.
ADDRESS: 410 Gladmar Rd Ellensburg WA 98926	CONTACT: Andrew Austreng
LAT/LONG: 47.0539 / 120.6376	INQUIRY #: 3491048.1s DATE: January 09, 2013 4:45 pm

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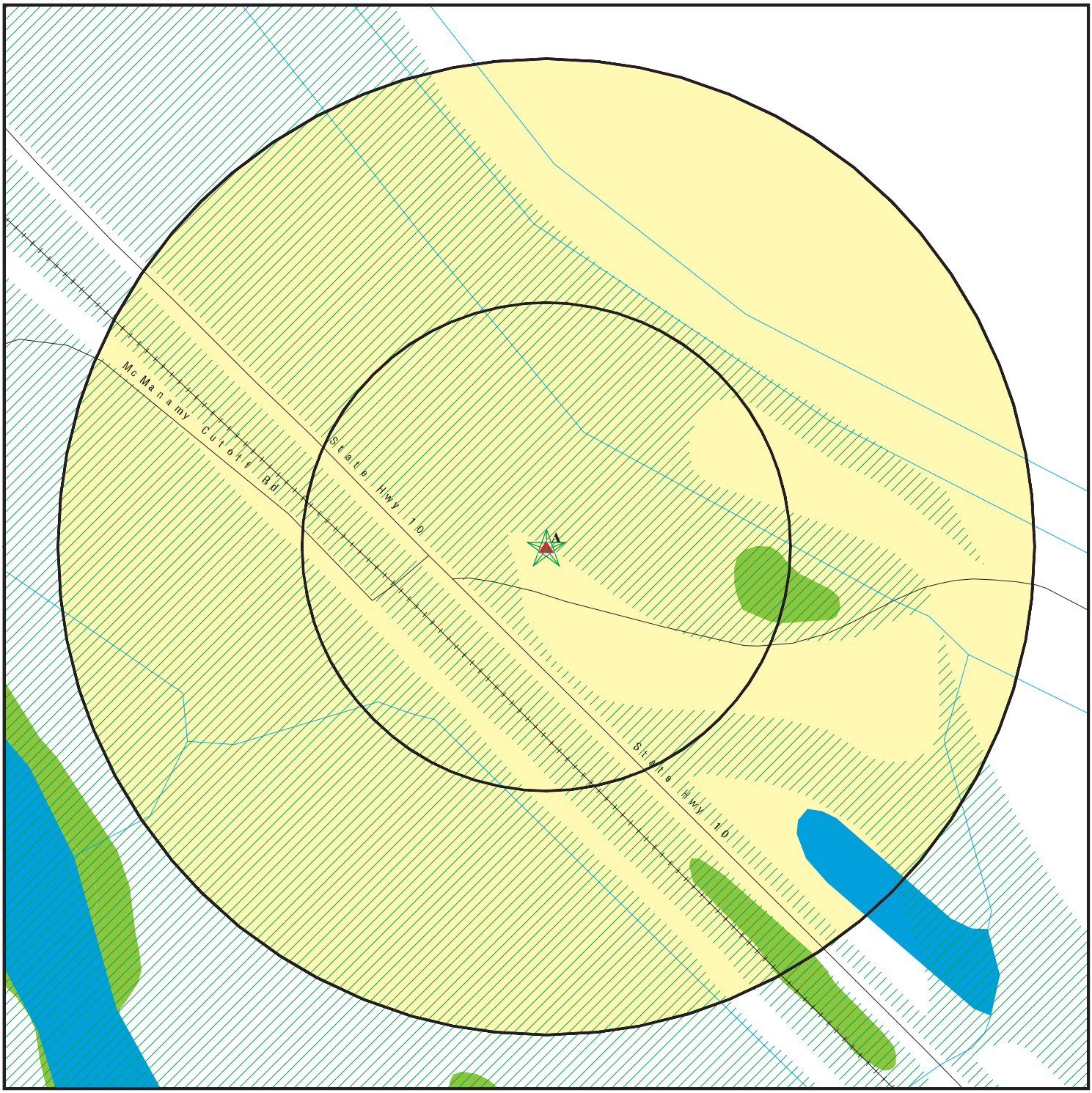
DETAIL MAP - 3491048.1s



- Target Property
- Sites at elevations higher than or equal to the target property
- Sites at elevations lower than the target property
- Manufactured Gas Plants
- Sensitive Receptors
- National Priority List Sites
- Dept. Defense Sites

0 1/16 1/8 1/4 Miles

- Indian Reservations BIA
- Oil & Gas pipelines from USGS
- 100-year flood zone
- 500-year flood zone
- National Wetland Inventory

N

This report includes Interactive Map Layers to display and/or hide map information. The legend includes only those icons for the default map view.

SITE NAME:	Route 10, Haywood, and City Wells	CLIENT:	Golder Associates, Inc.
ADDRESS:	410 Gladmar Rd Ellensburg WA 98926	CONTACT:	Andrew Austreng
		INQUIRY #:	3491048.1s
LAT/LONG:	47.0539 / 120.6376	DATE:	January 09, 2013 4:47 pm

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MAP FINDINGS SUMMARY

Database	Search Distance (Miles)	Target Property	< 1/8	1/8 - 1/4	1/4 - 1/2	1/2 - 1	> 1	Total Plotted
STANDARD ENVIRONMENTAL RECORDS								
Federal NPL site list								
NPL	2.000		0	0	0	0	0	0
Proposed NPL	2.000		0	0	0	0	0	0
NPL LIENS	2.000		0	0	0	0	0	0
Federal Delisted NPL site list								
Delisted NPL	2.000		0	0	0	0	0	0
Federal CERCLIS list								
CERCLIS	2.000		0	0	0	0	0	0
FEDERAL FACILITY	2.000		0	0	0	0	0	0
Federal CERCLIS NFRAP site List								
CERC-NFRAP	2.000		0	0	0	0	0	0
Federal RCRA CORRACTS facilities list								
CORRACTS	2.000		0	0	0	0	0	0
Federal RCRA non-CORRACTS TSD facilities list								
RCRA-TSDF	2.000		0	0	0	0	0	0
Federal RCRA generators list								
RCRA-LQG	2.000		0	0	0	0	0	0
RCRA-SQG	2.000		0	0	0	0	0	0
RCRA-CESQG	2.000		0	0	0	0	1	1
Federal institutional controls / engineering controls registries								
US ENG CONTROLS	2.000		0	0	0	0	0	0
US INST CONTROL	2.000		0	0	0	0	0	0
LUCIS	2.000		0	0	0	0	0	0
Federal ERNS list								
ERNS	2.000		0	0	0	0	0	0
State- and tribal - equivalent NPL								
HSL	2.000		0	0	0	0	1	1
State- and tribal - equivalent CERCLIS								
CSCSL	2.000		0	0	0	0	1	1
State and tribal landfill and/or solid waste disposal site lists								
SWF/LF	2.000		0	0	0	0	0	0
State and tribal leaking storage tank lists								
LUST	2.000		0	0	0	0	0	0

MAP FINDINGS SUMMARY

Database	Search Distance (Miles)	Target Property	< 1/8	1/8 - 1/4	1/4 - 1/2	1/2 - 1	> 1	Total Plotted
INDIAN LUST	2.000		0	0	0	0	0	0
State and tribal registered storage tank lists								
UST	2.000	1	0	0	0	0	2	3
AST	2.000		0	0	0	0	0	0
INDIAN UST	2.000		0	0	0	0	0	0
FEMA UST	2.000		0	0	0	0	0	0
State and tribal institutional control / engineering control registries								
INST CONTROL	2.000		0	0	0	0	1	1
State and tribal voluntary cleanup sites								
INDIAN VCP	2.000		0	0	0	0	0	0
VCP	2.000		0	0	0	0	0	0
ICR	2.000		0	0	0	0	1	1
State and tribal Brownfields sites								
BROWNFIELDS	2.000		0	0	0	0	0	0
ADDITIONAL ENVIRONMENTAL RECORDS								
Local Brownfield lists								
US BROWNFIELDS	2.000		0	0	0	0	0	0
Local Lists of Landfill / Solid Waste Disposal Sites								
ODI	2.000		0	0	0	0	0	0
DEBRIS REGION 9	2.000		0	0	0	0	0	0
SWRCY	2.000		0	0	0	0	0	0
SWTIRE	2.000		0	0	0	0	0	0
INDIAN ODI	2.000		0	0	0	0	0	0
Local Lists of Hazardous waste / Contaminated Sites								
US CDL	2.000		0	0	0	0	0	0
ALLSITES	2.000	1	0	0	1	1	8	11
CSCSL NFA	2.000		0	0	0	0	0	0
CDL	2.000		0	0	0	0	0	0
HIST CDL	2.000		0	0	0	0	0	0
US HIST CDL	2.000		0	0	0	0	0	0
Local Land Records								
LIENS 2	2.000		0	0	0	0	0	0
Records of Emergency Release Reports								
HMIRS	2.000		0	0	0	0	0	0
SPILLS	2.000		0	0	0	0	2	2
Other Ascertainable Records								
RCRA-NonGen	2.000	1	0	0	0	0	2	3

MAP FINDINGS SUMMARY

Database	Search Distance (Miles)	Target Property	< 1/8	1/8 - 1/4	1/4 - 1/2	1/2 - 1	> 1	Total Plotted
DOT OPS	2.000		0	0	0	0	0	0
DOD	2.000		0	0	0	0	0	0
FUDS	2.000		0	0	0	0	0	0
CONSENT	2.000		0	0	0	0	0	0
ROD	2.000		0	0	0	0	0	0
UMTRA	2.000		0	0	0	0	0	0
MINES	2.000		0	0	0	0	0	0
TRIS	2.000		0	0	0	0	0	0
TSCA	2.000		0	0	0	0	0	0
FTTS	2.000		0	0	0	0	0	0
HIST FTTS	2.000		0	0	0	0	0	0
SSTS	2.000		0	0	0	0	0	0
ICIS	2.000		0	0	0	0	0	0
PADS	2.000		0	0	0	0	0	0
MLTS	2.000		0	0	0	0	0	0
RADINFO	2.000		0	0	0	0	0	0
FINDS	2.000	1	0	0	1	0	6	8
RAATS	2.000		0	0	0	0	0	0
RMP	2.000		0	0	0	0	0	0
UIC	2.000		0	0	0	0	0	0
MANIFEST	2.000	1	0	0	0	0	1	2
DRYCLEANERS	2.000		0	0	0	0	0	0
NPDES	2.000		0	0	1	0	1	2
AIRS	2.000		0	0	0	0	0	0
Inactive Drycleaners	2.000		0	0	0	0	0	0
INDIAN RESERV	2.000		0	0	0	0	0	0
SCRD DRYCLEANERS	2.000		0	0	0	0	0	0
US AIRS	2.000		0	0	0	0	0	0
PRP	2.000		0	0	0	0	0	0
Financial Assurance	2.000	1	0	0	0	0	1	2
EPA WATCH LIST	2.000		0	0	0	0	0	0
US FIN ASSUR	2.000		0	0	0	0	0	0
PCB TRANSFORMER	2.000		0	0	0	0	0	0
2020 COR ACTION	2.000		0	0	0	0	0	0
COAL ASH DOE	2.000		0	0	0	0	0	0
COAL ASH EPA	2.000		0	0	0	0	0	0
COAL ASH	2.000		0	0	0	0	0	0
EDR HIGH RISK HISTORICAL RECORDS								
EDR Exclusive Records								
EDR MGP	2.000		0	0	0	0	0	0

NOTES:

TP = Target Property

NR = Not Requested at this Search Distance

Sites may be listed in more than one database

Map ID / Direction / Distance / Elevation	Site	Database(s)	EDR ID Number / EPA ID Number
A1 **Target** **Property** **Actual:** **1603 ft.**	**ARCO AM PM THORP** **410 GLADMAR RD** **THORP, WA 98946** **Click here for full text details**	**FINDS**	**1011401024** **N/A**
A2 **Target** **Property** **Actual:** **1603 ft.**	**ARCO AM PM THORP** **410 GLADMAR RD** **THORP, WA 98946** **Click here for full text details**	**RCRA-NonGen**	**1010788477** **WAH000032789**
A3 **Target** **Property** **Actual:** **1603 ft.**	**ARCO AM PM THORP** **410 GLADMAR RD** **THORP, WA 98946** **Click here for full text details**	**ALLSITES** **MANIFEST** **Financial Assurance**	**S109394783** **N/A**
A4 **Target** **Property** **Actual:** **1603 ft.**	**ARCO AM PM THORP** **410 GLADMAR RD** **THORP, WA 98946** **Click here for full text details**	**UST**	**U004127394** **N/A**
5 **NW** **1/4-1/2** **0.361 mi.** **1905 ft.** **Relative:** **Higher**	**CASCADE IRRIGATION DIST** **8063 HWY 10** **ELLENSBURG, WA 98926** **Click here for full text details** **NPDES** Facility Status: Active	**FINDS** **ALLSITES** **NPDES**	**1011267593** **N/A**
6 **ENE** **1/2-1** **0.946 mi.** **4993 ft.** **Relative:** **Higher**	**DEAN SCHWARTZ PROPERTY** **7081 HWY 97** **ELLENSBURG, WA 98926** **Click here for full text details**	**ALLSITES**	**S110038929** **N/A**

Map ID / Direction / Distance / Elevation	Site	Database(s)	EDR ID Number / EPA ID Number
B7 **SE** **> 1** **1.005 mi.** **5304 ft.** **Relative: Lower**	**ELLENSBURG CEMENT POWELL POND** **KLOCKE RD** **ELLENSBURG, WA 98926** Click here for full text details	**ALLSITES**	**S110040198** **N/A**
B8 **SE** **> 1** **1.005 mi.** **5304 ft.** **Relative: Lower**	**ELLENSBURG CEMENT POWELL POND** **KLOCKE ROAD** **ELLENSBURG, WA 98926** Click here for full text details	**FINDS**	**1011424850** **N/A**
9 **NNE** **> 1** **1.279 mi.** **6755 ft.** **Relative: Higher**	**WESTSIDE IRRIGATING CO THE** **8545 HWY 97** **ELLENSBURG, WA 98926** Click here for full text details **NPDES** Facility Status: Active	**ALLSITES** **NPDES**	**S112074794** **N/A**
C10 **West** **> 1** **1.353 mi.** **7145 ft.** **Relative: Higher**	**PSE KITTITAS SERV CTR** **8400 THORP HWY S** **THORP, WA 98946** Click here for full text details	**RCRA-CESQG** **FINDS** **ALLSITES** **MANIFEST** **Financial Assurance**	**1001092002** **WAR000006486**
C11 **West** **> 1** **1.353 mi.** **7145 ft.** **Relative: Higher**	**KITTITAS SERVICE CENTER** **I90 & THORP HWY INT** **THORP, WA 98946** Click here for full text details	**ALLSITES** **UST**	**U001127443** **N/A**
12 **West** **> 1** **1.357 mi.** **7165 ft.** **Relative: Higher**	**BINGO FUEL STOP** **EXIT 101 & I90** **THORP, WA 98946** Click here for full text details **CSCSL**	**RCRA-NonGen** **FINDS** **CSCSL** **ALLSITES** **HSL** **INST CONTROL**	**1000660538** **WAD988502258**

BINGO FUEL STOP (Continued) **1000660538**

Site Status: Cleanup Complete-Active O&M/Monitoring

HSL
Facility Status: Cleanup Complete-Active O&M/Monitoring
Facility Type: Hazardous Sites List

D13
SSE
> 1
1.368 mi.
7225 ft.

Relative: Lower

ADJ TO 860 KLOCKE ROAD **SPILLS** **S110277366**
ELLENSBURG, WA **N/A**

Click here for full text details

D14
SSE
> 1
1.368 mi.
7225 ft.

Relative: Lower

ELLENSBURG CEMENT WILLIAMS SITE **FINDS** **1009443883**
860 KLOCKE RD **N/A**
ELLENSBURG, WA 98926

Click here for full text details

15
West
> 1
1.388 mi.
7330 ft.

Relative: Higher

PSE THORP STORAGE YARD **RCRA-NonGen** **1000838890**
THORP HWY E SIDE 1 MI N OF I90 **FINDS** **WAD988516944**
THORP, WA 98946 **ALLSITES**

Click here for full text details

16
SE
> 1
1.737 mi.
9169 ft.

Relative: Higher

PUGET SOUND ENERGY **SPILLS** **S109865571**
MCMANAMY RD & HWY 97 **N/A**
ELLENSBURG, WA

Click here for full text details

E17
WNW
> 1
1.808 mi.
9546 ft.

Relative: Higher

CASCADE MOTORS **ALLSITES** **U001128276**
11 S 1ST ST **UST** **N/A**
ROSLYN, WA 98941

Click here for full text details

Map ID / Direction / Distance / Elevation	Site	Database(s)	EDR ID Number / EPA ID Number
E18 **WNW** **> 1** **1.808 mi.** **9547 ft.** **Relative:** **Higher**	**CITY OF ROSLYN** **13 S. 1ST ST.** **ROSLYN, WA 98941** **Click here for full text details**	**ICR**	**S103513115** **N/A**
19 **WNW** **> 1** **1.968 mi.** **10390 ft.** **Relative:** **Higher**	**ELLENSBURG TELEPHONE CO THORP BLDG** **61 3RD ST** **THORP, WA 98946** **Click here for full text details**	**FINDS** **ALLSITES**	**1007068204** **N/A**

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

St	Acronym	Full Name	Government Agency	Gov Date	Arvl. Date	Active Date
WA	AIRS (EMI)	Washington Emissions Data System	Department of Ecology	12/31/2010	01/12/2012	02/29/2012
WA	ALLSITES	Facility/Site Identification System Listing	Department of Ecology	11/06/2012	12/04/2012	12/10/2012
WA	AST	Aboveground Storage Tank Locations	Department of Ecology	05/14/2012	05/15/2012	06/05/2012
WA	BROWNFIELDS	Brownfields Sites Listing	Department of Ecology	10/23/2012	10/25/2012	11/21/2012
WA	CDL	Clandestine Drug Lab Contaminated Site List	Department of Health	02/09/2009	03/18/2009	03/24/2009
WA	COAL ASH	Coal Ash Disposal Site Listing	Department of Ecology	06/29/2009	07/02/2009	07/08/2009
WA	CSCSL	Confirmed and Suspected Contaminated Sites List	Department of Ecology	10/23/2012	10/25/2012	11/21/2012
WA	CSCSL NFA	Confirmed and Contaminated Sites - No Further Action	Department of Ecology	10/23/2012	10/25/2012	11/21/2012
WA	DRYCLEANERS	Drycleaner List	Department of Ecology	12/31/2011	04/27/2012	06/05/2012
WA	Financial Assurance 1	Financial Assurance Information Listing	Department of Ecology	02/24/2012	02/24/2012	03/27/2012
WA	Financial Assurance 2	Financial Assurance Information Listing	Department of Ecology	05/23/2011	05/26/2011	06/27/2011
WA	Financial Assurance 3	Financial Assurance Information Listing	Department of Ecology	02/01/2001	03/06/2007	04/19/2007
WA	HIST CDL	List of Sites Contaminated by Clandestine Drug Labs	Department of Health	02/08/2007	06/26/2007	07/19/2007
WA	HSL	Hazardous Sites List	Department of Ecology	08/23/2012	09/13/2012	10/17/2012
WA	ICR	Independent Cleanup Reports	Department of Ecology	12/01/2002	01/03/2003	01/22/2003
WA	INACTIVE DRYCLEANERS	Inactive Drycleaners	Department of Ecology	12/31/2011	04/27/2012	06/05/2012
WA	INST CONTROL	Institutional Control Site List	Department of Ecology	11/13/2012	11/15/2012	11/21/2012
WA	LUST	Leaking Underground Storage Tanks Site List	Department of Ecology	08/20/2012	08/23/2012	09/19/2012
WA	NPDES	Water Quality Permit System Data	Department of Ecology	10/23/2012	10/25/2012	11/27/2012
WA	SPILLS	Reported Spills	Department of Ecology	09/24/2012	09/26/2012	10/17/2012
WA	SWF/LF	Solid Waste Facility Database	Department of Ecology	09/06/2012	09/13/2012	10/18/2012
WA	SWRCY	Recycling Facility List	Department of Ecology	08/01/2012	08/03/2012	09/26/2012
WA	SWTIRE	Solid Waste Tire Facilities	Department of Ecology	11/01/2005	03/16/2006	04/13/2006
WA	UIC	Underground Injection Wells Listing	Department of Ecology	08/20/2012	08/24/2012	09/19/2012
WA	UST	Underground Storage Tank Database	Department of Ecology	08/20/2012	08/23/2012	09/19/2012
WA	VCP	Voluntary Cleanup Program Sites	Department of Ecology	10/23/2012	10/26/2012	11/21/2012
WA	WA MANIFEST	Hazardous Waste Manifest Data	Department of Ecology	12/31/2011	04/27/2012	06/05/2012
US	2020 COR ACTION	2020 Corrective Action Program List	Environmental Protection Agency	11/11/2011	05/18/2012	05/25/2012
US	BRS	Biennial Reporting System	EPA/NTIS	12/31/2009	03/01/2011	05/02/2011
US	CERCLIS	Comprehensive Environmental Response, Compensation, and Liab	EPA	11/02/2012	11/28/2012	01/07/2013
US	CERCLIS-NFRAP	CERCLIS No Further Remedial Action Planned	EPA	11/02/2012	11/28/2012	01/07/2013
US	COAL ASH DOE	Sleam-Electric Plan Operation Data	Department of Energy	12/31/2005	08/07/2009	10/22/2009
US	COAL ASH EPA	Coal Combustion Residues Surface Impoundments List	Environmental Protection Agency	08/17/2010	01/03/2011	03/21/2011
US	CONSENT	Superfund (CERCLA) Consent Decrees	Department of Justice, Consent Decree Library	10/01/2012	10/19/2012	12/20/2012
US	CORRACTS	Corrective Action Report	EPA	08/19/2011	08/31/2011	01/10/2012
US	DEBRIS REGION 9	Torres Martinez Reservation Illegal Dump Site Locations	EPA, Region 9	01/12/2009	05/07/2009	09/21/2009
US	DELISTED NPL	National Priority List Deletions	EPA	10/01/2012	10/11/2012	12/20/2012
US	DOD	Department of Defense Sites	USGS	12/31/2005	11/10/2006	01/11/2007
US	DOT OPS	Incident and Accident Data	Department of Transporation, Office of Pipeli	07/31/2012	08/07/2012	09/18/2012
US	EDR MGP	EDR Proprietary Manufactured Gas Plants	EDR, Inc.			
US	EPA WATCH LIST	EPA WATCH LIST	Environmental Protection Agency	07/31/2012	08/13/2012	09/18/2012
US	ERNS	Emergency Response Notification System	National Response Center, United States Coast	04/02/2012	04/03/2012	06/14/2012
US	FEDERAL FACILITY	Federal Facility Site Information listing	Environmental Protection Agency	07/31/2012	10/09/2012	12/20/2012
US	FEDLAND	Federal and Indian Lands	U.S. Geological Survey	12/31/2005	02/06/2006	01/11/2007
US	FEMA UST	Underground Storage Tank Listing	FEMA	01/01/2010	02/16/2010	04/12/2010
US	FINDS	Facility Index System/Facility Registry System	EPA	10/23/2011	12/13/2011	03/01/2012
US	FTTS	FIFRA/ TSCA Tracking System - FIFRA (Federal Insecticide, Fu	EPA/Office of Prevention, Pesticides and Toxi	04/09/2009	04/16/2009	05/11/2009

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

St	Acronym	Full Name	Government Agency	Gov Date	Arvl. Date	Active Date
US	FTTS INSP	FIFRA/ TSCA Tracking System - FIFRA (Federal Insecticide, Fu	EPA	04/09/2009	04/16/2009	05/11/2009
US	FUDS	Formerly Used Defense Sites	U.S. Army Corps of Engineers	12/31/2009	08/12/2010	12/02/2010
US	HIST FTTS	FIFRA/TSCA Tracking System Administrative Case Listing	Environmental Protection Agency	10/19/2006	03/01/2007	04/10/2007
US	HIST FTTS INSP	FIFRA/TSCA Tracking System Inspection & Enforcement Case Lis	Environmental Protection Agency	10/19/2006	03/01/2007	04/10/2007
US	HMIRS	Hazardous Materials Information Reporting System	U.S. Department of Transportation	04/01/2012	04/03/2012	06/14/2012
US	ICIS	Integrated Compliance Information System	Environmental Protection Agency	07/20/2011	11/10/2011	01/10/2012
US	INDIAN LUST R1	Leaking Underground Storage Tanks on Indian Land	EPA Region 1	04/12/2012	05/09/2012	07/10/2012
US	INDIAN LUST R10	Leaking Underground Storage Tanks on Indian Land	EPA Region 10	08/01/2012	08/02/2012	10/16/2012
US	INDIAN LUST R4	Leaking Underground Storage Tanks on Indian Land	EPA Region 4	12/14/2011	12/15/2011	01/10/2012
US	INDIAN LUST R6	Leaking Underground Storage Tanks on Indian Land	EPA Region 6	09/12/2011	09/13/2011	11/11/2011
US	INDIAN LUST R7	Leaking Underground Storage Tanks on Indian Land	EPA Region 7	08/17/2012	08/28/2012	10/16/2012
US	INDIAN LUST R8	Leaking Underground Storage Tanks on Indian Land	EPA Region 8	08/27/2012	08/28/2012	10/16/2012
US	INDIAN LUST R9	Leaking Underground Storage Tanks on Indian Land	Environmental Protection Agency	09/06/2012	09/07/2012	10/16/2012
US	INDIAN ODI	Report on the Status of Open Dumps on Indian Lands	Environmental Protection Agency	12/31/1998	12/03/2007	01/24/2008
US	INDIAN RESERV	Indian Reservations	USGS	12/31/2005	12/08/2006	01/11/2007
US	INDIAN UST R1	Underground Storage Tanks on Indian Land	EPA, Region 1	04/12/2012	05/02/2012	07/16/2012
US	INDIAN UST R10	Underground Storage Tanks on Indian Land	EPA Region 10	08/01/2012	08/02/2012	10/16/2012
US	INDIAN UST R4	Underground Storage Tanks on Indian Land	EPA Region 4	12/14/2011	12/15/2011	01/10/2012
US	INDIAN UST R5	Underground Storage Tanks on Indian Land	EPA Region 5	08/02/2012	08/03/2012	11/05/2012
US	INDIAN UST R6	Underground Storage Tanks on Indian Land	EPA Region 6	05/10/2011	05/11/2011	06/14/2011
US	INDIAN UST R7	Underground Storage Tanks on Indian Land	EPA Region 7	08/17/2012	08/28/2012	10/16/2012
US	INDIAN UST R8	Underground Storage Tanks on Indian Land	EPA Region 8	08/27/2012	08/28/2012	10/16/2012
US	INDIAN UST R9	Underground Storage Tanks on Indian Land	EPA Region 9	09/06/2012	09/07/2012	10/16/2012
US	INDIAN VCP R1	Voluntary Cleanup Priority Listing	EPA, Region 1	09/28/2012	10/02/2012	10/16/2012
US	INDIAN VCP R7	Voluntary Cleanup Priority Lisitng	EPA, Region 7	03/20/2008	04/22/2008	05/19/2008
US	LIENS 2	CERCLA Lien Information	Environmental Protection Agency	02/16/2012	03/26/2012	06/14/2012
US	LUCIS	Land Use Control Information System	Department of the Navy	12/09/2005	12/11/2006	01/11/2007
US	MINES	Mines Master Index File	Department of Labor, Mine Safety and Health A	08/18/2011	09/08/2011	09/29/2011
US	MLTS	Material Licensing Tracking System	Nuclear Regulatory Commission	06/21/2011	07/15/2011	09/13/2011
US	NPL	National Priority List	EPA	10/01/2012	10/11/2012	12/20/2012
US	NPL LIENS	Federal Superfund Liens	EPA	10/15/1991	02/02/1994	03/30/1994
US	ODI	Open Dump Inventory	Environmental Protection Agency	06/30/1985	08/09/2004	09/17/2004
US	PADS	PCB Activity Database System	EPA	11/01/2010	11/10/2010	02/16/2011
US	PCB TRANSFORMER	PCB Transformer Registration Database	Environmental Protection Agency	02/01/2011	10/19/2011	01/10/2012
US	PRP	Potentially Responsible Parties	EPA	10/01/2012	10/04/2012	11/05/2012
US	Proposed NPL	Proposed National Priority List Sites	EPA	10/01/2012	10/11/2012	12/20/2012
US	RAATS	RCRA Administrative Action Tracking System	EPA	04/17/1995	07/03/1995	08/07/1995
US	RADINFO	Radiation Information Database	Environmental Protection Agency	10/02/2012	10/02/2012	11/05/2012
US	RCRA-CESQG	RCRA - Conditionally Exempt Small Quantity Generators	Environmental Protection Agency	09/11/2012	10/04/2012	12/04/2012
US	RCRA-LQG	RCRA - Large Quantity Generators	Environmental Protection Agency	09/11/2012	10/04/2012	12/04/2012
US	RCRA-NonGen	RCRA - Non Generators	Environmental Protection Agency	09/11/2012	10/04/2012	12/04/2012
US	RCRA-SQG	RCRA - Small Quantity Generators	Environmental Protection Agency	09/11/2012	10/04/2012	12/04/2012
US	RCRA-TSDF	RCRA - Treatment, Storage and Disposal	Environmental Protection Agency	09/11/2012	10/04/2012	12/04/2012
US	RMP	Risk Management Plans	Environmental Protection Agency	05/08/2012	05/25/2012	07/10/2012
US	ROD	Records Of Decision	EPA	02/27/2012	03/14/2012	06/14/2012
US	SCRD DRYCLEANERS	State Coalition for Remediation of Drycleaners Listing	Environmental Protection Agency	03/07/2011	03/09/2011	05/02/2011
US	SSTS	Section 7 Tracking Systems	EPA	12/31/2009	12/10/2010	02/25/2011

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

St	Acronym	Full Name	Government Agency	Gov Date	Arvl. Date	Active Date
US	TRIS	Toxic Chemical Release Inventory System	EPA	12/31/2009	09/01/2011	01/10/2012
US	TSCA	Toxic Substances Control Act	EPA	12/31/2006	09/29/2010	12/02/2010
US	UMTRA	Uranium Mill Tailings Sites	Department of Energy	09/14/2010	10/07/2011	03/01/2012
US	US AIRS (AFS)	Aerometric Information Retrieval System Facility Subsystem (	EPA	01/18/2012	01/27/2012	03/01/2012
US	US AIRS MINOR	Air Facility System Data	EPA	01/18/2012	01/27/2012	03/01/2012
US	US BROWNFIELDS	A Listing of Brownfields Sites	Environmental Protection Agency	12/10/2012	12/11/2012	12/20/2012
US	US CDL	Clandestine Drug Labs	Drug Enforcement Administration	07/11/2012	09/12/2012	11/05/2012
US	US ENG CONTROLS	Engineering Controls Sites List	Environmental Protection Agency	07/18/2012	07/24/2012	11/05/2012
US	US FIN ASSUR	Financial Assurance Information	Environmental Protection Agency	08/20/2012	08/28/2012	11/05/2012
US	US HIST CDL	National Clandestine Laboratory Register	Drug Enforcement Administration	09/01/2007	11/19/2008	03/30/2009
US	US INST CONTROL	Sites with Institutional Controls	Environmental Protection Agency	07/18/2012	07/24/2012	11/05/2012
CT	CT MANIFEST	Hazardous Waste Manifest Data	Department of Energy & Environmental Protecti	11/19/2012	11/19/2012	01/03/2013
NY	NY MANIFEST	Facility and Manifest Data	Department of Environmental Conservation	11/01/2012	11/07/2012	12/11/2012
PA	PA MANIFEST	Manifest Information	Department of Environmental Protection	12/31/2011	07/23/2012	09/18/2012
WI	WI MANIFEST	Manifest Information	Department of Natural Resources	12/31/2011	07/19/2012	09/27/2012
US	Oil/Gas Pipelines	GeoData Digital Line Graphs from 1:100,000-Scale Maps	USGS			
US	Electric Power Lines	Electric Power Transmission Line Data	Rextag Strategies Corp.			
US	AHA Hospitals	Sensitive Receptor: AHA Hospitals	American Hospital Association, Inc.			
US	Medical Centers	Sensitive Receptor: Medical Centers	Centers for Medicare & Medicaid Services			
US	Nursing Homes	Sensitive Receptor: Nursing Homes	National Institutes of Health			
US	Public Schools	Sensitive Receptor: Public Schools	National Center for Education Statistics			
US	Private Schools	Sensitive Receptor: Private Schools	National Center for Education Statistics			
WA	Daycare Centers	Sensitive Receptor: Daycare Center Listing	Department of Social & Health Services			
US	Flood Zones	100-year and 500-year flood zones	Emergency Management Agency (FEMA)			
US	NWI	National Wetlands Inventory	U.S. Fish and Wildlife Service			
US	USGS 7.5' Topographic Map	Scanned Digital USGS 7.5' Topographic Map (DRG)	USGS			

STREET AND ADDRESS INFORMATION

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GEOCHECK ®- PHYSICAL SETTING SOURCE ADDENDUM

TARGET PROPERTY ADDRESS

ROUTE 10, HAYWOOD, AND CITY WELLS
410 GLADMAR RD
ELLENSBURG, WA 98926

TARGET PROPERTY COORDINATES

Latitude (North):	47.0539 - 47° 3' 14.04''
Longitude (West):	120.6376 - 120° 38' 15.36''
Universal Tranverse Mercator:	Zone 10
UTM X (Meters):	679424.1
UTM Y (Meters):	5213643.5
Elevation:	1603 ft. above sea level

USGS TOPOGRAPHIC MAP

Target Property Map:	47120-A6 THORP, WA
Most Recent Revision:	1978
East Map:	47120-A5 ELLENSBURG NORTH, WA
Most Recent Revision:	1978

EDR's GeoCheck Physical Setting Source Addendum is provided to assist the environmental professional in forming an opinion about the impact of potential contaminant migration.

Assessment of the impact of contaminant migration generally has two principal investigative components:

1. Groundwater flow direction, and
2. Groundwater flow velocity.

Groundwater flow direction may be impacted by surface topography, hydrology, hydrogeology, characteristics of the soil, and nearby wells. Groundwater flow velocity is generally impacted by the nature of the geologic strata.

GEOCHECK® - PHYSICAL SETTING SOURCE SUMMARY

GROUNDWATER FLOW DIRECTION INFORMATION

Groundwater flow direction for a particular site is best determined by a qualified environmental professional using site-specific well data. If such data is not reasonably ascertainable, it may be necessary to rely on other sources of information, such as surface topographic information, hydrologic information, hydrogeologic data collected on nearby properties, and regional groundwater flow information (from deep aquifers).

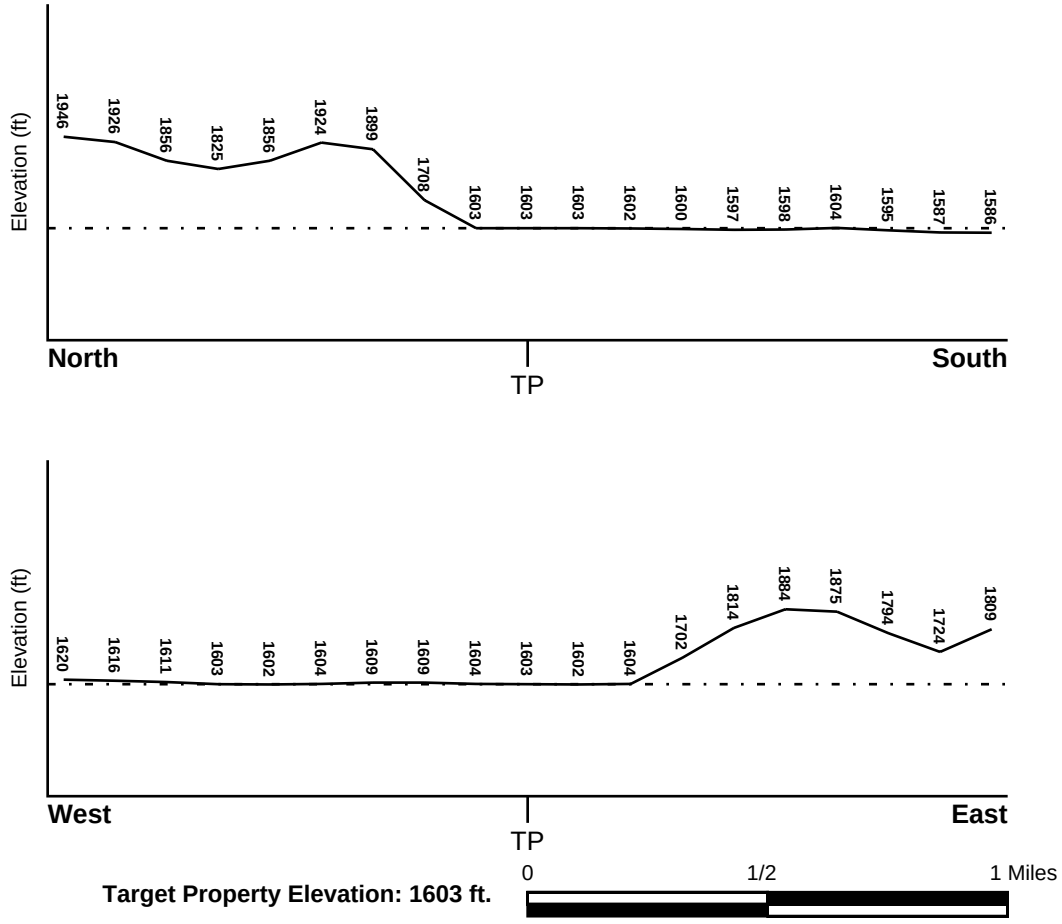
TOPOGRAPHIC INFORMATION

Surface topography may be indicative of the direction of surficial groundwater flow. This information can be used to assist the environmental professional in forming an opinion about the impact of nearby contaminated properties or, should contamination exist on the target property, what downgradient sites might be impacted.

TARGET PROPERTY TOPOGRAPHY

General Topographic Gradient: General South

SURROUNDING TOPOGRAPHY: ELEVATION PROFILES



Target Property Elevation: 1603 ft.

Source: Topography has been determined from the USGS 7.5' Digital Elevation Model and should be evaluated on a relative (not an absolute) basis. Relative elevation information between sites of close proximity should be field verified.

GEOCHECK® - PHYSICAL SETTING SOURCE SUMMARY

HYDROLOGIC INFORMATION

Surface water can act as a hydrologic barrier to groundwater flow. Such hydrologic information can be used to assist the environmental professional in forming an opinion about the impact of nearby contaminated properties or, should contamination exist on the target property, what downgradient sites might be impacted.

Refer to the Physical Setting Source Map following this summary for hydrologic information (major waterways and bodies of water).

FEMA FLOOD ZONE

Target Property County	FEMA Flood Electronic Data
KITTITAS, WA	YES - refer to the Overview Map and Detail Map

Flood Plain Panel at Target Property: 5300950436B - FEMA Q3 Flood data

Additional Panels in search area: Not Reported

NATIONAL WETLAND INVENTORY

NWI Quad at Target Property	NWI Electronic Data Coverage
THORP	YES - refer to the Overview Map and Detail Map

HYDROGEOLOGIC INFORMATION

Hydrogeologic information obtained by installation of wells on a specific site can often be an indicator of groundwater flow direction in the immediate area. Such hydrogeologic information can be used to assist the environmental professional in forming an opinion about the impact of nearby contaminated properties or, should contamination exist on the target property, what downgradient sites might be impacted.

Site-Specific Hydrogeological Data*:

Search Radius:	1.25 miles
Status:	Not found

AQUIFLOW®

Search Radius: 1.000 Mile.

EDR has developed the AQUIFLOW Information System to provide data on the general direction of groundwater flow at specific points. EDR has reviewed reports submitted by environmental professionals to regulatory authorities at select sites and has extracted the date of the report, groundwater flow direction as determined hydrogeologically, and the depth to water table.

MAP ID	LOCATION FROM TP	GENERAL DIRECTION GROUNDWATER FLOW
Not Reported		

* ©1996 Site−specific hydrogeological data gathered by CERCLIS Alerts, Inc., Bainbridge Island, WA. All rights reserved. All of the information and opinions presented are those of the cited EPA report(s), which were completed under a Comprehensive Environmental Response Compensation and Liability Information System (CERCLIS) investigation.

GEOCHECK® - PHYSICAL SETTING SOURCE SUMMARY

GROUNDWATER FLOW VELOCITY INFORMATION

Groundwater flow velocity information for a particular site is best determined by a qualified environmental professional using site specific geologic and soil strata data. If such data are not reasonably ascertainable, it may be necessary to rely on other sources of information, including geologic age identification, rock stratigraphic unit and soil characteristics data collected on nearby properties and regional soil information. In general, contaminant plumes move more quickly through sandy-gravelly types of soils than silty-clayey types of soils.

GEOLOGIC INFORMATION IN GENERAL AREA OF TARGET PROPERTY

Geologic information can be used by the environmental professional in forming an opinion about the relative speed at which contaminant migration may be occurring.

ROCK STRATIGRAPHIC UNIT

Era:	Cenozoic
System:	Quaternary
Series:	Quaternary
Code:	Q *(decoded above as Era, System & Series)*

GEOLOGIC AGE IDENTIFICATION

Category: Stratifed Sequence

Geologic Age and Rock Stratigraphic Unit Source: P.G. Schruben, R.E. Arndt and W.J. Bawiec, Geology of the Conterminous U.S. at 1:2,500,000 Scale - a digital representation of the 1974 P.B. King and H.M. Beikman Map, USGS Digital Data Series DDS - 11 (1994).

DOMINANT SOIL COMPOSITION IN GENERAL AREA OF TARGET PROPERTY

The U.S. Department of Agriculture's (USDA) Soil Conservation Service (SCS) leads the National Cooperative Soil Survey (NCSS) and is responsible for collecting, storing, maintaining and distributing soil survey information for privately owned lands in the United States. A soil map in a soil survey is a representation of soil patterns in a landscape. Soil maps for STATSGO are compiled by generalizing more detailed (SSURGO) soil survey maps. The following information is based on Soil Conservation Service STATSGO data.

Soil Component Name:	KAYAK
Soil Surface Texture:	loam
Hydrologic Group:	Class B - Moderate infiltration rates. Deep and moderately deep, moderately well and well drained soils with moderately coarse textures.
Soil Drainage Class:	Somewhat poorly. Soils commonly have a layer with low hydraulic conductivity, wet state high in profile, etc. Depth to water table is 1 to 3 feet.

Hydric Status: Soil does not meet the requirements for a hydric soil.

Corrosion Potential - Uncoated Steel:	MODERATE
Depth to Bedrock Min:	> 60 inches
Depth to Bedrock Max:	> 60 inches

GEOCHECK® - PHYSICAL SETTING SOURCE SUMMARY

Soil Layer Information							
	Boundary			Classification			
Layer	Upper	Lower	Soil Texture Class	AASHTO Group	Unified Soil	Permeability Rate (in/hr)	Soil Reaction (pH)
1	0 inches	6 inches	loam	Silt-Clay Materials (more than 35 pct. passing No. 200), Silty Soils.	FINE-GRAINED SOILS, Silts and Clays (liquid limit less than 50%), silt.	Max: 2.00 Min: 0.60	Max: 7.80 Min: 6.60
2	6 inches	17 inches	loam	Silt-Clay Materials (more than 35 pct. passing No. 200), Silty Soils.	FINE-GRAINED SOILS, Silts and Clays (liquid limit less than 50%), silt.	Max: 2.00 Min: 0.60	Max: 7.80 Min: 6.60
3	17 inches	39 inches	fine sandy loam	Silt-Clay Materials (more than 35 pct. passing No. 200), Silty Soils.	FINE-GRAINED SOILS, Silts and Clays (liquid limit less than 50%), silt.	Max: 6.00 Min: 2.00	Max: 7.80 Min: 6.60
4	39 inches	60 inches	extremely gravelly - sand	Granular materials (35 pct. or less passing No. 200), Stone Fragments, Gravel and Sand.	COARSE-GRAINED SOILS, Gravels, Clean gravels, Poorly Graded Gravel.	Max: 20.00 Min: 6.00	Max: 7.80 Min: 6.60

OTHER SOIL TYPES IN AREA

Based on Soil Conservation Service STATSGO data, the following additional subordinant soil types may appear within the general area of target property.

Soil Surface Textures: very gravelly - sandy loam
sandy loam
silt loam

Surficial Soil Types: very gravelly - sandy loam
sandy loam
silt loam

Shallow Soil Types: silty clay loam
sandy clay loam

Deeper Soil Types: very gravelly - loamy sand
loamy sand
extremely gravelly - sandy loam
extremely gravelly - loamy sand

GEOCHECK® - PHYSICAL SETTING SOURCE SUMMARY

LOCAL / REGIONAL WATER AGENCY RECORDS

EDR Local/Regional Water Agency records provide water well information to assist the environmental professional in assessing sources that may impact ground water flow direction, and in forming an opinion about the impact of contaminant migration on nearby drinking water wells.

WELL SEARCH DISTANCE INFORMATION

DATABASE	SEARCH DISTANCE (miles)
Federal USGS	2.000
Federal FRDS PWS	Nearest PWS within 2.000 miles
State Database	2.000

FEDERAL USGS WELL INFORMATION

MAP ID	WELL ID	LOCATION FROM TP
1	USGS3219247	0 - 1/8 Mile NE
2	USGS3219341	1/4 - 1/2 Mile WNW
3	USGS3219345	1/4 - 1/2 Mile WNW
6	USGS3219353	1/2 - 1 Mile NE
7	USGS3219347	1/2 - 1 Mile ENE
9	USGS3219366	1 - 2 Miles NW
10	USGS3219348	1 - 2 Miles WNW
11	USGS3219301	1 - 2 Miles SSE
A13	USGS3219358	1 - 2 Miles WNW
14	USGS3219304	1 - 2 Miles SW
B17	USGS3219327	1 - 2 Miles WSW
B18	USGS3219326	1 - 2 Miles WSW
19	USGS3219316	1 - 2 Miles ESE
B21	USGS3219324	1 - 2 Miles WSW
22	USGS3219313	1 - 2 Miles WSW
23	USGS3219359	1 - 2 Miles WNW
24	USGS3219342	1 - 2 Miles West
29	USGS3219460	1 - 2 Miles SE

FEDERAL FRDS PUBLIC WATER SUPPLY SYSTEM INFORMATION

MAP ID	WELL ID	LOCATION FROM TP
27	WA5356813	1 - 2 Miles WNW

Note: PWS System location is not always the same as well location.

STATE DATABASE WELL INFORMATION

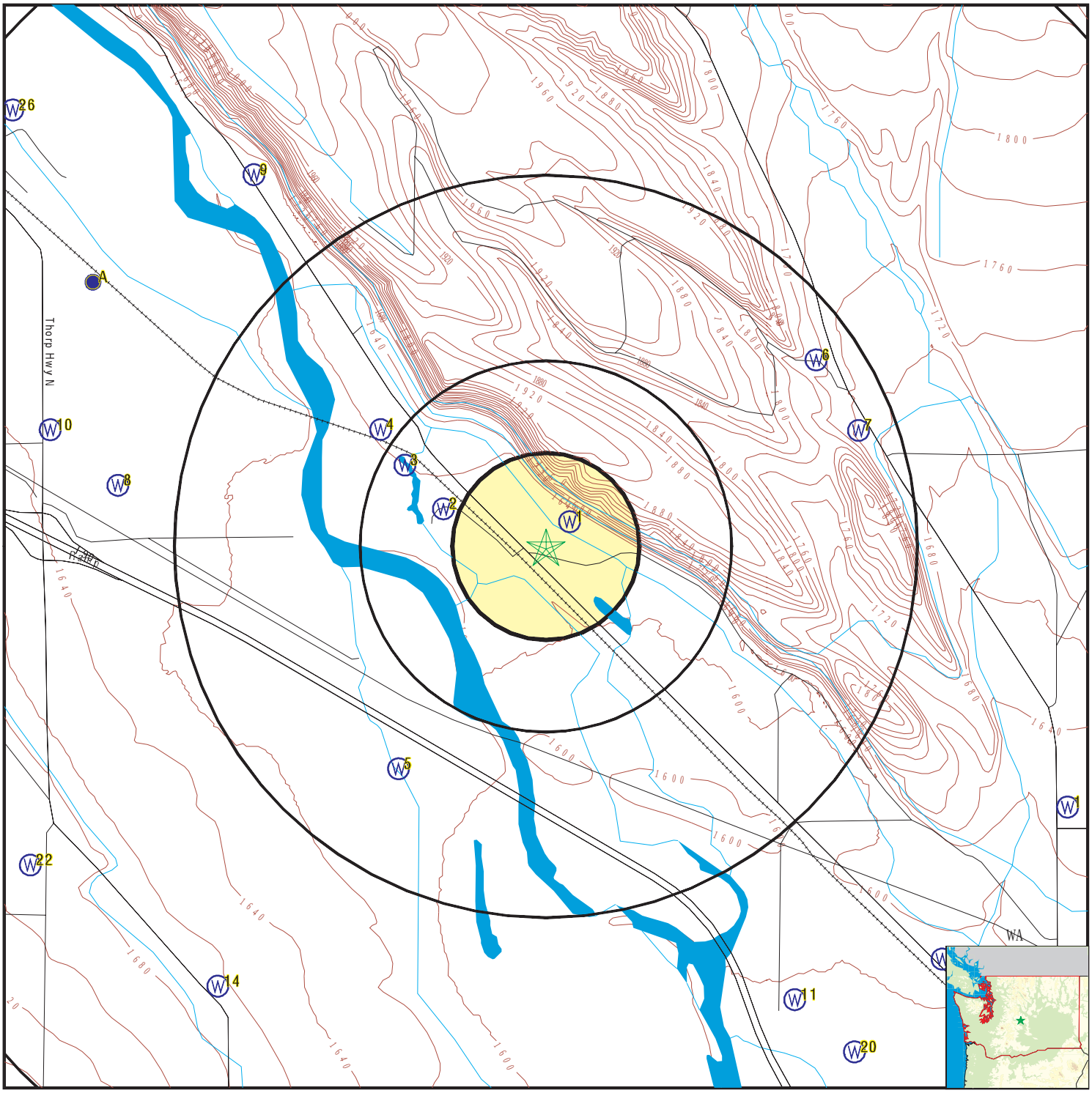
MAP ID	WELL ID	LOCATION FROM TP
4	WA7000000007037	1/2 - 1 Mile NW
5	WA7000000006878	1/2 - 1 Mile SSW
8	WA7000000007012	1 - 2 Miles West

GEOCHECK® - PHYSICAL SETTING SOURCE SUMMARY

STATE DATABASE WELL INFORMATION

MAP ID	WELL ID	LOCATION FROM TP
A12	WA7000000007084	1 - 2 Miles WNW
15	WA7000000006989	1 - 2 Miles West
16	WA7000000006804	1 - 2 Miles SE
20	WA7000000006779	1 - 2 Miles SSE
25	WA7000000007297	1 - 2 Miles North
26	WA7000000007182	1 - 2 Miles NW
28	WA7000000007299	1 - 2 Miles NNW

PHYSICAL SETTING SOURCE MAP - 3491048.1s



- County Boundary
- Major Roads
- Contour Lines
- Earthquake epicenter, Richter 5 or greater
- Water Wells
- Public Water Supply Wells
- Cluster of Multiple Icons
- Groundwater Flow Direction
- GI Indeterminate Groundwater Flow at Location
- GV Groundwater Flow Varies at Location
- HD Closest Hydrogeological Data

SITE NAME:	Route 10, Haywood, and City Wells	CLIENT:	Golder Associates, Inc.
ADDRESS:	410 Gladmar Rd Ellensburg WA 98926	CONTACT:	Andrew Austreng
		INQUIRY #:	3491048.1s
LAT/LONG:	47.0539 / 120.6376	DATE:	January 09, 2013 4:48 pm

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GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS

Map ID Direction Distance Elevation		Database	EDR ID Number
1 **NE** **0 - 1/8 Mile** **Higher**	Click here for full text details	**FED USGS**	**USGS3219247**
2 **WNW** **1/4 - 1/2 Mile** **Higher**	Click here for full text details	**FED USGS**	**USGS3219341**
3 **WNW** **1/4 - 1/2 Mile** **Higher**	Click here for full text details	**FED USGS**	**USGS3219345**
4 **NW** **1/2 - 1 Mile** **Higher**	Click here for full text details	**WA WELLS**	**WA7000000007037**
5 **SSW** **1/2 - 1 Mile** **Higher**	Click here for full text details	**WA WELLS**	**WA7000000006878**
6 **NE** **1/2 - 1 Mile** **Higher**	Click here for full text details	**FED USGS**	**USGS3219353**
7 **ENE** **1/2 - 1 Mile** **Higher**	Click here for full text details	**FED USGS**	**USGS3219347**
8 **West** **1 - 2 Miles** **Higher**	Click here for full text details	**WA WELLS**	**WA7000000007012**

GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS

Map ID Direction Distance Elevation		Database	EDR ID Number
9 **NW** **1 - 2 Miles** **Higher**	Click here for full text details	**FED USGS**	**USGS3219366**
10 **WNW** **1 - 2 Miles** **Higher**	Click here for full text details	**FED USGS**	**USGS3219348**
11 **SSE** **1 - 2 Miles** **Lower**	Click here for full text details	**FED USGS**	**USGS3219301**
A12 **WNW** **1 - 2 Miles** **Higher**	Click here for full text details	**WA WELLS**	**WA7000000007084**
A13 **WNW** **1 - 2 Miles** **Higher**	Click here for full text details	**FED USGS**	**USGS3219358**
14 **SW** **1 - 2 Miles** **Higher**	Click here for full text details	**FED USGS**	**USGS3219304**
15 **West** **1 - 2 Miles** **Higher**	Click here for full text details	**WA WELLS**	**WA7000000006989**
16 **SE** **1 - 2 Miles** **Lower**	Click here for full text details	**WA WELLS**	**WA7000000006804**
B17 **WSW** **1 - 2 Miles** **Higher**	Click here for full text details	**FED USGS**	**USGS3219327**

GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS

Map ID Direction Distance Elevation		Database	EDR ID Number
B18 **WSW** **1 - 2 Miles** **Higher**	Click here for full text details	**FED USGS**	**USGS3219326**
19 **ESE** **1 - 2 Miles** **Higher**	Click here for full text details	**FED USGS**	**USGS3219316**
20 **SSE** **1 - 2 Miles** **Lower**	Click here for full text details	**WA WELLS**	**WA7000000006779**
B21 **WSW** **1 - 2 Miles** **Higher**	Click here for full text details	**FED USGS**	**USGS3219324**
22 **WSW** **1 - 2 Miles** **Higher**	Click here for full text details	**FED USGS**	**USGS3219313**
23 **WNW** **1 - 2 Miles** **Higher**	Click here for full text details	**FED USGS**	**USGS3219359**
24 **West** **1 - 2 Miles** **Higher**	Click here for full text details	**FED USGS**	**USGS3219342**
25 **North** **1 - 2 Miles** **Higher**	Click here for full text details	**WA WELLS**	**WA7000000007297**
26 **NW** **1 - 2 Miles** **Higher**	Click here for full text details	**WA WELLS**	**WA7000000007182**

GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS

Map ID Direction Distance Elevation		Database	EDR ID Number
27 **WNW** **1 - 2 Miles** **Higher**	**Click here for full text details**	**FRDS PWS**	**WA5356813**
28 **NNW** **1 - 2 Miles** **Higher**	**Click here for full text details**	**WA WELLS**	**WA7000000007299**
29 **SE** **1 - 2 Miles** **Lower**	**Click here for full text details**	**FED USGS**	**USGS3219460**

GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS
RADON

AREA RADON INFORMATION

Federal EPA Radon Zone for KITTITAS County: 2

Note: Zone 1 indoor average level > 4 pCi/L.
: Zone 2 indoor average level >= 2 pCi/L and <= 4 pCi/L.
: Zone 3 indoor average level < 2 pCi/L.

Federal Area Radon Information for Zip Code: 98926

Number of sites tested: 1

Area	Average Activity	% <4 pCi/L	% 4-20 pCi/L	% >20 pCi/L
Living Area - 1st Floor	1.300 pCi/L	100%	0%	0%
Living Area - 2nd Floor	Not Reported	Not Reported	Not Reported	Not Reported
Basement	Not Reported	Not Reported	Not Reported	Not Reported

PHYSICAL SETTING SOURCE RECORDS SEARCHED

TOPOGRAPHIC INFORMATION

USGS 7.5' Digital Elevation Model (DEM)
Source: United States Geologic Survey
EDR acquired the USGS 7.5' Digital Elevation Model in 2002 and updated it in 2006. The 7.5 minute DEM corresponds to the USGS 1:24,000- and 1:25,000-scale topographic quadrangle maps. The DEM provides elevation data with consistent elevation units and projection.

Scanned Digital USGS 7.5' Topographic Map (DRG)
Source: United States Geologic Survey
A digital raster graphic (DRG) is a scanned image of a U.S. Geological Survey topographic map. The map images are made by scanning published paper maps on high-resolution scanners. The raster image is georeferenced and fit to the Universal Transverse Mercator (UTM) projection.

HYDROLOGIC INFORMATION

Flood Zone Data: This data, available in select counties across the country, was obtained by EDR in 2003 & 2011 from the Federal Emergency Management Agency (FEMA). Data depicts 100-year and 500-year flood zones as defined by FEMA.

NWI: National Wetlands Inventory. This data, available in select counties across the country, was obtained by EDR in 2002 and 2005 from the U.S. Fish and Wildlife Service.

HYDROGEOLOGIC INFORMATION

AQUIFLOW^{R} Information System
Source: EDR proprietary database of groundwater flow information
EDR has developed the AQUIFLOW Information System (AIS) to provide data on the general direction of groundwater flow at specific points. EDR has reviewed reports submitted to regulatory authorities at select sites and has extracted the date of the report, hydrogeologically determined groundwater flow direction and depth to water table information.

GEOLOGIC INFORMATION

Geologic Age and Rock Stratigraphic Unit
Source: P.G. Schruben, R.E. Arndt and W.J. Bawiec, Geology of the Conterminous U.S. at 1:2,500,000 Scale - A digital representation of the 1974 P.B. King and H.M. Beikman Map, USGS Digital Data Series DDS - 11 (1994).

STATSGO: State Soil Geographic Database
Source: Department of Agriculture, Natural Resources Conservation Services
The U.S. Department of Agriculture's (USDA) Natural Resources Conservation Service (NRCS) leads the national Conservation Soil Survey (NCSS) and is responsible for collecting, storing, maintaining and distributing soil survey information for privately owned lands in the United States. A soil map in a soil survey is a representation of soil patterns in a landscape. Soil maps for STATSGO are compiled by generalizing more detailed (SSURGO) soil survey maps.

SSURGO: Soil Survey Geographic Database
Source: Department of Agriculture, Natural Resources Conservation Services (NRCS)
Telephone: 800-672-5559
SSURGO is the most detailed level of mapping done by the Natural Resources Conservation Services, mapping scales generally range from 1:12,000 to 1:63,360. Field mapping methods using national standards are used to construct the soil maps in the Soil Survey Geographic (SSURGO) database. SSURGO digitizing duplicates the original soil survey maps. This level of mapping is designed for use by landowners, townships and county natural resource planning and management.

PHYSICAL SETTING SOURCE RECORDS SEARCHED

LOCAL / REGIONAL WATER AGENCY RECORDS

FEDERAL WATER WELLS

PWS: Public Water Systems
Source: EPA/Office of Drinking Water
Telephone: 202-564-3750
Public Water System data from the Federal Reporting Data System. A PWS is any water system which provides water to at least 25 people for at least 60 days annually. PWSs provide water from wells, rivers and other sources.

PWS ENF: Public Water Systems Violation and Enforcement Data
Source: EPA/Office of Drinking Water
Telephone: 202-564-3750
Violation and Enforcement data for Public Water Systems from the Safe Drinking Water Information System (SDWIS) after August 1995. Prior to August 1995, the data came from the Federal Reporting Data System (FRDS).

USGS Water Wells: USGS National Water Inventory System (NWIS)
This database contains descriptive information on sites where the USGS collects or has collected data on surface water and/or groundwater. The groundwater data includes information on wells, springs, and other sources of groundwater.

STATE RECORDS

Water Wells
Source: Department of Health
Telephone: 360-236-3148
Group A and B well locations.

Water Well Listing
Source: Public Utility District
Telephone: 206-779-7656
A listing of water well locations in Kitsap County.

OTHER STATE DATABASE INFORMATION

Oil and Gas Well Listing
Source: Department of Natural Resources
Telephone: 360-902-1450
Locations that represent oil and gas test well sites in Washington State from 1890 to present.

RADON

Area Radon Information
Source: USGS
Telephone: 703-356-4020
The National Radon Database has been developed by the U.S. Environmental Protection Agency (USEPA) and is a compilation of the EPA/State Residential Radon Survey and the National Residential Radon Survey. The study covers the years 1986 - 1992. Where necessary data has been supplemented by information collected at private sources such as universities and research institutions.

EPA Radon Zones
Source: EPA
Telephone: 703-356-4020
Sections 307 & 309 of IRAA directed EPA to list and identify areas of U.S. with the potential for elevated indoor radon levels.

OTHER

Airport Landing Facilities: Private and public use landing facilities
Source: Federal Aviation Administration, 800-457-6656

Epicenters: World earthquake epicenters, Richter 5 or greater
Source: Department of Commerce, National Oceanic and Atmospheric Administration

PHYSICAL SETTING SOURCE RECORDS SEARCHED

STREET AND ADDRESS INFORMATION

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Airport, Rodeo, Memorial, Mt. Stewart, Kiwanis
11 Bowers Rd
Ellensburg, WA 98926

Inquiry Number: 3490663.1s
January 11, 2013

EDR Summary Radius Map Report

Prepared using the EDR FieldCheck® System

EDR® Environmental Data Resources Inc

440 Wheelers Farms Road
Milford, CT 06461
Toll Free: 800.352.0050
www.edrnet.com

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Thank you for your business.
Please contact EDR at 1-800-352-0050
with any questions or comments.

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EXECUTIVE SUMMARY

A search of the environmental records was conducted by Environmental Data Resources, Inc. (EDR). GOLDER ASSOCIATES, INC. used the EDR FieldCheck System to review and/or revise the results of this search, based on independent data verification by GOLDER ASSOCIATES, INC.. The report was designed to assist parties seeking to meet the search requirements of EPA's Standards and Practices for All Appropriate Inquiries (40 CFR Part 312), the ASTM Standard Practice for Environmental Site Assessments (E 1527-05) or custom requirements developed for the evaluation of environmental risk associated with a parcel of real estate.

TARGET PROPERTY INFORMATION

ADDRESS

11 BOWERS RD
ELLENSBURG, WA 98926

COORDINATES

Latitude (North):	47.0230000 - 47° 1' 22.80''
Longitude (West):	120.5360000 - 120° 32' 9.60''
Universal Tranverse Mercator:	Zone 10
UTM X (Meters):	687248.4
UTM Y (Meters):	5210448.0
Elevation:	1688 ft. above sea level

USGS TOPOGRAPHIC MAP ASSOCIATED WITH TARGET PROPERTY

Target Property:	TP
Source:	USGS 7.5 min quad index

AERIAL PHOTOGRAPHY IN THIS REPORT

Photo Year:	2009
Source:	USDA

MAPPED SITES SUMMARY

Target Property Address:
11 BOWERS RD
ELLENSBURG, WA 98926

Click on Map ID to see full detail.

MAP ID	SITE NAME	ADDRESS	DATABASE ACRONYMS	RELATIVE ELEVATION	DIST (ft.) DIRECTION
A1	CITY OF KITTITAS PUB	600 INDUSTRIAL WAY	ALLSITES	Higher	1 ft.
B2	CARIBOU CREEK LOGGIN	701 S INDUSTRIAL WAY	ALLSITES	Higher	1 ft.
B3	ELMVIEW RECYCLE	804 ELMVIEW RD	ALLSITES, SWF/LF	Higher	1 ft.
A4	BALL DALE & CLARA	710 E ELMVIEW	ALLSITES, UST	Higher	1 ft.
A5	ELLENSBURG CITY	607 INDUSTRIAL WY	CSCSL, ALLSITES, ICR	Higher	1 ft.
6	THE GROVE	2420 AIRPORT RD	ALLSITES	Lower	1 ft.
B7	CARIBOU CREEK LOGGIN	701 INDUSTRIAL WAY	SWF/LF	Higher	1 ft.
A8	ELLENSBURG CITY	607 INDUSTRIAL WY	RCRA NonGen / NLR, FINDS, LUST, UST, MANIFEST	Higher	1 ft.
A9	KITTITAS TRAP & SKEE	3102 N AIRPORT RD	CSCSL, ALLSITES	Higher	1 ft.
C10	WA AGR KITTITAS 1	715 EAST BOWERS ROAD	RCRA NonGen / NLR, FINDS, ALLSITES, MANIFEST	Higher	11, NNW
C11	WA DNR ELLENSBURG	713 E BOWERS RD	CSCSL, ALLSITES, LUST, UST	Higher	14, NNW
C12	WSDNR	713 E. BOWERS ROAD	ICR	Higher	14, NNW
13	KITTITAS COUNTY HEAD	220 E HELENA AVE	ALLSITES	Lower	29, SSW
D14	FORMER ELLENSBURG AA	1101 BOWERS RD AT	CERC-NFRAP	Higher	229, NNE
E15	SUN RIDGE PLAT, LOT	2500 N ELINGTON ST	UIC	Lower	310, WSW
E16	MCINTOSH PLAT	ELLINGTON ST & GREEN	ALLSITES	Lower	313, WSW
D17	MIDSTATE AVIATION	1101 BOWERS RD	RCRA NonGen / NLR, FINDS, ALLSITES, CSCSL NFA	Higher	444, NE
18		1801 N WALNUT ST	EDR US Hist Cleaners	Lower	975, SSW
19		2113 PARKLANE AVE	CDL, HIST CDL	Lower	1105, SW
20		209 W MOUNT HOOD CT	EDR US Hist Auto Stat	Lower	1639, SW
21	HARVEY DODGE PROPERT	GAME FARM RD.	ALLSITES	Higher	1749, SE
22		1705 N COLLEGE PL	EDR US Hist Cleaners	Lower	1888, SSW
F23	WATER STREET CREAMER	1505 N WATER ST	ALLSITES, CSCSL NFA, VCP, ICR	Lower	3136, SSW
F24		1505 N WATER ST	EDR US Hist Auto Stat	Lower	3136, SSW
F25	WONDRACK ELLENSBURG	15TH AVE & WATER ST	FINDS, ALLSITES, CSCSL NFA, INST CONTROL, VCP	Lower	3142, SSW
26	CENTRAL WASHINGTON U	11TH & "D" STREET	ICR	Lower	3763, SSW
G27	ELLENSBURG MAINTENAN	15TH & OKANOGAN	ALLSITES, UST	Lower	3880, SW
G28	TV CABLE TRENCH TPH	419-421 W 15TH ST	CSCSL, ALLSITES	Lower	3888, SW
H29	MARK CONNER RESIDENC	104 W 11TH AVE	ALLSITES	Lower	3995, SSW
30	ALLEN EDLER PROPERTY	406 W 13TH AVE	ALLSITES	Lower	4030, SSW
31		1902 JUDGE RONALD R	EDR US Hist Cleaners	Lower	4046, SE
I32	7 ELEVEN STORE 2301	1001 E UNIVERSITY WY	UST	Lower	4180, South
I33	7 ELEVEN STORE 2301	1001 E UNIVERSITY WY	ALLSITES, Financial Assurance	Lower	4180, South
I34	KEN'S AUTO WASH II	1013 E. 10TH	ICR	Lower	4182, South
I35	KENS AUTO WASH II	1013 UNIVERSITY WY	CSCSL, ALLSITES, HSL	Lower	4182, South
36	DALE ANDERSON	1114 N WATER ST	FINDS, ALLSITES	Lower	4267, SSW
37	KENS AUTO WASH II	1013 UNIVERSITY WY	LUST, UST	Lower	4296, SSE
H38	TEVELDE RESIDNECE	110 W 10TH AVENUE	ALLSITES	Lower	4363, SSW
39	KITTITAS CNTY FAIR H		ALLSITES	Lower	4688, SSE

MAPPED SITES SUMMARY

Target Property Address:
11 BOWERS RD
ELLENSBURG, WA 98926

Click on Map ID to see full detail.

MAP ID	SITE NAME	ADDRESS	DATABASE ACRONYMS	RELATIVE ELEVATION	DIST (ft.) DIRECTION
J40		700 E 8TH AVE	EDR US Hist Cleaners	Lower	4816, South
J41		700 E UNIVERSITY WAY	EDR US Hist Cleaners	Lower	4816, South
J42	SUPERIOR DRY CLEANER	700 E 8TH ST	RCRA NonGen / NLR, FINDS, ALLSITES, Inactive...	Lower	4816, South
K43	CENTRAL WASHINGTON U	400 E UNIVERSITY WAY	RCRA-LQG, CSCSL, HSL, ALLSITES, CSCSL NFA,...	Lower	4891, South
K44	WA DFW MOSES LAKE PR	400 E 8TH AVE WA DFW	RCRA NonGen / NLR, ALLSITES	Lower	4891, South
K45	CENTRAL WASHINGTON U	400 E UNIVERSITY WY	UST	Lower	4891, South
46	KITTITAS COUNTY FAIR	NEAR 1007 E 8TH AVE	FINDS, ALLSITES, CSCSL NFA	Lower	4902, South
L47	KENS TEXACO INC	101 E UNIVERSITY WAY	CSCSL, ALLSITES, LUST, UST, ICR, Financial...	Lower	5079, SSW
L48		101 E 8TH AVE	EDR US Hist Auto Stat	Lower	5079, SSW
L49		101 E UNIVERSITY WAY	EDR US Hist Auto Stat	Lower	5079, SSW
L50	UNIVERSITY AUTO CENT	100 E UNIVERSITY WY	ALLSITES, CSCSL NFA, UST, VCP	Lower	5088, SSW
L51		100 E 8TH AVE	EDR US Hist Auto Stat	Lower	5088, SSW
L52	7 ELEVEN STORE 2301	112 W UNIVERSITY WY	UST	Lower	5132, SSW
L53	7 ELEVEN STORE 2301	112 W UNIVERSITY WY	ALLSITES, CSCSL NFA, VCP, Financial Assurance	Lower	5132, SSW
L54	7 ELEVEN #2301 23579	112 W. 8TH ST.	ICR	Lower	5132, SSW
55	SHERWIN WILLIAMS 173	710 N CHESTNUT	ALLSITES	Lower	5151, South
56	WA MIL 050	901 E 7TH AVE	ALLSITES, UST	Lower	5226, South
L57		200 W UNIVERSITY WAY	EDR US Hist Auto Stat	Lower	5230, SSW
L58	UNIVERSITY WAY SHELL	200 W UNIVERSITY WAY	ALLSITES, UST, Financial Assurance	Lower	5230, SSW
M59	CENTRAL SHELL RH BOW	8TH & MAIN	ALLSITES, UST	Lower	5398, SSW
L60	RETIRED SENIOR VOLUN	707 N. PEARL STREET,	SWRCY	Lower	5440, SSW
M61	CHEVRON 95012	400 W UNIVERSITY WY	CSCSL, ALLSITES, LUST, UST	Lower	5506, SSW
M62	CHEVRON 95012	400 WEST 8TH AVENUE	RCRA NonGen / NLR, FINDS, MANIFEST, ICR	Lower	5506, SSW
M63	MAID O CLOVER ELLENS	702 N MAIN	FINDS, ALLSITES, UST	Lower	5554, SSW
N64	UNIVERSITY AUTO CENT	610 N PEARL	CSCSL, ALLSITES, LUST, UST, BROWNFIELDS	Lower	5784, SSW
N65	UNIVERSITY AUTO CENT	607 N PEARL	RCRA-CESQG, FINDS, MANIFEST, ICR	Lower	5784, SSW
N66	KELLEHER MOTOR CO	6TH & PEARL	RCRA NonGen / NLR, FINDS, ALLSITES, CSCSL NFA,...	Lower	5826, SSW
N67	KELLEHER MOTOR CO	6TH & PEARL	UST, ICR	Lower	5826, SSW
O68	LIGHTHOUSE MOTEL	607 W UNIVERSITY WAY	ALLSITES	Lower	5846, SSW
O69		641 W UNIVERSITY WAY	EDR US Hist Auto Stat	Lower	5906, SSW
N70	CENTRAL TEXACO	601 N MAIN	ALLSITES, UST	Lower	5913, SSW
71		704 N NANUM ST	EDR US Hist Cleaners	Lower	5967, SSW
P72	ELLENSBURG CITY MSW	501 N ANDERSON ST	ALLSITES, NPDES	Lower	5979, South
P73	ELLENSBURG CITY SPRA	506 N SPRAGUE ST	FINDS, ALLSITES	Lower	5994, South
P74	ELLENSBURG CITY	506 N SPRAGUE ST	RCRA NonGen / NLR	Lower	5994, South
O75	WARD RUGH TRUCKING F	710 W. 8TH ST.	ICR	Lower	6026, SSW
O76	WARD RUGH INC	710 W 8TH	RCRA-CESQG, FTTS, HIST FTTS, FINDS, ALLSITES,...	Lower	6026, SSW
Q77	WARD RUGH INC	710 W UNIVERSITY WY	CSCSL, HSL, ALLSITES, LUST, UST	Lower	6063, SSW
78	WA DOT ELLENSBURG MA	749 UNIVERSITY WY	CSCSL, ALLSITES	Lower	6064, SW

MAPPED SITES SUMMARY

Target Property Address:
11 BOWERS RD
ELLENSBURG, WA 98926

Click on Map ID to see full detail.

MAP ID	SITE NAME	ADDRESS	DATABASE ACRONYMS	RELATIVE ELEVATION	DIST (ft.) DIRECTION
79	ELLENSBURG CITY W 8T	W UNIVERSITY WY	CSCSL, ALLSITES	Lower	6068, SW
Q80	JR S ECONOMART	619 CASCADE WAY	FINDS, ALLSITES, UST	Lower	6068, SSW
R81	YAKIMA FEDERAL SAVIN	5TH & PINE ST	UST, ICR	Lower	6124, SSW
R82	YAKIMA FEDERAL SAVIN	5TH & PINE ST	FINDS, ALLSITES, CSCSL NFA	Lower	6124, SSW
S83	COMMON CARRIERS INC	1011 W CASCADE CT	UST	Lower	6144, SW
S84	COMMON CARRIERS INC	1011 W CASCADE CT	ALLSITES, CSCSL NFA, VCP	Lower	6144, SW
85	CASEY PEARSON	604 N KITTITAS ST	ALLSITES	Lower	6150, SSW
N86	SEARS 7549	505 N PEARL	RCRA NonGen / NLR, FINDS, ALLSITES	Lower	6182, SSW
87	DOUBLE H-J FARM	2550 HUNGRY JUNCTION	ALLSITES	Higher	6239, NNW
88	KITTITAS COUNTY DEPA	205 W 5TH	FINDS, ALLSITES, UST	Lower	6291, SSW
S89	CASCADE EQUIPMENT SA	901 UNIVERSITY WAY	FINDS, ALLSITES	Lower	6319, SW
T90	OXARC INC ELLENSBURG	704 N WENAS ST	FINDS, ALLSITES	Lower	6321, SSW
T91	ELLENSBURG CEMENT PR	7TH & WENAS	FINDS, ALLSITES	Lower	6343, SSW
U92		1005 E CRAIG AVE	EDR US Hist Auto Stat	Lower	6363, South
U93	TERRY DIRKS PROPERTY	908 E 4TH AVE	FINDS, ALLSITES	Lower	6369, South
V94	SAFEWAY STORE 1630 D	400 N RUBY ST	ALLSITES, CSCSL NFA, UST, ICR	Lower	6428, SSW
R95	GORDON MACDONALD PHO	206 E 4TH AVE	RCRA NonGen / NLR, FINDS, ALLSITES	Lower	6491, SSW
96	RYEGRASS LANDFILL		HSL	Lower	6631, SSW
W97		305 N ANDERSON ST	EDR US Hist Auto Stat	Lower	6711, South
98	COMMON CARRIERS, INC	1107 CASCADE WAY	ICR	Lower	6723, SW
W99	ELLENSBURG WATER COM	502 E 3RD AVE	FINDS, ALLSITES, NPDES	Lower	6744, South
X100	KITTITAS RECLAMATION	4TH & WATER ST	ALLSITES, UST	Lower	6757, SSW
V101	FAIRPOINT COMMUNICAT	305 N RUBY	FINDS, ALLSITES, UST	Lower	6792, SSW
Y102	FAUST & RUDOLPH PART	301 N PINE ST	ALLSITES, UST	Lower	6858, SSW
X103	TWIN CITY FOODS ELLE	501 W 4TH AVE	ALLSITES, SPILLS, NPDES	Lower	6874, SSW
X104	TWIN CITY FOODS ELLE	501 W 4TH ST	RCRA NonGen / NLR, FINDS	Lower	6874, SSW
X105	TWIN CITY FOODS ELLE	501 W 4TH AVE	UST, Financial Assurance	Lower	6874, SSW
106	JOSEPH W MACKNER	2608 JUDGE RONALD RD	ALLSITES, UST	Lower	6905, SE
Y107	GRAND CENTRAL CINEMA	300 N. PEARL ST.	ICR	Lower	6913, SSW
X108		319 N MAIN ST	EDR US Hist Auto Stat	Lower	6944, SSW
X109	GAYLAN'S SALON	311 N MAIN ST	ALLSITES	Lower	6969, SSW
Z110	MIDSTATE COOPERATIVE	705 W 5TH AVE	CSCSL, ALLSITES, LUST, UST, ICR	Lower	6973, SSW
Z111	DEVERE & SONS DISTRI	707 W 5TH	CSCSL, ALLSITES, UST	Lower	6977, SSW
AA112	ELLENSBURG TELEPHONE	208 W 3RD AVE	ALLSITES, CSCSL NFA, UIC, VCP	Lower	7027, SSW
AA113	ELLENSBURG TELEPHONE	208 W 3RD AVE	UST	Lower	7027, SSW
X114	KITTITAS RECLAMATION	315 N WATER ST	ALLSITES, NPDES	Lower	7065, SSW
115	OKANOGAN SEATTLE TRA	1331 CASCADE WAY	CSCSL, ALLSITES, LUST, UST, ICR, NPDES	Lower	7139, WSW
116	ERIC WINBORNE	841 COWBOY LANE	FINDS, ALLSITES	Lower	7139, SE
117		2310 WILSON CREEK R	EDR US Hist Auto Stat	Higher	7158, ENE

MAPPED SITES SUMMARY

Target Property Address:
11 BOWERS RD
ELLENSBURG, WA 98926

Click on Map ID to see full detail.

MAP ID	SITE NAME	ADDRESS	DATABASE ACRONYMS	RELATIVE ELEVATION	DIST (ft.) DIRECTION
AB118	WASTE MANAGEMENT OF	607 N. RAILROAD	ICR	Lower	7166, SSW
AB119	WASTE MANAGEMENT OF	607 RAILROAD AVE	CERC-NFRAP, RCRA-CESQG, FINDS, MANIFEST	Lower	7166, SSW
AB120	WASTE MANAGEMENT	607 N RAILROAD AVE	ALLSITES, CSCSL NFA, UIC, SPILLS	Lower	7166, SSW
AB121	WASTE MANAGEMENT OF	607 N RAILROAD AVE	UST	Lower	7166, SSW
AC122	A 1 PETROLEUM & PROP	1243 W UNIVERSITY WA	ALLSITES	Lower	7170, WSW
AC123	A-1 PETROLEUM	1243 CASCADE WAY	ICR	Lower	7170, WSW
124	DR DAVID THACKER	309 E 2ND AVE	ALLSITES	Lower	7179, South
Z125	PAUTZKE BAIT COMPANY	400 N WENAS	ALLSITES, UST	Lower	7206, SSW
Y126		207 N PINE ST	EDR US Hist Cleaners	Lower	7211, SSW
Y127	MODEL KE CLEANERS &	207 N PINE	RCRA NonGen / NLR, FINDS, ALLSITES, Inactive...	Lower	7218, SSW
Y128		205 E 2ND AVE	EDR US Hist Auto Stat	Lower	7233, SSW
AD129	MIDSTATE COOP 417 W	417 W 3RD	ALLSITES, CSCSL NFA, UST, ICR	Lower	7250, SSW
AD130	MIDSTATE COOP 410 W	410 W 3RD	UST	Lower	7253, SSW
AD131	MIDSTATE COOP 410 W	410 W 3RD	ALLSITES, Financial Assurance	Lower	7253, SSW
AE132	PUGET SOUND ENERGY	207 NORTH PEARL	SWRCY	Lower	7274, SSW
AE133	ELLENSBURG IRON WKS	201 N PEARL ST	RCRA NonGen / NLR, FINDS, ALLSITES	Lower	7297, SSW
AF134	CENTRAL WASHINGTON B	1000 N PROSPECT ST S	ALLSITES	Lower	7317, SW
AA135	ELLENSBURG TELEPHONE	211 N MAIN	FINDS, UST	Lower	7349, SSW
AA136		205 N MAIN ST	EDR US Hist Auto Stat	Lower	7368, SSW
AA137	D & M MOTORS & TOWIN	205 N MAIN	RCRA-CESQG, FINDS, ALLSITES, MANIFEST	Lower	7368, SSW
AA138	CJ WALKER & SON INC	201 N MAIN	ALLSITES, UST	Lower	7384, SSW
AA139	BIG Z KARDGUAND SYST	2ND MAIN	UST	Lower	7388, SSW
AA140	UPS ELLENSBURG	215 N WATER ST	FINDS, ALLSITES, MANIFEST	Lower	7414, SSW
141	WILBUR ELLIS COMPANY	312 WENAS ST	ALLSITES	Lower	7440, SSW
AF142	MIDSTATE CO OP PROPA	905 N PROSPECT ST	ALLSITES	Lower	7442, SW
143	MAINTENANCE SHOP OF	1ST & SAMPSON	FINDS, ALLSITES, UST	Lower	7475, South
AG144	WA DOT ELLENSBURG MA	749 CASCADE WAY	RCRA NonGen / NLR, FINDS	Lower	7506, SW
AG145	WA DOT ELLENSBURG MA	749 UNIVERSITY WY	LUST, UST	Lower	7506, SW
AG146	WA AGR KITTITAS 2	749A CASCADE WAY	RCRA NonGen / NLR, FINDS, ALLSITES, MANIFEST	Lower	7506, SW
AD147		208 N KITTITAS ST	EDR US Hist Auto Stat	Lower	7550, SSW
AF148		807 N PROSPECT ST	EDR US Hist Auto Stat	Lower	7575, SW
AF149		807 PROSPECT ST	EDR US Hist Auto Stat	Lower	7575, SW
AF150		801 N PROSPECT ST	EDR US Hist Auto Stat	Lower	7581, SW
AF151		801 PROSPECT ST	EDR US Hist Auto Stat	Lower	7581, SW
152	WILBER PROPERTY	104 S PINE ST	FINDS, ALLSITES	Lower	7648, SSW
AE153	ELLENSBURG FIRE DEPA	102 N PEARL ST	ALLSITES, CSCSL NFA, UST	Lower	7655, SSW
AE154	ELLENSBURG FIRE DEPA	102 N. PEARL	ICR	Lower	7655, SSW
AH155	MATHEUS LUMBER	1433 W UNIVERSITY WA	ALLSITES	Lower	7681, WSW
AD156	SUPERIOR PACKING CO	201 N WENAS ST	RCRA NonGen / NLR, FINDS	Lower	7696, SSW

MAPPED SITES SUMMARY

Target Property Address:
11 BOWERS RD
ELLENSBURG, WA 98926

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MAP ID	SITE NAME	ADDRESS	DATABASE ACRONYMS	RELATIVE ELEVATION	DIST (ft.) DIRECTION
AD157	WASTE MANAGEMENT ELL	201 N WENAS ST	ALLSITES, SWF/LF	Lower	7696, SSW
AI158		112 N MAIN ST	EDR US Hist Auto Stat	Lower	7704, SSW
AI159		107 N MAIN ST	EDR US Hist Auto Stat	Lower	7722, SSW
AI160	WHITEMAN TIRE INC	107 N MAIN ST	CSCSL, ALLSITES, LUST, UST, ICR	Lower	7722, SSW
AH161		1441 W UNIVERSITY WA	EDR US Hist Auto Stat	Lower	7727, WSW
AH162		1442 CASCADE WAY	EDR US Hist Auto Stat	Lower	7738, WSW
AI163		101 S MAIN ST	EDR US Hist Auto Stat	Lower	7764, SSW
164	RODEO CITY RECYCLING	320 N RAILROAD AVE	ALLSITES, SWRCY, NPDES	Lower	7765, SSW
AI165		105 S MAIN ST	EDR US Hist Auto Stat	Lower	7781, SSW
AI166	DANNY THOMAS INC	108 S MAIN	ALLSITES, UST	Lower	7794, SSW
AI167	CASCADE PALLET CO	109 N WATER ST	CSCSL, ALLSITES	Lower	7797, SSW
168	251 CURLEW RD	251 CURLEW RD	FINDS, ALLSITES	Higher	7833, ESE
AJ169	US DOE BPA ELLENSBUR	1306 W DOLARWAY RD	RCRA NonGen / NLR, FINDS	Lower	7841, SW
AJ170	DIRECTV NORTHWEST DI	1306 W DOLARWAY RD	ALLSITES	Lower	7841, SW
171	ASHLEY HARRIS PROPER	202 S ANDERSON ST	ALLSITES	Lower	7901, South

EXECUTIVE SUMMARY

TARGET PROPERTY SEARCH RESULTS

The target property was not listed in any of the databases searched by EDR.

SURROUNDING SITES: SEARCH RESULTS

Surrounding sites were identified in the following databases.

Elevations have been determined from the USGS Digital Elevation Model and should be evaluated on a relative (not an absolute) basis. Relative elevation information between sites of close proximity should be field verified. Sites with an elevation equal to or higher than the target property have been differentiated below from sites with an elevation lower than the target property.
Page numbers and map identification numbers refer to the EDR Radius Map report where detailed data on individual sites can be reviewed.

Sites listed in ***bold italics*** are in multiple databases.

Unmappable (orphan) sites are not considered in the foregoing analysis.

STANDARD ENVIRONMENTAL RECORDS

Federal CERCLIS NFRAP site List

An online review and analysis by GOLDER ASSOCIATES, INC. of the CERC-NFRAP list, as provided by EDR, and dated 11/02/2012 has revealed that there are 2 CERC-NFRAP sites within approximately 3 miles of the target property.

Equal/Higher Elevation	Address	Direction / Distance	Map ID	Page
FORMER ELLENSBURG AA	1101 BOWERS RD AT	NNE 0 - 1/8 (0.043 mi.)	D14	9

Lower Elevation	Address	Direction / Distance	Map ID	Page
WASTE MANAGEMENT OF	***607 RAILROAD AVE***	***SSW 1 - 2 (1.357 mi.)***	***AB119***	***28***

Federal RCRA generators list

An online review and analysis by GOLDER ASSOCIATES, INC. of the RCRA-LQG list, as provided by EDR, and dated 09/11/2012 has revealed that there is 1 RCRA-LQG site within approximately 3 miles of the target property.

Lower Elevation	Address	Direction / Distance	Map ID	Page
CENTRAL WASHINGTON U	***400 E UNIVERSITY WAY***	***S 1/2 - 1 (0.926 mi.)***	***K43***	***14***

EXECUTIVE SUMMARY

An online review and analysis by GOLDER ASSOCIATES, INC. of the RCRA-CESQG list, as provided by EDR, and dated 09/11/2012 has revealed that there are 4 RCRA-CESQG sites within approximately 3 miles of the target property.

Lower Elevation	Address	Direction / Distance	Map ID	Page
UNIVERSITY AUTO CENT	***607 N PEARL***	***SSW 1 - 2 (1.095 mi.)***	***N65***	***18***
WARD RUGH INC	***710 W 8TH***	***SSW 1 - 2 (1.141 mi.)***	***O76***	***20***
WASTE MANAGEMENT OF	***607 RAILROAD AVE***	***SSW 1 - 2 (1.357 mi.)***	***AB119***	***28***
D & M MOTORS & TOWIN	***205 N MAIN***	***SSW 1 - 2 (1.395 mi.)***	***AA137***	***31***

State- and tribal - equivalent NPL

An online review and analysis by GOLDER ASSOCIATES, INC. of the HSL list, as provided by EDR, and dated 08/23/2012 has revealed that there are 4 HSL sites within approximately 3 miles of the target property.

Lower Elevation	Address	Direction / Distance	Map ID	Page
KENS AUTO WASH II	***1013 UNIVERSITY WY***	***S 1/2 - 1 (0.792 mi.)***	***I35***	***12***
Facility Type: Hazardous Sites List				
CENTRAL WASHINGTON U	***400 E UNIVERSITY WAY***	***S 1/2 - 1 (0.926 mi.)***	***K43***	***14***
WARD RUGH INC	***710 W UNIVERSITY WY***	***SSW 1 - 2 (1.148 mi.)***	***Q77***	***20***
Facility Type: Hazardous Sites List				
RYEGRASS LANDFILL		SSW 1 - 2 (1.256 mi.)	96	24
Facility Type: Hazardous Sites List				

State- and tribal - equivalent CERCLIS

An online review and analysis by GOLDER ASSOCIATES, INC. of the CSCSL list, as provided by EDR, and dated 10/23/2012 has revealed that there are 17 CSCSL sites within approximately 3 miles of the target property.

Equal/Higher Elevation	Address	Direction / Distance	Map ID	Page
ELLENSBURG CITY	***607 INDUSTRIAL WY***	***0 - 1/8 (0.000 mi.)***	***A5***	***7***
KITTITAS TRAP & SKEE	***3102 N AIRPORT RD***	***0 - 1/8 (0.000 mi.)***	***A9***	***8***
WA DNR ELLENSBURG	***713 E BOWERS RD***	***NNW 0 - 1/8 (0.003 mi.)***	***C11***	***8***

Lower Elevation	Address	Direction / Distance	Map ID	Page
TV CABLE TRENCH TPH	***419-421 W 15TH ST***	***SW 1/2 - 1 (0.736 mi.)***	***G28***	***11***
KENS AUTO WASH II	***1013 UNIVERSITY WY***	***S 1/2 - 1 (0.792 mi.)***	***I35***	***12***
CENTRAL WASHINGTON U	***400 E UNIVERSITY WAY***	***S 1/2 - 1 (0.926 mi.)***	***K43***	***14***
KENS TEXACO INC	***101 E UNIVERSITY WAY***	***SSW 1/2 - 1 (0.962 mi.)***	***L47***	***15***
CHEVRON 95012	***400 W UNIVERSITY WY***	***SSW 1 - 2 (1.043 mi.)***	***M61***	***17***
UNIVERSITY AUTO CENT	***610 N PEARL***	***SSW 1 - 2 (1.095 mi.)***	***N64***	***18***
WARD RUGH INC	***710 W UNIVERSITY WY***	***SSW 1 - 2 (1.148 mi.)***	***Q77***	***20***
WA DOT ELLENSBURG MA	***749 UNIVERSITY WY***	***SW 1 - 2 (1.148 mi.)***	***78***	***21***
ELLENSBURG CITY W 8T	***W UNIVERSITY WY***	***SW 1 - 2 (1.149 mi.)***	***79***	***21***
MIDSTATE COOPERATIVE	***705 W 5TH AVE***	***SSW 1 - 2 (1.321 mi.)***	***Z110***	***26***

Lower Elevation	Address	Direction / Distance	Map ID	Page
DEVERE & SONS DISTRI	*707 W 5TH*	*SSW 1 - 2 (1.321 mi.)*	*Z111*	*27*
OKANOGAN SEATTLE TRA	*1331 CASCADE WAY*	*WSW 1 - 2 (1.352 mi.)*	*115*	*27*
WHITEMAN TIRE INC	*107 N MAIN ST*	*SSW 1 - 2 (1.462 mi.)*	*AI160*	*35*
CASCADE PALLET CO	*109 N WATER ST*	*SSW 1 - 2 (1.477 mi.)*	*AI167*	*36*

State and tribal landfill and/or solid waste disposal site lists

An online review and analysis by GOLDER ASSOCIATES, INC. of the SWF/LF list, as provided by EDR, and dated 09/06/2012 has revealed that there are 3 SWF/LF sites within approximately 3 miles of the target property.

Equal/Higher Elevation	Address	Direction / Distance	Map ID	Page
ELMVIEW RECYCLE	*804 ELMVIEW RD*	*0 - 1/8 (0.000 mi.)*	*B3*	*7*
CARIBOU CREEK LOGGIN	701 INDUSTRIAL WAY	0 - 1/8 (0.000 mi.)	B7	8

Lower Elevation	Address	Direction / Distance	Map ID	Page
WASTE MANAGEMENT ELL	*201 N WENAS ST*	*SSW 1 - 2 (1.458 mi.)*	*AD157*	*35*

State and tribal leaking storage tank lists

An online review and analysis by GOLDER ASSOCIATES, INC. of the LUST list, as provided by EDR, and dated 08/20/2012 has revealed that there are 11 LUST sites within approximately 3 miles of the target property.

Equal/Higher Elevation	Address	Direction / Distance	Map ID	Page
ELLENSBURG CITY	*607 INDUSTRIAL WY*	*0 - 1/8 (0.000 mi.)*	*A8*	*8*
WA DNR ELLENSBURG	*713 E BOWERS RD*	*NNW 0 - 1/8 (0.003 mi.)*	*C11*	*8*

Lower Elevation	Address	Direction / Distance	Map ID	Page
KENS AUTO WASH II	*1013 UNIVERSITY WY*	*SSE 1/2 - 1 (0.814 mi.)*	*37*	*13*
KENS TEXACO INC	*101 E UNIVERSITY WAY*	*SSW 1/2 - 1 (0.962 mi.)*	*L47*	*15*
CHEVRON 95012	*400 W UNIVERSITY WY*	*SSW 1 - 2 (1.043 mi.)*	*M61*	*17*
UNIVERSITY AUTO CENT	*610 N PEARL*	*SSW 1 - 2 (1.095 mi.)*	*N64*	*18*
WARD RUGH INC	*710 W UNIVERSITY WY*	*SSW 1 - 2 (1.148 mi.)*	*Q77*	*20*
MIDSTATE COOPERATIVE	*705 W 5TH AVE*	*SSW 1 - 2 (1.321 mi.)*	*Z110*	*26*
OKANOGAN SEATTLE TRA	*1331 CASCADE WAY*	*WSW 1 - 2 (1.352 mi.)*	*115*	*27*
WA DOT ELLENSBURG MA	*749 UNIVERSITY WY*	*SW 1 - 2 (1.422 mi.)*	*AG145*	*33*
WHITEMAN TIRE INC	*107 N MAIN ST*	*SSW 1 - 2 (1.462 mi.)*	*AI160*	*35*

EXECUTIVE SUMMARY

State and tribal registered storage tank lists

An online review and analysis by GOLDER ASSOCIATES, INC. of the UST list, as provided by EDR, and dated 08/20/2012 has revealed that there are 45 UST sites within approximately 3 miles of the target property.

Equal/Higher Elevation	Address	Direction / Distance	Map ID	Page
BALL DALE & CLARA	***710 E ELMVIEW***	***0 - 1/8 (0.000 mi.)***	***A4***	***7***
ELLENSBURG CITY	***607 INDUSTRIAL WY***	***0 - 1/8 (0.000 mi.)***	***A8***	***8***
WA DNR ELLENSBURG	***713 E BOWERS RD***	***NNW 0 - 1/8 (0.003 mi.)***	***C11***	***8***

Lower Elevation	Address	Direction / Distance	Map ID	Page
ELLENSBURG MAINTENAN	***15TH & OKANOGAN***	***SW 1/2 - 1 (0.735 mi.)***	***G27***	***11***
7 ELEVEN STORE 2301	1001 E UNIVERSITY WY	S 1/2 - 1 (0.792 mi.)	I32	12
KENS AUTO WASH II	***1013 UNIVERSITY WY***	***SSE 1/2 - 1 (0.814 mi.)***	***37***	***13***
CENTRAL WASHINGTON U	400 E UNIVERSITY WY	S 1/2 - 1 (0.926 mi.)	K45	14
KENS TEXACO INC	***101 E UNIVERSITY WAY***	***SSW 1/2 - 1 (0.962 mi.)***	***L47***	***15***
UNIVERSITY AUTO CENT	***100 E UNIVERSITY WY***	***SSW 1/2 - 1 (0.964 mi.)***	***L50***	***15***
7 ELEVEN STORE 2301	112 W UNIVERSITY WY	SSW 1/2 - 1 (0.972 mi.)	L52	16
WA MIL 050	***901 E 7TH AVE***	***S 1/2 - 1 (0.990 mi.)***	***56***	***16***
UNIVERSITY WAY SHELL	***200 W UNIVERSITY WAY***	***SSW 1/2 - 1 (0.991 mi.)***	***L58***	***17***
CENTRAL SHELL RH BOW	***8TH & MAIN***	***SSW 1 - 2 (1.022 mi.)***	***M59***	***17***
CHEVRON 95012	***400 W UNIVERSITY WY***	***SSW 1 - 2 (1.043 mi.)***	***M61***	***17***
MAID O CLOVER ELLENS	***702 N MAIN***	***SSW 1 - 2 (1.052 mi.)***	***M63***	***18***
UNIVERSITY AUTO CENT	***610 N PEARL***	***SSW 1 - 2 (1.095 mi.)***	***N64***	***18***
KELLEHER MOTOR CO	***6TH & PEARL***	***SSW 1 - 2 (1.103 mi.)***	***N67***	***19***
CENTRAL TEXACO	***601 N MAIN***	***SSW 1 - 2 (1.120 mi.)***	***N70***	***19***
WARD RUGH INC	***710 W UNIVERSITY WY***	***SSW 1 - 2 (1.148 mi.)***	***Q77***	***20***
JR S ECONOMART	***619 CASCADE WAY***	***SSW 1 - 2 (1.149 mi.)***	***Q80***	***21***
YAKIMA FEDERAL SAVIN	***5TH & PINE ST***	***SSW 1 - 2 (1.160 mi.)***	***R81***	***21***
COMMON CARRIERS INC	1011 W CASCADE CT	SW 1 - 2 (1.164 mi.)	S83	22
KITTITAS COUNTY DEPA	***205 W 5TH***	***SSW 1 - 2 (1.191 mi.)***	***88***	***22***
SAFEWAY STORE 1630 D	***400 N RUBY ST***	***SSW 1 - 2 (1.217 mi.)***	***V94***	***23***
KITTITAS RECLAMATION	***4TH & WATER ST***	***SSW 1 - 2 (1.280 mi.)***	***X100***	***25***
FAIRPOINT COMMUNICAT	***305 N RUBY***	***SSW 1 - 2 (1.286 mi.)***	***V101***	***25***
FAUST & RUDOLPH PART	***301 N PINE ST***	***SSW 1 - 2 (1.299 mi.)***	***Y102***	***25***
TWIN CITY FOODS ELLE	***501 W 4TH AVE***	***SSW 1 - 2 (1.302 mi.)***	***X105***	***25***
JOSEPH W MACKNER	***2608 JUDGE RONALD RD***	***SE 1 - 2 (1.308 mi.)***	***106***	***26***
MIDSTATE COOPERATIVE	***705 W 5TH AVE***	***SSW 1 - 2 (1.321 mi.)***	***Z110***	***26***
DEVERE & SONS DISTRI	***707 W 5TH***	***SSW 1 - 2 (1.321 mi.)***	***Z111***	***27***
ELLENSBURG TELEPHONE	208 W 3RD AVE	SSW 1 - 2 (1.331 mi.)	AA113	27
OKANOGAN SEATTLE TRA	***1331 CASCADE WAY***	***WSW 1 - 2 (1.352 mi.)***	***115***	***27***
WASTE MANAGEMENT OF	607 N RAILROAD AVE	SSW 1 - 2 (1.357 mi.)	AB121	29
PAUTZKE BAIT COMPANY	***400 N WENAS***	***SSW 1 - 2 (1.365 mi.)***	***Z125***	***29***
MIDSTATE COOP 417 W	***417 W 3RD***	***SSW 1 - 2 (1.373 mi.)***	***AD129***	***30***
MIDSTATE COOP 410 W	410 W 3RD	SSW 1 - 2 (1.374 mi.)	AD130	30
ELLENSBURG TELEPHONE	***211 N MAIN***	***SSW 1 - 2 (1.392 mi.)***	***AA135***	***31***
CJ WALKER & SON INC	***201 N MAIN***	***SSW 1 - 2 (1.398 mi.)***	***AA138***	***31***
BIG Z KARDGUAND SYST	2ND MAIN	SSW 1 - 2 (1.399 mi.)	AA139	32
MAINTENANCE SHOP OF	***1ST & SAMPSON***	***S 1 - 2 (1.416 mi.)***	***143***	***32***
WA DOT ELLENSBURG MA	***749 UNIVERSITY WY***	***SW 1 - 2 (1.422 mi.)***	***AG145***	***33***
ELLENSBURG FIRE DEPA	***102 N PEARL ST***	***SSW 1 - 2 (1.450 mi.)***	***AE153***	***34***
WHITEMAN TIRE INC	***107 N MAIN ST***	***SSW 1 - 2 (1.462 mi.)***	***AI160***	***35***
DANNY THOMAS INC	***108 S MAIN***	***SSW 1 - 2 (1.476 mi.)***	***AI166***	***36***

EXECUTIVE SUMMARY

State and tribal institutional control / engineering control registries

An online review and analysis by GOLDER ASSOCIATES, INC. of the INST CONTROL list, as provided by EDR, and dated 11/13/2012 has revealed that there is 1 INST CONTROL site within approximately 3 miles of the target property.

Lower Elevation	Address	Direction / Distance	Map ID	Page
WONDRACK ELLENSBURG	***15TH AVE & WATER ST***	***SSW 1/2 - 1 (0.595 mi.)***	***F25***	***11***

State and tribal voluntary cleanup sites

An online review and analysis by GOLDER ASSOCIATES, INC. of the VCP list, as provided by EDR, and dated 10/23/2012 has revealed that there are 6 VCP sites within approximately 3 miles of the target property.

Lower Elevation	Address	Direction / Distance	Map ID	Page
WATER STREET CREAMER	***1505 N WATER ST***	***SSW 1/2 - 1 (0.594 mi.)***	***F23***	***10***
WONDRACK ELLENSBURG	***15TH AVE & WATER ST***	***SSW 1/2 - 1 (0.595 mi.)***	***F25***	***11***
UNIVERSITY AUTO CENT	***100 E UNIVERSITY WY***	***SSW 1/2 - 1 (0.964 mi.)***	***L50***	***15***
7 ELEVEN STORE 2301	***112 W UNIVERSITY WY***	***SSW 1/2 - 1 (0.972 mi.)***	***L53***	***16***
COMMON CARRIERS INC	***1011 W CASCADE CT***	***SW 1 - 2 (1.164 mi.)***	***S84***	***22***
ELLENSBURG TELEPHONE	***208 W 3RD AVE***	***SSW 1 - 2 (1.331 mi.)***	***AA112***	***27***

An online review and analysis by GOLDER ASSOCIATES, INC. of the ICR list, as provided by EDR, and dated 12/01/2002 has revealed that there are 22 ICR sites within approximately 3 miles of the target property.

Equal/Higher Elevation	Address	Direction / Distance	Map ID	Page
ELLENSBURG CITY	***607 INDUSTRIAL WY***	***0 - 1/8 (0.000 mi.)***	***A5***	***7***
WSDNR	713 E. BOWERS ROAD	NNW 0 - 1/8 (0.003 mi.)	C12	9

Lower Elevation	Address	Direction / Distance	Map ID	Page
WATER STREET CREAMER	***1505 N WATER ST***	***SSW 1/2 - 1 (0.594 mi.)***	***F23***	***10***
CENTRAL WASHINGTON U	11TH & "D" STREET	SSW 1/2 - 1 (0.713 mi.)	26	11
KEN'S AUTO WASH II	1013 E. 10TH	S 1/2 - 1 (0.792 mi.)	I34	12
KENS TEXACO INC	***101 E UNIVERSITY WAY***	***SSW 1/2 - 1 (0.962 mi.)***	***L47***	***15***
7 ELEVEN #2301 23579	112 W. 8TH ST.	SSW 1/2 - 1 (0.972 mi.)	L54	16
CHEVRON 95012	***400 WEST 8TH AVENUE***	***SSW 1 - 2 (1.043 mi.)***	***M62***	***18***
UNIVERSITY AUTO CENT	***607 N PEARL***	***SSW 1 - 2 (1.095 mi.)***	***N65***	***18***
KELLEHER MOTOR CO	***6TH & PEARL***	***SSW 1 - 2 (1.103 mi.)***	***N67***	***19***
WARD RUGH TRUCKING F	710 W. 8TH ST.	SSW 1 - 2 (1.141 mi.)	O75	20
YAKIMA FEDERAL SAVIN	***5TH & PINE ST***	***SSW 1 - 2 (1.160 mi.)***	***R81***	***21***
SAFEWAY STORE 1630 D	***400 N RUBY ST***	***SSW 1 - 2 (1.217 mi.)***	***V94***	***23***
COMMON CARRIERS, INC	1107 CASCADE WAY	SW 1 - 2 (1.273 mi.)	98	24
GRAND CENTRAL CINEMA	300 N. PEARL ST.	SSW 1 - 2 (1.309 mi.)	Y107	26
MIDSTATE COOPERATIVE	***705 W 5TH AVE***	***SSW 1 - 2 (1.321 mi.)***	***Z110***	***26***
OKANOGAN SEATTLE TRA	***1331 CASCADE WAY***	***WSW 1 - 2 (1.352 mi.)***	***115***	***27***
WASTE MANAGEMENT OF	607 N. RAILROAD	SSW 1 - 2 (1.357 mi.)	AB118	28

EXECUTIVE SUMMARY

Lower Elevation	Address	Direction / Distance	Map ID	Page
A-1 PETROLEUM	1243 CASCADE WAY	WSW 1 - 2 (1.358 mi.)	AC123	29
MIDSTATE COOP 417 W	***417 W 3RD***	***SSW 1 - 2 (1.373 mi.)***	***AD129***	***30***
ELLENSBURG FIRE DEPA	102 N. PEARL	SSW 1 - 2 (1.450 mi.)	AE154	34
WHITEMAN TIRE INC	***107 N MAIN ST***	***SSW 1 - 2 (1.462 mi.)***	***AI160***	***35***

State and tribal Brownfields sites

An online review and analysis by GOLDER ASSOCIATES, INC. of the BROWNFIELDS list, as provided by EDR, and dated 10/23/2012 has revealed that there is 1 BROWNFIELDS site within approximately 3 miles of the target property.

Lower Elevation	Address	Direction / Distance	Map ID	Page
UNIVERSITY AUTO CENT	***610 N PEARL***	***SSW 1 - 2 (1.095 mi.)***	***N64***	***18***

ADDITIONAL ENVIRONMENTAL RECORDS

Local Lists of Landfill / Solid Waste Disposal Sites

An online review and analysis by GOLDER ASSOCIATES, INC. of the SWRCY list, as provided by EDR, and dated 08/01/2012 has revealed that there are 3 SWRCY sites within approximately 3 miles of the target property.

Lower Elevation	Address	Direction / Distance	Map ID	Page
RETIRED SENIOR VOLUN	707 N. PEARL STREET,	SSW 1 - 2 (1.030 mi.)	L60	17
PUGET SOUND ENERGY	207 NORTH PEARL	SSW 1 - 2 (1.378 mi.)	AE132	30
RODEO CITY RECYCLING	***320 N RAILROAD AVE***	***SSW 1 - 2 (1.471 mi.)***	***164***	***36***

Local Lists of Hazardous waste / Contaminated Sites

An online review and analysis by GOLDER ASSOCIATES, INC. of the ALLSITES list, as provided by EDR, and dated 11/06/2012 has revealed that there are 100 ALLSITES sites within approximately 3 miles of the target property.

Equal/Higher Elevation	Address	Direction / Distance	Map ID	Page
CITY OF KITTITAS PUB	600 INDUSTRIAL WAY	0 - 1/8 (0.000 mi.)	A1	7
CARIBOU CREEK LOGGIN	701 S INDUSTRIAL WAY	0 - 1/8 (0.000 mi.)	B2	7
ELMVIEW RECYCLE	***804 ELMVIEW RD***	***0 - 1/8 (0.000 mi.)***	***B3***	***7***
BALL DALE & CLARA	***710 E ELMVIEW***	***0 - 1/8 (0.000 mi.)***	***A4***	***7***
ELLENSBURG CITY	***607 INDUSTRIAL WY***	***0 - 1/8 (0.000 mi.)***	***A5***	***7***
KITTITAS TRAP & SKEE	***3102 N AIRPORT RD***	***0 - 1/8 (0.000 mi.)***	***A9***	***8***
WA AGR KITTITAS 1	***715 EAST BOWERS ROAD***	***NNW 0 - 1/8 (0.002 mi.)***	***C10***	***8***
WA DNR ELLENSBURG	***713 E BOWERS RD***	***NNW 0 - 1/8 (0.003 mi.)***	***C11***	***8***
MIDSTATE AVIATION	***1101 BOWERS RD***	***NE 0 - 1/8 (0.084 mi.)***	***D17***	***9***

EXECUTIVE SUMMARY

Equal/Higher Elevation	Address	Direction / Distance	Map ID	Page
HARVEY DODGE PROPERT	GAME FARM RD.	SE 1/4 - 1/2 (0.331 mi.)	21	10
DOUBLE H-J FARM	2550 HUNGRY JUNCTION	NNW 1 - 2 (1.182 mi.)	87	22
251 CURLEW RD	***251 CURLEW RD***	***ESE 1 - 2 (1.484 mi.)***	***168***	***37***

Lower Elevation	Address	Direction / Distance	Map ID	Page
THE GROVE	2420 AIRPORT RD	0 - 1/8 (0.000 mi.)	6	7
KITTITAS COUNTY HEAD	220 E HELENA AVE	SSW 0 - 1/8 (0.005 mi.)	13	9
MCINTOSH PLAT	ELLINGTON ST & GREEN	WSW 0 - 1/8 (0.059 mi.)	E16	9
WATER STREET CREAMER	***1505 N WATER ST***	***SSW 1/2 - 1 (0.594 mi.)***	***F23***	***10***
WONDRACK ELLENSBURG	***15TH AVE & WATER ST***	***SSW 1/2 - 1 (0.595 mi.)***	***F25***	***11***
ELLENSBURG MAINTENAN	***15TH & OKANOGAN***	***SW 1/2 - 1 (0.735 mi.)***	***G27***	***11***
TV CABLE TRENCH TPH	***419-421 W 15TH ST***	***SW 1/2 - 1 (0.736 mi.)***	***G28***	***11***
MARK CONNER RESIDENC	104 W 11TH AVE	SSW 1/2 - 1 (0.757 mi.)	H29	11
ALLEN EDLER PROPERTY	406 W 13TH AVE	SSW 1/2 - 1 (0.763 mi.)	30	12
7 ELEVEN STORE 2301	***1001 E UNIVERSITY WY***	***S 1/2 - 1 (0.792 mi.)***	***I33***	***12***
KENS AUTO WASH II	***1013 UNIVERSITY WY***	***S 1/2 - 1 (0.792 mi.)***	***I35***	***12***
DALE ANDERSON	***1114 N WATER ST***	***SSW 1/2 - 1 (0.808 mi.)***	***36***	***13***
TEVELDE RESIDNECE	110 W 10TH AVENUE	SSW 1/2 - 1 (0.826 mi.)	H38	13
KITTITAS CNTY FAIR H		SSE 1/2 - 1 (0.888 mi.)	39	13
SUPERIOR DRY CLEANER	***700 E 8TH ST***	***S 1/2 - 1 (0.912 mi.)***	***J42***	***14***
CENTRAL WASHINGTON U	***400 E UNIVERSITY WAY***	***S 1/2 - 1 (0.926 mi.)***	***K43***	***14***
WA DFW MOSES LAKE PR	***400 E 8TH AVE WA DFW***	***S 1/2 - 1 (0.926 mi.)***	***K44***	***14***
KITTITAS COUNTY FAIR	***NEAR 1007 E 8TH AVE***	***S 1/2 - 1 (0.928 mi.)***	***46***	***15***
KENS TEXACO INC	***101 E UNIVERSITY WAY***	***SSW 1/2 - 1 (0.962 mi.)***	***L47***	***15***
UNIVERSITY AUTO CENT	***100 E UNIVERSITY WY***	***SSW 1/2 - 1 (0.964 mi.)***	***L50***	***15***
7 ELEVEN STORE 2301	***112 W UNIVERSITY WY***	***SSW 1/2 - 1 (0.972 mi.)***	***L53***	***16***
SHERWIN WILLIAMS 173	710 N CHESTNUT	S 1/2 - 1 (0.976 mi.)	55	16
WA MIL 050	***901 E 7TH AVE***	***S 1/2 - 1 (0.990 mi.)***	***56***	***16***
UNIVERSITY WAY SHELL	***200 W UNIVERSITY WAY***	***SSW 1/2 - 1 (0.991 mi.)***	***L58***	***17***
CENTRAL SHELL RH BOW	***8TH & MAIN***	***SSW 1 - 2 (1.022 mi.)***	***M59***	***17***
CHEVRON 95012	***400 W UNIVERSITY WY***	***SSW 1 - 2 (1.043 mi.)***	***M61***	***17***
MAID O CLOVER ELLENS	***702 N MAIN***	***SSW 1 - 2 (1.052 mi.)***	***M63***	***18***
UNIVERSITY AUTO CENT	***610 N PEARL***	***SSW 1 - 2 (1.095 mi.)***	***N64***	***18***
KELLEHER MOTOR CO	***6TH & PEARL***	***SSW 1 - 2 (1.103 mi.)***	***N66***	***18***
LIGHTHOUSE MOTEL	607 W UNIVERSITY WAY	SSW 1 - 2 (1.107 mi.)	O68	19
CENTRAL TEXACO	***601 N MAIN***	***SSW 1 - 2 (1.120 mi.)***	***N70***	***19***
ELLENSBURG CITY MSW	***501 N ANDERSON ST***	***S 1 - 2 (1.132 mi.)***	***P72***	***19***
ELLENSBURG CITY SPRA	***506 N SPRAGUE ST***	***S 1 - 2 (1.135 mi.)***	***P73***	***20***
WARD RUGH INC	***710 W 8TH***	***SSW 1 - 2 (1.141 mi.)***	***O76***	***20***
WARD RUGH INC	***710 W UNIVERSITY WY***	***SSW 1 - 2 (1.148 mi.)***	***Q77***	***20***
WA DOT ELLENSBURG MA	***749 UNIVERSITY WY***	***SW 1 - 2 (1.148 mi.)***	***78***	***21***
ELLENSBURG CITY W 8T	***W UNIVERSITY WY***	***SW 1 - 2 (1.149 mi.)***	***79***	***21***
JR S ECONOMART	***619 CASCADE WAY***	***SSW 1 - 2 (1.149 mi.)***	***Q80***	***21***
YAKIMA FEDERAL SAVIN	***5TH & PINE ST***	***SSW 1 - 2 (1.160 mi.)***	***R82***	***21***
COMMON CARRIERS INC	***1011 W CASCADE CT***	***SW 1 - 2 (1.164 mi.)***	***S84***	***22***
CASEY PEARSON	604 N KITTITAS ST	SSW 1 - 2 (1.165 mi.)	85	22
SEARS 7549	***505 N PEARL***	***SSW 1 - 2 (1.171 mi.)***	***N86***	***22***
KITTITAS COUNTY DEPA	***205 W 5TH***	***SSW 1 - 2 (1.191 mi.)***	***88***	***22***
CASCADE EQUIPMENT SA	***901 UNIVERSITY WAY***	***SW 1 - 2 (1.197 mi.)***	***S89***	***23***
OXARC INC ELLENSBURG	***704 N WENAS ST***	***SSW 1 - 2 (1.197 mi.)***	***T90***	***23***
ELLENSBURG CEMENT PR	***7TH & WENAS***	***SSW 1 - 2 (1.201 mi.)***	***T91***	***23***
TERRY DIRKS PROPERTY	***908 E 4TH AVE***	***S 1 - 2 (1.206 mi.)***	***U93***	***23***
SAFEWAY STORE 1630 D	***400 N RUBY ST***	***SSW 1 - 2 (1.217 mi.)***	***V94***	***23***
GORDON MACDONALD PHO	***206 E 4TH AVE***	***SSW 1 - 2 (1.229 mi.)***	***R95***	***24***
ELLENSBURG WATER COM	***502 E 3RD AVE***	***S 1 - 2 (1.277 mi.)***	***W99***	***24***

EXECUTIVE SUMMARY

Lower Elevation	Address	Direction / Distance	Map ID	Page
KITTITAS RECLAMATION	***4TH & WATER ST***	***SSW 1 - 2 (1.280 mi.)***	***X100***	***25***
FAIRPOINT COMMUNICAT	***305 N RUBY***	***SSW 1 - 2 (1.286 mi.)***	***V101***	***25***
FAUST & RUDOLPH PART	***301 N PINE ST***	***SSW 1 - 2 (1.299 mi.)***	***Y102***	***25***
TWIN CITY FOODS ELLE	***501 W 4TH AVE***	***SSW 1 - 2 (1.302 mi.)***	***X103***	***25***
JOSEPH W MACKNER	***2608 JUDGE RONALD RD***	***SE 1 - 2 (1.308 mi.)***	***106***	***26***
GAYLAN'S SALON	311 N MAIN ST	SSW 1 - 2 (1.320 mi.)	X109	26
MIDSTATE COOPERATIVE	***705 W 5TH AVE***	***SSW 1 - 2 (1.321 mi.)***	***Z110***	***26***
DEVERE & SONS DISTRI	***707 W 5TH***	***SSW 1 - 2 (1.321 mi.)***	***Z111***	***27***
ELLENSBURG TELEPHONE	***208 W 3RD AVE***	***SSW 1 - 2 (1.331 mi.)***	***AA112***	***27***
KITTITAS RECLAMATION	***315 N WATER ST***	***SSW 1 - 2 (1.338 mi.)***	***X114***	***27***
OKANOGAN SEATTLE TRA	***1331 CASCADE WAY***	***WSW 1 - 2 (1.352 mi.)***	***115***	***27***
ERIC WINBORNE	***841 COWBOY LANE***	***SE 1 - 2 (1.352 mi.)***	***116***	***28***
WASTE MANAGEMENT	***607 N RAILROAD AVE***	***SSW 1 - 2 (1.357 mi.)***	***AB120***	***28***
A 1 PETROLEUM & PROP	1243 W UNIVERSITY WA	WSW 1 - 2 (1.358 mi.)	AC122	29
DR DAVID THACKER	309 E 2ND AVE	S 1 - 2 (1.360 mi.)	124	29
PAUTZKE BAIT COMPANY	***400 N WENAS***	***SSW 1 - 2 (1.365 mi.)***	***Z125***	***29***
MODEL KE CLEANERS &	***207 N PINE***	***SSW 1 - 2 (1.367 mi.)***	***Y127***	***30***
MIDSTATE COOP 417 W	***417 W 3RD***	***SSW 1 - 2 (1.373 mi.)***	***AD129***	***30***
MIDSTATE COOP 410 W	***410 W 3RD***	***SSW 1 - 2 (1.374 mi.)***	***AD131***	***30***
ELLENSBURG IRON WKS	***201 N PEARL ST***	***SSW 1 - 2 (1.382 mi.)***	***AE133***	***31***
CENTRAL WASHINGTON B	1000 N PROSPECT ST S	SW 1 - 2 (1.386 mi.)	AF134	31
D & M MOTORS & TOWIN	***205 N MAIN***	***SSW 1 - 2 (1.395 mi.)***	***AA137***	***31***
CJ WALKER & SON INC	***201 N MAIN***	***SSW 1 - 2 (1.398 mi.)***	***AA138***	***31***
UPS ELLENSBURG	***215 N WATER ST***	***SSW 1 - 2 (1.404 mi.)***	***AA140***	***32***
WILBUR ELLIS COMPANY	312 WENAS ST	SSW 1 - 2 (1.409 mi.)	141	32
MIDSTATE CO OP PROPA	905 N PROSPECT ST	SW 1 - 2 (1.409 mi.)	AF142	32
MAINTENANCE SHOP OF	***1ST & SAMPSON***	***S 1 - 2 (1.416 mi.)***	***143***	***32***
WA AGR KITTITAS 2	***749A CASCADE WAY***	***SW 1 - 2 (1.422 mi.)***	***AG146***	***33***
WILBER PROPERTY	***104 S PINE ST***	***SSW 1 - 2 (1.448 mi.)***	***152***	***34***
ELLENSBURG FIRE DEPA	***102 N PEARL ST***	***SSW 1 - 2 (1.450 mi.)***	***AE153***	***34***
MATHEUS LUMBER	1433 W UNIVERSITY WA	WSW 1 - 2 (1.455 mi.)	AH155	34
WASTE MANAGEMENT ELL	***201 N WENAS ST***	***SSW 1 - 2 (1.458 mi.)***	***AD157***	***35***
WHITEMAN TIRE INC	***107 N MAIN ST***	***SSW 1 - 2 (1.462 mi.)***	***AI160***	***35***
RODEO CITY RECYCLING	***320 N RAILROAD AVE***	***SSW 1 - 2 (1.471 mi.)***	***164***	***36***
DANNY THOMAS INC	***108 S MAIN***	***SSW 1 - 2 (1.476 mi.)***	***AI166***	***36***
CASCADE PALLET CO	***109 N WATER ST***	***SSW 1 - 2 (1.477 mi.)***	***AI167***	***36***
DIRECTV NORTHWEST DI	1306 W DOLARWAY RD	SW 1 - 2 (1.485 mi.)	AJ170	37
ASHLEY HARRIS PROPER	202 S ANDERSON ST	S 1 - 2 (1.496 mi.)	171	37

An online review and analysis by GOLDER ASSOCIATES, INC. of the CSCSL NFA list, as provided by EDR, and dated 10/23/2012 has revealed that there are 15 CSCSL NFA sites within approximately 3 miles of the target property.

Equal/Higher Elevation	Address	Direction / Distance	Map ID	Page
MIDSTATE AVIATION	***1101 BOWERS RD***	***NE 0 - 1/8 (0.084 mi.)***	***D17***	***9***

Lower Elevation	Address	Direction / Distance	Map ID	Page
WATER STREET CREAMER	***1505 N WATER ST***	***SSW 1/2 - 1 (0.594 mi.)***	***F23***	***10***
WONDRACK ELLENSBURG	***15TH AVE & WATER ST***	***SSW 1/2 - 1 (0.595 mi.)***	***F25***	***11***
CENTRAL WASHINGTON U	***400 E UNIVERSITY WAY***	***S 1/2 - 1 (0.926 mi.)***	***K43***	***14***
KITTITAS COUNTY FAIR	***NEAR 1007 E 8TH AVE***	***S 1/2 - 1 (0.928 mi.)***	***46***	***15***
UNIVERSITY AUTO CENT	***100 E UNIVERSITY WY***	***SSW 1/2 - 1 (0.964 mi.)***	***L50***	***15***

EXECUTIVE SUMMARY

Lower Elevation	Address	Direction / Distance	Map ID	Page
7 ELEVEN STORE 2301	*112 W UNIVERSITY WY*	*SSW 1/2 - 1 (0.972 mi.)*	*L53*	*16*
KELLEHER MOTOR CO	*6TH & PEARL*	*SSW 1 - 2 (1.103 mi.)*	*N66*	*18*
YAKIMA FEDERAL SAVIN	*5TH & PINE ST*	*SSW 1 - 2 (1.160 mi.)*	*R82*	*21*
COMMON CARRIERS INC	*1011 W CASCADE CT*	*SW 1 - 2 (1.164 mi.)*	*S84*	*22*
SAFEWAY STORE 1630 D	*400 N RUBY ST*	*SSW 1 - 2 (1.217 mi.)*	*V94*	*23*
ELLENSBURG TELEPHONE	*208 W 3RD AVE*	*SSW 1 - 2 (1.331 mi.)*	*AA112*	*27*
WASTE MANAGEMENT	*607 N RAILROAD AVE*	*SSW 1 - 2 (1.357 mi.)*	*AB120*	*28*
MIDSTATE COOP 417 W	*417 W 3RD*	*SSW 1 - 2 (1.373 mi.)*	*AD129*	*30*
ELLENSBURG FIRE DEPA	*102 N PEARL ST*	*SSW 1 - 2 (1.450 mi.)*	*AE153*	*34*

An online review and analysis by GOLDER ASSOCIATES, INC. of the CDL list, as provided by EDR, and dated 02/09/2009 has revealed that there is 1 CDL site within approximately 3 miles of the target property.

Lower Elevation	Address	Direction / Distance	Map ID	Page
Not reported	*2113 PARKLANE AVE*	*SW 1/8 - 1/4 (0.209 mi.)*	*19*	*10*

An online review and analysis by GOLDER ASSOCIATES, INC. of the HIST CDL list, as provided by EDR, and dated 02/08/2007 has revealed that there is 1 HIST CDL site within approximately 3 miles of the target property.

Lower Elevation	Address	Direction / Distance	Map ID	Page
Not reported	*2113 PARKLANE AVE*	*SW 1/8 - 1/4 (0.209 mi.)*	*19*	*10*

Records of Emergency Release Reports

An online review and analysis by GOLDER ASSOCIATES, INC. of the SPILLS list, as provided by EDR, and dated 09/24/2012 has revealed that there are 2 SPILLS sites within approximately 3 miles of the target property.

Lower Elevation	Address	Direction / Distance	Map ID	Page
TWIN CITY FOODS ELLE	*501 W 4TH AVE*	*SSW 1 - 2 (1.302 mi.)*	*X103*	*25*
WASTE MANAGEMENT	*607 N RAILROAD AVE*	*SSW 1 - 2 (1.357 mi.)*	*AB120*	*28*

Other Ascertainable Records

An online review and analysis by GOLDER ASSOCIATES, INC. of the RCRA NonGen / NLR list, as provided by EDR, and dated 09/11/2012 has revealed that there are 17 RCRA NonGen / NLR sites within approximately 3 miles of the target property.

Equal/Higher Elevation	Address	Direction / Distance	Map ID	Page
ELLENSBURG CITY	*607 INDUSTRIAL WY*	*0 - 1/8 (0.000 mi.)*	*A8*	*8*

EXECUTIVE SUMMARY

Equal/Higher Elevation	Address	Direction / Distance	Map ID	Page
WA AGR KITTITAS 1	*715 EAST BOWERS ROAD*	*NNW 0 - 1/8 (0.002 mi.)*	*C10*	*8*
MIDSTATE AVIATION	*1101 BOWERS RD*	*NE 0 - 1/8 (0.084 mi.)*	*D17*	*9*

Lower Elevation	Address	Direction / Distance	Map ID	Page
SUPERIOR DRY CLEANER	*700 E 8TH ST*	*S 1/2 - 1 (0.912 mi.)*	*J42*	*14*
WA DFW MOSES LAKE PR	*400 E 8TH AVE WA DFW*	*S 1/2 - 1 (0.926 mi.)*	*K44*	*14*
CHEVRON 95012	*400 WEST 8TH AVENUE*	*SSW 1 - 2 (1.043 mi.)*	*M62*	*18*
KELLEHER MOTOR CO	*6TH & PEARL*	*SSW 1 - 2 (1.103 mi.)*	*N66*	*18*
ELLENSBURG CITY	506 N SPRAGUE ST	S 1 - 2 (1.135 mi.)	P74	20
SEARS 7549	*505 N PEARL*	*SSW 1 - 2 (1.171 mi.)*	*N86*	*22*
GORDON MACDONALD PHO	*206 E 4TH AVE*	*SSW 1 - 2 (1.229 mi.)*	*R95*	*24*
TWIN CITY FOODS ELLE	*501 W 4TH ST*	*SSW 1 - 2 (1.302 mi.)*	*X104*	*25*
MODEL KE CLEANERS &	*207 N PINE*	*SSW 1 - 2 (1.367 mi.)*	*Y127*	*30*
ELLENSBURG IRON WKS	*201 N PEARL ST*	*SSW 1 - 2 (1.382 mi.)*	*AE133*	*31*
WA DOT ELLENSBURG MA	*749 CASCADE WAY*	*SW 1 - 2 (1.422 mi.)*	*AG144*	*32*
WA AGR KITTITAS 2	*749A CASCADE WAY*	*SW 1 - 2 (1.422 mi.)*	*AG146*	*33*
SUPERIOR PACKING CO	*201 N WENAS ST*	*SSW 1 - 2 (1.458 mi.)*	*AD156*	*34*
US DOE BPA ELLENSBUR	*1306 W DOLARWAY RD*	*SW 1 - 2 (1.485 mi.)*	*AJ169*	*37*

An online review and analysis by GOLDER ASSOCIATES, INC. of the FTTS list, as provided by EDR, and dated 04/09/2009 has revealed that there is 1 FTTS site within approximately 3 miles of the target property.

Lower Elevation	Address	Direction / Distance	Map ID	Page
WARD RUGH INC	*710 W 8TH*	*SSW 1 - 2 (1.141 mi.)*	*O76*	*20*

An online review and analysis by GOLDER ASSOCIATES, INC. of the HIST FTTS list, as provided by EDR, and dated 10/19/2006 has revealed that there is 1 HIST FTTS site within approximately 3 miles of the target property.

Lower Elevation	Address	Direction / Distance	Map ID	Page
WARD RUGH INC	*710 W 8TH*	*SSW 1 - 2 (1.141 mi.)*	*O76*	*20*

An online review and analysis by GOLDER ASSOCIATES, INC. of the FINDS list, as provided by EDR, and dated 10/23/2011 has revealed that there are 39 FINDS sites within approximately 3 miles of the target property.

Equal/Higher Elevation	Address	Direction / Distance	Map ID	Page
ELLENSBURG CITY	*607 INDUSTRIAL WY*	*0 - 1/8 (0.000 mi.)*	*A8*	*8*
WA AGR KITTITAS 1	*715 EAST BOWERS ROAD*	*NNW 0 - 1/8 (0.002 mi.)*	*C10*	*8*
MIDSTATE AVIATION	*1101 BOWERS RD*	*NE 0 - 1/8 (0.084 mi.)*	*D17*	*9*
251 CURLEW RD	*251 CURLEW RD*	*ESE 1 - 2 (1.484 mi.)*	*168*	*37*

Lower Elevation	Address	Direction / Distance	Map ID	Page
WONDRACK ELLENSBURG	*15TH AVE & WATER ST*	*SSW 1/2 - 1 (0.595 mi.)*	*F25*	*11*
DALE ANDERSON	*1114 N WATER ST*	*SSW 1/2 - 1 (0.808 mi.)*	*36*	*13*

EXECUTIVE SUMMARY

Lower Elevation	Address	Direction / Distance	Map ID	Page
SUPERIOR DRY CLEANER	*700 E 8TH ST*	*S 1/2 - 1 (0.912 mi.)*	*J42*	*14*
KITTITAS COUNTY FAIR	*NEAR 1007 E 8TH AVE*	*S 1/2 - 1 (0.928 mi.)*	*46*	*15*
CHEVRON 95012	*400 WEST 8TH AVENUE*	*SSW 1 - 2 (1.043 mi.)*	*M62*	*18*
MAID O CLOVER ELLENS	*702 N MAIN*	*SSW 1 - 2 (1.052 mi.)*	*M63*	*18*
UNIVERSITY AUTO CENT	*607 N PEARL*	*SSW 1 - 2 (1.095 mi.)*	*N65*	*18*
KELLEHER MOTOR CO	*6TH & PEARL*	*SSW 1 - 2 (1.103 mi.)*	*N66*	*18*
ELLENSBURG CITY SPRA	*506 N SPRAGUE ST*	*S 1 - 2 (1.135 mi.)*	*P73*	*20*
WARD RUGH INC	*710 W 8TH*	*SSW 1 - 2 (1.141 mi.)*	*O76*	*20*
JR S ECONOMART	*619 CASCADE WAY*	*SSW 1 - 2 (1.149 mi.)*	*Q80*	*21*
YAKIMA FEDERAL SAVIN	*5TH & PINE ST*	*SSW 1 - 2 (1.160 mi.)*	*R82*	*21*
SEARS 7549	*505 N PEARL*	*SSW 1 - 2 (1.171 mi.)*	*N86*	*22*
KITTITAS COUNTY DEPA	*205 W 5TH*	*SSW 1 - 2 (1.191 mi.)*	*88*	*22*
CASCADE EQUIPMENT SA	*901 UNIVERSITY WAY*	*SW 1 - 2 (1.197 mi.)*	*S89*	*23*
OXARC INC ELLENSBURG	*704 N WENAS ST*	*SSW 1 - 2 (1.197 mi.)*	*T90*	*23*
ELLENSBURG CEMENT PR	*7TH & WENAS*	*SSW 1 - 2 (1.201 mi.)*	*T91*	*23*
TERRY DIRKS PROPERTY	*908 E 4TH AVE*	*S 1 - 2 (1.206 mi.)*	*U93*	*23*
GORDON MACDONALD PHO	*206 E 4TH AVE*	*SSW 1 - 2 (1.229 mi.)*	*R95*	*24*
ELLENSBURG WATER COM	*502 E 3RD AVE*	*S 1 - 2 (1.277 mi.)*	*W99*	*24*
FAIRPOINT COMMUNICAT	*305 N RUBY*	*SSW 1 - 2 (1.286 mi.)*	*V101*	*25*
TWIN CITY FOODS ELLE	*501 W 4TH ST*	*SSW 1 - 2 (1.302 mi.)*	*X104*	*25*
ERIC WINBORNE	*841 COWBOY LANE*	*SE 1 - 2 (1.352 mi.)*	*116*	*28*
WASTE MANAGEMENT OF	*607 RAILROAD AVE*	*SSW 1 - 2 (1.357 mi.)*	*AB119*	*28*
MODEL KE CLEANERS &	*207 N PINE*	*SSW 1 - 2 (1.367 mi.)*	*Y127*	*30*
ELLENSBURG IRON WKS	*201 N PEARL ST*	*SSW 1 - 2 (1.382 mi.)*	*AE133*	*31*
ELLENSBURG TELEPHONE	*211 N MAIN*	*SSW 1 - 2 (1.392 mi.)*	*AA135*	*31*
D & M MOTORS & TOWIN	*205 N MAIN*	*SSW 1 - 2 (1.395 mi.)*	*AA137*	*31*
UPS ELLENSBURG	*215 N WATER ST*	*SSW 1 - 2 (1.404 mi.)*	*AA140*	*32*
MAINTENANCE SHOP OF	*1ST & SAMPSON*	*S 1 - 2 (1.416 mi.)*	*143*	*32*
WA DOT ELLENSBURG MA	*749 CASCADE WAY*	*SW 1 - 2 (1.422 mi.)*	*AG144*	*32*
WA AGR KITTITAS 2	*749A CASCADE WAY*	*SW 1 - 2 (1.422 mi.)*	*AG146*	*33*
WILBER PROPERTY	*104 S PINE ST*	*SSW 1 - 2 (1.448 mi.)*	*152*	*34*
SUPERIOR PACKING CO	*201 N WENAS ST*	*SSW 1 - 2 (1.458 mi.)*	*AD156*	*34*
US DOE BPA ELLENSBUR	*1306 W DOLARWAY RD*	*SW 1 - 2 (1.485 mi.)*	*AJ169*	*37*

An online review and analysis by GOLDER ASSOCIATES, INC. of the UIC list, as provided by EDR, and dated 08/20/2012 has revealed that there are 3 UIC sites within approximately 3 miles of the target property.

Lower Elevation	Address	Direction / Distance	Map ID	Page
SUN RIDGE PLAT, LOT	2500 N ELINGTON ST	WSW 0 - 1/8 (0.059 mi.)	E15	9
ELLENSBURG TELEPHONE	*208 W 3RD AVE*	*SSW 1 - 2 (1.331 mi.)*	*AA112*	*27*
WASTE MANAGEMENT	*607 N RAILROAD AVE*	*SSW 1 - 2 (1.357 mi.)*	*AB120*	*28*

An online review and analysis by GOLDER ASSOCIATES, INC. of the MANIFEST list, as provided by EDR, and dated 12/31/2011 has revealed that there are 11 MANIFEST sites within approximately 3 miles of the target property.

Equal/Higher Elevation	Address	Direction / Distance	Map ID	Page
ELLENSBURG CITY	*607 INDUSTRIAL WY*	*0 - 1/8 (0.000 mi.)*	*A8*	*8*
WA AGR KITTITAS 1	*715 EAST BOWERS ROAD*	*NNW 0 - 1/8 (0.002 mi.)*	*C10*	*8*

EXECUTIVE SUMMARY

Lower Elevation	Address	Direction / Distance	Map ID	Page
CENTRAL WASHINGTON U	*400 E UNIVERSITY WAY*	*S 1/2 - 1 (0.926 mi.)*	*K43*	*14*
CHEVRON 95012	*400 WEST 8TH AVENUE*	*SSW 1 - 2 (1.043 mi.)*	*M62*	*18*
UNIVERSITY AUTO CENT	*607 N PEARL*	*SSW 1 - 2 (1.095 mi.)*	*N65*	*18*
KELLEHER MOTOR CO	*6TH & PEARL*	*SSW 1 - 2 (1.103 mi.)*	*N66*	*18*
WARD RUGH INC	*710 W 8TH*	*SSW 1 - 2 (1.141 mi.)*	*O76*	*20*
WASTE MANAGEMENT OF	*607 RAILROAD AVE*	*SSW 1 - 2 (1.357 mi.)*	*AB119*	*28*
D & M MOTORS & TOWIN	*205 N MAIN*	*SSW 1 - 2 (1.395 mi.)*	*AA137*	*31*
UPS ELLENSBURG	*215 N WATER ST*	*SSW 1 - 2 (1.404 mi.)*	*AA140*	*32*
WA AGR KITTITAS 2	*749A CASCADE WAY*	*SW 1 - 2 (1.422 mi.)*	*AG146*	*33*

An online review and analysis by GOLDER ASSOCIATES, INC. of the NPDES list, as provided by EDR, and dated 10/23/2012 has revealed that there are 7 NPDES sites within approximately 3 miles of the target property.

Lower Elevation	Address	Direction / Distance	Map ID	Page
ELLENSBURG CITY MSW	*501 N ANDERSON ST*	*S 1 - 2 (1.132 mi.)*	*P72*	*19*
WARD RUGH INC	*710 W 8TH*	*SSW 1 - 2 (1.141 mi.)*	*O76*	*20*
ELLENSBURG WATER COM	*502 E 3RD AVE*	*S 1 - 2 (1.277 mi.)*	*W99*	*24*
TWIN CITY FOODS ELLE	*501 W 4TH AVE*	*SSW 1 - 2 (1.302 mi.)*	*X103*	*25*
KITTITAS RECLAMATION	*315 N WATER ST*	*SSW 1 - 2 (1.338 mi.)*	*X114*	*27*
OKANOGAN SEATTLE TRA	*1331 CASCADE WAY*	*WSW 1 - 2 (1.352 mi.)*	*115*	*27*
RODEO CITY RECYCLING	*320 N RAILROAD AVE*	*SSW 1 - 2 (1.471 mi.)*	*164*	*36*

An online review and analysis by GOLDER ASSOCIATES, INC. of the Inactive Drycleaners list, as provided by EDR, and dated 12/31/2011 has revealed that there are 2 Inactive Drycleaners sites within approximately 3 miles of the target property.

Lower Elevation	Address	Direction / Distance	Map ID	Page
SUPERIOR DRY CLEANER	*700 E 8TH ST*	*S 1/2 - 1 (0.912 mi.)*	*J42*	*14*
MODEL KE CLEANERS &	*207 N PINE*	*SSW 1 - 2 (1.367 mi.)*	*Y127*	*30*

An online review and analysis by GOLDER ASSOCIATES, INC. of the Financial Assurance list, as provided by EDR, and dated 02/24/2012 has revealed that there are 6 Financial Assurance sites within approximately 3 miles of the target property.

Lower Elevation	Address	Direction / Distance	Map ID	Page
7 ELEVEN STORE 2301	*1001 E UNIVERSITY WY*	*S 1/2 - 1 (0.792 mi.)*	*I33*	*12*
KENS TEXACO INC	*101 E UNIVERSITY WAY*	*SSW 1/2 - 1 (0.962 mi.)*	*L47*	*15*
7 ELEVEN STORE 2301	*112 W UNIVERSITY WY*	*SSW 1/2 - 1 (0.972 mi.)*	*L53*	*16*
UNIVERSITY WAY SHELL	*200 W UNIVERSITY WAY*	*SSW 1/2 - 1 (0.991 mi.)*	*L58*	*17*
TWIN CITY FOODS ELLE	*501 W 4TH AVE*	*SSW 1 - 2 (1.302 mi.)*	*X105*	*25*
MIDSTATE COOP 410 W	*410 W 3RD*	*SSW 1 - 2 (1.374 mi.)*	*AD131*	*30*

EXECUTIVE SUMMARY

EDR HIGH RISK HISTORICAL RECORDS

EDR Exclusive Records

An online review and analysis by GOLDER ASSOCIATES, INC. of the EDR US Hist Auto Stat list, as provided by EDR, has revealed that there are 24 EDR US Hist Auto Stat sites within approximately 3 miles of the target property.

Equal/Higher Elevation	Address	Direction / Distance	Map ID	Page
Not reported	2310 WILSON CREEK R	ENE 1 - 2 (1.356 mi.)	117	28

Lower Elevation	Address	Direction / Distance	Map ID	Page
Not reported	209 W MOUNT HOOD CT	SW 1/4 - 1/2 (0.310 mi.)	20	10
Not reported	1505 N WATER ST	SSW 1/2 - 1 (0.594 mi.)	F24	11
Not reported	101 E 8TH AVE	SSW 1/2 - 1 (0.962 mi.)	L48	15
Not reported	101 E UNIVERSITY WAY	SSW 1/2 - 1 (0.962 mi.)	L49	15
Not reported	100 E 8TH AVE	SSW 1/2 - 1 (0.964 mi.)	L51	16
Not reported	200 W UNIVERSITY WAY	SSW 1/2 - 1 (0.991 mi.)	L57	17
Not reported	641 W UNIVERSITY WAY	SSW 1 - 2 (1.119 mi.)	O69	19
Not reported	1005 E CRAIG AVE	S 1 - 2 (1.205 mi.)	U92	23
Not reported	305 N ANDERSON ST	S 1 - 2 (1.271 mi.)	W97	24
Not reported	319 N MAIN ST	SSW 1 - 2 (1.315 mi.)	X108	26
Not reported	205 E 2ND AVE	SSW 1 - 2 (1.370 mi.)	Y128	30
Not reported	205 N MAIN ST	SSW 1 - 2 (1.395 mi.)	AA136	31
Not reported	208 N KITTITAS ST	SSW 1 - 2 (1.430 mi.)	AD147	33
Not reported	807 N PROSPECT ST	SW 1 - 2 (1.435 mi.)	AF148	33
Not reported	807 PROSPECT ST	SW 1 - 2 (1.435 mi.)	AF149	33
Not reported	801 N PROSPECT ST	SW 1 - 2 (1.436 mi.)	AF150	33
Not reported	801 PROSPECT ST	SW 1 - 2 (1.436 mi.)	AF151	34
Not reported	112 N MAIN ST	SSW 1 - 2 (1.459 mi.)	AI158	35
Not reported	107 N MAIN ST	SSW 1 - 2 (1.462 mi.)	AI159	35
Not reported	1441 W UNIVERSITY WA	WSW 1 - 2 (1.463 mi.)	AH161	35
Not reported	1442 CASCADE WAY	WSW 1 - 2 (1.466 mi.)	AH162	36
Not reported	101 S MAIN ST	SSW 1 - 2 (1.470 mi.)	AI163	36
Not reported	105 S MAIN ST	SSW 1 - 2 (1.474 mi.)	AI165	36

An online review and analysis by GOLDER ASSOCIATES, INC. of the EDR US Hist Cleaners list, as provided by EDR, has revealed that there are 7 EDR US Hist Cleaners sites within approximately 3 miles of the target property.

Lower Elevation	Address	Direction / Distance	Map ID	Page
Not reported	1801 N WALNUT ST	SSW 1/8 - 1/4 (0.185 mi.)	18	10
Not reported	1705 N COLLEGE PL	SSW 1/4 - 1/2 (0.358 mi.)	22	10
Not reported	1902 JUDGE RONALD R	SE 1/2 - 1 (0.766 mi.)	31	12
Not reported	700 E 8TH AVE	S 1/2 - 1 (0.912 mi.)	J40	13
Not reported	700 E UNIVERSITY WAY	S 1/2 - 1 (0.912 mi.)	J41	14
Not reported	704 N NANUM ST	SSW 1 - 2 (1.130 mi.)	71	19
Not reported	207 N PINE ST	SSW 1 - 2 (1.366 mi.)	Y126	29

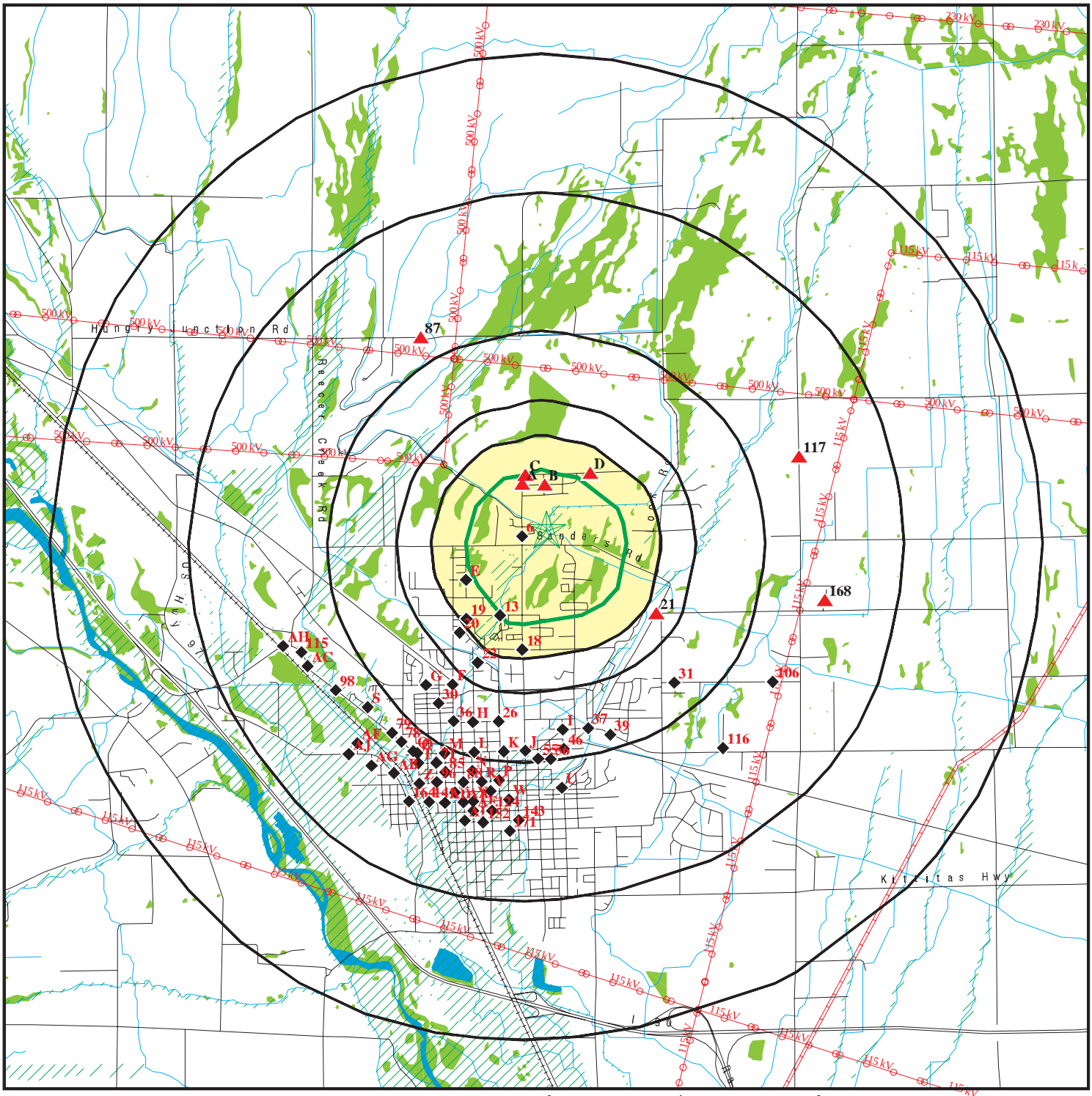
Count: 58 records. ORPHAN SUMMARY

City	EDR ID	Site Name	Site Address	Zip	Database(s)
ELLENSBURG	U003029283	ELLENSBURG REPEATER 070102	RTE 1 BOX 770	98926	UST
ELLENSBURG	U003028359	JOHN P WHEATLEY	RTE 1 BOX 555	98926	ALLSITES, UST
ELLENSBURG	1007078022	ELLENSBURG REPEATER 070102	RTE 1 BOX 770	98926	FINDS, ALLSITES
ELLENSBURG	S111769995	SWAUK RANCH WIND PROJECT	18511 SR 10	98926	ALLSITES, NPDES
ELLENSBURG	S110625615	CENTRAL WASHINGTON NEW RESIDENCE	11TH AVE & CHESTNUT	98926	ALLSITES
ELLENSBURG	S110650382	CENTRAL WASHINGTON NEW RESIDENCE	11TH AVE & CHESTNUT	98926	NPDES
ELLENSBURG	S104488216	LIQUID AIR	RT 2 BOX 2838A	98926	ICR
ELLENSBURG	U000925888	ELLENSBURG WA LINE SEG 48 PRINT 38	MP 2 3RD SUB PORTLAND DIVISION	98926	ALLSITES, UST
ELLENSBURG	U001123791	RONALD W BUSCH	RTE 2 BOX 730	98926	ALLSITES, UST
ELLENSBURG	U001127361	JACK JOHNSON	RTE 2 BOX 1240	98926	ALLSITES, UST
ELLENSBURG	U000922101	JESSE L GIBB	RTE 2 BOX 1245	98926	ALLSITES, UST
ELLENSBURG	U001126587	BILL LOWE	RTE 2 BOX 720	98926	ALLSITES, UST
ELLENSBURG	U000592533	BETTER TATER FARMS	RTE 2 NE1/4 SW1/4 S28 T17 REF	98926	ALLSITES, UST
ELLENSBURG	U001123714	CLAUDE C BARTSMA	RTE 2 BOX 990	98926	ALLSITES, UST
ELLENSBURG	1001203998	SUPER 1 FOODS PARKING LOT	E 200 MT VIEW AVE	98926	RCRA NonGen / NLR, FINDS, ALLSITES
ELLENSBURG	1007063659	BIG Z KARDGUAND SYSTEM	2ND MAIN	98926	FINDS, ALLSITES
ELLENSBURG	U003028011	DICK YUSKOFF	RTE 4 BOX 264	98926	ALLSITES, UST
ELLENSBURG	U000923750	JAY P MORGAN	RTE 4 BOX 201	98926	ALLSITES, UST
ELLENSBURG	1007068089	STAMPEDE RADIO STATION CLOSED	RTE 4 BOX 365	98926	FINDS, ALLSITES, CSCSL NFA, UST
ELLENSBURG	U003025734	JKD FARMS	RTE 5 BOX 2590	98926	ALLSITES, UST
ELLENSBURG	U003026262	ROLAND D JOHNSON	RTE 5 BOX 2090	98926	ALLSITES, UST
ELLENSBURG	1012240623	UNIVERSITY AUTO CENTER (FORMER)	EAST 7TH AT PEARL	98926	US BROWNFIELDS, FINDS
ELLENSBURG	S110036719	CANYON RIVER RANCH	14694 HWY 821 CANYON RIVER RD	98926	ALLSITES, NPDES
ELLENSBURG	S106123630	EIGHTH & MAIN	111 E 8TH AVE & MAIN ST	98926	ALLSITES, CSCSL NFA
ELLENSBURG	1007067443	PHILLIPS 66 COMPANY SS021044	100 E 8TH AVE & PEARL	98926	FINDS, ALLSITES, UST
ELLENSBURG	U004020908	EIGHTH & MAIN	111 E 8TH AVE & MAIN ST	98926	UST
ELLENSBURG	S110037737	ELLENSBURG CEMENT MCINTOSH SOUTH	7820 SR 97 S OF ENTRANCE	98926	ALLSITES, NPDES
ELLENSBURG	S110037702	ELLENSBURG CEMENT MCINTOSH NORTH	7820 SR 97 MOST NORTHERN POND	98926	ALLSITES, NPDES
ELLENSBURG	S109548652	ELLENSBURG CEMENT MCINTOSH MIDDLE	7820 SR 97 MIDDLE POND	98926	ALLSITES, NPDES
ELLENSBURG	S110035943	NORTH ALDER STREET COMMUNITY PARK	2410 N ALDER ST	98926	ALLSITES, NPDES
ELLENSBURG	S111769482	STONE WINGS II HAY PRESS	3200 BLOCK KITTITAS HWY	98926	ALLSITES
ELLENSBURG	S111779715	STONE WINGS II HAY PRESS	3200 BLOCK KITTITAS HWY	98926	NPDES
ELLENSBURG	1001092207	WA ECY ELLENSBURG POTATO SHED DRUM	CANYON HWY AT THRAIL	98926	RCRA NonGen / NLR, FINDS, ALLSITES
ELLENSBURG	S110038322	PFENNING RD WATER & SEWER EXT	CAPITOL AVE AT LOCUST ST E	98926	ALLSITES
ELLENSBURG	S110040889	BLACK HORSE AT WHISKEY CREEK	NW CORNER OF INTERS OF REECER	98926	ALLSITES
ELLENSBURG	S110038369	STUDENT VILLAGE SOUTH RESIDENCE HA	905 E DEAN NICHOLSON BLVD	98926	ALLSITES
ELLENSBURG	S110123810	CENTRAL WASHINGTON UNIVERSITY HOGU	DEAN NICHOLSON BLVD & CHESTNUT	98926	ALLSITES
ELLENSBURG	S110486803	LOWER REECER CREEK FLOODPLAIN	DOLARWAY REECER CREEK ELLENS P	98926	NPDES
ELLENSBURG	S110764220	DOLARWAY RD IMPROVEMENTS	DOLARWAY	98926	ALLSITES
ELLENSBURG	1007074267	SUPERIOR PACKING CO DOLLARWAY	DOLARWAY RD	98926	FINDS, ALLSITES, CSCSL NFA, UST, VCP

Count: 58 records. ORPHAN SUMMARY

City	EDR ID	Site Name	Site Address	Zip	Database(s)
ELLENSBURG	S110486183	LOWER REECER CREEK FLOODPLAIN	DOLARWAY REECER CREEK ELLENS P	98926	ALLSITES
ELLENSBURG	1000179341	USWCOM KITTITAS TD2 RADIO	16 MI E OF CY	98926	RCRA NonGen / NLR, FINDS, ALLSITES
ELLENSBURG	1001203982	WA DOF ELLENSBURG GAME FARM	7680 GAME FARM RD	98926	RCRA NonGen / NLR, FINDS, ALLSITES
ELLENSBURG	S112209484	ANDRES TAPIA PRIVATE RESIDENCE	150 GOLD STAR LN	98926	ALLSITES
ELLENSBURG	S110040204	VISTA VIEW EST MD JACKSON CO LLC	KITTITAS HWY 1500' E OF BULL R	98926	ALLSITES
ELLENSBURG	S104971879	ELLENSBURG CEMENT PRODUCTS	112 KITTITAS ST	98926	ALLSITES, CSCSL NFA
ELLENSBURG	1005445181	RENTAL SERVICE CORPORATION 559	501 S MAIN SW PORTION OF BLDG	98926	RCRA NonGen / NLR, FINDS, MANIFEST
ELLENSBURG	S109554535	BRETT EASON LEASED PROPERTY	MILE POST 1 HWY 10	98926	ALLSITES
ELLENSBURG	1000113774	JF SPECIALISTS INC ELLENSBURG	102 PEARL	98926	RCRA NonGen / NLR, FINDS, ALLSITES
ELLENSBURG	S110036173	ELLENSBURG CEMENT GIBSON PIT	8970 N THORP HWY	98926	ALLSITES, NPDES
ELLENSBURG	1000878555	WA ECY ELLENSBURG VAN DRUG LAB	THORP HWY AT WSP	98926	RCRA NonGen / NLR, FINDS, ALLSITES
ELLENSBURG	S112204757	ROUTE 10 & HAYWOOD WELL	544 VALLEY VISTA DR	98926	ALLSITES, NPDES
ELLENSBURG	S110036230	KITTITAS COUNTY INERT & DEMOLITION	25900 VANTAGE HWY	98926	CSCSL, ALLSITES, CSCSL NFA, VCP
ELLENSBURG	S111289209	VANTAGE ENERGY CTR LLC	30821 VANTAGE HWY	98926	CSCSL, ALLSITES
ELLENSBURG	1008919883	AT&T WIRELESS ELLENSBURG	ON WATER TANK AT CRAIG AVE	98926	FINDS, ALLSITES
ELLENSBURG	1000659834	VANCE LIFT TRUCK INC ELLENSBURG	30 YDS N 20 YDS E OF RINGER &	98926	RCRA NonGen / NLR, FINDS
ELLENSBURG	S109555532	VANCE LIFT TRUCK INC ELLENSBURG	30 YDS N 20 YDS E OF RINGER &	98926	ALLSITES
TANEUM	1007070723	TANEUM RECOVERY	VANTAGE HWY	98926	FINDS, ALLSITES

OVERVIEW MAP - 3490663.1s



- Target Property
- Sites at elevations higher than or equal to the target property
- Sites at elevations lower than the target property
- Manufactured Gas Plants
- National Priority List Sites
- Dept. Defense Sites
- Indian Reservations BIA
- Power transmission lines
- Oil & Gas pipelines from USGS
- 100-year flood zone
- 500-year flood zone
- National Wetland Inventory

This report includes Interactive Map Layers to display and/or hide map information. The legend includes only those icons for the default map view.

SITE NAME: Airport, Rodeo, Memorial, Mt. Stewart, Kiwanis	CLIENT: Golder Associates, Inc.
ADDRESS: 11 Bowers Rd Ellensburg WA 98926	CONTACT: Andrew Austreng
LAT/LONG: 47.023 / 120.536	INQUIRY #: 3490663.1s DATE: January 11, 2013 4:25 pm

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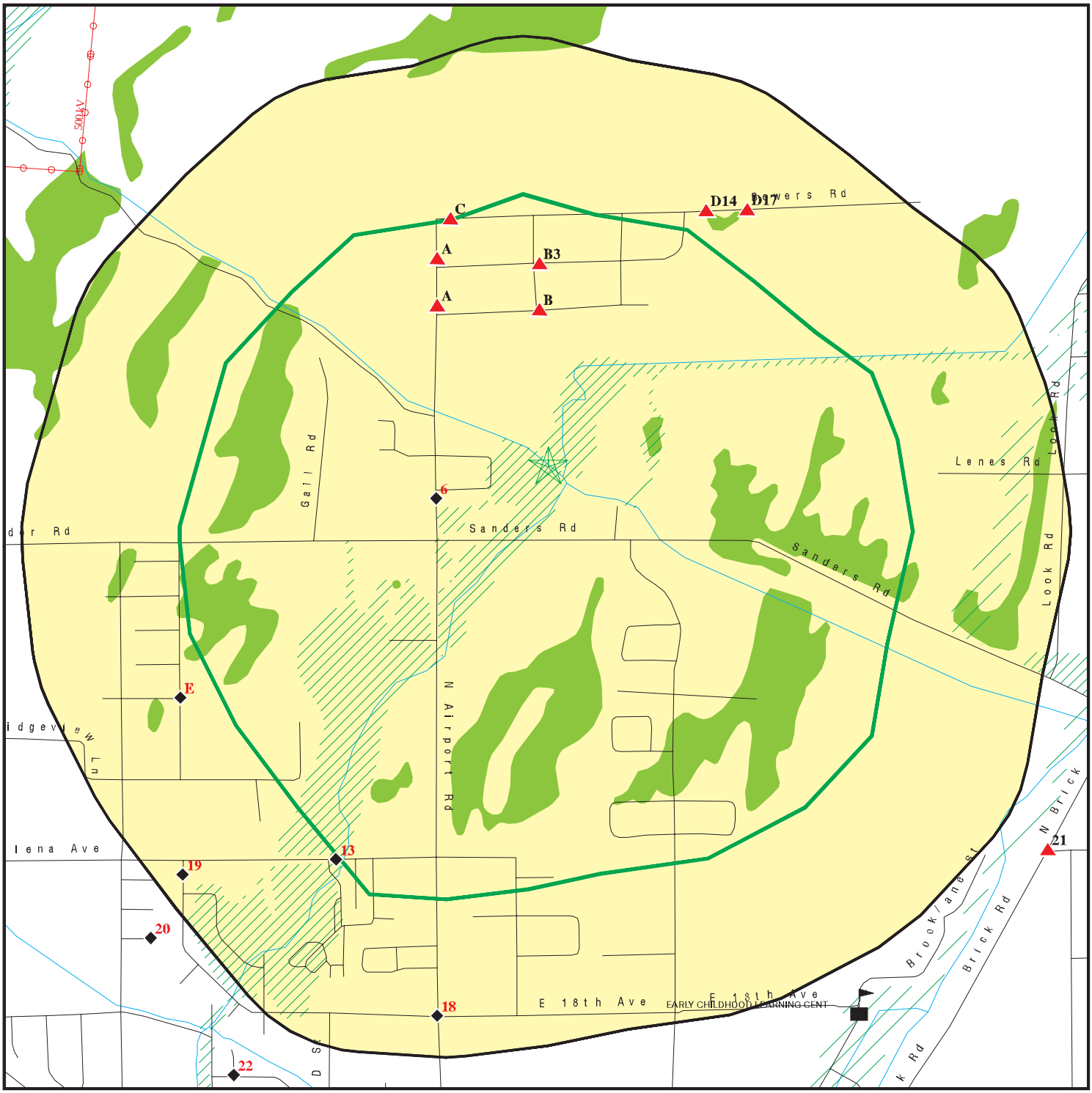
DETAIL MAP - 3490663.1s



0 1/8 1/4 1/2 Miles

- Target Property
- Sites at elevations higher than or equal to the target property
- Sites at elevations lower than the target property
- Manufactured Gas Plants
- Sensitive Receptors
- National Priority List Sites
- Dept. Defense Sites
- Indian Reservations BIA
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SITE NAME: Airport, Rodeo, Memorial, Mt. Stewart, Kiwanis ADDRESS: 11 Bowers Rd Ellensburg WA 98926 LAT/LONG: 47.023 / 120.536	CLIENT: Golder Associates, Inc. CONTACT: Andrew Austreng INQUIRY #: 3490663.1s DATE: January 11, 2013 4:28 pm

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MAP FINDINGS SUMMARY

Database	Search Distance (Miles)	Target Property	< 1/8	1/8 - 1/4	1/4 - 1/2	1/2 - 1	> 1	Total Plotted
STANDARD ENVIRONMENTAL RECORDS								
Federal NPL site list								
NPL	3.000		0	0	0	0	0	0
Proposed NPL	3.000		0	0	0	0	0	0
NPL LIENS	3.000		0	0	0	0	0	0
Federal Delisted NPL site list								
Delisted NPL	3.000		0	0	0	0	0	0
Federal CERCLIS list								
CERCLIS	3.000		0	0	0	0	0	0
FEDERAL FACILITY	3.000		0	0	0	0	0	0
Federal CERCLIS NFRAP site List								
CERC-NFRAP	3.000		1	0	0	0	1	2
Federal RCRA CORRACTS facilities list								
CORRACTS	3.000		0	0	0	0	0	0
Federal RCRA non-CORRACTS TSD facilities list								
RCRA-TSDF	3.000		0	0	0	0	0	0
Federal RCRA generators list								
RCRA-LQG	3.000		0	0	0	1	0	1
RCRA-SQG	3.000		0	0	0	0	0	0
RCRA-CESQG	3.000		0	0	0	0	4	4
Federal institutional controls / engineering controls registries								
US ENG CONTROLS	3.000		0	0	0	0	0	0
US INST CONTROL	3.000		0	0	0	0	0	0
LUCIS	3.000		0	0	0	0	0	0
Federal ERNS list								
ERNS	3.000		0	0	0	0	0	0
State- and tribal - equivalent NPL								
HSL	3.000		0	0	0	2	2	4
State- and tribal - equivalent CERCLIS								
CSCSL	3.000		3	0	0	4	10	17
State and tribal landfill and/or solid waste disposal site lists								
SWF/LF	3.000		2	0	0	0	1	3
State and tribal leaking storage tank lists								
LUST	3.000		2	0	0	2	7	11

MAP FINDINGS SUMMARY

Database	Search Distance (Miles)	Target Property	< 1/8	1/8 - 1/4	1/4 - 1/2	1/2 - 1	> 1	Total Plotted
INDIAN LUST	3.000		0	0	0	0	0	0
State and tribal registered storage tank lists								
UST	3.000		3	0	0	9	33	45
AST	3.000		0	0	0	0	0	0
INDIAN UST	3.000		0	0	0	0	0	0
FEMA UST	3.000		0	0	0	0	0	0
State and tribal institutional control / engineering control registries								
INST CONTROL	3.000		0	0	0	1	0	1
State and tribal voluntary cleanup sites								
INDIAN VCP	3.000		0	0	0	0	0	0
VCP	3.000		0	0	0	4	2	6
ICR	3.000		2	0	0	5	15	22
State and tribal Brownfields sites								
BROWNFIELDS	3.000		0	0	0	0	1	1
ADDITIONAL ENVIRONMENTAL RECORDS								
Local Brownfield lists								
US BROWNFIELDS	3.000		0	0	0	0	0	0
Local Lists of Landfill / Solid Waste Disposal Sites								
ODI	3.000		0	0	0	0	0	0
DEBRIS REGION 9	3.000		0	0	0	0	0	0
SWRCY	3.000		0	0	0	0	3	3
SWTIRE	3.000		0	0	0	0	0	0
Local Lists of Hazardous waste / Contaminated Sites								
US CDL	3.000		0	0	0	0	0	0
ALLSITES	3.000		12	0	1	21	66	100
CSCSL NFA	3.000		1	0	0	6	8	15
CDL	3.000		0	1	0	0	0	1
HIST CDL	3.000		0	1	0	0	0	1
US HIST CDL	3.000		0	0	0	0	0	0
Local Land Records								
LIENS 2	3.000		0	0	0	0	0	0
Records of Emergency Release Reports								
HMIRS	3.000		0	0	0	0	0	0
SPILLS	3.000		0	0	0	0	2	2
Other Ascertainable Records								
RCRA NonGen / NLR	3.000		3	0	0	2	12	17

MAP FINDINGS SUMMARY

Database	Search Distance (Miles)	Target Property	< 1/8	1/8 - 1/4	1/4 - 1/2	1/2 - 1	> 1	Total Plotted
DOT OPS	3.000		0	0	0	0	0	0
DOD	3.000		0	0	0	0	0	0
FUDS	3.000		0	0	0	0	0	0
CONSENT	3.000		0	0	0	0	0	0
ROD	3.000		0	0	0	0	0	0
UMTRA	3.000		0	0	0	0	0	0
MINES	3.000		0	0	0	0	0	0
TRIS	3.000		0	0	0	0	0	0
TSCA	3.000		0	0	0	0	0	0
FTTS	3.000		0	0	0	0	1	1
HIST FTTS	3.000		0	0	0	0	1	1
SSTS	3.000		0	0	0	0	0	0
ICIS	3.000		0	0	0	0	0	0
PADS	3.000		0	0	0	0	0	0
MLTS	3.000		0	0	0	0	0	0
RADINFO	3.000		0	0	0	0	0	0
FINDS	3.000		3	0	0	4	32	39
RAATS	3.000		0	0	0	0	0	0
RMP	3.000		0	0	0	0	0	0
UIC	3.000		1	0	0	0	2	3
MANIFEST	3.000		2	0	0	1	8	11
DRYCLEANERS	3.000		0	0	0	0	0	0
NPDES	3.000		0	0	0	0	7	7
AIRS	3.000		0	0	0	0	0	0
Inactive Drycleaners	3.000		0	0	0	1	1	2
INDIAN RESERV	3.000		0	0	0	0	0	0
SCRD DRYCLEANERS	3.000		0	0	0	0	0	0
US AIRS	3.000		0	0	0	0	0	0
PRP	3.000		0	0	0	0	0	0
Financial Assurance	3.000		0	0	0	4	2	6
EPA WATCH LIST	3.000		0	0	0	0	0	0
US FIN ASSUR	3.000		0	0	0	0	0	0
PCB TRANSFORMER	3.000		0	0	0	0	0	0
2020 COR ACTION	3.000		0	0	0	0	0	0
COAL ASH DOE	3.000		0	0	0	0	0	0
COAL ASH EPA	3.000		0	0	0	0	0	0
COAL ASH	3.000		0	0	0	0	0	0
EDR HIGH RISK HISTORICAL RECORDS								
EDR Exclusive Records								
EDR MGP	3.000		0	0	0	0	0	0
EDR US Hist Auto Stat	3.000		0	0	1	5	18	24
EDR US Hist Cleaners	3.000		0	1	1	3	2	7

NOTES:

TP = Target Property

NR = Not Requested at this Search Distance

Sites may be listed in more than one database

Map ID / Direction / Distance / Elevation	Site	Database(s)	EDR ID Number / EPA ID Number
A1 **< 1/8** **1 ft.** **Relative: Higher**	**CITY OF KITTITAS PUBLIC WORKS** **600 INDUSTRIAL WAY** **KITTITAS, WA 98934** Click here for full text details	**ALLSITES**	**S109556397** **N/A**
B2 **< 1/8** **1 ft.** **Relative: Higher**	**CARIBOU CREEK LOGGING** **701 S INDUSTRIAL WAY** **ELLENSBURG, WA 98926** Click here for full text details	**ALLSITES**	**S110276359** **N/A**
B3 **< 1/8** **1 ft.** **Relative: Higher**	**ELMVIEW RECYCLE** **804 ELMVIEW RD** **ELLENSBURG, WA 98926** Click here for full text details	**ALLSITES** **SWF/LF**	**S108108121** **N/A**
A4 **< 1/8** **1 ft.** **Relative: Higher**	**BALL DALE & CLARA** **710 E ELMVIEW** **ELLENSBURG, WA 98926** Click here for full text details	**ALLSITES** **UST**	**U001124495** **N/A**
A5 **< 1/8** **1 ft.** **Relative: Higher**	**ELLENSBURG CITY** **607 INDUSTRIAL WY** **ELLENSBURG, WA 98926** Click here for full text details **CSCSL** Site Status: Cleanup Started	**CSCSL** **ALLSITES** **ICR**	**S103506506** **N/A**
6 **< 1/8** **1 ft.** **Relative: Lower**	**THE GROVE** **2420 AIRPORT RD** **ELLENSBURG, WA 98926** Click here for full text details	**ALLSITES**	**S110039140** **N/A**

Map ID / Direction / Distance / Elevation	Site	Database(s)	EDR ID Number / EPA ID Number
B7 **< 1/8** **1 ft.**	**CARIBOU CREEK LOGGING & CONSTRUCTION INC.** **701 INDUSTRIAL WAY** **ELLENSBURG, WA 98926**	**SWF/LF**	**S109394948** **N/A**
Relative: Higher	**Click here for full text details**		
A8 **< 1/8** **1 ft.**	**ELLENSBURG CITY** **607 INDUSTRIAL WY** **ELLENSBURG, WA 98926**	**RCRA NonGen / NLR** **FINDS** **LUST** **UST** **MANIFEST**	**1000208452** **WAD988471751**
Relative: Higher	**Click here for full text details** **LUST** Facility Status: Cleanup Started		
A9 **< 1/8** **1 ft.**	**KITTITAS TRAP & SKEET CLUB** **3102 N AIRPORT RD** **ELLENSBURG, WA 98926**	**CSCSL** **ALLSITES**	**S109344514** **N/A**
Relative: Higher	**Click here for full text details** **CSCSL** Site Status: Awaiting Cleanup		
C10 **NNW** **< 1/8** **0.002 mi.** **11 ft.**	**WA AGR KITTITAS 1** **715 EAST BOWERS ROAD** **ELLENSBURG, WA 98926**	**RCRA NonGen / NLR** **FINDS** **ALLSITES** **MANIFEST**	**1000879109** **WAD988524583**
Relative: Higher	**Click here for full text details**		
C11 **NNW** **< 1/8** **0.003 mi.** **14 ft.**	**WA DNR ELLENSBURG** **713 E BOWERS RD** **ELLENSBURG, WA 98926**	**CSCSL** **ALLSITES** **LUST** **UST**	**U003025725** **N/A**
Relative: Higher	**Click here for full text details** **CSCSL** Site Status: Awaiting Cleanup **LUST** Facility Status: Awaiting Cleanup Facility Status: Cleanup Started Facility Status: Monitoring		

Map ID / Direction / Distance / Elevation	Site	Database(s)	EDR ID Number / EPA ID Number
C12 **NNW** **< 1/8** **0.003 mi.** **14 ft.** **Relative: Higher**	**WSDNR** **713 E. BOWERS ROAD** **ELLENSBURG, WA 98926** Click here for full text details	**ICR**	**S103504688** **N/A**
13 **SSW** **< 1/8** **0.005 mi.** **29 ft.** **Relative: Lower**	**KITTITAS COUNTY HEAD START** **220 E HELENA AVE** **ELLENSBURG, WA 98926** Click here for full text details	**ALLSITES**	**S110625976** **N/A**
D14 **NNE** **< 1/8** **0.043 mi.** **229 ft.** **Relative: Higher**	**FORMER ELLENSBURG AAF FUDS SITE** **1101 BOWERS RD AT BOWERS FIELD** **ELLENSBURG, WA 98926** Click here for full text details	**CERC-NFRAP**	**1004654591** **WAN001002273**
E15 **WSW** **< 1/8** **0.059 mi.** **310 ft.** **Relative: Lower**	**SUN RIDGE PLAT, LOT 64** **2500 N ELINGTON ST** **ELLENSBURG, WA 98926** Click here for full text details **UIC** Site Status: Grandfathered	**UIC**	**S109399977** **N/A**
E16 **WSW** **< 1/8** **0.059 mi.** **313 ft.** **Relative: Lower**	**MCINTOSH PLAT** **ELLINGTON ST & GREENFIELD AVE** **ELLENSBURG, WA 98926** Click here for full text details	**ALLSITES**	**S110036731** **N/A**
D17 **NE** **< 1/8** **0.084 mi.** **444 ft.** **Relative: Higher**	**MIDSTATE AVIATION** **1101 BOWERS RD** **ELLENSBURG, WA 98926** Click here for full text details	**RCRA NonGen / NLR** **FINDS** **ALLSITES** **CSCSL NFA**	**1000878976** **WAD988523163**

Map ID / Direction / Distance / Elevation	Site	Database(s)	EDR ID Number / EPA ID Number
18 **SSW** **1/8-1/4** **0.185 mi.** **975 ft.** **Relative: Lower**	**1801 N WALNUT ST** **ELLENSBURG, WA 98926** Click here for full text details	**EDR US Hist Cleaners**	**1015006527** **N/A**
19 **SW** **1/8-1/4** **0.209 mi.** **1105 ft.** **Relative: Lower**	**2113 PARKLANE AVE** **ELLENSBURG, WA 98926** Click here for full text details	**CDL** **HIST CDL**	**S106082889** **N/A**
20 **SW** **1/4-1/2** **0.310 mi.** **1639 ft.** **Relative: Lower**	**209 W MOUNT HOOD CT** **ELLENSBURG, WA 98926** Click here for full text details	**EDR US Hist Auto Stat**	**1015317626** **N/A**
21 **SE** **1/4-1/2** **0.331 mi.** **1749 ft.** **Relative: Higher**	**HARVEY DODGE PROPERTY** **GAME FARM RD.** **ELLENSBURG, WA 98926** Click here for full text details	**ALLSITES**	**S111414048** **N/A**
22 **SSW** **1/4-1/2** **0.358 mi.** **1888 ft.** **Relative: Lower**	**1705 N COLLEGE PL** **ELLENSBURG, WA 98926** Click here for full text details	**EDR US Hist Cleaners**	**1015003637** **N/A**
F23 **SSW** **1/2-1** **0.594 mi.** **3136 ft.** **Relative: Lower**	**WATER STREET CREAMERY** **1505 N WATER ST** **ELLENSBURG, WA 98926** Click here for full text details	**ALLSITES** **CSCSL NFA** **VCP** **ICR**	**S104971290** **N/A**

Map ID / Direction / Distance / Elevation	Site	Database(s)	EDR ID Number / EPA ID Number
F24 **SSW** **1/2-1** **0.594 mi.** **3136 ft.** **Relative: Lower**	**1505 N WATER ST** **ELLENSBURG, WA 98926** **Click here for full text details**	**EDR US Hist Auto Stat**	**1015239112** **N/A**
F25 **SSW** **1/2-1** **0.595 mi.** **3142 ft.** **Relative: Lower**	**WONDRACK ELLENSBURG** **15TH AVE & WATER ST** **ELLENSBURG, WA 98926** **Click here for full text details**	**FINDS** **ALLSITES** **CSCSL NFA** **INST CONTROL** **VCP**	**1007080086** **N/A**
26 **SSW** **1/2-1** **0.713 mi.** **3763 ft.** **Relative: Lower**	**CENTRAL WASHINGTON UNIVERSITY FACILITIES MGMT** **11TH & "D" STREET** **ELLENSBURG, WA 98926** **Click here for full text details**	**ICR**	**1005114498** **N/A**
G27 **SW** **1/2-1** **0.735 mi.** **3880 ft.** **Relative: Lower**	**ELLENSBURG MAINTENANCE SHOP** **15TH & OKANOGAN** **ELLENSBURG, WA 98926** **Click here for full text details**	**ALLSITES** **UST**	**U001127250** **N/A**
G28 **SW** **1/2-1** **0.736 mi.** **3888 ft.** **Relative: Lower**	**TV CABLE TRENCH TPH** **419-421 W 15TH ST** **ELLENSBURG, WA 98926** **Click here for full text details** **CSCSL** Site Status: Awaiting Cleanup	**CSCSL** **ALLSITES**	**S104918105** **N/A**
H29 **SSW** **1/2-1** **0.757 mi.** **3995 ft.** **Relative: Lower**	**MARK CONNER RESIDENCE** **104 W 11TH AVE** **ELLENSBURG, WA 98926** **Click here for full text details**	**ALLSITES**	**S109554678** **N/A**

30
SSW
1/2-1
0.763 mi.
4030 ft.

Relative:
Lower

ALLEN EDLER PROPERTY
406 W 13TH AVE
ELLENSBURG, WA 98926

ALLSITES

S110625586
N/A

Click here for full text details

31
SE
1/2-1
0.766 mi.
4046 ft.

Relative:
Lower

1902 JUDGE RONALD RD
ELLENSBURG, WA 98926

EDR US Hist Cleaners

1015009446
N/A

Click here for full text details

I32
South
1/2-1
0.792 mi.
4180 ft.

Relative:
Lower

7 ELEVEN STORE 2301 17053L
1001 E UNIVERSITY WY
ELLENSBURG, WA 98926

UST

U003028534
N/A

Click here for full text details

I33
South
1/2-1
0.792 mi.
4180 ft.

Relative:
Lower

7 ELEVEN STORE 2301 17053L
1001 E UNIVERSITY WY
ELLENSBURG, WA 98926

ALLSITES
Financial Assurance

S108523022
N/A

Click here for full text details

I34
South
1/2-1
0.792 mi.
4182 ft.

Relative:
Lower

KEN'S AUTO WASH II
1013 E. 10TH
ELLENSBURG, WA 98926

ICR

S104485086
N/A

Click here for full text details

I35
South
1/2-1
0.792 mi.
4182 ft.

Relative:
Lower

KENS AUTO WASH II
1013 UNIVERSITY WY
ELLENSBURG, WA 98926

CSCSL
ALLSITES
HSL

S102512585
N/A

Click here for full text details

CSCSL
Site Status: Cleanup Started

HSL

KENS AUTO WASH II (Continued) **S102512585**

Facility Status: Cleanup Started
Facility Type: Hazardous Sites List

36
SSW
1/2-1
0.808 mi.
4267 ft.

Relative:
Lower

DALE ANDERSON
1114 N WATER ST
ELLENSBURG, WA 98926

FINDS
ALLSITES

1008919077
N/A

Click here for full text details

37
SSE
1/2-1
0.814 mi.
4296 ft.

Relative:
Lower

KENS AUTO WASH II
1013 UNIVERSITY WY
ELLENSBURG, WA 98926

LUST
UST

U001123378
N/A

Click here for full text details

LUST
Facility Status: Cleanup Started
Facility Status: Monitoring

H38
SSW
1/2-1
0.826 mi.
4363 ft.

Relative:
Lower

TEVELDE RESIDNECE
110 W 10TH AVENUE
ELLENSBURG, WA 98926

ALLSITES

S110276250
N/A

Click here for full text details

39
SSE
1/2-1
0.888 mi.
4688 ft.

Relative:
Lower

KITTITAS CNTY FAIR HOCTOR PROPERTY

ELLENSBURG, WA 98926

ALLSITES

S106779657
N/A

Click here for full text details

J40
South
1/2-1
0.912 mi.
4816 ft.

Relative:
Lower

700 E 8TH AVE
ELLENSBURG, WA 98926

EDR US Hist Cleaners

1015088506
N/A

Click here for full text details

J41
South
1/2-1
0.912 mi.
4816 ft.

Relative:
Lower

700 E UNIVERSITY WAY
ELLENSBURG, WA 98926

Click here for full text details

EDR US Hist Cleaners

1015088520
N/A

J42
South
1/2-1
0.912 mi.
4816 ft.

Relative:
Lower

SUPERIOR DRY CLEANER
700 E 8TH ST
ELLENSBURG, WA 98926

Click here for full text details

RCRA NonGen / NLR
FINDS
ALLSITES
Inactive Drycleaners

1004793819
WAD981772015

K43
South
1/2-1
0.926 mi.
4891 ft.

Relative:
Lower

CENTRAL WASHINGTON UNIVERSITY
400 E UNIVERSITY WAY
ELLENSBURG, WA 98126

Click here for full text details

RCRA-LQG
CSCSL
HSL
ALLSITES
CSCSL NFA
MANIFEST
HAZNET

1000419214
WAD980835631

CSCSL
Site Status: Cleanup Started

HSL
Facility Status: Cleanup Started
Facility Type: Hazardous Sites List

K44
South
1/2-1
0.926 mi.
4891 ft.

Relative:
Lower

WA DFW MOSES LAKE PROJECT
400 E 8TH AVE WA DFW
ELLENSBURG, WA 98926

Click here for full text details

RCRA NonGen / NLR
ALLSITES

1007265698
WAH000022506

K45
South
1/2-1
0.926 mi.
4891 ft.

Relative:
Lower

CENTRAL WASHINGTON UNIVERSITY ELLENSBURG
400 E UNIVERSITY WY
ELLENSBURG, WA 98926

Click here for full text details

UST

U001127195
N/A

46
South
1/2-1
0.928 mi.
4902 ft.

Relative:
Lower

KITTITAS COUNTY FAIRGROUNDS
NEAR 1007 E 8TH AVE
ELLENSBURG, WA 98926

Click here for full text details

FINDS **1008907413**
ALLSITES **N/A**
CSCSL NFA

L47
SSW
1/2-1
0.962 mi.
5079 ft.

Relative:
Lower

KENS TEXACO INC
101 E UNIVERSITY WAY
ELLENSBURG, WA 98926

Click here for full text details

CSCSL **U003026924**
ALLSITES **N/A**
LUST
UST
ICR
Financial Assurance

CSCSL
Site Status: Awaiting Cleanup

LUST
Facility Status: Awaiting Cleanup

L48
SSW
1/2-1
0.962 mi.
5079 ft.

Relative:
Lower

101 E 8TH AVE
ELLENSBURG, WA 98926

Click here for full text details

EDR US Hist Auto Stat **1015124985**
N/A

L49
SSW
1/2-1
0.962 mi.
5079 ft.

Relative:
Lower

101 E UNIVERSITY WAY
ELLENSBURG, WA 98926

Click here for full text details

EDR US Hist Auto Stat **1015125181**
N/A

L50
SSW
1/2-1
0.964 mi.
5088 ft.

Relative:
Lower

UNIVERSITY AUTO CENTER
100 E UNIVERSITY WY
ELLENSBURG, WA 98926

Click here for full text details

ALLSITES **U000711604**
CSCSL NFA **N/A**
UST
VCP

L51
SSW
1/2-1
0.964 mi.
5088 ft.

Relative:
Lower

100 E 8TH AVE
ELLENSBURG, WA 98926

Click here for full text details

EDR US Hist Auto Stat

1015118840
N/A

L52
SSW
1/2-1
0.972 mi.
5132 ft.

Relative:
Lower

7 ELEVEN STORE 2301 23579J
112 W UNIVERSITY WY
ELLENSBURG, WA 98926

Click here for full text details

UST

U004021160
N/A

L53
SSW
1/2-1
0.972 mi.
5132 ft.

Relative:
Lower

7 ELEVEN STORE 2301 23579J
112 W UNIVERSITY WY
ELLENSBURG, WA 98926

Click here for full text details

ALLSITES
CSCSL NFA
VCP
Financial Assurance

S104971874
N/A

L54
SSW
1/2-1
0.972 mi.
5132 ft.

Relative:
Lower

7 ELEVEN #2301 23579J
112 W. 8TH ST.
ELLENSBURG, WA 98926

Click here for full text details

ICR

S104959707
N/A

55
South
1/2-1
0.976 mi.
5151 ft.

Relative:
Lower

SHERWIN WILLIAMS 1735
710 N CHESTNUT
ELLENSBURG, WA 98926

Click here for full text details

ALLSITES

S111769555
N/A

56
South
1/2-1
0.990 mi.
5226 ft.

Relative:
Lower

WA MIL 050
901 E 7TH AVE
ELLENSBURG, WA 98926

Click here for full text details

ALLSITES
UST

U000592079
N/A

L57
SSW
1/2-1
0.991 mi.
5230 ft.

Relative:
Lower

200 W UNIVERSITY WAY
ELLENSBURG, WA 98926

Click here for full text details

Database(s): EDR US Hist Auto Stat
EDR ID Number: 1015302476
EPA ID Number: N/A

L58
SSW
1/2-1
0.991 mi.
5230 ft.

Relative:
Lower

UNIVERSITY WAY SHELL
200 W UNIVERSITY WAY
ELLENSBURG, WA 98926

Click here for full text details

Database(s): ALLSITES, UST, Financial Assurance
EDR ID Number: U004021318
EPA ID Number: N/A

M59
SSW
> 1
1.022 mi.
5398 ft.

Relative:
Lower

CENTRAL SHELL RH BOWLES COMPANY INC
8TH & MAIN
ELLENSBURG, WA 98926

Click here for full text details

Database(s): ALLSITES, UST
EDR ID Number: U000923049
EPA ID Number: N/A

L60
SSW
> 1
1.030 mi.
5440 ft.

Relative:
Lower

RETIRED SENIOR VOLUNTEER PROGRAM-ELLENSBURG
707 N. PEARL STREET, SUITE I
ELLENSBURG, WA 98926

Click here for full text details

Database(s): SWRCY
EDR ID Number: S111416173
EPA ID Number: N/A

M61
SSW
> 1
1.043 mi.
5506 ft.

Relative:
Lower

CHEVRON 95012
400 W UNIVERSITY WY
ELLENSBURG, WA 98926

Click here for full text details

CSCSL
Site Status: Cleanup Started

LUST
Facility Status: Monitoring

Database(s): CSCSL, ALLSITES, LUST, UST
EDR ID Number: U001123926
EPA ID Number: N/A

M62
SSW
> 1
1.043 mi.
5506 ft.

Relative:
Lower

CHEVRON 95012
400 WEST 8TH AVENUE
ELLENSBURG, WA 98926

RCRA NonGen / NLR
FINDS
MANIFEST
ICR

1000920688
WA0000712489

Click here for full text details

M63
SSW
> 1
1.052 mi.
5554 ft.

Relative:
Lower

MAID O CLOVER ELLENSBURG
702 N MAIN
ELLENSBURG, WA 98926

FINDS
ALLSITES
UST

1007063533
N/A

Click here for full text details

N64
SSW
> 1
1.095 mi.
5784 ft.

Relative:
Lower

UNIVERSITY AUTO CENTER FACILITY
610 N PEARL
ELLENSBURG, WA 98926

CSCSL
ALLSITES
LUST
UST
BROWNFIELDS

U003888559
N/A

Click here for full text details

CSCSL
Site Status: Cleanup Started

LUST
Facility Status: Cleanup Started

BROWNFIELDS
Facility Status: Cleanup Started

N65
SSW
> 1
1.095 mi.
5784 ft.

Relative:
Lower

UNIVERSITY AUTO CENTER
607 N PEARL
ELLENSBURG, WA 98926

RCRA-CESQG
FINDS
MANIFEST
ICR

1000431707
WAD019201771

Click here for full text details

N66
SSW
> 1
1.103 mi.
5826 ft.

Relative:
Lower

KELLEHER MOTOR CO
6TH & PEARL
ELLENSBURG, WA 98926

RCRA NonGen / NLR
FINDS
ALLSITES
CSCSL NFA
MANIFEST

1000280030
WAD008957409

Click here for full text details

N67
SSW
> 1
1.103 mi.
5826 ft.

Relative:
Lower

KELLEHER MOTOR CO
6TH & PEARL
ELLENSBURG, WA 98926

UST **U003029029**
ICR **N/A**

Click here for full text details

O68
SSW
> 1
1.107 mi.
5846 ft.

Relative:
Lower

LIGHTHOUSE MOTEL
607 W UNIVERSITY WAY
ELLENSBURG, WA 98926

ALLSITES **S110626336**
N/A

Click here for full text details

O69
SSW
> 1
1.119 mi.
5906 ft.

Relative:
Lower

641 W UNIVERSITY WAY
ELLENSBURG, WA 98926

EDR US Hist Auto Stat **1015587955**
N/A

Click here for full text details

N70
SSW
> 1
1.120 mi.
5913 ft.

Relative:
Lower

CENTRAL TEXACO
601 N MAIN
ELLENSBURG, WA 98926

ALLSITES **U001125384**
UST **N/A**

Click here for full text details

71
SSW
> 1
1.130 mi.
5967 ft.

Relative:
Lower

704 N NANUM ST
ELLENSBURG, WA 98926

EDR US Hist Cleaners **1015089218**
N/A

Click here for full text details

P72
South
> 1
1.132 mi.
5979 ft.

Relative:
Lower

ELLENSBURG CITY MSW
501 N ANDERSON ST
ELLENSBURG, WA 98926

ALLSITES **S110039469**
NPDES **N/A**

Click here for full text details

NPDES
Facility Status: Active

P73
South
> 1
1.135 mi.
5994 ft.

Relative:
Lower

ELLENSBURG CITY SPRAGUE ST
506 N SPRAGUE ST
ELLENSBURG, WA 98926

Click here for full text details

FINDS
ALLSITES

1007677307
N/A

P74
South
> 1
1.135 mi.
5994 ft.

Relative:
Lower

ELLENSBURG CITY
506 N SPRAGUE ST
ELLENSBURG, WA 98926

Click here for full text details

RCRA NonGen / NLR

1010337700
WAH000023854

O75
SSW
> 1
1.141 mi.
6026 ft.

Relative:
Lower

WARD RUGH TRUCKING FACILITY
710 W. 8TH ST.
ELLENSBURG, WA 98926

Click here for full text details

ICR

1001805917
N/A

O76
SSW
> 1
1.141 mi.
6026 ft.

Relative:
Lower

WARD RUGH INC
710 W 8TH
ELLENSBURG, WA 98926

Click here for full text details

RCRA-CESQG
FTTS
HIST FTTS
FINDS
ALLSITES
MANIFEST
NPDES

1004613311
WAD004865382

NPDES
Facility Status: Active

Q77
SSW
> 1
1.148 mi.
6063 ft.

Relative:
Lower

WARD RUGH INC
710 W UNIVERSITY WY
ELLENSBURG, WA 98926

Click here for full text details

CSCSL
HSL
ALLSITES
LUST
UST

1000183952
N/A

CSCSL
Site Status: Cleanup Started

HSL
Facility Status: Cleanup Started
Facility Type: Hazardous Sites List

LUST

WARD RUGH INC (Continued) **1000183952**

Facility Status: Awaiting Cleanup
Facility Status: Cleanup Started

78
SW
> 1
1.148 mi.
6064 ft.

Relative:
Lower

WA DOT ELLENSBURG MAINTENANCE SITE **CSCSL** **S107747503**
749 UNIVERSITY WY **ALLSITES** **N/A**
ELLENSBURG, WA 98926

Click here for full text details

CSCSL
Site Status: Awaiting Cleanup

79
SW
> 1
1.149 mi.
6068 ft.

Relative:
Lower

ELLENSBURG CITY W 8TH AVE ROW **CSCSL** **S107565932**
W UNIVERSITY WY **ALLSITES** **N/A**
ELLENSBURG, WA 98926

Click here for full text details

CSCSL
Site Status: Awaiting Cleanup

Q80
SSW
> 1
1.149 mi.
6068 ft.

Relative:
Lower

JR S ECONOMART **FINDS** **1007070799**
619 CASCADE WAY **ALLSITES** **N/A**
ELLENSBURG, WA 98926 **UST**

Click here for full text details

R81
SSW
> 1
1.160 mi.
6124 ft.

Relative:
Lower

YAKIMA FEDERAL SAVINGS BANK **UST** **U003759245**
5TH & PINE ST **ICR** **N/A**
ELLENSBURG, WA 98926

Click here for full text details

R82
SSW
> 1
1.160 mi.
6124 ft.

Relative:
Lower

YAKIMA FEDERAL SAVINGS BANK **FINDS** **1007076685**
5TH & PINE ST **ALLSITES** **N/A**
ELLENSBURG, WA 98926 **CSCSL NFA**

Click here for full text details

S83
SW
> 1
1.164 mi.
6144 ft.

Relative:
Lower

COMMON CARRIERS INC
1011 W CASCADE CT
ELLENSBURG, WA 98926

Click here for full text details

Database(s): UST
EDR ID Number: U004139718
EPA ID Number: N/A

S84
SW
> 1
1.164 mi.
6144 ft.

Relative:
Lower

COMMON CARRIERS INC
1011 W CASCADE CT
ELLENSBURG, WA 98926

Click here for full text details

Database(s): ALLSITES, CSCSL NFA, VCP
EDR ID Number: S110040821
EPA ID Number: N/A

85
SSW
> 1
1.165 mi.
6150 ft.

Relative:
Lower

CASEY PEARSON
604 N KITTITAS ST
ELLENSBURG, WA 98926

Click here for full text details

Database(s): ALLSITES
EDR ID Number: S111769692
EPA ID Number: N/A

N86
SSW
> 1
1.171 mi.
6182 ft.

Relative:
Lower

SEARS 7549
505 N PEARL
ELLENSBURG, WA 98926

Click here for full text details

Database(s): RCRA NonGen / NLR, FINDS, ALLSITES
EDR ID Number: 1004795121
EPA ID Number: WAR000010041

87
NNW
> 1
1.182 mi.
6239 ft.

Relative:
Higher

DOUBLE H-J FARM
2550 HUNGRY JUNCTION RD
ELLENSBURG, WA 98926

Click here for full text details

Database(s): ALLSITES
EDR ID Number: S110275963
EPA ID Number: N/A

88
SSW
> 1
1.191 mi.
6291 ft.

Relative:
Lower

KITTITAS COUNTY DEPARTMENT PUBLIC WORKS
205 W 5TH
ELLENSBURG, WA 98926

Click here for full text details

Database(s): FINDS, ALLSITES, UST
EDR ID Number: 1007079264
EPA ID Number: N/A

S89
SW
> 1
1.197 mi.
6319 ft.

Relative:
Lower

CASCADE EQUIPMENT SALES LLC
901 UNIVERSITY WAY
ELLENSBURG, WA 98926

Click here for full text details

FINDS
ALLSITES

1011932484
N/A

T90
SSW
> 1
1.197 mi.
6321 ft.

Relative:
Lower

OXARC INC ELLENSBURG
704 N WENAS ST
ELLENSBURG, WA 98926

Click here for full text details

FINDS
ALLSITES

1007065040
N/A

T91
SSW
> 1
1.201 mi.
6343 ft.

Relative:
Lower

ELLENSBURG CEMENT PROD CONCRETE
7TH & WENAS
ELLENSBURG, WA 98926

Click here for full text details

FINDS
ALLSITES

1007062704
N/A

U92
South
> 1
1.205 mi.
6363 ft.

Relative:
Lower

1005 E CRAIG AVE
ELLENSBURG, WA 98926

Click here for full text details

EDR US Hist Auto Stat

1015122639
N/A

U93
South
> 1
1.206 mi.
6369 ft.

Relative:
Lower

TERRY DIRKS PROPERTY
908 E 4TH AVE
ELLENSBURG, WA 98926

Click here for full text details

FINDS
ALLSITES

1011267146
N/A

V94
SSW
> 1
1.217 mi.
6428 ft.

Relative:
Lower

SAFEWAY STORE 1630 DEVELOPMENT SITE
400 N RUBY ST
ELLENSBURG, WA 98926

Click here for full text details

ALLSITES
CSCSL NFA
UST
ICR

U003604877
N/A

R95
SSW
> 1
1.229 mi.
6491 ft.

Relative:
Lower

GORDON MACDONALD PHOTOGRAPHY
206 E 4TH AVE
ELLENSBURG, WA 98926

RCRA NonGen / NLR
FINDS
ALLSITES

1001491218
WAR000001479

Click here for full text details

96
SSW
> 1
1.256 mi.
6631 ft.

Relative:
Lower

RYEGRASS LANDFILL
ELLENSBURG, WA

HSL

S105430806
N/A

Click here for full text details

HSL
Facility Status: Cleanup Started
Facility Type: Hazardous Sites List

W97
South
> 1
1.271 mi.
6711 ft.

Relative:
Lower

305 N ANDERSON ST
ELLENSBURG, WA 98926

EDR US Hist Auto Stat

1015407683
N/A

Click here for full text details

98
SW
> 1
1.273 mi.
6723 ft.

Relative:
Lower

COMMON CARRIERS, INC.
1107 CASCADE WAY
ELLENSBURG, WA 98926

ICR

S103506718
N/A

Click here for full text details

W99
South
> 1
1.277 mi.
6744 ft.

Relative:
Lower

ELLENSBURG WATER COMPANY
502 E 3RD AVE
ELLENSBURG, WA 98926

FINDS
ALLSITES
NPDES

1008919152
N/A

Click here for full text details

NPDES
Facility Status: Active

X100
SSW
> 1
1.280 mi.
6757 ft.

Relative:
Lower

KITTITAS RECLAMATION DISTRICT
4TH & WATER ST
ELLENSBURG, WA 98926

ALLSITES **U003026067**
UST **N/A**

Click here for full text details

V101
SSW
> 1
1.286 mi.
6792 ft.

Relative:
Lower

FAIRPOINT COMMUNICATIONS
305 N RUBY
ELLENSBURG, WA 98926

FINDS **1007076515**
ALLSITES **N/A**
UST

Click here for full text details

Y102
SSW
> 1
1.299 mi.
6858 ft.

Relative:
Lower

FAUST & RUDOLPH PARTNERSHIP
301 N PINE ST
ELLENSBURG, WA 98926

ALLSITES **U003604820**
UST **N/A**

Click here for full text details

X103
SSW
> 1
1.302 mi.
6874 ft.

Relative:
Lower

TWIN CITY FOODS ELLENSBURG
501 W 4TH AVE
ELLENSBURG, WA 98926

ALLSITES **S110689342**
SPILLS **N/A**
NPDES

Click here for full text details

NPDES
Facility Status: Active

X104
SSW
> 1
1.302 mi.
6874 ft.

Relative:
Lower

TWIN CITY FOODS ELLENSBURG
501 W 4TH ST
ELLENSBURG, WA 98926

RCRA NonGen / NLR **1000838105**
FINDS **WAD988477428**

Click here for full text details

X105
SSW
> 1
1.302 mi.
6874 ft.

Relative:
Lower

TWIN CITY FOODS ELLENSBURG
501 W 4TH AVE
ELLENSBURG, WA 98926

UST **U001123079**
Financial Assurance **N/A**

Click here for full text details

106
SE
> 1
1.308 mi.
6905 ft.

Relative:
Lower

JOSEPH W MACKNER
2608 JUDGE RONALD RD
ELLENSBURG, WA 98926

ALLSITES
UST

U001127696
N/A

Click here for full text details

Y107
SSW
> 1
1.309 mi.
6913 ft.

Relative:
Lower

GRAND CENTRAL CINEMA
300 N. PEARL ST.
ELLENSBURG, WA 98926

ICR

S104486840
N/A

Click here for full text details

X108
SSW
> 1
1.315 mi.
6944 ft.

Relative:
Lower

319 N MAIN ST
ELLENSBURG, WA 98926

EDR US Hist Auto Stat

1015420580
N/A

Click here for full text details

X109
SSW
> 1
1.320 mi.
6969 ft.

Relative:
Lower

GAYLAN'S SALON
311 N MAIN ST
ELLENSBURG, WA 98926

ALLSITES

S112088232
N/A

Click here for full text details

Z110
SSW
> 1
1.321 mi.
6973 ft.

Relative:
Lower

MIDSTATE COOPERATIVE
705 W 5TH AVE
ELLENSBURG, WA 98926

CSCSL
ALLSITES
LUST
UST
ICR

U001123578
N/A

Click here for full text details

CSCSL
Site Status: Awaiting Cleanup

LUST
Facility Status: Cleanup Started

Z111
SSW
> 1
1.321 mi.
6977 ft.

Relative:
Lower

DEVERE & SONS DISTRIBUTING INC
707 W 5TH
ELLENSBURG, WA 98926

CSCSL
ALLSITES
UST

EDR ID Number: U003029275
EPA ID Number: N/A

Click here for full text details

CSCSL
Site Status: Awaiting Cleanup

AA112
SSW
> 1
1.331 mi.
7027 ft.

Relative:
Lower

ELLENSBURG TELEPHONE CO 3RD AVE
208 W 3RD AVE
ELLENSBURG, WA 98926

ALLSITES
CSCSL NFA
UIC
VCP

EDR ID Number: S104971880
EPA ID Number: N/A

Click here for full text details

UIC
Site Status: Rule-authorized

AA113
SSW
> 1
1.331 mi.
7027 ft.

Relative:
Lower

ELLENSBURG TELEPHONE CO 3RD AVE
208 W 3RD AVE
ELLENSBURG, WA 98926

UST

EDR ID Number: U001127258
EPA ID Number: N/A

Click here for full text details

X114
SSW
> 1
1.338 mi.
7065 ft.

Relative:
Lower

KITTITAS RECLAMATION DIST
315 N WATER ST
ELLENSBURG, WA 98926

ALLSITES
NPDES

EDR ID Number: S112074791
EPA ID Number: N/A

Click here for full text details

NPDES
Facility Status: Active

115
WSW
> 1
1.352 mi.
7139 ft.

Relative:
Lower

OKANOGAN SEATTLE TRANSPORT COMPANY INC
1331 CASCADE WAY
ELLENSBURG, WA 98926

CSCSL
ALLSITES
LUST
UST
ICR
NPDES

EDR ID Number: U001125310
EPA ID Number: N/A

Click here for full text details

CSCSL
Site Status: Awaiting Cleanup

LUST
Facility Status: Cleanup Started
Facility Status: Monitoring

NPDES

OKANOGAN SEATTLE TRANSPORT COMPANY INC (Continued) **U001125310**

Facility Status: Active

116
SE
> 1
1.352 mi.
7139 ft.

Relative: Lower

ERIC WINBORNE
841 COWBOY LANE
ELLENSBURG, WA 98926

FINDS **1008919316**
ALLSITES **N/A**

Click here for full text details

117
ENE
> 1
1.356 mi.
7158 ft.

Relative: Higher

2310 WILSON CREEK RD
ELLENSBURG, WA 98926

EDR US Hist Auto Stat **1015346058**
N/A

Click here for full text details

AB118
SSW
> 1
1.357 mi.
7166 ft.

Relative: Lower

WASTE MANAGEMENT OF ELLENSBURG
607 N. RAILROAD
ELLENSBURG, WA 98926

ICR **S104488067**
N/A

Click here for full text details

AB119
SSW
> 1
1.357 mi.
7166 ft.

Relative: Lower

WASTE MANAGEMENT OF ELLENSBURG
607 RAILROAD AVE
ELLENSBURG, WA 98926

CERC-NFRAP **1003880459**
RCRA-CESQG **WAD980738256**
FINDS
MANIFEST

Click here for full text details

AB120
SSW
> 1
1.357 mi.
7166 ft.

Relative: Lower

WASTE MANAGEMENT
607 N RAILROAD AVE
ELLENSBURG, WA

ALLSITES **1000208453**
CSCSL NFA **N/A**
UIC
SPILLS

Click here for full text details

UIC
Site Status: Grandfathered

AB121
SSW
> 1
1.357 mi.
7166 ft.

Relative:
Lower

WASTE MANAGEMENT OF ELLENSBURG
607 N RAILROAD AVE
ELLENSBURG, WA 98926

Click here for full text details

Database(s): UST
EDR ID Number: U004040871
EPA ID Number: N/A

AC122
WSW
> 1
1.358 mi.
7170 ft.

Relative:
Lower

A 1 PETROLEUM & PROPOANE ELLENSBURG
1243 W UNIVERSITY WAY
ELLENSBURG, WA 98926

Click here for full text details

Database(s): ALLSITES
EDR ID Number: S112209441
EPA ID Number: N/A

AC123
WSW
> 1
1.358 mi.
7170 ft.

Relative:
Lower

A-1 PETROLEUM
1243 CASCADE WAY
ELLENSBURG, WA 98926

Click here for full text details

Database(s): ICR
EDR ID Number: S103511524
EPA ID Number: N/A

124
South
> 1
1.360 mi.
7179 ft.

Relative:
Lower

DR DAVID THACKER
309 E 2ND AVE
ELLENSBURG, WA 98926

Click here for full text details

Database(s): ALLSITES
EDR ID Number: S110039229
EPA ID Number: N/A

Z125
SSW
> 1
1.365 mi.
7206 ft.

Relative:
Lower

PAUTZKE BAIT COMPANY
400 N WENAS
ELLENSBURG, WA 98926

Click here for full text details

Database(s): ALLSITES, UST
EDR ID Number: U000803643
EPA ID Number: N/A

Y126
SSW
> 1
1.366 mi.
7211 ft.

Relative:
Lower

207 N PINE ST
ELLENSBURG, WA 98926

Click here for full text details

Database(s): EDR US Hist Cleaners
EDR ID Number: 1015015657
EPA ID Number: N/A

Y127
SSW
> 1
1.367 mi.
7218 ft.

Relative:
Lower

MODEL KE CLEANERS & COIN LLC
207 N PINE
ELLENSBURG, WA 98926

Click here for full text details

RCRA NonGen / NLR
FINDS
ALLSITES
Inactive Drycleaners

1000659130
WAD988487955

Y128
SSW
> 1
1.370 mi.
7233 ft.

Relative:
Lower

205 E 2ND AVE
ELLENSBURG, WA 98926

Click here for full text details

EDR US Hist Auto Stat

1015312552
N/A

AD129
SSW
> 1
1.373 mi.
7250 ft.

Relative:
Lower

MIDSTATE COOP 417 W 3RD
417 W 3RD
ELLENSBURG, WA 98926

Click here for full text details

ALLSITES
CSCSL NFA
UST
ICR

U003026933
N/A

AD130
SSW
> 1
1.374 mi.
7253 ft.

Relative:
Lower

MIDSTATE COOP 410 W 3RD
410 W 3RD
ELLENSBURG, WA 98926

Click here for full text details

UST

U003604997
N/A

AD131
SSW
> 1
1.374 mi.
7253 ft.

Relative:
Lower

MIDSTATE COOP 410 W 3RD
410 W 3RD
ELLENSBURG, WA 98926

Click here for full text details

ALLSITES
Financial Assurance

S108893309
N/A

AE132
SSW
> 1
1.378 mi.
7274 ft.

Relative:
Lower

PUGET SOUND ENERGY
207 NORTH PEARL
ELLENSBURG, WA 98926

Click here for full text details

SWRCY

S111416145
N/A

AE133
SSW
> 1
1.382 mi.
7297 ft.

Relative:
Lower

ELLENSBURG IRON WKS INC
201 N PEARL ST
ELLENSBURG, WA 98926

Click here for full text details

Database(s): RCRA NonGen / NLR, FINDS, ALLSITES
EDR ID Number: 1000208451
EPA ID Number: WAD009263724

AF134
SW
> 1
1.386 mi.
7317 ft.

Relative:
Lower

CENTRAL WASHINGTON BIODIESEL
1000 N PROSPECT ST STE 1
ELLENSBURG, WA 98926

Click here for full text details

Database(s): ALLSITES
EDR ID Number: S109553415
EPA ID Number: N/A

AA135
SSW
> 1
1.392 mi.
7349 ft.

Relative:
Lower

ELLENSBURG TELEPHONE CO KITTITAS POLE YD
211 N MAIN
KITTITAS, WA 98934

Click here for full text details

Database(s): FINDS, UST
EDR ID Number: 1006976635
EPA ID Number: N/A

AA136
SSW
> 1
1.395 mi.
7368 ft.

Relative:
Lower

205 N MAIN ST
ELLENSBURG, WA 98926

Click here for full text details

Database(s): EDR US Hist Auto Stat
EDR ID Number: 1015312702
EPA ID Number: N/A

AA137
SSW
> 1
1.395 mi.
7368 ft.

Relative:
Lower

D & M MOTORS & TOWING
205 N MAIN
ELLENSBURG, WA 98926

Click here for full text details

Database(s): RCRA-CESQG, FINDS, ALLSITES, MANIFEST
EDR ID Number: 1000838270
EPA ID Number: WAD988510285

AA138
SSW
> 1
1.398 mi.
7384 ft.

Relative:
Lower

CJ WALKER & SON INC
201 N MAIN
ELLENSBURG, WA 98926

Click here for full text details

Database(s): ALLSITES, UST
EDR ID Number: U000799999
EPA ID Number: N/A

AA139
SSW
> 1
1.399 mi.
7388 ft.

Relative:
Lower

BIG Z KARDGUAND SYSTEM
2ND MAIN
ELLENSBURG, WA 98926

Click here for full text details

Database(s): **UST**
EDR ID Number: **U001124067**
EPA ID Number: **N/A**

AA140
SSW
> 1
1.404 mi.
7414 ft.

Relative:
Lower

UPS ELLENSBURG
215 N WATER ST
ELLENSBURG, WA 98926

Click here for full text details

Database(s): **FINDS, ALLSITES, MANIFEST**
EDR ID Number: **1004793247**
EPA ID Number: **N/A**

141
SSW
> 1
1.409 mi.
7440 ft.

Relative:
Lower

WILBUR ELLIS COMPANY ELLENSBURG
312 WENAS ST
ELLENSBURG, WA 98926

Click here for full text details

Database(s): **ALLSITES**
EDR ID Number: **S110038892**
EPA ID Number: **N/A**

AF142
SW
> 1
1.409 mi.
7442 ft.

Relative:
Lower

MIDSTATE CO OP PROPANE DIV PROSPECT ST
905 N PROSPECT ST
ELLENSBURG, WA 98926

Click here for full text details

Database(s): **ALLSITES**
EDR ID Number: **S112209422**
EPA ID Number: **N/A**

143
South
> 1
1.416 mi.
7475 ft.

Relative:
Lower

MAINTENANCE SHOP OF ELLENSBURG
1ST & SAMPSON
ELLENSBURG, WA 98926

Click here for full text details

Database(s): **FINDS, ALLSITES, UST**
EDR ID Number: **1007075548**
EPA ID Number: **N/A**

AG144
SW
> 1
1.422 mi.
7506 ft.

Relative:
Lower

WA DOT ELLENSBURG MAINTENANCE SITE
749 CASCADE WAY
ELLENSBURG, WA 98926

Click here for full text details

Database(s): **RCRA NonGen / NLR, FINDS**
EDR ID Number: **1000394539**
EPA ID Number: **WAD988467817**

AG145
SW
> 1
1.422 mi.
7506 ft.

Relative:
Lower

WA DOT ELLENSBURG MAINTENANCE SITE
749 UNIVERSITY WY
ELLENSBURG, WA 98926

Click here for full text details

LUST
Facility Status: Awaiting Cleanup

Database(s): LUST, UST
EDR ID Number: U001127125
EPA ID Number: N/A

AG146
SW
> 1
1.422 mi.
7506 ft.

Relative:
Lower

WA AGR KITTITAS 2
749A CASCADE WAY
ELLENSBURG, WA 98926

Click here for full text details

Database(s): RCRA NonGen / NLR, FINDS, ALLSITES, MANIFEST
EDR ID Number: 1001600599
EPA ID Number: WAH000008342

AD147
SSW
> 1
1.430 mi.
7550 ft.

Relative:
Lower

208 N KITTITAS ST
ELLENSBURG, WA 98926

Click here for full text details

Database(s): EDR US Hist Auto Stat
EDR ID Number: 1015316291
EPA ID Number: N/A

AF148
SW
> 1
1.435 mi.
7575 ft.

Relative:
Lower

807 N PROSPECT ST
ELLENSBURG, WA 98926

Click here for full text details

Database(s): EDR US Hist Auto Stat
EDR ID Number: 1015641938
EPA ID Number: N/A

AF149
SW
> 1
1.435 mi.
7575 ft.

Relative:
Lower

807 PROSPECT ST
ELLENSBURG, WA 98926

Click here for full text details

Database(s): EDR US Hist Auto Stat
EDR ID Number: 1015641865
EPA ID Number: N/A

AF150
SW
> 1
1.436 mi.
7581 ft.

Relative:
Lower

801 N PROSPECT ST
ELLENSBURG, WA 98926

Click here for full text details

Database(s): EDR US Hist Auto Stat
EDR ID Number: 1015639028
EPA ID Number: N/A

AF151
SW
> 1
1.436 mi.
7581 ft.

Relative:
Lower

801 PROSPECT ST
ELLENSBURG, WA 98926

Click here for full text details

Database(s): EDR US Hist Auto Stat
EDR ID Number: 1015638781
EPA ID Number: N/A

152
SSW
> 1
1.448 mi.
7648 ft.

Relative:
Lower

WILBER PROPERTY
104 S PINE ST
ELLENSBURG, WA 98926

Click here for full text details

Database(s): FINDS, ALLSITES
EDR ID Number: 1008906594
EPA ID Number: N/A

AE153
SSW
> 1
1.450 mi.
7655 ft.

Relative:
Lower

ELLENSBURG FIRE DEPARTMENT
102 N PEARL ST
ELLENSBURG, WA 98926

Click here for full text details

Database(s): ALLSITES, CSCSL NFA, UST
EDR ID Number: U001123316
EPA ID Number: N/A

AE154
SSW
> 1
1.450 mi.
7655 ft.

Relative:
Lower

ELLENSBURG FIRE DEPARTMENT
102 N. PEARL
ELLENSBURG, WA 98926

Click here for full text details

Database(s): ICR
EDR ID Number: S104486439
EPA ID Number: N/A

AH155
WSW
> 1
1.455 mi.
7681 ft.

Relative:
Lower

MATHEUS LUMBER
1433 W UNIVERSITY WAY
ELLENSBURG, WA 98926

Click here for full text details

Database(s): ALLSITES
EDR ID Number: S112209376
EPA ID Number: N/A

AD156
SSW
> 1
1.458 mi.
7696 ft.

Relative:
Lower

SUPERIOR PACKING CO INC
201 N WENAS ST
ELLENSBURG, WA 98926

Click here for full text details

Database(s): RCRA NonGen / NLR, FINDS
EDR ID Number: 1001491212
EPA ID Number: WAR000000380

AD157
SSW
> 1
1.458 mi.
7696 ft.

Relative:
Lower

WASTE MANAGEMENT ELLENSBURG
201 N WENAS ST
ELLENSBURG, WA 98926

ALLSITES
SWF/LF

S108108287
N/A

Click here for full text details

AI158
SSW
> 1
1.459 mi.
7704 ft.

Relative:
Lower

112 N MAIN ST
ELLENSBURG, WA 98926

EDR US Hist Auto Stat

1015160481
N/A

Click here for full text details

AI159
SSW
> 1
1.462 mi.
7722 ft.

Relative:
Lower

107 N MAIN ST
ELLENSBURG, WA 98926

EDR US Hist Auto Stat

1015144268
N/A

Click here for full text details

AI160
SSW
> 1
1.462 mi.
7722 ft.

Relative:
Lower

WHITEMAN TIRE INC
107 N MAIN ST
ELLENSBURG, WA 98926

CSCSL
ALLSITES
LUST
UST
ICR

U000595217
N/A

Click here for full text details

CSCSL
Site Status: Awaiting Cleanup

LUST
Facility Status: Awaiting Cleanup

AH161
WSW
> 1
1.463 mi.
7727 ft.

Relative:
Lower

1441 W UNIVERSITY WAY
ELLENSBURG, WA 98926

EDR US Hist Auto Stat

1015229021
N/A

Click here for full text details

AH162
WSW
> 1
1.466 mi.
7738 ft.

Relative:
Lower

1442 CASCADE WAY
ELLENSBURG, WA 98926

Click here for full text details

EDR US Hist Auto Stat

1015229089
N/A

AI163
SSW
> 1
1.470 mi.
7764 ft.

Relative:
Lower

101 S MAIN ST
ELLENSBURG, WA 98926

Click here for full text details

EDR US Hist Auto Stat

1015125624
N/A

164
SSW
> 1
1.471 mi.
7765 ft.

Relative:
Lower

RODEO CITY RECYCLING & SALVAGE
320 N RAILROAD AVE
ELLENSBURG, WA 98926

Click here for full text details

NPDES
Facility Status: Active

ALLSITES
SWRCY
NPDES

S108108234
N/A

AI165
SSW
> 1
1.474 mi.
7781 ft.

Relative:
Lower

105 S MAIN ST
ELLENSBURG, WA 98926

Click here for full text details

EDR US Hist Auto Stat

1015139512
N/A

AI166
SSW
> 1
1.476 mi.
7794 ft.

Relative:
Lower

DANNY THOMAS INC
108 S MAIN
ELLENSBURG, WA 98926

Click here for full text details

ALLSITES
UST

U003028932
N/A

AI167
SSW
> 1
1.477 mi.
7797 ft.

Relative:
Lower

CASCADE PALLET CO
109 N WATER ST
ELLENSBURG, WA 98926

Click here for full text details

CSCSL
Site Status: Awaiting Cleanup

CSCSL
ALLSITES

S110038199
N/A

Map ID / Direction / Distance / Elevation	Site	Database(s)	EDR ID Number / EPA ID Number
168 **ESE** **> 1** **1.484 mi.** **7833 ft.** **Relative: Higher**	**251 CURLEW RD** **251 CURLEW RD** **ELLENSBURG, WA 98926** **Click here for full text details**	**FINDS** **ALLSITES**	**1011279645** **N/A**
AJ169 **SW** **> 1** **1.485 mi.** **7841 ft.** **Relative: Lower**	**US DOE BPA ELLENSBURG TLM HQ** **1306 W DOLARWAY RD** **ELLENSBURG, WA 99201** **Click here for full text details**	**RCRA NonGen / NLR** **FINDS**	**1004793325** **WA9891400153**
AJ170 **SW** **> 1** **1.485 mi.** **7841 ft.** **Relative: Lower**	**DIRECTV NORTHWEST DIVERSE FAC** **1306 W DOLARWAY RD** **ELLENSBURG, WA 98926** **Click here for full text details**	**ALLSITES**	**S109555482** **N/A**
171 **South** **> 1** **1.496 mi.** **7901 ft.** **Relative: Lower**	**ASHLEY HARRIS PROPERTY** **202 S ANDERSON ST** **ELLENSBURG, WA 98926** **Click here for full text details**	**ALLSITES**	**S110625567** **N/A**

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

St	Acronym	Full Name	Government Agency	Gov Date	Arvl. Date	Active Date
WA	AIRS (EMI)	Washington Emissions Data System	Department of Ecology	12/31/2010	01/12/2012	02/29/2012
WA	ALLSITES	Facility/Site Identification System Listing	Department of Ecology	11/06/2012	12/04/2012	12/10/2012
WA	AST	Aboveground Storage Tank Locations	Department of Ecology	05/14/2012	05/15/2012	06/05/2012
WA	BROWNFIELDS	Brownfields Sites Listing	Department of Ecology	10/23/2012	10/25/2012	11/21/2012
WA	CDL	Clandestine Drug Lab Contaminated Site List	Department of Health	02/09/2009	03/18/2009	03/24/2009
WA	COAL ASH	Coal Ash Disposal Site Listing	Department of Ecology	06/29/2009	07/02/2009	07/08/2009
WA	CSCSL	Confirmed and Suspected Contaminated Sites List	Department of Ecology	10/23/2012	10/25/2012	11/21/2012
WA	CSCSL NFA	Confirmed and Contaminated Sites - No Further Action	Department of Ecology	10/23/2012	10/25/2012	11/21/2012
WA	DRYCLEANERS	Drycleaner List	Department of Ecology	12/31/2011	04/27/2012	06/05/2012
WA	Financial Assurance 1	Financial Assurance Information Listing	Department of Ecology	02/24/2012	02/24/2012	03/27/2012
WA	Financial Assurance 2	Financial Assurance Information Listing	Department of Ecology	05/23/2011	05/26/2011	06/27/2011
WA	Financial Assurance 3	Financial Assurance Information Listing	Department of Ecology	02/01/2001	03/06/2007	04/19/2007
WA	HIST CDL	List of Sites Contaminated by Clandestine Drug Labs	Department of Health	02/08/2007	06/26/2007	07/19/2007
WA	HSL	Hazardous Sites List	Department of Ecology	08/23/2012	09/13/2012	10/17/2012
WA	ICR	Independent Cleanup Reports	Department of Ecology	12/01/2002	01/03/2003	01/22/2003
WA	INACTIVE DRYCLEANERS	Inactive Drycleaners	Department of Ecology	12/31/2011	04/27/2012	06/05/2012
WA	INST CONTROL	Institutional Control Site List	Department of Ecology	11/13/2012	11/15/2012	11/21/2012
WA	LUST	Leaking Underground Storage Tanks Site List	Department of Ecology	08/20/2012	08/23/2012	09/19/2012
WA	NPDES	Water Quality Permit System Data	Department of Ecology	10/23/2012	10/25/2012	11/27/2012
WA	SPILLS	Reported Spills	Department of Ecology	09/24/2012	09/26/2012	10/17/2012
WA	SWF/LF	Solid Waste Facility Database	Department of Ecology	09/06/2012	09/13/2012	10/18/2012
WA	SWRCY	Recycling Facility List	Department of Ecology	08/01/2012	08/03/2012	09/26/2012
WA	SWTIRE	Solid Waste Tire Facilities	Department of Ecology	11/01/2005	03/16/2006	04/13/2006
WA	UIC	Underground Injection Wells Listing	Department of Ecology	08/20/2012	08/24/2012	09/19/2012
WA	UST	Underground Storage Tank Database	Department of Ecology	08/20/2012	08/23/2012	09/19/2012
WA	VCP	Voluntary Cleanup Program Sites	Department of Ecology	10/23/2012	10/26/2012	11/21/2012
WA	WA MANIFEST	Hazardous Waste Manifest Data	Department of Ecology	12/31/2011	04/27/2012	06/05/2012
US	2020 COR ACTION	2020 Corrective Action Program List	Environmental Protection Agency	11/11/2011	05/18/2012	05/25/2012
US	BRS	Biennial Reporting System	EPA/NTIS	12/31/2009	03/01/2011	05/02/2011
US	CERCLIS	Comprehensive Environmental Response, Compensation, and Liab	EPA	11/02/2012	11/28/2012	01/07/2013
US	CERCLIS-NFRAP	CERCLIS No Further Remedial Action Planned	EPA	11/02/2012	11/28/2012	01/07/2013
US	COAL ASH DOE	Sleam-Electric Plan Operation Data	Department of Energy	12/31/2005	08/07/2009	10/22/2009
US	COAL ASH EPA	Coal Combustion Residues Surface Impoundments List	Environmental Protection Agency	08/17/2010	01/03/2011	03/21/2011
US	CONSENT	Superfund (CERCLA) Consent Decrees	Department of Justice, Consent Decree Library	10/01/2012	10/19/2012	12/20/2012
US	CORRACTS	Corrective Action Report	EPA	08/19/2011	08/31/2011	01/10/2012
US	DEBRIS REGION 9	Torres Martinez Reservation Illegal Dump Site Locations	EPA, Region 9	01/12/2009	05/07/2009	09/21/2009
US	DELISTED NPL	National Priority List Deletions	EPA	10/01/2012	10/11/2012	12/20/2012
US	DOD	Department of Defense Sites	USGS	12/31/2005	11/10/2006	01/11/2007
US	DOT OPS	Incident and Accident Data	Department of Transporation, Office of Pipeli	07/31/2012	08/07/2012	09/18/2012
US	EDR MGP	EDR Proprietary Manufactured Gas Plants	EDR, Inc.			
US	EDR US Hist Auto Stat	EDR Exclusive Historic Gas Stations	EDR, Inc.			
US	EDR US Hist Auto Stat	EDR Proprietary Historic Gas Stations - Cole				
US	EDR US Hist Cleaners	EDR Proprietary Historic Dry Cleaners - Cole				
US	EDR US Hist Cleaners	EDR Exclusive Historic Dry Cleaners	EDR, Inc.			
US	EPA WATCH LIST	EPA WATCH LIST	Environmental Protection Agency	07/31/2012	08/13/2012	09/18/2012
US	ERNS	Emergency Response Notification System	National Response Center, United States Coast	04/02/2012	04/03/2012	06/14/2012
US	FEDERAL FACILITY	Federal Facility Site Information listing	Environmental Protection Agency	07/31/2012	10/09/2012	12/20/2012

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

St	Acronym	Full Name	Government Agency	Gov Date	Arvl. Date	Active Date
US	FEDLAND	Federal and Indian Lands	U.S. Geological Survey	12/31/2005	02/06/2006	01/11/2007
US	FEMA UST	Underground Storage Tank Listing	FEMA	01/01/2010	02/16/2010	04/12/2010
US	FINDS	Facility Index System/Facility Registry System	EPA	10/23/2011	12/13/2011	03/01/2012
US	FTTS	FIFRA/ TSCA Tracking System - FIFRA (Federal Insecticide, Fu	EPA/Office of Prevention, Pesticides and Toxi	04/09/2009	04/16/2009	05/11/2009
US	FTTS INSP	FIFRA/ TSCA Tracking System - FIFRA (Federal Insecticide, Fu	EPA	04/09/2009	04/16/2009	05/11/2009
US	FUDS	Formerly Used Defense Sites	U.S. Army Corps of Engineers	12/31/2009	08/12/2010	12/02/2010
US	HIST FTTS	FIFRA/TSCA Tracking System Administrative Case Listing	Environmental Protection Agency	10/19/2006	03/01/2007	04/10/2007
US	HIST FTTS INSP	FIFRA/TSCA Tracking System Inspection & Enforcement Case Lis	Environmental Protection Agency	10/19/2006	03/01/2007	04/10/2007
US	HMIRS	Hazardous Materials Information Reporting System	U.S. Department of Transportation	04/01/2012	04/03/2012	06/14/2012
US	ICIS	Integrated Compliance Information System	Environmental Protection Agency	07/20/2011	11/10/2011	01/10/2012
US	INDIAN LUST R1	Leaking Underground Storage Tanks on Indian Land	EPA Region 1	04/12/2012	05/09/2012	07/10/2012
US	INDIAN LUST R10	Leaking Underground Storage Tanks on Indian Land	EPA Region 10	08/01/2012	08/02/2012	10/16/2012
US	INDIAN LUST R4	Leaking Underground Storage Tanks on Indian Land	EPA Region 4	12/14/2011	12/15/2011	01/10/2012
US	INDIAN LUST R6	Leaking Underground Storage Tanks on Indian Land	EPA Region 6	09/12/2011	09/13/2011	11/11/2011
US	INDIAN LUST R7	Leaking Underground Storage Tanks on Indian Land	EPA Region 7	08/17/2012	08/28/2012	10/16/2012
US	INDIAN LUST R8	Leaking Underground Storage Tanks on Indian Land	EPA Region 8	08/27/2012	08/28/2012	10/16/2012
US	INDIAN LUST R9	Leaking Underground Storage Tanks on Indian Land	Environmental Protection Agency	09/06/2012	09/07/2012	10/16/2012
US	INDIAN RESERV	Indian Reservations	USGS	12/31/2005	12/08/2006	01/11/2007
US	INDIAN UST R1	Underground Storage Tanks on Indian Land	EPA, Region 1	04/12/2012	05/02/2012	07/16/2012
US	INDIAN UST R10	Underground Storage Tanks on Indian Land	EPA Region 10	08/01/2012	08/02/2012	10/16/2012
US	INDIAN UST R4	Underground Storage Tanks on Indian Land	EPA Region 4	12/14/2011	12/15/2011	01/10/2012
US	INDIAN UST R5	Underground Storage Tanks on Indian Land	EPA Region 5	08/02/2012	08/03/2012	11/05/2012
US	INDIAN UST R6	Underground Storage Tanks on Indian Land	EPA Region 6	05/10/2011	05/11/2011	06/14/2011
US	INDIAN UST R7	Underground Storage Tanks on Indian Land	EPA Region 7	08/17/2012	08/28/2012	10/16/2012
US	INDIAN UST R8	Underground Storage Tanks on Indian Land	EPA Region 8	08/27/2012	08/28/2012	10/16/2012
US	INDIAN UST R9	Underground Storage Tanks on Indian Land	EPA Region 9	09/06/2012	09/07/2012	10/16/2012
US	INDIAN VCP R1	Voluntary Cleanup Priority Listing	EPA, Region 1	09/28/2012	10/02/2012	10/16/2012
US	INDIAN VCP R7	Voluntary Cleanup Priority Lisitng	EPA, Region 7	03/20/2008	04/22/2008	05/19/2008
US	LIENS 2	CERCLA Lien Information	Environmental Protection Agency	02/16/2012	03/26/2012	06/14/2012
US	LUCIS	Land Use Control Information System	Department of the Navy	12/09/2005	12/11/2006	01/11/2007
US	MINES	Mines Master Index File	Department of Labor, Mine Safety and Health A	08/18/2011	09/08/2011	09/29/2011
US	MLTS	Material Licensing Tracking System	Nuclear Regulatory Commission	06/21/2011	07/15/2011	09/13/2011
US	NPL	National Priority List	EPA	10/01/2012	10/11/2012	12/20/2012
US	NPL LIENS	Federal Superfund Liens	EPA	10/15/1991	02/02/1994	03/30/1994
US	ODI	Open Dump Inventory	Environmental Protection Agency	06/30/1985	08/09/2004	09/17/2004
US	PADS	PCB Activity Database System	EPA	11/01/2010	11/10/2010	02/16/2011
US	PCB TRANSFORMER	PCB Transformer Registration Database	Environmental Protection Agency	02/01/2011	10/19/2011	01/10/2012
US	PRP	Potentially Responsible Parties	EPA	10/01/2012	10/04/2012	11/05/2012
US	Proposed NPL	Proposed National Priority List Sites	EPA	10/01/2012	10/11/2012	12/20/2012
US	RAATS	RCRA Administrative Action Tracking System	EPA	04/17/1995	07/03/1995	08/07/1995
US	RADINFO	Radiation Information Database	Environmental Protection Agency	10/02/2012	10/02/2012	11/05/2012
US	RCRA NonGen / NLR	RCRA - Non Generators	Environmental Protection Agency	09/11/2012	10/04/2012	12/04/2012
US	RCRA-CESQG	RCRA - Conditionally Exempt Small Quantity Generators	Environmental Protection Agency	09/11/2012	10/04/2012	12/04/2012
US	RCRA-LQG	RCRA - Large Quantity Generators	Environmental Protection Agency	09/11/2012	10/04/2012	12/04/2012
US	RCRA-SQG	RCRA - Small Quantity Generators	Environmental Protection Agency	09/11/2012	10/04/2012	12/04/2012
US	RCRA-TSDF	RCRA - Treatment, Storage and Disposal	Environmental Protection Agency	09/11/2012	10/04/2012	12/04/2012
US	RMP	Risk Management Plans	Environmental Protection Agency	05/08/2012	05/25/2012	07/10/2012

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

St	Acronym	Full Name	Government Agency	Gov Date	Arvl. Date	Active Date
US	ROD	Records Of Decision	EPA	02/27/2012	03/14/2012	06/14/2012
US	SCRD DRYCLEANERS	State Coalition for Remediation of Drycleaners Listing	Environmental Protection Agency	03/07/2011	03/09/2011	05/02/2011
US	SSTS	Section 7 Tracking Systems	EPA	12/31/2009	12/10/2010	02/25/2011
US	TRIS	Toxic Chemical Release Inventory System	EPA	12/31/2009	09/01/2011	01/10/2012
US	TSCA	Toxic Substances Control Act	EPA	12/31/2006	09/29/2010	12/02/2010
US	UMTRA	Uranium Mill Tailings Sites	Department of Energy	09/14/2010	10/07/2011	03/01/2012
US	US AIRS (AFS)	Aerometric Information Retrieval System Facility Subsystem (	EPA	01/18/2012	01/27/2012	03/01/2012
US	US AIRS MINOR	Air Facility System Data	EPA	01/18/2012	01/27/2012	03/01/2012
US	US BROWNFIELDS	A Listing of Brownfields Sites	Environmental Protection Agency	12/10/2012	12/11/2012	12/20/2012
US	US CDL	Clandestine Drug Labs	Drug Enforcement Administration	07/11/2012	09/12/2012	11/05/2012
US	US ENG CONTROLS	Engineering Controls Sites List	Environmental Protection Agency	07/18/2012	07/24/2012	11/05/2012
US	US FIN ASSUR	Financial Assurance Information	Environmental Protection Agency	08/20/2012	08/28/2012	11/05/2012
US	US HIST CDL	National Clandestine Laboratory Register	Drug Enforcement Administration	09/01/2007	11/19/2008	03/30/2009
US	US INST CONTROL	Sites with Institutional Controls	Environmental Protection Agency	07/18/2012	07/24/2012	11/05/2012
CT	CT MANIFEST	Hazardous Waste Manifest Data	Department of Energy & Environmental Protecti	11/19/2012	11/19/2012	01/03/2013
NY	NY MANIFEST	Facility and Manifest Data	Department of Environmental Conservation	11/01/2012	11/07/2012	12/11/2012
PA	PA MANIFEST	Manifest Information	Department of Environmental Protection	12/31/2011	07/23/2012	09/18/2012
WI	WI MANIFEST	Manifest Information	Department of Natural Resources	12/31/2011	07/19/2012	09/27/2012
US	Oil/Gas Pipelines	GeoData Digital Line Graphs from 1:100,000-Scale Maps	USGS			
US	Electric Power Lines	Electric Power Transmission Line Data	Rextag Strategies Corp.			
US	AHA Hospitals	Sensitive Receptor: AHA Hospitals	American Hospital Association, Inc.			
US	Medical Centers	Sensitive Receptor: Medical Centers	Centers for Medicare & Medicaid Services			
US	Nursing Homes	Sensitive Receptor: Nursing Homes	National Institutes of Health			
US	Public Schools	Sensitive Receptor: Public Schools	National Center for Education Statistics			
US	Private Schools	Sensitive Receptor: Private Schools	National Center for Education Statistics			
WA	Daycare Centers	Sensitive Receptor: Daycare Center Listing	Department of Social & Health Services			
US	Flood Zones	100-year and 500-year flood zones	Emergency Management Agency (FEMA)			
US	NWI	National Wetlands Inventory	U.S. Fish and Wildlife Service			
US	USGS 7.5' Topographic Map	Scanned Digital USGS 7.5' Topographic Map (DRG)	USGS			

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

St	Acronym	Full Name	Government Agency	Gov Date	Arvl. Date	Active Date

STREET AND ADDRESS INFORMATION

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GEOCHECK ®- PHYSICAL SETTING SOURCE ADDENDUM

TARGET PROPERTY ADDRESS

AIRPORT, RODEO, MEMORIAL, MT. STEWART, KIWANIS
11 BOWERS RD
ELLENSBURG, WA 98926

TARGET PROPERTY COORDINATES

Latitude (North):	47.023 - 47° 1' 22.80''
Longitude (West):	120.536 - 120° 32' 9.60''
Universal Tranverse Mercator:	Zone 10
UTM X (Meters):	687248.4
UTM Y (Meters):	5210448.0
Elevation:	1688 ft. above sea level

USGS TOPOGRAPHIC MAP

Target Property Map:	47120-A5 ELLENSBURG NORTH, WA
Most Recent Revision:	1978

EDR's GeoCheck Physical Setting Source Addendum is provided to assist the environmental professional in forming an opinion about the impact of potential contaminant migration.

Assessment of the impact of contaminant migration generally has two principal investigative components:

1. Groundwater flow direction, and
2. Groundwater flow velocity.

Groundwater flow direction may be impacted by surface topography, hydrology, hydrogeology, characteristics of the soil, and nearby wells. Groundwater flow velocity is generally impacted by the nature of the geologic strata.

GEOCHECK® - PHYSICAL SETTING SOURCE SUMMARY

GROUNDWATER FLOW DIRECTION INFORMATION

Groundwater flow direction for a particular site is best determined by a qualified environmental professional using site-specific well data. If such data is not reasonably ascertainable, it may be necessary to rely on other sources of information, such as surface topographic information, hydrologic information, hydrogeologic data collected on nearby properties, and regional groundwater flow information (from deep aquifers).

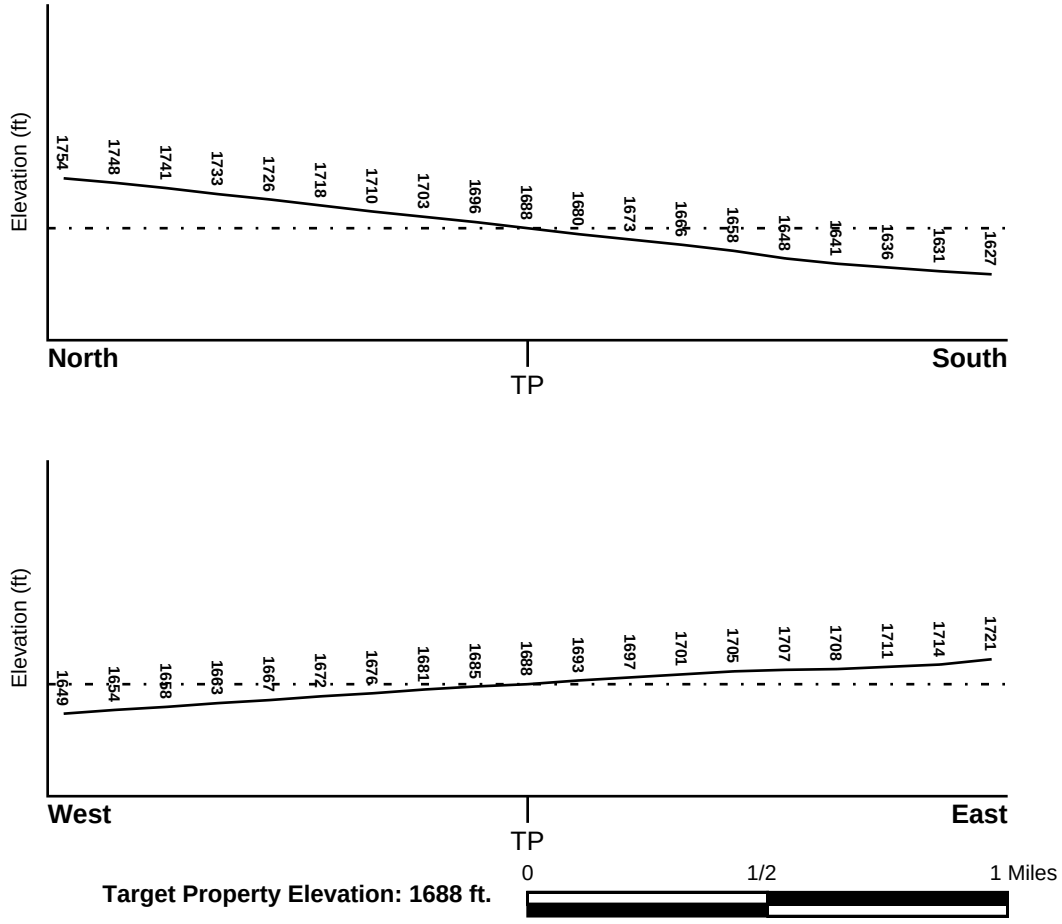
TOPOGRAPHIC INFORMATION

Surface topography may be indicative of the direction of surficial groundwater flow. This information can be used to assist the environmental professional in forming an opinion about the impact of nearby contaminated properties or, should contamination exist on the target property, what downgradient sites might be impacted.

TARGET PROPERTY TOPOGRAPHY

General Topographic Gradient: General SSW

SURROUNDING TOPOGRAPHY: ELEVATION PROFILES



Source: Topography has been determined from the USGS 7.5' Digital Elevation Model and should be evaluated on a relative (not an absolute) basis. Relative elevation information between sites of close proximity should be field verified.

GEOCHECK® - PHYSICAL SETTING SOURCE SUMMARY

HYDROLOGIC INFORMATION

Surface water can act as a hydrologic barrier to groundwater flow. Such hydrologic information can be used to assist the environmental professional in forming an opinion about the impact of nearby contaminated properties or, should contamination exist on the target property, what downgradient sites might be impacted.

Refer to the Physical Setting Source Map following this summary for hydrologic information (major waterways and bodies of water).

FEMA FLOOD ZONE

Target Property County	FEMA Flood Electronic Data
KITTITAS, WA	YES - refer to the Overview Map and Detail Map

Flood Plain Panel at Target Property:	5300950439B - FEMA Q3 Flood data
Additional Panels in search area:	5300950441B - FEMA Q3 Flood data 5300950437B - FEMA Q3 Flood data 5300950443B - FEMA Q3 Flood data 5302340002C - FEMA Q3 Flood data

NATIONAL WETLAND INVENTORY

NWI Quad at Target Property	NWI Electronic Data Coverage
ELLENSBURG NORTH	YES - refer to the Overview Map and Detail Map

HYDROGEOLOGIC INFORMATION

Hydrogeologic information obtained by installation of wells on a specific site can often be an indicator of groundwater flow direction in the immediate area. Such hydrogeologic information can be used to assist the environmental professional in forming an opinion about the impact of nearby contaminated properties or, should contamination exist on the target property, what downgradient sites might be impacted.

Site-Specific Hydrogeological Data*:

Search Radius:	1.25 miles
Status:	Not found

AQUIFLOW®

Search Radius: 1.000 Mile.

EDR has developed the AQUIFLOW Information System to provide data on the general direction of groundwater flow at specific points. EDR has reviewed reports submitted by environmental professionals to regulatory authorities at select sites and has extracted the date of the report, groundwater flow direction as determined hydrogeologically, and the depth to water table.

MAP ID	LOCATION FROM TP	GENERAL DIRECTION GROUNDWATER FLOW
Not Reported		

* ©1996 Site−specific hydrogeological data gathered by CERCLIS Alerts, Inc., Bainbridge Island, WA. All rights reserved. All of the information and opinions presented are those of the cited EPA report(s), which were completed under a Comprehensive Environmental Response Compensation and Liability Information System (CERCLIS) investigation.

GEOCHECK® - PHYSICAL SETTING SOURCE SUMMARY

GROUNDWATER FLOW VELOCITY INFORMATION

Groundwater flow velocity information for a particular site is best determined by a qualified environmental professional using site specific geologic and soil strata data. If such data are not reasonably ascertainable, it may be necessary to rely on other sources of information, including geologic age identification, rock stratigraphic unit and soil characteristics data collected on nearby properties and regional soil information. In general, contaminant plumes move more quickly through sandy-gravelly types of soils than silty-clayey types of soils.

GEOLOGIC INFORMATION IN GENERAL AREA OF TARGET PROPERTY

Geologic information can be used by the environmental professional in forming an opinion about the relative speed at which contaminant migration may be occurring.

ROCK STRATIGRAPHIC UNIT

Era:	Cenozoic
System:	Quaternary
Series:	Quaternary
Code:	Q *(decoded above as Era, System & Series)*

GEOLOGIC AGE IDENTIFICATION

Category: Stratifed Sequence

Geologic Age and Rock Stratigraphic Unit Source: P.G. Schruben, R.E. Arndt and W.J. Bawiec, Geology of the Conterminous U.S. at 1:2,500,000 Scale - a digital representation of the 1974 P.B. King and H.M. Beikman Map, USGS Digital Data Series DDS - 11 (1994).

DOMINANT SOIL COMPOSITION IN GENERAL AREA OF TARGET PROPERTY

The U.S. Department of Agriculture's (USDA) Soil Conservation Service (SCS) leads the National Cooperative Soil Survey (NCSS) and is responsible for collecting, storing, maintaining and distributing soil survey information for privately owned lands in the United States. A soil map in a soil survey is a representation of soil patterns in a landscape. Soil maps for STATSGO are compiled by generalizing more detailed (SSURGO) soil survey maps. The following information is based on Soil Conservation Service STATSGO data.

Soil Component Name:	BRICKMILL
Soil Surface Texture:	very cobbly - loam
Hydrologic Group:	Class C - Slow infiltration rates. Soils with layers impeding downward movement of water, or soils with moderately fine or fine textures.
Soil Drainage Class:	Well drained. Soils have intermediate water holding capacity. Depth to water table is more than 6 feet.

Hydric Status: Soil does not meet the requirements for a hydric soil.

Corrosion Potential - Uncoated Steel:	HIGH
Depth to Bedrock Min:	> 60 inches
Depth to Bedrock Max:	> 60 inches

GEOCHECK® - PHYSICAL SETTING SOURCE SUMMARY

Soil Layer Information							
	Boundary			Classification			
Layer	Upper	Lower	Soil Texture Class	AASHTO Group	Unified Soil	Permeability Rate (in/hr)	Soil Reaction (pH)
1	0 inches	8 inches	very cobbly - loam	Granular materials (35 pct. or less passing No. 200), Silty, or Clayey Gravel and Sand.	COARSE-GRAINED SOILS, Gravels, Gravels with fines, Clayey Gravel	Max: 2.00 Min: 0.60	Max: 7.30 Min: 6.10
2	8 inches	19 inches	extremely gravelly - sandy loam	Granular materials (35 pct. or less passing No. 200), Silty, or Clayey Gravel and Sand.	COARSE-GRAINED SOILS, Gravels, Gravels with fines, Clayey Gravel	Max: 2.00 Min: 0.60	Max: 7.80 Min: 6.60
3	19 inches	41 inches	extremely gravelly - sandy clay loam	Granular materials (35 pct. or less passing No. 200), Silty, or Clayey Gravel and Sand.	COARSE-GRAINED SOILS, Gravels, Gravels with fines, Clayey Gravel	Max: 2.00 Min: 0.60	Max: 7.80 Min: 7.40
4	41 inches	60 inches	extremely gravelly - sand	Granular materials (35 pct. or less passing No. 200), Stone Fragments, Gravel and Sand.	COARSE-GRAINED SOILS, Gravels, Clean gravels, Poorly Graded Gravel.	Max: 20.00 Min: 6.00	Max: 8.40 Min: 7.40

OTHER SOIL TYPES IN AREA

Based on Soil Conservation Service STATSGO data, the following additional subordinant soil types may appear within the general area of target property.

Soil Surface Textures: silt loam
gravelly - loam
loam
cobbly - loam

Surficial Soil Types: silt loam
gravelly - loam
loam
cobbly - loam

Shallow Soil Types: silt loam
silty clay loam
sandy clay loam
loam
clay

Deeper Soil Types: loamy sand

extremely gravelly - loamy sand
extremely gravelly - sandy clay loam
indurated

LOCAL / REGIONAL WATER AGENCY RECORDS

EDR Local/Regional Water Agency records provide water well information to assist the environmental professional in assessing sources that may impact ground water flow direction, and in forming an opinion about the impact of contaminant migration on nearby drinking water wells.

WELL SEARCH DISTANCE INFORMATION

DATABASE	SEARCH DISTANCE (miles)
Federal USGS	3.000
Federal FRDS PWS	Nearest PWS within 3.000 miles
State Database	3.000

FEDERAL USGS WELL INFORMATION

MAP ID	WELL ID	LOCATION FROM TP
A3	USGS3219451	1/4 - 1/2 Mile North
B6	USGS3219450	1/4 - 1/2 Mile NE
7	USGS3219434	1/4 - 1/2 Mile WSW
11	USGS3219443	1/2 - 1 Mile West
12	USGS3219436	1/2 - 1 Mile East
D13	USGS3219406	1/2 - 1 Mile SSE
15	USGS3219438	1 - 2 Miles West
17	USGS3219426	1 - 2 Miles WSW
18	USGS3219394	1 - 2 Miles SSW
19	USGS3219449	1 - 2 Miles WNW
20	USGS3219411	1 - 2 Miles ESE
21	USGS3219397	1 - 2 Miles SW
E23	USGS3209267	1 - 2 Miles SSW
F26	USGS3219396	1 - 2 Miles SW
27	USGS3209256	1 - 2 Miles SSW
30	USGS3219323	1 - 2 Miles North
G31	USGS3209246	1 - 2 Miles South
H33	USGS3209249	1 - 2 Miles South
34	USGS3219407	1 - 2 Miles WSW
36	USGS3209254	1 - 2 Miles SSE
37	USGS3219331	1 - 2 Miles North
38	USGS3219314	1 - 2 Miles NW
40	USGS3219439	1 - 2 Miles East
43	USGS3219454	1 - 2 Miles WNW
45	USGS3219303	1 - 2 Miles ENE
46	USGS3219446	1 - 2 Miles East
47	USGS3219305	1 - 2 Miles ENE
49	USGS3219410	1 - 2 Miles ESE
50	USGS3209244	1 - 2 Miles SSW

GEOCHECK® - PHYSICAL SETTING SOURCE SUMMARY

FEDERAL USGS WELL INFORMATION

MAP ID	WELL ID	LOCATION FROM TP
51	USGS3219437	1 - 2 Miles West
52	USGS3209248	1 - 2 Miles SW
55	USGS3219430	2 - 3 Miles West
56	USGS3209241	2 - 3 Miles SSW
57	USGS3219432	2 - 3 Miles West
J58	USGS3219413	2 - 3 Miles ESE
J60	USGS3219412	2 - 3 Miles ESE
63	USGS3219309	2 - 3 Miles ENE
K64	USGS3219400	2 - 3 Miles ESE
L66	USGS3209239	2 - 3 Miles South
K67	USGS3219402	2 - 3 Miles ESE
68	USGS3219404	2 - 3 Miles ESE
69	USGS3209251	2 - 3 Miles SE
M75	USGS3219338	2 - 3 Miles NNE
M76	USGS3219340	2 - 3 Miles NNE
N77	USGS3219440	2 - 3 Miles West
N79	USGS3219441	2 - 3 Miles West
81	USGS3209224	2 - 3 Miles South
84	USGS3219415	2 - 3 Miles ESE
O86	USGS3209226	2 - 3 Miles South
O87	USGS3209225	2 - 3 Miles South
88	USGS3219452	2 - 3 Miles West
91	USGS3219337	2 - 3 Miles NW
92	USGS3209235	2 - 3 Miles SSE
93	USGS3209217	2 - 3 Miles SSW
94	USGS3219335	2 - 3 Miles NE
95	USGS3209231	2 - 3 Miles SSE
96	USGS3219334	2 - 3 Miles NE
98	USGS3209222	2 - 3 Miles SSE
101	USGS3209253	2 - 3 Miles WSW
103	USGS3219392	2 - 3 Miles WSW
104	USGS3219448	2 - 3 Miles West
105	USGS3209234	2 - 3 Miles SE
106	USGS3209232	2 - 3 Miles SW

FEDERAL FRDS PUBLIC WATER SUPPLY SYSTEM INFORMATION

MAP ID	WELL ID	LOCATION FROM TP
48	WA5302330	1 - 2 Miles SSW

Note: PWS System location is not always the same as well location.

STATE DATABASE WELL INFORMATION

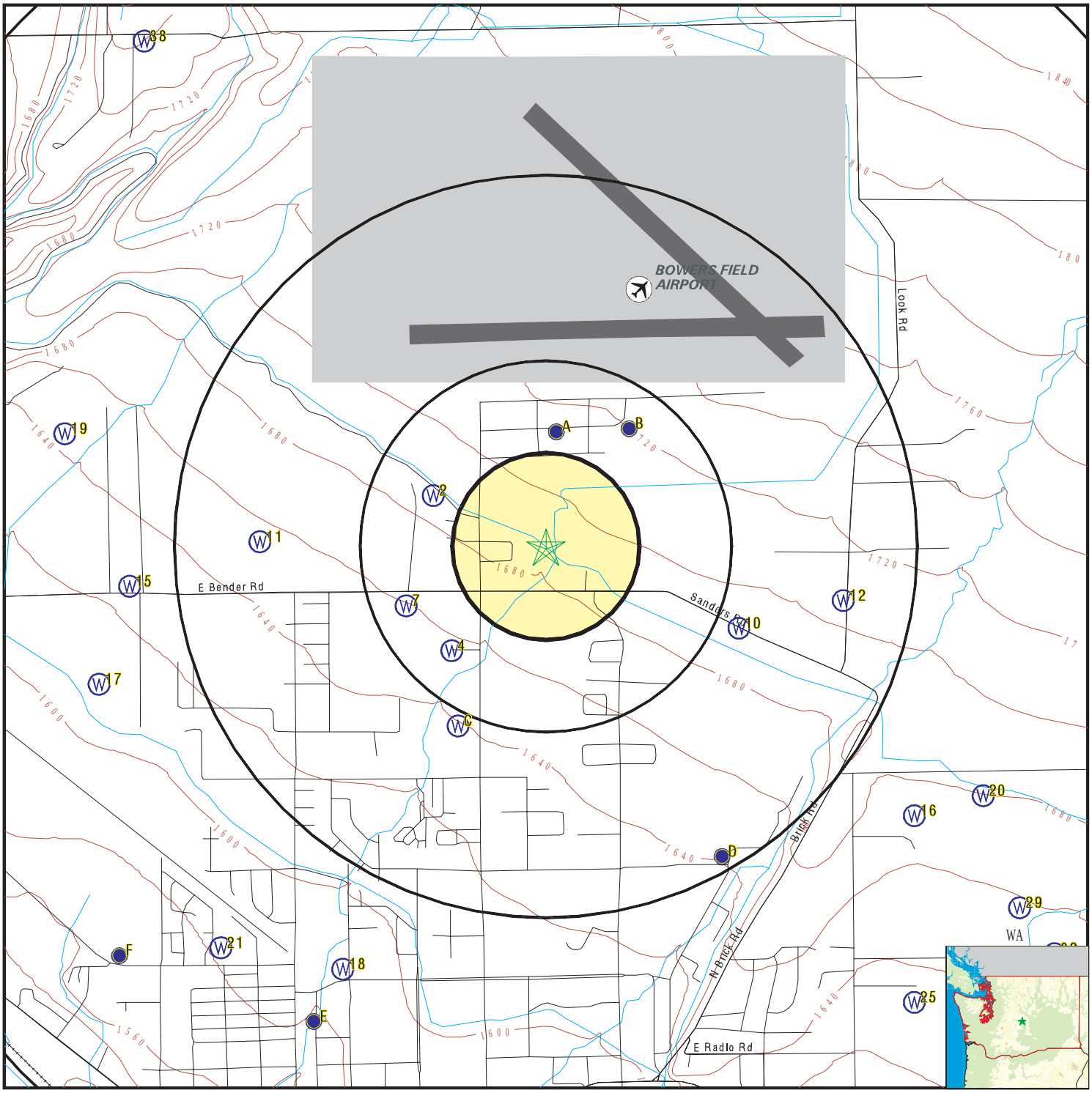
MAP ID	WELL ID	LOCATION FROM TP
A1	WA7000000006734	1/4 - 1/2 Mile North
2	WA7000000006718	1/4 - 1/2 Mile WNW
4	WA7000000006683	1/4 - 1/2 Mile SW

GEOCHECK® - PHYSICAL SETTING SOURCE SUMMARY

STATE DATABASE WELL INFORMATION

MAP ID	WELL ID	LOCATION FROM TP
B5	WA7000000006740	1/4 - 1/2 Mile NE
C8	WA7000000006659	1/2 - 1 Mile SSW
C9	WA7000000006660	1/2 - 1 Mile SSW
10	WA7000000006687	1/2 - 1 Mile ESE
D14	WA7000000006632	1/2 - 1 Mile SSE
16	WA7000000006642	1 - 2 Miles SE
E22	WA7000000006576	1 - 2 Miles SSW
24	WA7000000006530	1 - 2 Miles South
25	WA7000000006584	1 - 2 Miles SE
F28	WA7000000006598	1 - 2 Miles SW
29	WA7000000006622	1 - 2 Miles SE
H32	WA7000000006486	1 - 2 Miles South
G35	WA7000000006482	1 - 2 Miles South
39	WA7000000006599	1 - 2 Miles SE
I41	WA7000000006585	1 - 2 Miles SE
I42	WA7000000006586	1 - 2 Miles SE
44	WA7000000006623	1 - 2 Miles ESE
53	WA7000000006473	1 - 2 Miles SSE
54	WA7000000006624	1 - 2 Miles ESE
59	WA7000000006526	2 - 3 Miles SE
61	WA7000000006469	2 - 3 Miles SW
62	WA7000000006474	2 - 3 Miles SE
L65	WA7000000006416	2 - 3 Miles South
70	WA7000000006437	2 - 3 Miles SSE
71	WA7000000006551	2 - 3 Miles SE
72	WA7000000006711	2 - 3 Miles East
73	WA7000000006527	2 - 3 Miles SE
74	WA7000000006475	2 - 3 Miles SE
78	WA7000000006646	2 - 3 Miles ESE
80	WA7000000006438	2 - 3 Miles SE
82	WA7000000006690	2 - 3 Miles East
83	WA7000000006346	2 - 3 Miles South
85	WA7000000006381	2 - 3 Miles SSE
89	WA7000000006405	2 - 3 Miles SSE
90	WA7000000006347	2 - 3 Miles SSE
97	WA7000000006713	2 - 3 Miles East
99	WA7000000006662	2 - 3 Miles East
100	WA7000000006590	2 - 3 Miles ESE
102	WA7000000006842	2 - 3 Miles ENE
107	WA7000000006403	2 - 3 Miles SW
108	WA7000000006297	2 - 3 Miles SSW
109	WA7000000006580	2 - 3 Miles WSW

PHYSICAL SETTING SOURCE MAP - 3490663.1s



- County Boundary
- Major Roads
- Contour Lines
- Airports
- Earthquake epicenter, Richter 5 or greater
- Water Wells
- Public Water Supply Wells
- Cluster of Multiple Icons
- Groundwater Flow Direction
- Indeterminate Groundwater Flow at Location
- Groundwater Flow Varies at Location
- Closest Hydrogeological Data

SITE NAME:	Airport, Rodeo, Memorial, Mt. Stewart, Kiwanis	CLIENT:	Golder Associates, Inc.
ADDRESS:	11 Bowers Rd Ellensburg WA 98926	CONTACT:	Andrew Austreng
LAT/LONG:	47.023 / 120.536	INQUIRY #:	3490663.1s
		DATE:	January 11, 2013 4:29 pm

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GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS

Map ID Direction Distance Elevation		Database	EDR ID Number
A1 **North** **1/4 - 1/2 Mile** **Higher**	Click here for full text details	**WA WELLS**	**WA7000000006734**
2 **WNW** **1/4 - 1/2 Mile** **Lower**	Click here for full text details	**WA WELLS**	**WA7000000006718**
A3 **North** **1/4 - 1/2 Mile** **Higher**	Click here for full text details	**FED USGS**	**USGS3219451**
4 **SW** **1/4 - 1/2 Mile** **Lower**	Click here for full text details	**WA WELLS**	**WA7000000006683**
B5 **NE** **1/4 - 1/2 Mile** **Higher**	Click here for full text details	**WA WELLS**	**WA7000000006740**
B6 **NE** **1/4 - 1/2 Mile** **Higher**	Click here for full text details	**FED USGS**	**USGS3219450**
7 **WSW** **1/4 - 1/2 Mile** **Lower**	Click here for full text details	**FED USGS**	**USGS3219434**
C8 **SSW** **1/2 - 1 Mile** **Lower**	Click here for full text details	**WA WELLS**	**WA7000000006659**

GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS

Map ID Direction Distance Elevation		Database	EDR ID Number
C9 SSW 1/2 - 1 Mile Lower	Click here for full text details	**WA WELLS**	**WA7000000006660**
10 ESE 1/2 - 1 Mile Higher	Click here for full text details	**WA WELLS**	**WA7000000006687**
11 West 1/2 - 1 Mile Lower	Click here for full text details	**FED USGS**	**USGS3219443**
12 East 1/2 - 1 Mile Higher	Click here for full text details	**FED USGS**	**USGS3219436**
D13 SSE 1/2 - 1 Mile Lower	Click here for full text details	**FED USGS**	**USGS3219406**
D14 SSE 1/2 - 1 Mile Lower	Click here for full text details	**WA WELLS**	**WA7000000006632**
15 West 1 - 2 Miles Lower	Click here for full text details	**FED USGS**	**USGS3219438**
16 SE 1 - 2 Miles Lower	Click here for full text details	**WA WELLS**	**WA7000000006642**
17 WSW 1 - 2 Miles Lower	Click here for full text details	**FED USGS**	**USGS3219426**

GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS

Map ID Direction Distance Elevation		Database	EDR ID Number
18 **SSW** **1 - 2 Miles** **Lower**	Click here for full text details	**FED USGS**	**USGS3219394**
19 **WNW** **1 - 2 Miles** **Lower**	Click here for full text details	**FED USGS**	**USGS3219449**
20 **ESE** **1 - 2 Miles** **Lower**	Click here for full text details	**FED USGS**	**USGS3219411**
21 **SW** **1 - 2 Miles** **Lower**	Click here for full text details	**FED USGS**	**USGS3219397**
E22 **SSW** **1 - 2 Miles** **Lower**	Click here for full text details	**WA WELLS**	**WA7000000006576**
E23 **SSW** **1 - 2 Miles** **Lower**	Click here for full text details	**FED USGS**	**USGS3209267**
24 **South** **1 - 2 Miles** **Lower**	Click here for full text details	**WA WELLS**	**WA7000000006530**
25 **SE** **1 - 2 Miles** **Lower**	Click here for full text details	**WA WELLS**	**WA7000000006584**
F26 **SW** **1 - 2 Miles** **Lower**	Click here for full text details	**FED USGS**	**USGS3219396**

GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS

Map ID Direction Distance Elevation		Database	EDR ID Number
27 **SSW** **1 - 2 Miles** **Lower**	Click here for full text details	**FED USGS**	**USGS3209256**
F28 **SW** **1 - 2 Miles** **Lower**	Click here for full text details	**WA WELLS**	**WA7000000006598**
29 **SE** **1 - 2 Miles** **Lower**	Click here for full text details	**WA WELLS**	**WA7000000006622**
30 **North** **1 - 2 Miles** **Higher**	Click here for full text details	**FED USGS**	**USGS3219323**
G31 **South** **1 - 2 Miles** **Lower**	Click here for full text details	**FED USGS**	**USGS3209246**
H32 **South** **1 - 2 Miles** **Lower**	Click here for full text details	**WA WELLS**	**WA7000000006486**
H33 **South** **1 - 2 Miles** **Lower**	Click here for full text details	**FED USGS**	**USGS3209249**
34 **WSW** **1 - 2 Miles** **Lower**	Click here for full text details	**FED USGS**	**USGS3219407**
G35 **South** **1 - 2 Miles** **Lower**	Click here for full text details	**WA WELLS**	**WA7000000006482**

GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS

Map ID Direction Distance Elevation		Database	EDR ID Number
36 **SSE** **1 - 2 Miles** **Lower**	Click here for full text details	**FED USGS**	**USGS3209254**
37 **North** **1 - 2 Miles** **Higher**	Click here for full text details	**FED USGS**	**USGS3219331**
38 **NW** **1 - 2 Miles** **Higher**	Click here for full text details	**FED USGS**	**USGS3219314**
39 **SE** **1 - 2 Miles** **Lower**	Click here for full text details	**WA WELLS**	**WA7000000006599**
40 **East** **1 - 2 Miles** **Higher**	Click here for full text details	**FED USGS**	**USGS3219439**
I41 **SE** **1 - 2 Miles** **Lower**	Click here for full text details	**WA WELLS**	**WA7000000006585**
I42 **SE** **1 - 2 Miles** **Lower**	Click here for full text details	**WA WELLS**	**WA7000000006586**
43 **WNW** **1 - 2 Miles** **Lower**	Click here for full text details	**FED USGS**	**USGS3219454**
44 **ESE** **1 - 2 Miles** **Lower**	Click here for full text details	**WA WELLS**	**WA7000000006623**

GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS

Map ID Direction Distance Elevation		Database	EDR ID Number
45 **ENE** **1 - 2 Miles** **Higher**	Click here for full text details	**FED USGS**	**USGS3219303**
46 **East** **1 - 2 Miles** **Higher**	Click here for full text details	**FED USGS**	**USGS3219446**
47 **ENE** **1 - 2 Miles** **Higher**	Click here for full text details	**FED USGS**	**USGS3219305**
48 **SSW** **1 - 2 Miles** **Lower**	Click here for full text details	**FRDS PWS**	**WA5302330**
49 **ESE** **1 - 2 Miles** **Higher**	Click here for full text details	**FED USGS**	**USGS3219410**
50 **SSW** **1 - 2 Miles** **Lower**	Click here for full text details	**FED USGS**	**USGS3209244**
51 **West** **1 - 2 Miles** **Lower**	Click here for full text details	**FED USGS**	**USGS3219437**
52 **SW** **1 - 2 Miles** **Lower**	Click here for full text details	**FED USGS**	**USGS3209248**
53 **SSE** **1 - 2 Miles** **Lower**	Click here for full text details	**WA WELLS**	**WA7000000006473**

GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS

Map ID Direction Distance Elevation		Database	EDR ID Number
54 **ESE** **1 - 2 Miles** **Lower**	Click here for full text details	**WA WELLS**	**WA7000000006624**
55 **West** **2 - 3 Miles** **Lower**	Click here for full text details	**FED USGS**	**USGS3219430**
56 **SSW** **2 - 3 Miles** **Lower**	Click here for full text details	**FED USGS**	**USGS3209241**
57 **West** **2 - 3 Miles** **Lower**	Click here for full text details	**FED USGS**	**USGS3219432**
J58 **ESE** **2 - 3 Miles** **Higher**	Click here for full text details	**FED USGS**	**USGS3219413**
59 **SE** **2 - 3 Miles** **Lower**	Click here for full text details	**WA WELLS**	**WA7000000006526**
J60 **ESE** **2 - 3 Miles** **Higher**	Click here for full text details	**FED USGS**	**USGS3219412**
61 **SW** **2 - 3 Miles** **Lower**	Click here for full text details	**WA WELLS**	**WA7000000006469**
62 **SE** **2 - 3 Miles** **Lower**	Click here for full text details	**WA WELLS**	**WA7000000006474**

GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS

Map ID Direction Distance Elevation		Database	EDR ID Number
63 **ENE** **2 - 3 Miles** **Higher**	Click here for full text details	**FED USGS**	**USGS3219309**
K64 **ESE** **2 - 3 Miles** **Lower**	Click here for full text details	**FED USGS**	**USGS3219400**
L65 **South** **2 - 3 Miles** **Lower**	Click here for full text details	**WA WELLS**	**WA7000000006416**
L66 **South** **2 - 3 Miles** **Lower**	Click here for full text details	**FED USGS**	**USGS3209239**
K67 **ESE** **2 - 3 Miles** **Lower**	Click here for full text details	**FED USGS**	**USGS3219402**
68 **ESE** **2 - 3 Miles** **Lower**	Click here for full text details	**FED USGS**	**USGS3219404**
69 **SE** **2 - 3 Miles** **Lower**	Click here for full text details	**FED USGS**	**USGS3209251**
70 **SSE** **2 - 3 Miles** **Lower**	Click here for full text details	**WA WELLS**	**WA7000000006437**
71 **SE** **2 - 3 Miles** **Lower**	Click here for full text details	**WA WELLS**	**WA7000000006551**

GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS

Map ID Direction Distance Elevation		Database	EDR ID Number
72 **East** **2 - 3 Miles** **Higher**	Click here for full text details	**WA WELLS**	**WA7000000006711**
73 **SE** **2 - 3 Miles** **Lower**	Click here for full text details	**WA WELLS**	**WA7000000006527**
74 **SE** **2 - 3 Miles** **Lower**	Click here for full text details	**WA WELLS**	**WA7000000006475**
M75 **NNE** **2 - 3 Miles** **Higher**	Click here for full text details	**FED USGS**	**USGS3219338**
M76 **NNE** **2 - 3 Miles** **Higher**	Click here for full text details	**FED USGS**	**USGS3219340**
N77 **West** **2 - 3 Miles** **Lower**	Click here for full text details	**FED USGS**	**USGS3219440**
78 **ESE** **2 - 3 Miles** **Higher**	Click here for full text details	**WA WELLS**	**WA7000000006646**
N79 **West** **2 - 3 Miles** **Lower**	Click here for full text details	**FED USGS**	**USGS3219441**
80 **SE** **2 - 3 Miles** **Lower**	Click here for full text details	**WA WELLS**	**WA7000000006438**

GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS

Map ID Direction Distance Elevation		Database	EDR ID Number
81 **South** **2 - 3 Miles** **Lower**	Click here for full text details	**FED USGS**	**USGS3209224**
82 **East** **2 - 3 Miles** **Higher**	Click here for full text details	**WA WELLS**	**WA7000000006690**
83 **South** **2 - 3 Miles** **Lower**	Click here for full text details	**WA WELLS**	**WA7000000006346**
84 **ESE** **2 - 3 Miles** **Higher**	Click here for full text details	**FED USGS**	**USGS3219415**
85 **SSE** **2 - 3 Miles** **Lower**	Click here for full text details	**WA WELLS**	**WA7000000006381**
O86 **South** **2 - 3 Miles** **Lower**	Click here for full text details	**FED USGS**	**USGS3209226**
O87 **South** **2 - 3 Miles** **Lower**	Click here for full text details	**FED USGS**	**USGS3209225**
88 **West** **2 - 3 Miles** **Lower**	Click here for full text details	**FED USGS**	**USGS3219452**
89 **SSE** **2 - 3 Miles** **Lower**	Click here for full text details	**WA WELLS**	**WA7000000006405**

GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS

Map ID Direction Distance Elevation		Database	EDR ID Number
90 **SSE** **2 - 3 Miles** **Lower**	Click here for full text details	**WA WELLS**	**WA7000000006347**
91 **NW** **2 - 3 Miles** **Higher**	Click here for full text details	**FED USGS**	**USGS3219337**
92 **SSE** **2 - 3 Miles** **Lower**	Click here for full text details	**FED USGS**	**USGS3209235**
93 **SSW** **2 - 3 Miles** **Lower**	Click here for full text details	**FED USGS**	**USGS3209217**
94 **NE** **2 - 3 Miles** **Higher**	Click here for full text details	**FED USGS**	**USGS3219335**
95 **SSE** **2 - 3 Miles** **Lower**	Click here for full text details	**FED USGS**	**USGS3209231**
96 **NE** **2 - 3 Miles** **Higher**	Click here for full text details	**FED USGS**	**USGS3219334**
97 **East** **2 - 3 Miles** **Higher**	Click here for full text details	**WA WELLS**	**WA7000000006713**
98 **SSE** **2 - 3 Miles** **Lower**	Click here for full text details	**FED USGS**	**USGS3209222**

GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS

Map ID Direction Distance Elevation		Database	EDR ID Number
99 **East** **2 - 3 Miles** **Higher**	Click here for full text details	**WA WELLS**	**WA7000000006662**
100 **ESE** **2 - 3 Miles** **Lower**	Click here for full text details	**WA WELLS**	**WA7000000006590**
101 **WSW** **2 - 3 Miles** **Lower**	Click here for full text details	**FED USGS**	**USGS3209253**
102 **ENE** **2 - 3 Miles** **Higher**	Click here for full text details	**WA WELLS**	**WA7000000006842**
103 **WSW** **2 - 3 Miles** **Lower**	Click here for full text details	**FED USGS**	**USGS3219392**
104 **West** **2 - 3 Miles** **Lower**	Click here for full text details	**FED USGS**	**USGS3219448**
105 **SE** **2 - 3 Miles** **Lower**	Click here for full text details	**FED USGS**	**USGS3209234**
106 **SW** **2 - 3 Miles** **Lower**	Click here for full text details	**FED USGS**	**USGS3209232**
107 **SW** **2 - 3 Miles** **Lower**	Click here for full text details	**WA WELLS**	**WA7000000006403**

GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS

Map ID Direction Distance Elevation		Database	EDR ID Number
108 **SSW** **2 - 3 Miles** **Lower**	**Click here for full text details**	**WA WELLS**	**WA7000000006297**
109 **WSW** **2 - 3 Miles** **Lower**	**Click here for full text details**	**WA WELLS**	**WA7000000006580**

GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS
RADON

AREA RADON INFORMATION

Federal EPA Radon Zone for KITTITAS County: 2

Note: Zone 1 indoor average level > 4 pCi/L.
: Zone 2 indoor average level >= 2 pCi/L and <= 4 pCi/L.
: Zone 3 indoor average level < 2 pCi/L.

Federal Area Radon Information for Zip Code: 98926

Number of sites tested: 1

Area	Average Activity	% <4 pCi/L	% 4-20 pCi/L	% >20 pCi/L
Living Area - 1st Floor	1.300 pCi/L	100%	0%	0%
Living Area - 2nd Floor	Not Reported	Not Reported	Not Reported	Not Reported
Basement	Not Reported	Not Reported	Not Reported	Not Reported

PHYSICAL SETTING SOURCE RECORDS SEARCHED

TOPOGRAPHIC INFORMATION

USGS 7.5' Digital Elevation Model (DEM)
Source: United States Geologic Survey
EDR acquired the USGS 7.5' Digital Elevation Model in 2002 and updated it in 2006. The 7.5 minute DEM corresponds to the USGS 1:24,000- and 1:25,000-scale topographic quadrangle maps. The DEM provides elevation data with consistent elevation units and projection.

Scanned Digital USGS 7.5' Topographic Map (DRG)
Source: United States Geologic Survey
A digital raster graphic (DRG) is a scanned image of a U.S. Geological Survey topographic map. The map images are made by scanning published paper maps on high-resolution scanners. The raster image is georeferenced and fit to the Universal Transverse Mercator (UTM) projection.

HYDROLOGIC INFORMATION

Flood Zone Data: This data, available in select counties across the country, was obtained by EDR in 2003 & 2011 from the Federal Emergency Management Agency (FEMA). Data depicts 100-year and 500-year flood zones as defined by FEMA.

NWI: National Wetlands Inventory. This data, available in select counties across the country, was obtained by EDR in 2002 and 2005 from the U.S. Fish and Wildlife Service.

HYDROGEOLOGIC INFORMATION

AQUIFLOW^{R} Information System
Source: EDR proprietary database of groundwater flow information
EDR has developed the AQUIFLOW Information System (AIS) to provide data on the general direction of groundwater flow at specific points. EDR has reviewed reports submitted to regulatory authorities at select sites and has extracted the date of the report, hydrogeologically determined groundwater flow direction and depth to water table information.

GEOLOGIC INFORMATION

Geologic Age and Rock Stratigraphic Unit
Source: P.G. Schruben, R.E. Arndt and W.J. Bawiec, Geology of the Conterminous U.S. at 1:2,500,000 Scale - A digital representation of the 1974 P.B. King and H.M. Beikman Map, USGS Digital Data Series DDS - 11 (1994).

STATSGO: State Soil Geographic Database
Source: Department of Agriculture, Natural Resources Conservation Services
The U.S. Department of Agriculture's (USDA) Natural Resources Conservation Service (NRCS) leads the national Conservation Soil Survey (NCSS) and is responsible for collecting, storing, maintaining and distributing soil survey information for privately owned lands in the United States. A soil map in a soil survey is a representation of soil patterns in a landscape. Soil maps for STATSGO are compiled by generalizing more detailed (SSURGO) soil survey maps.

SSURGO: Soil Survey Geographic Database
Source: Department of Agriculture, Natural Resources Conservation Services (NRCS)
Telephone: 800-672-5559
SSURGO is the most detailed level of mapping done by the Natural Resources Conservation Services, mapping scales generally range from 1:12,000 to 1:63,360. Field mapping methods using national standards are used to construct the soil maps in the Soil Survey Geographic (SSURGO) database. SSURGO digitizing duplicates the original soil survey maps. This level of mapping is designed for use by landowners, townships and county natural resource planning and management.

PHYSICAL SETTING SOURCE RECORDS SEARCHED

LOCAL / REGIONAL WATER AGENCY RECORDS

FEDERAL WATER WELLS

PWS: Public Water Systems
Source: EPA/Office of Drinking Water
Telephone: 202-564-3750
Public Water System data from the Federal Reporting Data System. A PWS is any water system which provides water to at least 25 people for at least 60 days annually. PWSs provide water from wells, rivers and other sources.

PWS ENF: Public Water Systems Violation and Enforcement Data
Source: EPA/Office of Drinking Water
Telephone: 202-564-3750
Violation and Enforcement data for Public Water Systems from the Safe Drinking Water Information System (SDWIS) after August 1995. Prior to August 1995, the data came from the Federal Reporting Data System (FRDS).

USGS Water Wells: USGS National Water Inventory System (NWIS)
This database contains descriptive information on sites where the USGS collects or has collected data on surface water and/or groundwater. The groundwater data includes information on wells, springs, and other sources of groundwater.

STATE RECORDS

Water Wells
Source: Department of Health
Telephone: 360-236-3148
Group A and B well locations.

Water Well Listing
Source: Public Utility District
Telephone: 206-779-7656
A listing of water well locations in Kitsap County.

OTHER STATE DATABASE INFORMATION

Oil and Gas Well Listing
Source: Department of Natural Resources
Telephone: 360-902-1450
Locations that represent oil and gas test well sites in Washington State from 1890 to present.

RADON

Area Radon Information
Source: USGS
Telephone: 703-356-4020
The National Radon Database has been developed by the U.S. Environmental Protection Agency (USEPA) and is a compilation of the EPA/State Residential Radon Survey and the National Residential Radon Survey. The study covers the years 1986 - 1992. Where necessary data has been supplemented by information collected at private sources such as universities and research institutions.

EPA Radon Zones
Source: EPA
Telephone: 703-356-4020
Sections 307 & 309 of IRAA directed EPA to list and identify areas of U.S. with the potential for elevated indoor radon levels.

OTHER

Airport Landing Facilities: Private and public use landing facilities
Source: Federal Aviation Administration, 800-457-6656

Epicenters: World earthquake epicenters, Richter 5 or greater
Source: Department of Commerce, National Oceanic and Atmospheric Administration

PHYSICAL SETTING SOURCE RECORDS SEARCHED

STREET AND ADDRESS INFORMATION

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At Golder Associates we strive to be the most respected global group of companies specializing in ground engineering and environmental services. Employee owned since our formation in 1960, we have created a unique culture with pride in ownership, resulting in long-term organizational stability. Golder professionals take the time to build an understanding of client needs and of the specific environments in which they operate. We continue to expand our technical capabilities and have experienced steady growth with employees now operating from offices located throughout Africa, Asia, Australasia, Europe, North America and South America.

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Attachment 3

Illinois Well Water Well Report and Groundwater Contamination Susceptibility Assessment Survey Form

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WATER WELL REPORT

DEPARTMENT OF ECOLOGY
State of Washington

Notice of Intent No. WE 33857
Unique Ecology Well ID Tag No. AAR 986
Site Well Name (if more than one well): Illinois Well
Water Right Permit/Certificate No. G4-25307C
Property Owner Name City of Ellensburg
Well Street Address West end of Christy Ave off Trails Edge Dr
City Ellensburg, WA County Kittitas
Tax Parcel No. 1818350220005
Was a variance approved for this well? ☐ Yes ☒ No
If yes, what was the variance for? _____

Type of Work:
☒ Construction
☐ Decommission ⟹ Original installation NOI No. _____

Proposed Use: ☐ Domestic ☐ Industrial ☒ Municipal ☐ Dewatering ☐ Irrigation ☐ Test Well ☐ Other _____

Construction Type: ☒ New well ☐ Alteration ☐ Deepening ☐ Other _____
Method: ☐ Driven ☐ Jetted ☐ Cable Tool ☐ Dug ☐ Air- ☒ Mud-Rotary

Dimensions: Diameter of boring 30 to 19 in., to 1020 ft.
Depth of completed well 1007 ft.

Construction Details:

Casing	Liner	Diameter	From	To	Wall Thickness	Steel	PVC	Welded	Thread
☒	☐	20 in.	+1.6	400	.375 in.	☒	☐	☒	☐
☐	☐	____ in.	____	____	____ in.	☐	☐	☐	☐
☐	☐	____ in.	____	____	____ in.	☐	☐	☐	☐
☐	☐	____ in.	____	____	____ in.	☐	☐	☐	☐

Perforations: ☐ Yes ☒ No Type of perforator used _____
No. of perforations ____ Size of perforations ____ in. by ____ in.
Perforated from ____ ft. to ____ ft. below ground surface

Screens: ☒ Yes ☐ No ☐ K-Packer ⟹ Depth ____ ft.
Manufacturer's Name Johnson
Type 304SS Model No. V-shaped wire wrap
Diameter 12 in. Slot size .060 in. from * ft. to * ft.
Diameter ____ in. Slot size ____ in. from ____ ft. to ____ ft.

Sand/Filter pack: ☒ Yes ☐ No Size of pack material 8x12 in.
Materials placed from 374 ft. to 1020 ft.

Surface Seal: ☒ Yes ☐ No To what depth? 400 ft.
Material used in seal Neat cement grout
Did any strata contain unusable water? ☐ Yes ☐ No
Type of water? _____ Depth of strata _____
Method of sealing strata off _____

Pump: Manufacturer's Name _____ Type: _____
H.P. ____ Pump intake depth: ____ ft. Designed flow rate: ____ gpm

Water Levels: Land-surface elevation above mean sea level ____ ft.
Stick-up of top of well casing 1.6 ft. above ground surface
Static water level 79.7 ft. below top of well casing Date 8/6/19
Artesian pressure ____ lbs. per square inch Date _____
Artesian water is controlled by _____ (cap, valve, etc.)

Well Tests:
Was a pumping test performed? ☐ No ☒ Yes ⟹ by whom? SWS
Yield 2925 gpm with 209 ft. drawdown after 35 hrs.
Yield ____ gpm with ____ ft. drawdown after ____ hrs.
Yield ____ gpm with ____ ft. drawdown after ____ hrs.
Recovery data (time = zero when pump is turned off – water level measured from well top to water level)

Time	Water Level	Time	Water Level	Time	Water Level

Date of pumping test 8/6-8/7/19
Bailer test ____ gpm with ____ ft. drawdown after ____ hrs.
Air test ____ gpm with stem set at ____ ft. for ____ hrs. Date _____
Artesian flow ____ gpm
Temperature of water 66 ° F Was a chemical analysis made? ☒ Yes ☐ No

Location (see instructions on page 2): ☐ WWM or ☒ EWM
NW ¼-¼ of the NW ¼; Section 35 Township 18N Range 18E
Latitude (Example: 47.12345) 47.01118
Longitude (Example: -120.12345) -120.55605

Driller's Log/Construction or Decommission Procedure
Formation: Describe by color, character, size of material and structure, and the kind and nature of the material in each layer penetrated, with at least one entry for each change of information. Use additional sheets if necessary.

Material	From	To
*** See Attached Formation Log*****		
* Screen Assembly (welded):		
Blanks, reducer & plate bottom are low carbon		
steel.		
Blank 14" x.375 with J receptor	374	377
Blank 14x12 std bell reducer	377	378
Blank 12" x .375	378	393
Screen 12" PS	393	398
Blank 12" x .375	398	453
Screen 12" PS	453	463
Blank 12" x .375	463	513
Screen 12" PS	513	523
Blank 12" x .375	523	564
Screen 12" PS	564	580
Blank 12" x .375	580	650
Screen 12" PS	650	715
Blank 12" x .375	715	805
Screen 12" PS	805	840
Blank 12" x .375	840	880
Screen 12" PS	880	935
Blank 12" x .375	935	977
Screen 12" PS	977	997
Blank 12" x .375 with steel plate bottom	997	1007

Start Date 1/3/19 Completed Date 9/10/19

WELL CONSTRUCTION CERTIFICATION: I constructed and/or accept responsibility for construction of this well, and its compliance with all Washington well construction standards. Materials used and the information reported above are true to my best knowledge and belief.

☒ Driller ☐ Trainee ☐ PE – Print Name Steve Schneider
Signature [signature]
License No. 643
IF TRAINEE: Sponsor's License No.
Sponsor's Signature

Drilling Company Schneider Water Services
Address 21881 River RD NE
City, State, Zip St. Paul, OR 97137
Contractor's Registration No. SCHNEEI940R8 Date 10/9/19

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City of Ellensburg Illinois Well
NOI # WE33857 - Well Tag ID # AAR 986
Formation Log
by Schneider Water Services

FM	TO	DESCRIPTION
0	2	Topsoil
2	3	Clay, brown, med-soft, sandy
3	7	Gravel, 3" minus, 12" cobbles, some grey sand
7	14	Gravel, 3" minus with light brown clay, sandy
14	24	Gravel, 3" minus
24	33	Gravel, 3" minus with claystone
33	39	Sand, tan, med-fine, with clay
39	44	Sandstone, tan, med-soft
44	52	Clay, tan, medium-soft, sandy
52	59	Clay, light tan, soft
59	77	Gravel, 3" minus
77	97	Gravel, 1/2" minus
96	119	Gravel, 1/2" minus with clay, soft to hard, sandy
119	124	Clay, tan, soft, lenses of claystone, sandy, some gravel
124	144	Gravel, 3/4" minus, some medium-coarse sand, occ. clay
144	152	Sand, multicolor, coarse, brown, fine, with some gravel
152	162	Clay, tan, soft to medium, silty, sandy
162	172	Gravel, 1-1/2" minus, some sand, and clay binder
172	199	Gravel, 1-1/2" minus, some sand, brown, med-fine
199	203	Clay, tan, soft, sandy, silty
203	213	Clay, light brown, med-soft
213	222	Clay, tan, med, some lenses claystone, brown, with sand, multicolored, coarse to medium
222	227	Gravel, 3/4" minus, sand, clay binder
227	237	Sand, multicolor, coarse to med, with clay binder
237	257	Gravel, 1/2" minus, some sand, claystone cobbles
257	273	Clay, dark tan, med-soft, sandy, lenses of gravel
273	284	Clay, light brown, soft, lenses of hard gravel, 1/2" minus
284	311	Gravel, 3/4" minus, some claystone binder, some sand, grey and brown, medium
311	334	Clay, tan, med soft, sandy, lenses of gravel, lenses of off color clay
334	360	Gravel, 1" minus
360	370	Sand, tan and brown, fine to coarse, with gravel lenses, 1/2" minus
370	390	Clay, tan, med-soft, sand, some gravel lenses
390	399	Clay, brown, med
399	404	Gravel, 1" minus, some sand, brown and tan
404	408	Clay, light brown, med-soft, sandy
408	411	Clay, light brown, med-soft, sandy
411	417	Gravel, 3/4" minus, sand, med-coarse
417	436	Clay, tan, soft, with lenses of gravel
436	442	Clay, tan, soft, sandy, lenses of yellow claystone, and gravel
442	446	Clay, light grey, med-soft, sandy, lenses of yellow claystone and gravel
446	453	Clay, light grey and light brown, med-soft, sandy, lenses of yellow claystone and gravel
453	463	Gravel, 3/4" minus, with sand, fine, clay
463	475	Clay, light brown to tan, med-soft, with gravel and sand
475	493	Clay, light grey, med, sandy

City of Ellensburg Illinois Well
NOI # WE33857 - Well Tag ID # AAR 986
Formation Log
by Schneider Water Services

FM	TO	DESCRIPTION
493	494	Clay, Dark tan, med, firm
494	497	Clay, greenish tint of white, med, firm
497	500	Clay, tan, med
500	508	Sand, brown, firm
508	510	Clay, tan, soft
510	515	Clay, tan, medium with gravel
515	530	Clay, tan, medium soft, with gravel and sand
530	535	Clay, tan, soft, sandy
535	540	Sandstone, med, brown, lense of clay, tan
540	550	Clay, tan, med, lenses of sandstone
550	565	Clay, tan, medium, lenses of gravel, some sand, coarse to fine
565	588	Gravel, 3/4 minus, sand, clay
588	596	Clay, tan, med, lenses of gravel
596	613	Sand, brown, coarse to fine, gravel, 1/2" minus, clay lenses
613	630	Sand, grey, some sand black fine
630	647	Clay, tan, medium, sandy
647	652	Clay, brown, med, with sand, brown
652	667	Sand, grey and multicolored, fine to corse, lenses of clay, tan
667	670	Clay, tan and brown, med, lenses of sand
670	673	Sandstone, light grey, med, with gravel
673	676	Clay, tan, med-firm, lenses of gravel and sand
676	701	Sandstone, light grey, med-soft, some sand and gravel, multiple color
701	716	Sand, brown and grey, fine to coarse, lenses of clay
716	724	Sand, dark grey, fine to coarse, with sandstone, red-brown
724	737	Clay, tan, med-firm, sand, brown
737	757	Clay, brown, med, lenses of claystone, sandy
757	785	Sand, multicolor, coarse to fine, some clay
785	787	Clay, tan, med, sandy
787	796	Sand, grey, fine with sand corse multicolored, some clay
796	803	Sand, dark grey, fine to coarse
803	811	Clay, tan and brown, silty, sandy, some claystone lenses
811	816	Clay, grey, med, sandy, some sand coarse multicolor
816	838	Sand multicolored, coarse to fine, lenses of clay
838	853	Sandstone, light tan to yellow tan, soft to hard
853	854	Clay, Light grey and light brown, with sand, black
854	864	Sandstone, brown, med, hard
864	874	Clay, light grey, med, sandy
874	878	Clay, brown, med
878	903	Sand, grey, fine, lenses of clay and standstone
903	934	Clay, tan, med, with sand, fine
934	977	Sand, multicolored, coarse to fine, lenses of sandstone and clay
977	982	Clay, grey, med, lenses of sand
982	1016	Sand, grey, multicolored, coarse to fine, clay, lenses
1016	1036	Sand, multicolored, coarse to fine, lenses of clay

Washington State Department of Health
Environmental Health Programs
Division of Drinking Water

Ground Water Contamination
Susceptibility Assessment Survey Form

Complete **one** form for **each** ground water source (well, well of a wellfield, spring, spring of a springfield) used in your water system (photocopy as necessary). Contact your regional WA DOH office if you need a copy of the Instruction Packet.

PART I: System Information

Well owner/manager: City of Ellensburg

Water system name: City of Ellensburg

County: Kittitas

Water system ID number 22950 Source number: 12 (to be assigned by DOH)

Well depth: 997 feet

Source name: Illinois Well

WA well tag identification number: AAR 986

❑ Well not tagged

Number of connections: 9,745 (per Sentry 2016-12-19) Population served: 18,810

Township: 18 North Range: 18 East

Section: 35 ¼ ¼ Section: SW ¼ ¼ of the NW 1/4

Latitude/longitude (if available): 47° 0'37.16"N / 120°33'20.83"W

How was latitude/longitude determined?

_____Global positioning device_____survey_____topographical map
_____other: Google Earth

PART II: Well Construction and Source Information

1) Date well originally constructed: _09__/03___/2019___month/day/year

Date well last reconstructed: n/a month/day/year

❑ Information unavailable

2) Well driller: Schneider Water Services

3) Type of well: _X_ Drilled: ✓ rotary ❑ bored ❑ cable (percussion) ❑ Dug

4) Well report available ❑ Yes (attach copy to form) ❑ No

5) Average pumping rate: <2,500 (gallons/min)

Source of information Anticipated

If not documented, how was pumping rate determined? Pumping test

6) Is this source treated?

If so, what type of treatment:

✓ disinfection ❑ filtration ❑ carbon filter ❑ air stripper ❑ other

Purpose of treatment (describe materials to be removed or controlled by treatment):

Impart residual disinfection

7) If source is chlorinated, is a chlorine residual maintained: ✓ Yes ❑ No

Residual level: 1 ppm (At the point closest to the source.)

PART III: Hydrogeologic Information

1) Depth to top of open interval: [check one]

❑ less than 20 ft ❑ 20-49ft ❑ 50-99ft ❑ 100-200ft ✓ greater than 200ft

2) Depth to ground water (static water level):

✓ 50-100ft

How was water level determined?

✓ well log ☐ other _____

☐ depth to ground water unknown

3) If source is a flowing well or spring, what is the confining pressure:

_____ psi (pounds per square inch) **or**

_____feet above wellhead

4) If source is a flowing well or spring, is there a surface impoundment, reservoir, or catchment associated with this source: ☐ Yes ☐ No

5) Wellhead elevation (height above mean sea level): 1,585 feet

How was elevation determined? ☐ topographic map ☐ Drilling/Well Log ☐ altimeter

✓ other:_____Google Earth_____

6) Confining layers: (This can be completed only for those sources with a drilling log, well log or geologic report describing subsurface conditions. Please refer to Instruction Packet for example.)

_____✓___ evidence of confining layer(s) in well log

If there is evidence of a confining layer, is the depth to ground water more than 20 feet above the **bottom** of the **lowest confining layer**? ✓ Yes ☐ No

7) Sanitary setback:

✓ 100-120ft

8) Wellhead construction:

✓ wellhead enclosed in a wellhouse

✓ controlled access (describe): The property surrounding the well house will be fenced with a locked gate.

☐ other uses for wellhouse (describe): _____None.

9) Surface seal:

✓ 400 ft

10) Annual rainfall (inches per year):

✓ less than 10 in/yr

PART IV: Mapping Your Ground Water Resource

1) Annual volume of water pumped: <900,000,000 (gallons)

How was this determined?

✓ Other (describe): Water right annual quantity (2,742 acre feet)

2) Determined time of travel using:

✓ Graphical analytical method from 2013 Water System plan, Figure 5-1:

6-month ground water travel time: ~750 feet

1-year ground water travel time: 1,500 feet

5-year ground water travel time: 3,500 feet

10-year ground water travel time: 5,500 feet

Information available on length of screened/open interval?

✓ Yes

Length of screened/open interval: various sections across 500 feet see attached.

3) Is there a river, lake, pond, stream, or other obvious surface water body within the 6- month time of travel boundary?

✓ The irrigation canal of the Kittitas Reclamation District.

4) Is there a stormwater and/or wastewater facility, treatment lagoon, or holding pond located within the 6-month time of travel boundary?

✓ Yes

Comments: Infiltration pond for discharge from well upon start-up.

PART V: Assessment of Water Quality

1) **Regional sources of risk to ground water**:

Please indicate if any of the following are present within a circular area around your water source having a radius up to and including the five-year ground water travel time. If you do not know if one of the following is present, mark the "unknown" space.

	6-month	1-year	5-year	unknown
• likely pesticide application				✓
• stormwater injection wells				✓
• other injection wells				✓
• abandoned ground water well				✓
• landfills, dumps, disposal areas			NO	
• known hazardous materials clean-up site			NO	
• known water quality problems			NO	
• population density less than 1 house/acre				✓
• residences commonly have septic tanks				✓
• Wastewater treatment lagoons			NO	
• sites used for land application of waste			NO	

Please include a map of the wellhead and time of travel areas with this form. Mark and identify on the map any of the risks listed above.

If other recorded or potential sources of ground water contamination exist within the ten-year time of travel circular zone around your water supply, please describe:

See attached Contaminant Source Inventory

2) **Source-specific water quality records**: For each type of test below, **mark the row that applies to the sample results for this source**. Consider all the sample results from the past 12 years. Maximum Contaminant Levels (MCLs) and State Advisory Levels (SALs) are noted next to the specific test and are listed in the Instruction Packet.

A. **Nitrate:** (Nitrate MCL = 10 mg/liter)

✓ less than 2 mg/liter nitrate

B. **VOCs:** (VOC detection level is 0.5 ug/liter or 0.0005 mg/liter)

✓ VOCs never detected

C. **EDB/DBCP:**
(EDB MCL = 0.05 ug/l or 0.00005 mg/l. DBCP MCL = 0.2 ug/l or 0.0002 mg/l.)

✓ EDB/DBCP never detected

D. **Other SOCs (Pesticides, Herbicides, or SOCs other than EDB/DBCP):**

✓ Other SOC tests performed but none detected
(see attached water quality report)

If other SOC tests were performed, but no SOCs detected, list test methods here: See attached

E. **Bacterial contamination:**

Any bacterial detection(s) in the past 3 years in samples taken from the source (not distribution sampling records)? ❑ Yes ✓ No

Any bacterial detection(s) in the past 3 years in the distribution system that have been attributed to the source? ❑ Yes ✓ No

Source sampling records for bacteria unavailable ❑ Yes ✓ No

PART VI: Geographic or Hydrologic Factors Contributing to a Non-Circular Zone of Contribution

The following questions will help identify those ground water sources which may not be accurately represented by the calculated fixed radius (CFR) method described in Part IV. For these sources, the CFR areas should be used as a preliminary delineation of the critical time of travel zones for that source. As a system develops its Wellhead Protection Plan for these sources, a more detailed delineation method should be considered.

1) Is there evidence of obvious hydrologic boundaries within the 10-year time of travel zone of the CFR? (Does the largest circle extend over a stream, river, lake, up a steep hillside, and/or over a mountain or ridge?)

✓ Yes ❑ No

Describe with references to map produced in Part IV:

The capture zone for the well extends under the Kittitas Reclamation District's irrigation canal.

2) Aquifer Material:

A) Does the drilling log, well log or other geologic/engineering reports identify that the well is located in an area where the underground conditions are identified as fractured rock and/or basalt terrain?

❑ Yes ✓ No

B) Does the drilling log, well log or other geologic/engineering reports indicate that the well is located in an area where the underground conditions are primarily identified as coarse sand and gravel?

❑ Yes ✓ No

3) Is the source located in an aquifer with a high horizontal flow rate? (These can include sources located on flood plains of large rivers, artesian wells with high water pressure, and/or shallow flowing wells and springs.)

❑ Yes ✓ No

4) Are there other high capacity wells (agricultural, municipal and/or industrial) located within the CFRs?

a) Presence of ground water extraction wells removing more than approximately 500 gal/min within…

	YES	NO	unknown
Less than 6-month travel time	_____	✓	_____
6 month—1 year travel time	_____	✓	_____
1—5 year travel time	_____	✓	_____
5—10 year travel time	_____	✓	_____

b) Presence of **heavy irrigation** within…

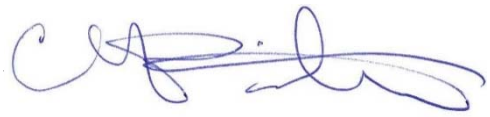
	YES	NO	unknown
Less than 1-year travel time	✓	_____	_____
1—5 year travel time	✓	_____	_____
5—10 year travel time	✓	_____	_____

Please identify or describe additional hydrologic or geographic conditions that you believe may affect the shape of the zone of contribution for this source. Where possible, reference them to locations on the map produced in Part IV.

_____

FORM COMPLETED BY:

CHRIS PITRE 2020-01-30
Print Name Date



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Attachment 4

Notification Letters

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DATE

NAME (Emergency Response Agency)
ADDRESS
CITY, STATE ZIP

Subject: City of Ellensburg Wellhead Protection Program

Dear NAME (Emergency Response Agency):

This letter is being sent to notify you (an agency that would respond in the event of a spill or contamination of the City's water supply) of the City of Ellensburg Wellhead Protection Program, as required by the Washington State Department of Health (DOH). The City of Ellensburg (City), being an owner of a Group A public water system, is required by the federal Safe Drinking Water Act to maintain a Wellhead Protection Program. The goal of a Wellhead Protection Program is to protect the health of its water customers by preventing contamination of the groundwater that it supplies for drinking water.

The City's active water sources provide drinking water to more than 20,000 people within the existing water service area. Water in the City's system is supplied by City-owned sources including the City Well, Route 10 Well, Hayward Well, Mt. Stuart Well, Kiwanis Well, Memorial Well, Rodeo Well, Whitney Well, Brooklane Well, Airport Well No. 3, and Illinois Well.

The City's Wellhead Protection Program delineates wellhead protection areas for each well. A wellhead protection area is the surface and subsurface area surrounding a well, well field, or spring through which contaminants are likely to pass and eventually be transported into the drinking water system. This is the area around the source that must be managed to protect the water supply from contamination. The wellhead protection areas are subdivided into 6-month 1-year, 5-year, and 10-year time of travel zones. The time of travel refers to the estimated amount of time it will take for water (and contaminants) in that zone to reach the supply source. For example, a 1-year time of travel zone represents an area around the well or well field in which contaminants could reach the well within one year. The delineation of time of travel zones is important because the City then knows how much time it could take a contaminant in a certain area to reach the drinking water supply source.

The results of the wellhead protection area delineations are shown in the attached **Figure 1**. Please note that the wellhead protection area boundaries shown in the figure are subject to change in the future based on further hydrogeologic study. Upon delineation of the wellhead protection areas, an update to the inventory of known and potential contaminant sources

located within the defined wellhead protection areas was accomplished. The inventory efforts revealed several potential sources of contamination located within the wellhead protection areas.

An Emergency Response Plan has been developed for the City's water system. The Emergency Response Plan includes a contingency operation plan for the sources and other water system facilities. In summary, the contingency operation plan for the sources in the event of contamination of the water source is to shut down the affected source(s), notify regulatory agencies and customers, and adjust control of other facilities to minimize supply interruption, as required.

If you have any questions or concerns regarding the City's Wellhead Protection Program, please contact me at (509) 962-7230.

Sincerely,

City of Ellensburg

Attachment: Figure 1 – Wellhead Protection Areas

DATE

NAME (Regulatory Agency)
ADDRESS
CITY, STATE ZIP

Subject: City of Ellensburg Wellhead Protection Program

Dear NAME (Regulatory Agency):

This letter is being sent to notify you (an agency that would respond in the event of a spill or contamination of the City's water supply) of the City of Ellensburg Wellhead Protection Program, as required by the Washington State Department of Health (DOH). The City of Ellensburg (City), being an owner of a Group A public water system, is required by the federal Safe Drinking Water Act to maintain a Wellhead Protection Program. The goal of a Wellhead Protection Program is to protect the health of its water customers by preventing contamination of the groundwater that it supplies for drinking water.

The City's active water sources provide drinking water to more than 20,000 people within the existing water service area. Water in the City's system is supplied by City-owned sources including the City Well, Route 10 Well, Hayward Well, Mt. Stuart Well, Kiwanis Well, Memorial Well, Rodeo Well, Whitney Well, Brooklane Well, Airport Well No. 3, and Illinois Well.

The City's Wellhead Protection Program delineates wellhead protection areas for each well. A wellhead protection area is the surface and subsurface area surrounding a well, well field, or spring through which contaminants are likely to pass and eventually be transported into the drinking water system. This is the area around the source that must be managed to protect the water supply from contamination. The wellhead protection areas are subdivided into 6-month 1-year, 5-year, and 10-year time of travel zones. The time of travel refers to the estimated amount of time it will take for water (and contaminants) in that zone to reach the supply source. For example, a 1-year time of travel zone represents an area around the well or well field in which contaminants could reach the well within one year. The delineation of time of travel zones is important because the City then knows how much time it could take a contaminant in a certain area to reach the drinking water supply source.

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If you have any questions or concerns regarding the City's Wellhead Protection Program, please contact me at (509) 962-7230.

Sincerely,

City of Ellensburg

Attachment: Figure 1 – Wellhead Protection Areas

DATE

NAME (Business Owner)
ADDRESS
CITY, STATE ZIP

Subject: City of Ellensburg Wellhead Protection Program

Dear NAME (Business Owner):

This letter is being sent to notify you of the City of Ellensburg Wellhead Protection Program and your location within the wellhead protection area, as required by the Washington State Department of Health (DOH). The City of Ellensburg (City), being an owner of a Group A public water system, is required by the federal Safe Drinking Water Act to maintain a Wellhead Protection Program. The goal of a Wellhead Protection Program is to protect the health of its water customers by preventing contamination of the groundwater that it supplies for drinking water.

The City's active water sources provide drinking water to more than 20,000 people within the existing water service area. Water in the City's system is supplied by both City-owned sources including the City Well, Route 10 Well, Hayward Well, Mt. Stuart Well, Kiwanis Well, Memorial Well, Rodeo Well, Whitney Well, Brooklane Well, Airport Well No. 3, and Illinois Well.

The City's Wellhead Protection Program delineates wellhead protection areas for each well. A wellhead protection area is the surface and subsurface area surrounding a well, well field, or spring through which contaminants are likely to pass and eventually be transported into the drinking water system. This is the area around the source that must be managed to protect the water supply from contamination. The wellhead protection areas are subdivided into 6-month 1-year, 5-year, and 10-year time of travel zones. The time of travel refers to the estimated amount of time it will take for water (and contaminants) in that zone to reach the supply source. For example, a 1-year time of travel zone represents an area around the well or well field in which contaminants could reach the well within one year. The delineation of time of travel zones is important because the City then knows how much time it could take a contaminant in a certain area to reach the drinking water supply source.

The results of the wellhead protection area delineations are shown in the attached **Figure 1**. Please note that the wellhead protection area boundaries shown in the figure are subject to change in the future based on further hydrogeologic study. Upon delineation of the wellhead protection areas, an update to the inventory of known and potential contaminant sources

located within the defined wellhead protection areas was accomplished. The inventory efforts revealed several potential sources of contamination located within the wellhead protection areas.

The activities at your business have the potential to affect the water quality of the City's drinking water source because of your location within the City's wellhead protection area. The inventory findings have been provided to local regulatory agencies and emergency response agencies to make them aware of your business's location within the City's wellhead protection area, as required by DOH.

The purpose of this letter is to inform you of the City's Wellhead Protection Program and your location within the wellhead protection areas. No action is required by you at this time. We hope that your increased awareness of the City's wellhead protection area will make you especially cautious in regard to protecting the drinking water of the City's customers.

If you have any questions or concerns regarding the City's Wellhead Protection Program, please contact me at (509) 962-7230.

Sincerely,

City of Ellensburg

Attachment: Figure 1 – Wellhead Protection Areas

Appendix L

Consumer Confidence Report

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2020 Water Quality Report
(For Water Tests completed in 2017-2019)

The City of Ellensburg Water Division (**PWS: 22950M**) is once again proud to present to you our annual water quality report, which is required by the Federal Safe Drinking Water Act. Over the years, we have dedicated ourselves to delivering drinking water that meets or exceeds all state and federal drinking water standards. We continually strive to adopt new and better methods of delivering the best quality drinking water to you. As new challenges to drinking water safety emerge, we will be vigilant in maintaining our objective of providing quality drinking water at an affordable price. If you have any concerns relating to the information in this report, we encourage you to contact your health care provider. Except where indicated otherwise, this report is based on the results of our monitoring for the period of January 1, 2017 to December 31, 2019.

So What Is The Bottom Line?

Ellensburg's water meets or exceeds state and federal standards. Water is tested regularly through a certified laboratory. State and federal regulators routinely monitor our compliance and testing protocols to assure safe delivery of drinking water to our customers. If you have further questions or comments about the information in this report, please call the City of Ellensburg Water Department at 509-962-7134. We welcome your interest in Ellensburg's water system!

Important Water Facts

The Source of Ellensburg's Water

The City of Ellensburg takes water from ten wells. The largest well, City Well, is located near the Yakima River. The city also utilizes eight deep wells (300 feet to 1250 feet deep). Six well are located within the City limits of Ellensburg, and two wells are located outside our boundaries. An additional deep well is owned by Central Washington University and is utilized by the City to supplement summer demands. The water pumped from these wells is blended together throughout our system.

We are fortunate to benefit from high quality water sources. These sources are treated with chlorine prior to entering the distribution system for disinfection purposes. Fluoride is also added as the water enters the distribution system.

Ellensburg Water: A Great Value!

Your water rates pay for delivering high quality water to your door and keeping the water system in top condition. Currently, the City is making a number of improvements to it's overall water system to ensure the reliability and quality of its water and its service. The money received from water customers funds planning and conservation programs, water supply and treatment, system operation and maintenance, and building and maintenance of the water facilities. Every dollar paid for water is invested in your water system.

Water Use Efficiency Program

The City of Ellensburg has set a goal of a 1% reduction in the amount of water pumped throughout the system over the next 5 years. In order to accomplish this goal, the city will be hiring an outside leak detection contractor to help pinpoint where underground water leaks may be occurring. The city will also continue its comprehensive meter change-out program for all aging meters in the overall system.

In addition to pumping less water, the City of Ellensburg has also established a goal of reducing overall consumption of water by 5% over the next 5 years. In order to reach this goal, the city will be making water efficiency educational materials available to the public at large through various distribution methods.

Additional Information About Water Quality

As water travels over the surface of the land or through the ground, it dissolves naturally occurring minerals and, in some cases, radioactive material, and can pick up substances resulting from the presence of animals or from human activity. Contaminants that may be present in water sources are microbes, pesticides, herbicides, naturally occurring radioactive materials, organic and/or inorganic chemicals.

To ensure that tap water is safe to drink, the Environmental Protection Agency (EPA) sets on the amount of certain contaminants that can be present in water provided by public water systems. The Food and Drug Administration (FDA) sets the limits for contaminants in bottled water. Drinking water, including bottled water, may reasonably be expected to contain at least small amounts of some contaminants. The presence of contaminants does not necessarily indicate that water poses a health risk. More information about contaminants and potential health effects can be obtained by calling the EPA's Safe Drinking Water hotline (1-800-426-4791).

Some people may be more vulnerable to contaminants in drinking water than the general population. Immuno-Compromised persons such as persons with cancer undergoing chemotherapy, persons who have undergone organ transplants, people with HIV/AIDS or other immune system disorders, some elderly, and infants can be particularly at risk from infections. These people should seek advice about drinking water from their health care providers. EPA/CDC guidelines on appropriate means to lessen the risk of infection by Cryptosporidium and other microbial contaminants are available from the Safe Drinking Water Hotline (1-800-426-4791).

If you have any questions, call us at 509-962-7134.

Lead and Copper Monitoring Program Results

Below are the 2017 results (averages) of 30 homes and/or businesses which were tested for lead and copper levels in their drinking water. None of the homes and/or businesses had concentrations of lead or copper that exceeded the Federal Action Level. Exceeding the Action Level would require additional treatment or other requirements for the City of Ellensburg's water system. We will be monitoring customer homes/businesses again in September 2020.

If present, elevated levels of lead can cause serious health problems, especially for pregnant women and young children. Lead in drinking water is primarily from materials and components associated with service lines and home plumbing. The City of Ellensburg is responsible for providing high quality drinking water, but cannot control the variety of materials used in plumbing components. When your water has been sitting for several hours, you can minimize the potential for lead exposure by flushing your tap for 30 seconds to 2 minutes before using water for drinking or cooking. If you are concerned about lead in your water, you may wish to have your water tested. Information on lead in drinking water, testing methods, and steps you can take to minimize exposure is available from the Safe Drinking Water Hotline or at http://www.epa.gov/safewater/lead.

Contaminant	Date Tested	Unit	MCLG	MCL	Average Detected Level	Major Sources	Violations
LEAD	9/25-28/17	mg/L	0	0.015	Non-Detect	Corrosion of Household Plumbing Systems	None
COPPER	9/25-28/17	mg/L	1.300	1.300	0.035	Corrosion of Household Plumbing Systems	None

Water Quality Monitoring Results

The U.S. Environmental Protection Agency requires that water systems report annually on contaminants that have been detected in their water supplies. Ellensburg Water monitors over 170 contaminants, including pesticides, at each of our ten wells (Contaminants to be monitored in a given year are determined by the State of Washington). In addition, the City also collects samples from customer taps to monitor for chlorine and coliforms. We collect samples at our reservoirs, distribution system, and at customers' taps. When contaminants have been detected, they have been below the levels that EPA considers of concern. Ellensburg's water meets or surpasses federal and state drinking water standards.

Important Definitions (Used for the table below)

Maximum Contaminant Level (MCL): The highest level of a contaminant which is allowed in drinking water. MCL is set by EPA & DOH
Maximum Contaminant Level Goal (MCLG): The level of a contaminant in drinking water below which is no expected risk to health.
Milligrams per Liter (mg/l): These units describe the levels of detected contaminants. One milligram per liter is about ½ of a dissolved aspirin tablet (162.5 mg) in a full bathtub of water (about 50gal).
Micrograms per Liter (ug/l): These units are 1/1000's the size of a milligram per liter.
Picocuries per Liter (pCi/L): A measure of Radioactivity
Detected Level: Detection results from testing done at a Certified Laboratory.

Contaminant	Date Tested	Unit	MCLG	MCL	Detected Level	Major Sources	Violations
Arsenic	Aug 18	mg/L	0	0.01	0.001	Erosion of natural deposits; Runnoff from orchards; Runoff from glass and electronics production waste	None
Barium	Aug 18	mg/L	2	2	0.008	Discharge of drilling wastes; Discharge from metal refineries; Erosion of natural deposits	None
Sodium	Aug 18	mg/L	n/a	n/a	16.5		None
Hardness	Aug 18	mg/L	n/a	n/a	38.0		None
Chromium	Aug 18	ug/L	100	100	0.003	Discharge from steel pulp mills; Erosion of natural deposits	None
Fluoride	Aug 19	mg/L	4	4	.58	Erosion of natural deposits; Water additive which promotes strong teeth; Discharge from fertilizer and Aluminum factories	None
Nitrate	Jun 19	mg/L	10	10	0.49	Runoff from fertilizer use; Leaching from septic tanks, sewage; Erosion of natural deposits	None
Mercury	Aug 18	mg/L	0.002	0.002	Non Detect	Erosion of natural deposits; Discharge from refineries and factories; Runoff from landfills; Runoff from cropland	None
Radium 228	Feb 19	pCi/L	n/a	5	Non Detect	Naturally occurring in soil & rocks (Radioactive decay of uranium and thorium)	None
Trihalomethanes	Feb 19	ug/L	n/a	80	Non Detect	By-Product of drinking water disinfection	None
Silver	Aug 18	mg/L	n/a	0.05	0.001	Silver is an element from natural deposits and mining wastes	None
Zinc	Aug 18	mg/L	n/a	5	0.017		None
Iron	Aug 18	mg/L	n/a	0.3	0.09		None

Appendix M
Hydraulic Model Node Diagram

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Legend

- PRV Station
- Tank
- Pump Station
- Well
- Nodes
- City Limits
- Urban Growth Area
- Water Service Area

Pressure Zones

- Unserviceable Area
- 1740 Zone
- 1824 Zone

Airport Reservoir
1.1 MG
Base Elev: 1,722'
Overflow Elev: 1,824'

Airport Well No. 3
(156 gpm)

Airport Well No. 1
(inactive)

Illinois Well
(2,500 gpm)

Transfer Station

Brooklane Well
(780 gpm)

Vuecrest BPS
(1,700 gpm)

Craig Hill Reservoir
4.0 MG
Base Elev: 1,676.5'
Overflow Elev: 1,740'

Mt. Stuart Well
(649 gpm)

Kiwanis Well
(819 gpm)

Rodeo Well
(590 gpm)

Memorial Well
(381 gpm)

Whitney Well
(772 gpm)

City Well (1,366 gpm)
Route 10 Well (1,080 gpm)

Hayward Well
(1,097 gpm)

Northwest Wells

1" = 3,500'

NORTH

C:\DWG\COPY_OF_APPENDIX_M-HYDRAULIC_MODEL_NODE_DIAGRAM.MXD BY: SPERKINS PLOT DATE: AUG 25, 2022 COORDINATE SYSTEM: NAD 1983 STATEPLANE WASHINGTON SOUTH FIPS 4602 FEET

RH2

NORTH

1 inch = 1,200 feet

0 600 1,200 2,400 Feet

DRAWING IS FULL SCALE WHEN BAR MEASURES 2”

City of Ellensburg WASHINGTON

Appendix M
Hydraulic Model Node Diagram
City of Ellensburg
Water System Plan

Vicinity Map

Esri, HERE, Garmin, (c) OpenStreetMap contributors, and the GIS user community

This map is a graphic representation derived from the City of Ellensburg Geographic Information System. It was designed and intended for City of Ellensburg staff use only; it is not guaranteed to survey accuracy. This map is based on the best information available on the date shown on this map.

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Appendix N

Water Resolutions and Ordinances

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Title 9

UTILITIES

Chapters:

9.00 Preliminary Article
9.05 Utility Standards and Guiding Documents
9.10 New Utility Service Connections
9.20 New Utility Main/Primary Voltage Extensions
9.25 Requirements for Receiving Utility Service
9.30 Utility Rates
9.40 Miscellaneous Utility Services
9.50 Emergency Curtailment of Utility Service
9.60 Utility Service Modifications and/or Maintenance
9.91 Utility Rate Schedules
9.92 Utility Fee and Credit Schedules

Chapter 9.00

PRELIMINARY ARTICLE

Sections:
9.00.010 Preliminary article.

9.00.010 Preliminary article.

A. This title shall be known and may be cited as the "Ellensburg utility code."

B. Unless otherwise indicated, the provisions of Chapters 9.05 through 9.100 ECC apply to the city's electric, gas, sewer, water and storm drainage and surface water management utilities only. [Ord. 4634 § 2, 2013; Ord. 4549 § 1, 2009.]

Chapter 9.05

UTILITY STANDARDS AND GUIDING DOCUMENTS

Sections:
9.05.010 Purpose.
9.05.020 Definitions.
9.05.030 General.
9.05.400 Water standards and governing documents.
9.05.500 Penalties.

9.05.010 Purpose.

This chapter identifies other governing documents to be used in conjunction with Chapters 9.05 through 9.92 ECC. [Ord. 4549 § 2, 2009; Ord. 4503 § 2, 2007.]

9.05.020 Definitions.

"City" means the city of Ellensburg, Washington.

"City gas division codes of practice" means the document produced by the city to comply with state and federal laws concerning the safety, operation and maintenance of natural gas systems.

"Ellensburg City Code" means the codified ordinances adopted by the Ellensburg city council.

"National Electric Safety Code" means the most current version of the National Electric Safety Code.

"Public works and utilities director" means the public works and utilities director or any public works and utilities department employee authorized by the public works and utilities director to act on his or her behalf.

"Public works development standards" means the standards developed by the public works and utilities department that establish the guidelines and procedures for the water, sewer, storm sewer, street system and other associated topics administered by the public works and utilities department. [Ord. 4804 §§ 2, 3, 4, 2018; Ord. 4644 § 2, 2013; Ord. 4503 § 2, 2007.]

9.05.030 General.

The directors of their respective utilities shall have authority to render administrative interpretations of the provisions contained in this title and to promulgate rules, policies and procedures to carry out the purposes of this title so long as such rules, policies, interpretations and procedures are not inconsistent herewith. Copies of all standards and governing documents will be available from the city clerk. [Ord. 4503 § 2, 2007.]

9.05.400 Water standards and governing documents.

The construction, maintenance and operation of the water utility shall be in conformance with the Ellensburg Municipal Code; public works development standards; city comprehensive water plan; city's "Cross-Connection and Backflow Policy and Procedure"; Washington State Department of Transportation Standard Specifications for Road,

9.05.500 Penalties.

A. Notice of Violation. In case of any violation of any of the provisions of this title, the department director may cause a written notice thereof to be served on the owner or occupant of the premises where such violation takes place, which notice shall require the payment of the charges provided in this title, and if such charges be not paid within 24 hours from the time of the service of such notice, the utility may be turned off from such premises and shall in no case be turned on until the charges have been paid.

B. Enforcement of Ordinance and Report. It shall be the duty of all the employees to assist the department directors in the enforcement of the provisions of this title, and to this end they shall report all violations thereof which come to their knowledge to the appropriate department director, and it shall be the duty of the fire marshal to report immediately to the public works and utilities director in the case of fire in premises having service for fire protection purposes, that fire has occurred therein.

C. Copies of Codified Ordinance. A copy of the ordinances codified in this title may be obtained by all owners of the property and consumers of utilities, and shall be considered a part of the contract made between the city and every such owner and consumer.

D. Violations. Unless otherwise provided for in this title, it shall be a civil infraction for any person to violate the provisions of this title. Any person who commits a civil infraction under this title shall be assessed a penalty and default amount not to exceed $250.00, not including statutory assessments. Every person convicted of a misdemeanor under this title shall be punished by imprisonment in jail for a maximum term fixed by the court of not more than 90 days, or by a fine in an amount fixed by the court of not more than $1,000, or by both such imprisonment and fine. Each day's violation constituting an infraction or misdemeanor shall be a separate offense. [Ord. 4804 § 4, 2018; Ord. 4503 § 2, 2007.]

Chapter 9.10

NEW UTILITY SERVICE CONNECTIONS

Sections:
9.10.010 Purpose.
9.10.020 Definitions.
9.10.030 General.
9.10.400 Water service requirements.

9.10.010 Purpose.

This chapter establishes the rules for obtaining municipal utility services (electric, gas, telecommunications, sewer or water) where utility mains or other primary infrastructure is available at the property line but service lines and meters do not exist. [Ord. 4709 § 2, 2015; Ord. 4503 § 2, 2007.]

9.10.020 Definitions.

"City standards" means the construction standards administratively adopted by each of the city's utilities specifying sizes, types and quantities of components, and methods used to build city-owned utility plant and infrastructure.

"Plant investment fee" or "PIF" means a charge representing a landowner's equity in the existing depreciated utility plant that benefits all users of a particular utility. Plant investment fees shall be based on the size of the meter and in the case of sewer shall be based on the size of the water meter.

"Reimbursement fee" means a charge paid by an applicant to reimburse parties (including the city) who have previously paid for the extension of utility service. Parties other than the city must have entered into a reimbursement agreement with the city.

"Service credit" means a dollar amount credited against the cost of city-owned and installed facilities that must otherwise be paid by the applicant. Under no circumstances will the city pay the customer if the service credit exceeds the installed cost of facilities nor shall any excess credit be applicable for any other purpose. [Ord. 4503 § 2, 2007.]

9.10.030 General.

A. The city shall own and maintain all service lines (except as noted in ECC 9.10.100(B), (C) and (D)) and other facilities required to provide utility service to the customer up to and including the meter or the point of delivery, which is the physical point at which the utility service ends and the customer's connection to the utility service begins.

B. All equipment or facilities on the customer side of the meter or the point of delivery must be provided, installed and maintained by the customer and must meet or exceed city standards. In the event of any dispute or uncertainty about the location of a point of delivery, the records of the utility that show the location of the particular point of delivery shall control, as determined by the director of the utility department or his/her designee.

C. The customer shall pay all costs for all city-owned service facilities plus any applicable plant investment fee, plus any applicable reimbursement fee, and less any applicable service or other reimbursement credit. Adopted fee and credit amounts are listed in Chapter 9.92 ECC.

D. Utility service for city-owned buildings and facilities shall be provided on the same terms and conditions as those required for any other utility customer.

E. It is unlawful for any person other than authorized city employees or authorized contractors to connect or disconnect any part of the city-owned utility system. Violation of this section constitutes a misdemeanor.

F. It shall be the customer's responsibility to notify the city of any defective utility service.

G. The city shall have the right to refuse or cease to deliver utility service to a customer if any part of the customer-owned service, appliances, or apparatus shall at any time be unsafe, or if the utilization of utility service is prohibited or forbidden under any law or municipal ordinance. The city may refuse to serve until the customer shall put such part in good and safe condition and/or comply with all laws, ordinances, and regulations applicable thereto. The city does not assume the duty of inspecting the customer's service equipment, appliances or apparatus or any part thereof, and assumes no liability therefor. The city shall have the right to refuse to provide utility service to any premises or at any time to discontinue service if found necessary to do so in order to protect against abuse or fraud.

H. Authorized employees of the city shall have free and unrestricted access to any and all premises furnished with utility service by the city for the purpose of inspecting utility installations, reading, installing and removing meters or repairing any property of the city including backflow devices.

I. It is unlawful for any person supplied with city utilities under this chapter, or any other person, to interfere with any meter, or modify, remove, disconnect, or otherwise interfere with any equipment, wires, or appurtenances of the system belonging to the city. This includes providing any utility service (electric, gas, sewer or water) to any other person(s) or property(ies). Violation of this section constitutes a misdemeanor.

J. All facilities covered by this chapter must be constructed to city standards. [Ord. 4789 § 1, 2018; Ord. 4762 § 1, 2016; Ord. 4503 § 2, 2007.]

9.10.400 Water service requirements.

A. A public works construction permit and/or water permit must be obtained prior to any construction. Permits shall be valid for 90 calendar days, unless approved otherwise on the permit. The public works and utilities director may extend the duration of a permit upon written application of the applicant or may determine that a new permit is required (including payment of fees).

B. The owner or occupant of any land or premises shall be required to disconnect any well or potential feature which may create a backflow to the city's water system prior to water service connection.

C. The city shall not be liable for any loss, injury or damage of any kind, including but not limited to consequential, special and punitive damages, resulting from the interruption, reduction, loss or restoration of water service from facilities owned by the city from any cause, including without limitation any loss by fire, flood, accident, casualty, sabotage, terrorist act, strike, labor slow-down, act of God or the public enemy, or failure or inadequacy of water access or appurtenant facilities. Every person and entity accepting service from the water facilities owned by the city agree to, and shall be deemed to, waive any and all claims for damage or loss to the person's or entity's pipes, facilities or water equipment caused by an act or omission of the city; provided, however, that nothing herein shall be deemed or construed as a waiver of any claim for damage or liability arising out of the gross negligence or intentional act of the city or its agents. [Ord. 4820 § 4, 2019; Ord. 4804 § 4, 2018; Ord. 4503 § 2, 2007.]

Chapter 9.20

NEW UTILITY MAIN/PRIMARY VOLTAGE EXTENSIONS

Sections:
9.20.010 Purpose.
9.20.020 Definitions.
9.20.030 General.
9.20.400 Water utility extensions.

9.20.010 Purpose.

This chapter establishes the rules for extending municipal utility services (electric, gas, sewer or water) to subdivisions, short plats and other parcels of land that do not already have utility mains or primary voltage facilities available at the lot line. [Ord. 4503 § 2, 2007.]

9.20.020 Definitions.

"Customer capital contribution" means the payment made to the city to offset a portion of the total capital cost of the extension of main/primary voltage lines.

"Developer" means any applicant who is developing the property for resale or will not occupy the structure to which utility service is being installed. A contractor acting as the direct agent of an individual, partnership or corporation shall not be considered a developer as long as his client does not qualify as a developer.

"Developer subdivisions" means the division of land into two or more lots, tracts or parcels through the major or short subdivision process.

"Duly executed and notarized easement agreement" means the easement agreement is signed by all owners of record in the presence of a notary public and the notary public signs and stamps the agreement.

"Extension credit" means a dollar amount that is some fraction (established by the city council) of the average investment per customer in utility distribution plant as determined by each utility's annual financial report. Each parcel or lot served by the line extension is eligible for an extension credit.

"Gas main line" means a distribution line which serves as a common source of supply for more than two service lines.

"Gas service line" means a distribution line which transports gas from a gas main line to a customer's meter.

"High pressure gas main line" means a line which operates at a pressure higher than 60 psig.

"LID (local improvement district)" means a process to assist benefiting properties in financing needed capital improvements through the formation of special assessment districts to pay for improvements over a period of time. LIDs are further defined in Chapter 35.43 RCW.

"Owners of record" means any individual(s), partnership or corporation holding title to real estate subject to an easement agreement.

"Reimbursement agreement" means an agreement between the city and an individual or business that provides an opportunity for the individual or business to recover a portion of the costs paid to extend or upgrade a utility main. The amount of reimbursement shall be in accordance with the city's municipal code, Chapter 2.50 ECC. Developers are not eligible for reimbursement under reimbursement agreements for any lots served within the boundaries of the development except when utilities are oversized for the benefit of the city and then only for the incremental cost of the oversizing.

"Utility extension agreement" means the agreement that must be executed before non-gas utility service can be extended into the urban growth area surrounding the city. Details can be found in Chapter 2.48 ECC. [Ord. 4503 § 2, 2007.]

9.20.030 General.

A. All mains (gas, sewer, water and stormwater) and primary voltage facilities installed by or on behalf of the city shall remain the property of the city at all times. After acceptance by the city, all such mains and primary voltage facilities shall be maintained by the city.

B.1. Except as required in subsection (B)(2) of this section, any time that new city utilities must be installed on or over private property adjacent to a customer requesting utility service, a duly executed and notarized easement agreement satisfactory to the city must be obtained from the owners of record of the adjacent property and recorded with the office of the county auditor, which may be executed by the director of the utility department. Service lines installed on or over property owned by a customer requesting utility service are exempt from this requirement.

Existing utility facilities that are replaced in the same location on or over another party's private property to serve a customer requesting utility service that have a utility easement satisfactory to the city are exempt from this requirement.

2. Easements located within city-owned property or right-of-way, easements that require city payment, and easements outside of the city limits shall require city council approval.

3. Any party making modification to a property or structure that results in the need to replace, relocate, or otherwise modify existing utility facilities or obtain additional easements shall be responsible for all associated costs.

C. All electrical facilities not installed by city employees must be installed by qualified electrical employees with training equivalent to that required of city employees for the same specific work. All natural gas facilities not installed by city employees must be installed by operator-qualified workers with training equivalent to that required of city employees for the same specific work. The operator qualifications must be approved by the city prior to any electrical or gas work commencing.

D. The city shall have the right and authority to condemn and appropriate so much private property as is necessary for the construction and operation of electric, gas, sewer or water facilities in such manner as may be prescribed by law; and to condemn and appropriate any electric, gas, sewer or water facilities not owned by the city, in such manner as may be prescribed by law for the condemnation of real estate.

E. A utility extension agreement as provided for in Chapter 2.48 ECC and approved by the city council must be executed by a property owner before any city utility service (except gas) can be extended to property located beyond the Ellensburg corporate city limits. The city is authorized, but not mandated, to provide non-gas utility service outside of the corporate city limits but in no case may non-gas utility service be extended outside of the city's urban growth area boundary except as allowed by Chapter 35.84 RCW.

F. The public works and utilities director may determine that an extension or oversizing of utility facilities beyond the needs of the customer(s) is in the best interest of the city for the long-term operation or reliability of the utility system. In such cases the city will pay for the extension and/or the net cost of oversizing and be eligible to recover the costs through a reimbursement fee.

G. The utility directors are authorized to establish standards and procedures for processing applications and determining eligibility for utility reimbursement agreements consistent with the requirements of this chapter.

H. Persons paying to extend or upgrade utility mains to their property may seek partial cost recovery from individuals who connect to the extended or upgraded main at a later date. In order to qualify for partial cost recovery the individual must have entered into a reimbursement agreement with the city prior to substantial completion of the development. [Ord. 4804 §§ 2, 4, 10, 2018; Ord. 4775 § 1, 2017; Ord. 4762 § 3, 2016; Ord. 4644 § 5, 2013; Ord. 4503 § 2, 2007.]

9.20.400 Water utility extensions.

A. The developer is responsible for paying for and installing all facilities required to extend a water main. Actual connection to the constructed main shall be in accordance with the requirements of ECC 9.10.400. In lieu of payment in full, the developer may satisfy this requirement by:

1. Establishment of a local improvement district (LID); or

2. Payment of a proportionate share of costs where nonparticipating property is involved (cost share negotiated with city).

B. A public works construction permit and/or water permit must be obtained prior to any construction. Permits shall be valid for 90 calendar days, unless approved otherwise on the permit. The public works and utilities director may extend the duration of a permit upon written application of the applicant or may determine that a new permit is required (including payment of fees).

C. All facilities shall be designed, drawn, specified and constructed to the public works development standards.

D. The city, at its sole cost and discretion, may extend mains if mains are in the best interest of the utility. [Ord. 4804 § 4, 2018; Ord. 4503 § 2, 2007.]

Chapter 9.25

REQUIREMENTS FOR RECEIVING UTILITY SERVICE

Sections:
9.25.010 Purpose.
9.25.020 Definitions.
9.25.030 General.
9.25.400 Water service requirements.

9.25.010 Purpose.

This chapter establishes the terms and conditions associated with the receipt of city electric, gas, sewer and water utility services. [Ord. 4549 § 3, 2009; Ord. 4503 § 2, 2007.]

9.25.020 Definitions.

Unless specifically defined in this section, all words used in this chapter shall have their ordinary meanings and common usage. The following words and terms when used in this chapter shall have the following meanings:

"AKART" means all known, available, and reasonable methods of prevention, control, and treatment. See also the State Water Pollution Control Act, RCW 90.48.010 and 90.48.520.

"Best management practices (BMPs)" means schedules of activities, prohibitions of practices, general good housekeeping practices, pollution prevention and educational practices, maintenance procedures, and structural or managerial practices to prevent or reduce the discharge of pollutants directly or indirectly to stormwater, receiving waters, or stormwater conveyance systems. BMPs also include treatment practices, operating procedures, and practices to control site runoff, spillage or leaks, sludge or water disposal, or drainage from raw materials storage.

"Building inspector" means the city building inspector or any city employee authorized by the community development director to act in the capacity of building inspector. "Building inspector" shall also mean the county building inspector for facilities located outside of the city's jurisdiction.

"Clean Water Act" means the federal Water Pollution Control Act (33 USC Section 1251 et seq.), and any subsequent amendments thereto.

"Groundwater" means water in a saturated zone or stratum beneath the surface of the land or below a surface water body.

"Hazardous materials" means any material, including any substance, waste, or combination thereof, which because of its quantity, concentration, or physical, chemical, or infectious characteristics may cause, or significantly contribute to, a substantial present or potential hazard to human health, safety, property or the environment when improperly treated, stored, transported, disposed of, or otherwise managed.

"Hyperchlorinated" means water that contains more than 10mg/liter chlorine.

"Illicit connection" means any manmade connection to the city's storm drain system without a permit, excluding roof drains and other similar type connections. Examples include sanitary sewer connections, floor drains, channels, pipelines, conduits, inlets, or outlets that are connected directly to the municipal separate stormwater system.

"Illicit discharge" means any direct or indirect nonstormwater discharge to the city's storm drain system, except as expressly allowed by this chapter.

"Municipal separate stormwater system" (MS4) means a conveyance or system of conveyances (including roads with ditches, manmade channels, or storm drains):

1. Owned or operated by the city of Ellensburg;

2. Designed or used for collecting or conveying stormwater;

3. Which is not part of a publicly owned treatment works (POTW). "POTW" means any device or system used in treatment of municipal sewage or industrial wastes of a liquid nature which is publicly owned; and

4. Which is not a combined sewer. "Combined sewer" means a system that collects sanitary sewage and stormwater in a single sewer system.

"National Pollutant Discharge Elimination System (NPDES) stormwater discharge permit" means a permit issued by the Environmental Protection Agency (EPA) (or by the Washington Department of Ecology under authority delegated pursuant to 33 USC Section 1342(b)) that authorizes the discharge of pollutants to waters of the United States, whether the permit is applicable on an individual, group, or general area-wide basis.

"Nonstormwater discharge" means any discharge to the storm drain system that is not composed entirely of stormwater.

"Person" means any individual, association, organization, partnership, firm, corporation or other entity recognized by law.

"Pollutant" means anything which causes or contributes to pollution. Pollutants may include, but are not limited to: paints, varnishes, and solvents; oil and other automotive fluids; nonhazardous liquid and solid wastes and yard wastes; refuse, rubbish, garbage, litter, or other discarded or abandoned objects and accumulations, so that same may cause or contribute to pollution; floatables; pesticides, herbicides, and fertilizers; hazardous substances and wastes; sewage, fecal coliform and pathogens; dissolved and particulate metals; animal wastes; wastes and residues that result from constructing a building or structure; and noxious or offensive matter of any kind.

"Pounds pressure" means a customer's gas system appliance requiring a constant pressure while in operation.

"Power quality problems" means changes to the standard power normally provided to customers and includes but is not limited to voltage fluctuations, distorted sine wave or frequency shifts.

"Premises" means any building, lot, parcel of land, or portion of land, whether improved or unimproved, including adjacent sidewalks and parking strips.

"Storm drainage system" means publicly owned facilities, including the city's municipal separate stormwater system, by which stormwater is collected and/or conveyed, including but not limited to any roads with drainage systems, municipal streets, gutters, curbs, inlets, piped storm drains, pumping facilities, retention and detention basins, natural and human-made or altered drainage channels, reservoirs, and other drainage structures.

"Stormwater" means runoff during and following precipitation and snowmelt events, including surface runoff and drainage.

"Stormwater pollution prevention plan" means a document which describes the best management practices and activities to be implemented by a person to identify sources of pollution or contamination at a premises and the actions to eliminate or reduce pollutant discharges to stormwater, stormwater conveyance systems, and/or receiving waters to the maximum extent practicable.

"Water column pressure" means the pressure exerted by a column of water; 27.7 inches water column is equal to one pound per square inch (psi). [Ord. 4548 § 1, 2009; Ord. 4503 § 2, 2007.]

9.25.030 General.

A. Application for Service. Upon requesting utility service, the customer shall complete, sign and submit an application for service to the city.

B. Access to Premises. The applicant shall grant the city the right to remove (and replace) or otherwise disturb lawns, shrubs or other property on the applicant's premises as reasonably necessary, for the purpose of installing or extending utility service.

C. The responsibility for obtaining any special review or permit not issued by the city for the trench work, if required, shall rest with the developer, contractor or applicant.

D. Where applicable laws, regulations, or other obstacles prevent use of what would otherwise be the shortest practicable route for the main extension, the applicant shall provide the city a satisfactory alternate easement.

E. No utility service or line extension will be provided to any applicant who has an outstanding balance due any city utility until such time as the outstanding balance is paid in full.

F. No utility service will be connected if, in the opinion of the city, an unsafe condition exists or would exist if the connection were made. The city also reserves the right to disconnect utility service if an unsafe condition is found.

G. When the city enters into a utility extension agreement under Chapter 2.48 ECC for properties beyond the Ellensburg corporate city limits, the following shall take place:

1. The property shall be required to utilize city water, sewer, or electric service, subject to the provisions of subsection (H) of this section;

2. The property shall be required to utilize city natural gas service for any new services; and

3. The property shall be required to construct all improvements required by the public works development standards. These improvements include water, sanitary sewer, surface water flow control and treatment, street improvements which include street, sidewalk, curb and gutter, street sign, and street lighting improvements and when applicable, natural gas and electrical utility improvements.

H. When a property is located within the Ellensburg corporate city limits or within the city's urban growth area, and requests water, sewer or electric service, the property shall be required to apply for, and make connection to, all three services as a condition of the permit; provided, however, if the property consists of a single lot of record containing one single-family dwelling unit, connection to less than all three services may be approved by the city if, at the time of application:

1. One or more of the utility services is not available to serve the property; or

2. The connection cost for a particular utility service would be excessive in comparison to the average cost for a similar service connection, as determined by the utility director.

Any connection to less than all three utility services is subject to the owner executing an agreement with the city to make connection at such time as the unavailable utility becomes available to the property, and to participate in a proportionate share of the cost of the extension. [Ord. 4765 § 1, 2017; Ord. 4644 § 7, 2013; Ord. 4600 § 1, 2011; Ord. 4503 § 2, 2007.]

9.25.400 Water service requirements.

A. When new buildings are to be erected on the site of old ones and it is desired to increase the size or change the location of the old service connection, or where a service connection to any premises is abandoned or no longer used, the public works and utilities director may cut out or remove such service connection, after which, should a service connection be required to said premises, a new service shall be placed only upon the owner making an application for a new tap in the regular manner.

B. When water has been shut off for any cause, and is turned on again or allowed or caused to be turned on by the owner, no refund of rates will be made on account of its having been shut off, and the public works and utilities director may then shut off the water at the main, or remove a portion of the service connection in the street, and shall charge the actual cost of cutting out and reinstating the water supply.

C. Water for construction purposes may be furnished by meter, and the payment for the same shall be made at the same time and in the manner as other meter rates. All water for building or construction purposes shall be charged against the property upon which it is used, and the owner thereof.

D. The city will install a temporary meter upon request. The meters will be considered temporary until such time that the service is used for its intended purpose or occupancy of facility served, which shall be considered permanent. If a meter or appurtenances requires maintenance or moving vertically or horizontally when it becomes permanent, the city will perform required work and the permit holder will be billed for the work.

E. When several houses, buildings, or premises are supplied or are to be supplied with water through one service connection with the city main, the public works and utilities director may in his/her discretion either decline to furnish water until separate services are provided or the service is metered, or in case any one of the owners or occupants becomes delinquent or violates any of the provisions of this chapter, the public works and utilities director may shut off the original or main service until all delinquent and unpaid charges and other charges are paid, and the premises supplied by the main service shall be held responsible for all delinquent and unpaid charges against any one or all of the separate owners or users. No change of ownership or occupation shall affect the application of this section.

F. It is unlawful for any person to waste water or allow it to be wasted by imperfect or leaking stops, valves, pipes, closets, faucets or other fixtures, or to use water closets without self-closing valves, or to allow any pipes or faucets to run open to prevent the service from freezing, or for any other reason, or to use the water for purposes other than those named in the application upon which rates for water are based, or for any other purpose than that for which his utility service agreement provides, or to use it in violation of any provision of this chapter.

G. When the water utility has been requested to attach a meter to pipes within a building or buildings occupied by several tenants, and it is divided without alteration being made in the plumbing that is divided, written notice and request to make such necessary alterations shall be given by the water department to the owner or occupant. In the event of failure to comply with said notice within 10 days after its date, the supply may be withdrawn until the alteration shall have been made. [Ord. 4804 § 4, 2018; Ord. 4503 § 2, 2007.]

Chapter 9.30

UTILITY RATES

Sections:
9.30.010 Purpose.
9.30.020 Definitions.
9.30.030 General.
9.30.400 Water rates.

9.30.010 Purpose.

This chapter establishes the basis for setting utility rates, fees and credits for the city's electric, gas, sewer and water utilities and the criteria for determining customer eligibility to receive such utility service under a particular rate schedule. [Ord. 4549 § 4, 2009; Ord. 4503 § 2, 2007.]

9.30.020 Definitions.

"BOD (biochemical oxygen demand)" means the quantity of oxygen utilized in the biochemical oxidation of organic matter under standard laboratory procedure in five days at 20 degrees centigrade, expressed in parts per million by weight.

"Debt service coverage" or "DSC" means the result of a calculation dividing a utility's margin (profit) for the year by the utility's annual debt payment.

"Domestic strength wastewater" means wastewater having a BOD of 200 mg/l and suspended solids of 250 mg/l.

"Electric demand" means the maximum KW delivered during a 15-minute period in which the consumption of energy is the greatest during the month.

"Income" means all moneys received by the claimant from any source. It includes, but is not limited to: wages, railroad retirement, Social Security benefits, investment income in the form of dividends from stock, interest on savings accounts and bonds, capital gains, gifts and inheritances, net rental income from real estate, disability payments, retirement pay and annuities. Reimbursement for losses shall not be considered as income.

"Low-income disabled citizen" means a person with a combined household income at or below 125 percent of the federally established poverty level who: (A) provides documentation of disability from the Social Security Administration of the federal government; or (B) qualifies for special parking privileges under RCW 46.19.010(a) through (j); or (C) demonstrates through documentation from a qualified medical professional that he or she has a disability identified in RCW 46.19.010(a) through (j); or (D) qualifies as a blind person as defined in RCW 74.18.020.

"Low-income senior citizen" means a person who is 65 years of age or older with a combined household income at or below 125 percent of the federally established poverty level.

"Nonprofit agencies serving the disadvantaged" means agencies with a 501(c)(3) tax exempt designation from the Internal Revenue Service (IRS), a majority of whose clients/customers: (A) qualify for the low-income senior citizen rate, (B) are persons with disabilities of the types recognized by the city for determining eligibility for the low-income disabled citizen rate, regardless of their actual income level, or (C) are persons from families determined to be low income as defined by the poverty guidelines updated periodically in the Federal Register by the U.S. Department of Health and Human Services under the authority of 42 USC Section 9902(2).

"Power factor" or "PF" means the ratio of the real power to the apparent power, and is a number between zero and one. "Real power" is the capacity of the circuit for performing work in a particular time. "Apparent power" is the product of the current and voltage of the circuit.

"Purchased gas cost adjustment" means the average cost of gas per Ccf paid by the city (including current city and state taxes per Ccf) the month prior to the billing month. [Ord. 4855 § 1, 2020; Ord. 4844 § 1, 2019; Ord. 4650 § 1, 2013; Ord. 4571 § 1, 2010; Ord. 4555 § 1, 2009; Ord. 4503 § 2, 2007.]

9.30.030 General.

A. Utility billings shall be made on a service month of approximately 30 days.

B. It is intended that all utility rates be based on cost-of-service principles. Subsidies between rate schedules shall be avoided except for low-income senior citizen, low-income disabled citizen and nonprofit agency serving the disadvantaged rate schedules. The subsidies for low-income senior citizens and low-income disabled citizens receiving electric and natural gas services shall be minimized by requiring participation in energy conservation programs that are available at no charge.

C. Provision of utility service under any of the rate schedules listed in this section shall be subject to the general provisions of city ordinances.

D. Nonpayment of any utility service charges shall constitute a nonpayment of a utility bill and the city may in such cases refuse to initiate other city utilities to the premises until such delinquent account is paid in full.

E. Adopted rate schedules are set forth in Chapter 9.91 ECC. [Ord. 4639 § 1, 2013; Ord. 4555 § 2, 2009; Ord. 4503 § 2, 2007.]

9.30.400 Water rates.

A. Separate water rates shall be established for the following rate classes: residential, residential multiple housing, low-income senior citizen/low-income disabled citizen, commercial and industrial, nonprofit agency serving the disadvantaged, private fire protection, Central Washington University, meter maintenance service, municipal and new large commercial/industrial contract.

B. All service of water shall be metered unless specified otherwise under this chapter.

C. Where the residential service is also used for "seasonal sprinkling service," the customer charge shall be on a 12-month basis and shall apply even during periods of nonuse.

D. The low-income senior citizen/low-income disabled citizen and nonprofit agency serving the disadvantaged rates shall have a consumption charge and customer charge set at 50 percent of the residential rate and the commercial/industrial rate respectively. [Ord. 4844 § 5, 2019; Ord. 4555 § 6, 2009; Ord. 4503 § 2, 2007.]

Chapter 9.40

MISCELLANEOUS UTILITY SERVICES

Sections:
9.40.010 Purpose.
9.40.020 Definitions.
9.40.030 General.
9.40.100 Reconnect service.
9.40.120 Disconnect service.
9.40.140 Meter testing service.
9.40.160 Inspection service.
9.40.180 Temporary utility service.
9.40.290 Recreational vehicle waste discharge.
9.40.300 Fire protection.
9.40.350 Nonstandard utility services.
9.40.400 Services provided to other city departments.
9.40.450 Street and area lighting.
9.40.475 Use of spare or joint use conduits.
9.40.500 Abandoned utility services.
9.40.550 Opening fire hydrants.
9.40.560 Property of water system.
9.40.570 Water leakage adjustments.
9.40.600 Fluoridation.
9.40.700 Water contamination prevention.

9.40.010 Purpose.

This chapter establishes the rules for setting and applying fees for miscellaneous services provided by the city in support of the city's utilities. [Ord. 4503 § 2, 2007.]

9.40.020 Definitions.

"Cross-connection" means any physical arrangement whereby a public water supply is connected, directly or indirectly, with any other water supply system, sewer, drain, conduit, pool, storage reservoir, plumbing fixture or other device which contains, or may contain, contaminated water, sewage, or other waste or liquid or gas of unknown or unsafe quality which may be capable of imparting contamination to the public water supply as a result of backflow. Examples of cross-connections are irrigation systems and building fire suppression systems.

"Nonstandard utility service" means any work performed on facilities not owned by the city's utilities and/or services provided which are not required in order to provide utilities for use by the customer. [Ord. 4503 § 2, 2007.]

9.40.030 General.

Adopted fee schedules for utility services are set forth in Chapter 9.92 ECC. [Ord. 4503 § 2, 2007.]

9.40.100 Reconnect service.

A reconnect fee equal to one hour at the hourly wage of a serviceman/journeyman must be paid at the time a request for reconnection of utility service is made, if the request is made by the same customer who requested the disconnection of service or whose utility service was disconnected because of nonpayment of their utility bill. Reconnects requested outside of the city's normal work hours shall require an after hours reconnect fee equal to two hours at the hourly overtime wage of a serviceman/journeyman. All costs associated with the reconnection service shall be billed to the customer. [Ord. 4684 § 4, 2014; Ord. 4644 § 8, 2013; Ord. 4503 § 2, 2007.]

9.40.120 Disconnect service.

Customers who request to have their utility service disconnected may have their meter shut off and sealed at no cost. Customers who request to have their utility service disconnected must pay a reconnect fee to restore utility service.

The city may disconnect the customer's utility service for nonpayment of their utility bill. Under some circumstances state law may preclude disconnection of utility service in the winter months. [Ord. 4503 § 2, 2007.]

9.40.140 Meter testing service.
If a customer requests that a utility meter be tested for accuracy and such test reveals that the meter is within generally accepted tolerance, plus or minus, of true accuracy, a meter test fee will be paid by the customer. If the meter is found to be inaccurate, plus or minus, by more than the generally accepted tolerance, no fee will be charged and a reasonable adjustment of utility billing statements for the prior six months of metered service will be made. Generally accepted tolerance for electric meters is two percent. Generally accepted tolerance for all other meters is six percent. [Ord. 4503 § 2, 2007.]

9.40.160 Inspection service.
Whenever work is being performed in the city right-of-way or on utility facilities currently owned or ultimately to be owned by the city, the city may require the presence of a city employee to act as an inspector to ensure the work is being performed to city standards. All costs associated with such inspections shall be billed to the entity performing the work. [Ord. 4503 § 2, 2007.]

9.40.180 Temporary utility service.
When a temporary utility service is required for construction purposes and facilities must be installed that will not become part of the permanent service, the cost of all labor, equipment and nonsalvageable material used to install and remove the additional facilities shall be paid by the person(s) requesting such service. This amount shall be paid in advance of construction. [Ord. 4503 § 2, 2007.]

9.40.290 Recreational vehicle waste discharge.
Waste from recreational vehicles shall be discharged only in those facilities and at those locations which have been approved by the public works and utilities director. It is unlawful for any person or business to accept waste from a recreational vehicle without having a permit to accept such waste. [Ord. 4804 § 4, 2018; Ord. 4503 § 2, 2007.]

9.40.300 Fire protection.
Services for fire protection must be fitted with such fixtures only as are needed for fire protection and entirely disconnected from those used for other purposes. In no case shall a tap be made to a fire service, nor shall the use of water be permitted through any fire service, except for the extinguishing of fire on the premises. The connection charges for fire protection lines shall be computed to reflect the actual cost of installation. [Ord. 4503 § 2, 2007.]

9.40.350 Nonstandard utility services.
City utilities have historically provided assistance to the community in many areas not specifically associated with the provision of standard utility service and may continue to do so under the following circumstances:

A. The service or work being performed utilizes equipment or employee expertise that is otherwise unavailable locally from private enterprise or cannot be provided by the private sector within the required time frame.

B. The party receiving the service or for whom the work is being performed must execute a written contract agreeing to reimburse the city for all costs associated with said service or work and to indemnify, defend and hold the city harmless from any damages resulting from the work. With approval from the department director, waiver of fees for eligible agencies is permitted but still requires a written contract. Agencies eligible for waiver of fees but not automatically exempt include other governmental entities, nonprofit agencies, and community-oriented events. Any fee waiver must comply with the State Constitution's prohibition against gifting.

C. The city will not be obligated to perform any nonstandard utility service or work but shall evaluate each request individually. Provision of any particular service or work to a customer in the past shall in no way obligate the city to provide the same or similar service or work in the future.

D. Any nonstandard utility service or work shall be performed on a nonpriority basis and shall only be performed when such work will not interfere with the normal operations of the utility. [Ord. 4503 § 2, 2007.]

9.40.400 Services provided to other city departments.
City utilities are encouraged to provide assistance to other city departments. The requesting department shall only be responsible for costs associated with materials or services provided by outside agencies in support of the request or for any overtime labor costs. There shall be no charge for straight-time labor or city-owned utility equipment unless by prior agreement between departments. [Ord. 4503 § 2, 2007.]

9.40.450 Street and area lighting.
The city provides street lighting for arterial streets, intersections, and other critical locations in the city needing illumination. Public works and utilities provides for operation and maintenance of street lighting to the city at cost. Auxiliary lighting may be installed based on recommendations of other city departments subject to approval by the public works and utilities director. The city will not install any new area lighting for any other entity except under provisions of ECC 9.40.350. [Ord. 4804 §§ 1, 2, 2018; Ord. 4503 § 2, 2007.]

9.40.475 Use of spare or joint use conduits.
A. The city-owned telecommunications utility may use spare conduits and jointly use primary and secondary conduits owned by the city electric utility, and the city-owned telecommunications utility may jointly use secondary conduits owned by the city for street lighting, for the installation of telecommunications facilities.

B. The city-owned telecommunications utility shall pay a conduit licensing fee in accordance with ECC 9.92.100 for the use of spare or joint use conduits when customers are receiving telecommunications services.

C. Installation of telecommunications facilities in primary or secondary conduits owned or under the exclusive control of the city electric utility shall be performed by qualified electrical employees.

D. Priority to the restoration of damaged joint use conduits shall be given to city light customers, then to telecommunications customers.

E. Other entities may use spare conduits and jointly use primary and secondary conduits owned by the city for telecommunications facilities, subject to a determination by the public works and utilities director that there is excess capacity and such use is in accordance with ECC 9.05.100. Other entities shall pay a conduit licensing fee in accordance with ECC 9.92.100 for the use of spare or joint use conduits when customers are receiving telecommunications services. The city shall not be responsible for locating or repairing spare conduits used by other entities. Priority to the restoration of damaged joint use conduits shall be given to city light customers, then to telecommunications customers, and then to other entities. [Ord. 4804 § 2, 2018; Ord. 4790 § 1, 2018.]

9.40.500 Abandoned utility services.
A. The city, at its option, may abandon in place or remove city-owned utility equipment from any building or property where utility service has not been utilized for more than one year. Any such building or property shall thereafter be required to apply for utility service(s) as if it had never had a previous utility service.

B. If authorized by the utility director, conduits, water piping, natural gas piping, sewer piping, and stormwater piping that have been abandoned by the city may be used for telecommunications facilities at no charge.

C. The city shall not be responsible for locating or repairing abandoned utility services.

D. The utility director shall determine if an easement, or permit in accordance with Chapter 4.06 ECC, is required prior to the use of abandoned utility services for telecommunications facilities. [Ord. 4790 § 2, 2018; Ord. 4503 § 2, 2007.]

9.40.550 Opening fire hydrants.
A. It is unlawful for any person, except when duly authorized by the public works and utilities director, to operate, turn on, turn off, interfere with, attach any pipe or hose to, or connect anything with any fire hydrant, valve, or stop cock belonging to the city. Violation of this section constitutes a misdemeanor.

B. Any person, other than authorized employees of Kittitas Valley Fire and Rescue requiring the use of any hydrant or valve belonging to the city, must make written application for the same in advance to the public works and utilities director. [Ord. 4804 § 4, 2018; Ord. 4503 § 2, 2007.]

9.40.560 Property of water system.
It is unlawful for any person, unless duly authorized by the public works and utilities director, to disturb, contaminate, interfere with or damage any water main, water pipe, reservoir, machinery, tools, buildings, or improvements, belonging to, connected with or under the control of the municipal water system of the city. Violation of this section constitutes a misdemeanor. [Ord. 4804 § 4, 2018; Ord. 4503 § 2, 2007.]

9.40.570 Water leakage adjustments.
Residential water customers are eligible for a reasonable adjustment of utility billing statements for the prior six months of metered service when a previously undetected leak in the customer's service line is found and repaired. [Ord. 4503 § 2, 2007.]

9.40.600 Fluoridation.
The city shall have the authority to fluoridate the domestic water supply of the city in accordance with standard accepted practices for the fluoridation of water. [Ord. 4503 § 2, 2007.]

9.40.700 Water contamination prevention.
A. The installation or maintenance of a cross-connection which will endanger the water quality of the potable water supply of the city is prohibited. Any such cross-connection now existing or hereafter installed is a nuisance and shall be abated. The control or elimination of cross-connections shall be in accordance with the Washington Administrative Code (WAC 246-290-490 or 296-24-12005) or subsequent revisions, together with any future manuals of standard practice pertaining to cross-connection control approved by the Director of the State of Washington Department of Health, and the city's "Cross-Connection and Backflow Policy and Procedure," which policy by this reference is incorporated into this title and which is on file with the office of the city clerk for public use and examination. The water supply will be discontinued to any premises for failure to comply with the provisions of this section and will not be re-established until compliance is approved by the public works and utilities director.

B. Service from the city water supply system to any premises upon which a private water supply system is used or operated contrary to the provisions of the rules and regulations of the State Department of Health regarding public water supplies may be discontinued or refused upon order of the public works and utilities director.

C. Furnishing of any fire suppression, irrigation or other service representing a backflow potential shall be contingent upon the installation of the backflow prevention device approved by the State of Washington Department of Health for the protection of the city water supply from backflow.

D. A public works irrigation/backflow permit shall first be issued prior to any connection being made to the city water system, when said connection has been identified as being a potential cross-connection. [Ord. 4804 § 4, 2018; Ord. 4503 § 2, 2007.]

Chapter 9.50

EMERGENCY CURTAILMENT OF UTILITY SERVICE

Sections:
9.50.010 Purpose.
9.50.020 Definitions.
9.50.030 General.
9.50.400 Water service curtailment.

9.50.010 Purpose.

This chapter establishes the rules for curtailing or otherwise suspending utility service to municipal utility customers during emergency conditions. [Ord. 4503 § 2, 2007.]

9.50.020 Definitions.

"Emergency condition" means any local or regional event that causes or threatens to cause an unsafe situation for the public or city employees; or a situation where failure to curtail service could lead to more widespread or serious curtailment of utility service. [Ord. 4503 § 2, 2007.]

9.50.030 General.

A. In order to avoid more widespread service disruptions and/or to comply with state or federal mandates to reduce consumption, the city needs to plan for and execute reduction or curtailment programs that temporarily control electrical, gas and/or water usage by utility customers.

B. The city manager or, in his absence, his designee shall have the authority to declare that an emergency condition jeopardizing the health and general safety of the public exists and that the use of any or all utility services from the city shall be curtailed. Whenever possible, attempts will be made to provide prior notification to customers of impending service reductions or curtailments.

C. Plans will be administratively developed and will focus on voluntary compliance, priority for healthcare facilities, and minimizing the impact on customers while still complying with mandates to reduce or curtail consumption.

D. Plans will be approved by the city council and will generally be available for review by the public. Information deemed sensitive due to Homeland Security or other applicable federal standards shall not be made available to the public, except to the extent disclosure is mandated by the Washington State Public Records Act, Chapter 42.56 RCW. [Ord. 4503 § 2, 2007.]

9.50.400 Water service curtailment.

A. The public works and utilities director shall prepare and maintain a detailed plan that, when placed into effect, will ensure the maintenance of adequate water reserve storage, yet provide sufficient water for the general health and sanitary requirements of the residents of the city.

B. The specific plan for the curtailment of water use from the city water distribution system shall become effective four hours after the declaration of the emergency condition. The specific plan of curtailment shall be provided to the local radio station or other communications media as soon as possible.

C. It is unlawful for any person, firm, or corporation to use water supplied through the water distribution system of the city in any manner whatsoever that is not in compliance with the terms of the announced plan for the curtailment of water usage. Violation of this section constitutes a misdemeanor.

D. The city reserves the right at any time, without notice, to shut off the water supply for repairs, extensions, nonpayment of rates or any other reason, and the city shall not be responsible for any damages, such as bursting of boilers supplied by direct pressure, the breaking of any pipes or fixtures, stoppages or interruption of water supply, or any other damage resulting from the shutting off of water. Where possible, prior notice of the shut off will be given. [Ord. 4804 § 4, 2018; Ord. 4503 § 2, 2007.]

Chapter 9.60

UTILITY SERVICE MODIFICATIONS AND/OR MAINTENANCE

Sections:
9.60.010 Purpose.
9.60.020 Definitions.
9.60.030 General.
9.60.400 Water service modifications and/or maintenance.

9.60.010 Purpose.

This chapter establishes the rules for modifying the type of utility service, the location of utility service or the size of utility service provided to existing customers. [Ord. 4503 § 2, 2007.]

9.60.020 Definitions.

"Maintenance credit" means a dollar amount equal to the anticipated savings in maintenance costs over a 10-year period comparing the existing overhead to new underground facilities.

"Plant investment fee" or "PIF" means a charge representing a landowner's equity in the existing depreciated utility plant that benefits all users of a particular utility. Plant investment fees shall be based on the size of the meter and in the case of sewer shall be based on the size of the water meter. A PIF is nonrefundable and shall remain a part of the property to which it is assigned and shall run with the land in the event of sale or other transfer. [Ord. 4503 § 2, 2007.]

9.60.030 General.

A. Any modifications to an existing utility service that are requested by the customer and do not directly benefit the city shall be paid for by the customer.

B. Customers are responsible to notify the city whenever they make changes that can result in an increase in utility usage of 10 percent or more.

C. The city will maintain its facilities at no cost to existing customers.

D. In all cases the customer is responsible for all costs associated with restoration of any landscaping and any changes to customer-owned facilities. [Ord. 4503 § 2, 2007.]

9.60.400 Water service modifications and/or maintenance.

A. The customer is responsible for all costs associated with upgrading or modifying an existing service less a meter credit if applicable. This responsibility includes an adjusted plant investment fee based on the size of the new water meter PIF less the old water meter PIF. A credit will be granted if the service is downsized.

B. Maintenance of service lines up to and including meters is the responsibility of the city. Customer is responsible for the service line from the meter to the service facility location.

C. Whenever it is determined that water flow exceeds the rating of a meter, the customer shall be required to pay the city for the cost of installing a larger meter. The provisions of subsection (A) of this section shall apply. [Ord. 4503 § 2, 2007.]

Chapter 9.91

UTILITY RATE SCHEDULES

Sections:
9.91.400 Water utility rate schedules.

9.91.400 Water utility rate schedules.

Effective Date: 4/1/2019

A. Residential W-110.

1. Availability. This rate schedule is available to single-family dwellings, residential seasonal sprinkling service, and churches.

2. Character of Service. Service shall be through metered delivery.

3. Rate. The rate shall be composed of a monthly consumption charge plus a daily customer charge based on meter size.

B. Irrigation W-111.

1. Availability. This rate schedule is available to irrigation systems served by a water meter dedicated to irrigation service.

2. Character of Service. Service shall be through metered delivery.

3. Rate. The rate shall be composed of a monthly consumption charge plus a daily customer charge based on meter size.

C. SF Residential Including Fire Service W-115.

1. Availability. This rate schedule is available to single-family dwellings when a single-family residential customer elects to install a fire suppression system within the structure charged from city water service. The fire suppression system must be installed by a licensed professional fire installer permitted by the Kittitas County Fire District No. 2.

2. Character of Service. Service shall be through metered delivery.

3. Rate. The rate shall be composed of a monthly consumption charge plus a daily customer charge based on meter size. The maximum meter size available at this rate is one inch.

D. Residential Multiple Housing W-120.

1. Availability. This rate schedule is available to buildings, grounds, and premises used for residential multiple housing purposes.

2. Character of Service. Service shall be through metered delivery.

3. Rate. The rate shall be composed of a monthly consumption charge plus a daily customer charge based on meter size.

E. Low-Income Senior Citizen/Low-Income Disabled Citizen W-130.

1. Availability. This rate is available for residential service to individuals who meet the definition of low-income senior citizen or low-income disabled citizen and who do not reside in federally subsidized housing.

2. Character of Service. Service shall be through a single five-eighths-inch to three-fourths-inch meter at a single point of delivery.

3. Rate. The rate shall be composed of a monthly consumption charge plus a daily customer charge. The rates established by this section will be published by the public works and utilities department on the city's website, and be made available from the city's finance department.

F. Commercial/Industrial W-200.

1. Availability. This rate schedule is available to commercial users, industrial users, and other customers who do not qualify under other rate schedules.

2. Character of Service. Service shall be through a metered delivery.

3. Rate. The rate shall be composed of a monthly consumption charge plus a daily customer charge based on meter size.

G. Private Fire Protection W-300.

1. Availability. This rate schedule is available inside the city to any water user connected to the municipal water system for the use of fire protection only.

2. Character of Service. Service shall be through a nonmetered connection and shall be separately piped within the premises for the purpose of fire protection only, and shall require installation of a detector device.

3. Rate. The daily rate shall be based on the diameter of pipe connecting the fire protection to the city main.

H. Central Washington University W-600.

1. Availability. This rate schedule is available to buildings, grounds and premises operated by Central Washington University.

2. Character of Service. Service shall be through a metered delivery.

3. Rate. The rate shall be composed of a monthly consumption charge plus a daily customer charge based on meter size.

I. Meter Maintenance Service W-610.

1. Availability. This rate schedule is established for those water meters of Central Washington University which are used to measure the water which is the basis for determination of the sewer charge and not for water consumption billing.

2. Character of Service. The charges are for the purpose of covering the expense of maintenance to the meters and additional labor and expense in meter reading and billing.

3. Rate. The rate shall be composed of a daily customer charge based on meter size.

J. Nonprofit Agency Serving the Disadvantaged W-700.

1. Availability. This rate schedule is available to nonprofit agencies serving the disadvantaged. The rates established by this section will be published by the public works and utilities department on the city's website, and be made available from the city's finance department.

2. Character of Service. Service shall be through a metered delivery.

3. Rate. The rate shall be composed of a monthly consumption charge plus a daily customer charge based on meter size.

K. Municipal W-710.

1. Availability. This rate schedule is available to buildings, grounds and premises operated by the city.

2. Character of Service. Service shall be through a metered delivery.

3. Rate. The rate shall be composed of a monthly consumption charge plus a daily customer charge based on meter size.

L. New Large Commercial/Industrial Contract W-800.

1. Availability. This rate is available to customers whose services are provided by contract authorized by the city council. The city will provide water service under this schedule; provided, that:

a. Adequate capacity exists in the city's water distribution system;

b. Adequate capacity exists in the city's water supply system; and

c. The customer has executed a water sales agreement with the city for service under this schedule.

2. Rate. The rates under this schedule will be covered by individual contract between the city and the customer.

3. Billing. Billing shall be made on a calendar month basis or as otherwise covered by the agreement.

Water Rate (Consumption)

Rate Class	Rate and Effective Date		Consumption Unit
	4/1/2019 ($/1,000 gal.)	1/1/2020 ($/1,000 gal.)	
W-110			
Residential	$1.81	$1.92	First 15,000 gallons
	$1.93	$2.05	All over 15,000 gallons
W-111			
Irrigation	$1.93	$2.12	First 15,000 gallons
	$2.06	$2.26	All over 15,000 gallons
W-115			
Residential Fire Protection	$1.81	$1.92	First 15,000 gallons
	$1.93	$2.05	All over 15,000 gallons
W-120			
Multifamily	$1.87	$1.98	All consumption

Rate Class	Rate and Effective Date		Consumption Unit
	4/1/2019 ($/1,000 gal.)	1/1/2020 ($/1,000 gal.)	
W-200			
Commercial/Industrial	$1.88	$2.01	First 100,000 gallons
	$1.56	$1.67	All over 100,000 gallons
W-300 *			
Private Fire Service	$0.2049	$0.2099	*Dollars/day/inch diameter of connection pipe
W-600			
CWU	$1.88	$2.01	First 100,000 gallons
	$1.56	$1.67	All over 100,000 gallons
W-710			
Municipal	$2.07	$2.35	First 100,000 gallons
	$1.71	$1.94	All over 100,000 gallons

Water Rate (Customer Charge)

Service Size	Daily Fixed Charge	
	2019 ($/Day)	2020 ($/Day)
5/8" or 3/4" Meter	$0.7927	$0.8482
1" Meter for W-115 Class Only	$0.8147	$0.8702
1" or 1-1/4" Meter	$1.9815	$2.1202
1-1/2" Meter	$3.9626	$4.2401
2" Meter	$6.3403	$6.7841
3" Meter	$11.8869	$12.7190
4" Meter	$19.8125	$21.1992
6" Meter	$39.6233	$42.3972
8" Meter	$63.3985	$67.8365

CWU Irrigation Meter Maintenance Fee W-610

Service Size	Daily Fixed Charge	
	4/1/2019 ($/Day)	1/1/2020 ($/Day)
5/8" or 3/4" Meter	$0.2264	$0.2422
1" or 1-1/4" Meter	$0.3621	$0.3874
1-1/2" Meter	$0.5102	$0.5459
2" Meter	$0.8939	$0.9565
3" Meter	$1.4035	$1.5017
4" Meter	$2.2423	$2.3993
6" Meter	$4.5853	$4.9063

[Ord. 4844 § 9, 2019; Ord. 4817 § 1, 2018; Ord. 4690 § 2, 2014; Ord. 4555 § 10, 2009; Ord. 4503 § 2, 2007.]

Chapter 9.92

UTILITY FEE AND CREDIT SCHEDULES

Sections:
9.92.400 Water utility fee and credit schedule.

9.92.400 Water utility fee and credit schedule.

Effective Date: 1/1/19

Service Credit	None		
Extension Credit	None		
Reconnect Fee	1 hour at senior pipeperson wage		
Unauthorized Service Fee	1.5 hours at senior pipeperson wage		
After Hours Reconnect Fee	2 hours at senior pipeperson overtime wage		
Inspection Fee	See ECC Title 4		
Temporary Service Fee	Actual cost		
Plant Investment Fees	Meter Size	PIF	
		2019	2020
	3/4-inch or smaller	$3,080.00	$3,600.00
	1-inch	$5,144.00	$6,012.00
	1-1/2-inch	$10,256.00	$11,988.00
	2-inch	$16,416.00	$19,188.00
	3-inch	$30,800.00	$36,000.00
	4-inch	$51,344.00	$60,012.00
	6-inch	$102,656.00	$119,988.00
	8-inch	$164,256.00	$191,988.00
Reimbursement Fee	Varies by agreement and/or cost to city		
Developer Reimbursement Application Fee	$50.00		
Public Works Permit Fee	$25.00		
Irrigation/Backflow Permit	$10.00		

Meter Connection Fees	Meter Size	Service Charge	Meter Only
	3/4" or less	$900.00	$190.00
	1"	$1,000.00	$240.00
	1-1/2" or more	actual cost	actual cost

Meter Exchange Credit	Meter Size	Credit
	3/4" or less	$45.00

	1"	$120.00
	1-1/2"	$360.00
	2"	$750.00
	3"	$1,200.00
	4"	$2,250.00
	6"	$4,500.00
Bacteriological Samples	Actual cost	
Water Use by Hydrant	$100.00 first month/per permit $25.00 per week/permit after first month	
Backflow Assembly	$400.00 (refundable deposit)	

[Ord. 4817 § 3, 2018; Ord. 4761 § 3, 2016; Ord. 4690 § 3, 2014; Ord. 4555 § 14, 2009; Ord. 4508 § 2, 2007; Ord. 4503 § 2, 2007.]

Appendix O

Agency Review Comments

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STATE OF WASHINGTON
DEPARTMENT OF ECOLOGY
4601 N Monroe Street • Spokane, WA 99205-1295 • 509-329-3400

February 23, 2022

RECEIVED
FEB 28 2022
PUBLIC WORKS

Derek Mayo
City of Ellensburg
501 N. Anderson Street
Ellensburg, WA 98926

Re: Ellensburg Water Department; PWS ID # 22950; Kittitas County
Water System Plan Update; DOH Project #22-0102

Dear Mr. Mayo:

I have reviewed the above referenced document in accordance with the 2007 *Memorandum of Understanding* between Department of Health (DOH) and Department of Ecology (DOE), and in accordance with RCW 90.03.386. Ecology's review is focused only on the subject water systems water right legitimacy, adequacy and related issues affecting the submitted report.

The City of Ellensburg's water system has eight ground water rights (Table 6-1), six claims (Table 6-2), and four surface water rights (Table 6-3). The city is not using their surface water rights at this time. Table 6-1 and 6-3 appear to be current and correct. Claims can be confirmed during future water right adjudication process. Appendix I Water Right Information was not attached to the report.

The report indicates the water system will have adequate water right quantity to support its existing operation, the 10 year and 20 year projected growth, except instantaneous Qi withdraw for 2039 using only ground water rights. My comments and recommendations are as following:

Combine the city's ground and surface water rights because they are all municipal water supply quantities. Once the ground water and surface water rights are combined, the city will have adequate water rights to support its growth. Though some water rights need to file change applications or request for conforming to municipal purpose of use.

The city can file change applications under surface water rights to add the existing wells to these rights, due to the statement in this report that indicates that the ground and surface water in the area are hydraulically connected.

For water rights S4-84605 (domestic use), S4-83651 (stock water), the city can send Ecology a letter to "Request for Conforming Document" to change the current purpose of use to municipal use.

The City can apply Qi only water rights to increase the pumping quantity from city's existing wells, but it is not recommended because the city already has adequate Qi quantity (after combing GW and SW) to support its future growth.

These are my comments at this time. Please contact me should you have any questions regarding this letter. I can be reached at (509) 209-3551 or by email at yifu461@ecy.wa.gov.

Sincerely,

Ying.Fu@ecy.wa.gov

Ying Amponsah
Water Resources Program

YF:em

cc: Brenda Smits, DOH/ERO
Scott Turner, DOE/CRO

STATE OF WASHINGTON
DEPARTMENT OF HEALTH
EASTERN DRINKING WATER REGIONAL OPERATIONS
16201 E Indiana Avenue, Suite 1500, Spokane Valley, Washington 99216-2830
711 Washington Relay Service

March 10, 2022

Derek Mayo
City of Ellensburg
501 N Anderson Street
Ellensburg, WA 98926

Subject: Ellensburg Water Department; WSID#22950; Kittitas County; Water System Plan; Submittal #22-0102; **DOH Comments**

Dear Mr. Mayo:

Thank you for providing the draft Water System Plan (WSP) for the Ellensburg Water Department received in this office on December 16, 2021. The following comments will need to be addressed before the Department of Health (DOH) can approve the document:

General Comments

1) The draft WSP includes tables with data through the year 2018. Please update information throughout the WSP to include data through the year 2020 at a minimum. Data through the year 2021 would be preferred, since this information would show how the water system operated through an extremely hot summer.
2) The draft WSP includes projections through the year 2030. Unless the projections are extended, the plan will be approved until the year 2030.
3) Provide calculations for all tables and analysis.

Chapter 1

4) Table 1-2.
The total number of connections listed in Table 1-2 is 5,804; the total number of connections listed on the WFI (App A) is 9,969. Update Water System Data from 2018 to more recent data (see Comment 1 above). Update the WSP as needed so that the number of service connections is consistent throughout the document.
5) Please verify that all connections that use City water are metered – including all connections to apartment (multi-family) buildings, all parks, all irrigation, all clustered connections (like all connections to CWU), all cemeteries, all schools and school facilities, and all public buildings and public uses (including any construction or agricultural fill stations).
6) Please update the definitions for MDD and PHD to the definitions provided in the WAC 246-290.

Chapter 2

7) Figure 2-1. Include identification of the Retail Service Area.
8) For the Telemetry and control system – identify whether the system operates as a "SCADA" system or if it requires manual control based on telemetry data (e.g. do the wells turn on and off automatically based on depth in reservoirs; or, as the document text states, does it require operators to make adjustments).
9) Regarding Figure 2-2 and text on Page 2-14.
Verify that the Illinois Well PRV station is operational. Please describe its function or operational setpoints.

Chapter 3

10) Table 3-3. Show how the projected population for 2020 and 2021 compare to actual numbers and update as needed.
11) Explain how the UGA is defined or delineated and how its population is defined (i.e. is the "UGA outside the City limits" simply The Verge apartment complex?)
12) For the approximately 15 parcels outside the UGA that are served by the City's water system confirm:
    i. The number of parcels (WSP text states "approximately 15"), and
    ii. The type of structure that is being served (WSP text states "It was assumed that one single-family residence").
13) Table 3-3 and Chart 3-1. Confirm the forecast growth is 2.0 percent, and then compare to the past change in population.

Chapter 4

14) Update the Tables and information in this chapter to include the most recent data available. This chapter currently shows 2018 data. See comment 1) above.
15) Table 4-1. This table does not appear to include water usage for multi-family connections (or is lumping their use under "building" not "living units"). Identify and include water usage for multi-family connections. For proper connection accounting to meet DOH requirements, a multi-family "building" is not a "connection", instead, the number of living "units" within the building is defined as "connections". The living units need to be then assessed for usage to determine the values such as ADD and MDD (and then the resulting PHD defined by "ERUs") in terms of gpd per "connection" or per "ERU". Please confirm you have completed the analyses for ADD and MDD and capacity analyses based on the proper definition of "connections", then converted to "ERUs". Verify that multi-family connections are included in the analysis of ADD, MDD, and PHD.
16) Table 4-2.
    i. Explain what is meant by "Average Number of Connections".
    ii. The data for residential connections do not match Table 4-1 nor the WFI. As an example, and perhaps this is covered in Table 4-3, the current WFI (in Appendix A) shows 576 multi-family connections that corresponds to 4546 full-time units. See comment 14) above.
    iii. The flow data identified as metered consumption do not match data presented in Table 4-1. The two residentials in Table 4-1, when added

together, do not match the data in Table 4-2. Also, the flow data for Commercial does not match in either table. Update as needed.

17) Regarding Table 4-7. DOH does not agree that allocating all supply water to only the residential population is a consistent and useful "scalar" for forecasting or predicting future water use. Other data presented in the current draft version of the WSP indicates decreasing per person water usage (see discussion regarding Table 4-5). Please use the DOH established "ERU" approach to look at various ERU usage across years to identify any trending and then complete forecasting or predicting of water usage and future CIP needs.
18) Under "Peak Demands" starting on Page 4-16 – DOH has the following comments:
    i. For "Average Day Demand", the calculations and developed numbers need to be scaled to the individual residential usage (ADD per gpd/ERU). After calculating ADD for single family residential units, then all other average uses, per defined "connection", are scaled by the residential ADD, to then find the number of ERUs for all other types of connections.
    ii. For "Maximum Day Demand", this is the largest maximum day demand, not an average of yearly MDD values.
    iii. Also for MDD, taking the largest month may make sense for a relatively steady water system that is not experiencing either growth or changes in water usage, but it could be the largest simply because it was the month with the greatest "population" or greatest number of active connections. In this case, 2015 is not a year associated with greatest growth (as noted per Table 4-5). But, to create a proper basis for assessing year-to-year maximum months, the approach advocated by DOH is to scale maximum month usage by the number of total active ERUs during the respective month. This gives gallons per month per ERU. Then, looking at these values (and as noted above in these comments) across time can show either trending or simply the largest value.
    iv. For "Peak Hour Demand", the presented approach is acceptable, as long as "correct" MDD and N values are used.
19) Table 4-10 and the determination of ADD = 317 (gpd/ERU) and then using a peaking factor to find MDD = 735 (gpd/ERU). The use of a single year to determine these values is not reasonable. The maximum usage year was 2015, so looking at the ratio of 2015 to 2018 provides a multiplier of 1.09, so then ADD = 346 (=1.09 * 317) and MDD then becomes 801 (=1.09 * 735). These updated values are more in line with the previous City's WSP values for ADD and MDD of 358 and 809, respectively. DOH would then agree that WUE approaches have resulted in some reductions in water usage on a per connection basis (difference between 346 and 358 and between 801 and 809) – and MDD water usage logically would show a lesser WUE-type reduction than the average usage across an entire year or many years). Update this Chapter as needed to include more recent data (see comment #1) and provide calculations (see comment #3).
20) For the discussion and approach of allocating DSL as part of water usage. This approach to DSL is not supported by DOH for the following reasons:
    i. DSL does not have a peaking factor. Consider a leaking pipe, it will most likely leak less during time periods of MDD and PHD because the piping

will be operating under lesser pressures and not "pushing" as much water out of the leaking pipes and so taking the ADD + DSL and then peaking that value to find MDD + DSL unnecessarily peaks the DSL portion that is a relatively constant value.

ii. The City is required to track DSL and strive to reduce or eliminate DSL, not add back into ADD and MDD and "hide it".

iii. Separating out DSL and evaluating as a "use category" and identifying how many ERUs is a clear method to highlight the cost of DSL.

iv. The correct approach in evaluating DSL is to find PHD_{MDD} from MDD and N, as noted using Equation 3-1, find PHD_{DSL}, and then adding the two together. If the City does desire a conservative approach to defining capacity – DOH suggest taking final values for ADD, MDD, and PHD and then scaling up these values by 10% or 20% or take the capacity limits determined from the direct ADD, MDD, and PHD values and scaling these down by 10% or 20%.

Chapter 5

21) For Cross-connection Control – please provide a listing of all installed backflow prevention devices and the results of most recent testing. See comment 38) below.
22) Page 5-3. Identify the Retail Service Area in Figure 2-1 where Duty to Serve is applicable. See Comment 7) above.
23) For "Pressure" requirements identify DOH requirements for pressure maintenance for PHD and MDD+FF.

Chapter 6

24) Please remove (or note as being superseded and completely inapplicable) "Stage 1 Disinfectants/Disinfection Byproducts Rule". Stage 2 was implemented several years ago, and the Stage 1 rule and any results do not apply.
25) Page 6-27. Group A drinking water rules have been revised to require water systems to monitor for select per- and polyfluoroalkyl substances (PFAS) using specific analytical methods. The new rule establishes states action levels (SALs) for 5 PFAS compounds. Update this section as needed to reflect this new rule and the required monitoring.

Chapter 7

26) For Table 7-2 and all other similar capacity tables. Present data as shown in Worksheet 4-1 or similar (i.e. identify both Connections and then ERUs for "Usage" or "Demands" and then identify the number of ERUs that is the capacity limit). Another way to state this is to show the Upper Half of Worksheet 4-1 with Connections and ERUs for each category including DSL for the following:
    - Current plan year
    - Projected for plan approval period
    - Projected for 20 years

    Then, prepare various Lower Half of Worksheet 4-1 with ERU capacity limits for:
    - Total City
    - Each Pressure Zone

- Then for any proposed improvements – however, this can simply be accomplished by noting, for example, "X" additional storage volume will provide "Y" additional ERU capacity.

DOH does require an identification of capacity limits based on ERUs and the basis for the ERUs needs to be based on separating out DSL.

27) Tables 7-3 and 7-4. To properly evaluate "source" capacity limits, refer to Figure 2-2 and complete source capacity limit calculations as follows:
    - 1740 Zone – has eight (8) well sources + two PRVs – Vuecrest BPS
    - 1824 Zone – has three (3) well sources – two PRVs + Vuecrest BPS
28) Table 7-3. Describe the "1760 Zone" and show on Figure 2-1 and Figure 2-2.
29) Table 7-10 – what is the "1860 Zone"? Please show on Figure 2-1 and Figure 2-2.

Chapter 8

30) Emergency Operations. Include how the City is prepared for large-scale wildfires, vandalism (such as breaking open the hatch on a reservoir), contamination of the water system (such as someone opens the hatch on a reservoir and dumps something into the reservoir), and other similar non-normal situations. This includes how the City would practice dry-runs for such emergencies and also identify steps to be followed would in an actual situation.
31) Public Notification. Identify the specific steps, processes, or approaches the City would follow to provide communications to the public for both general information and for dire emergencies.
32) Include the City's customer compliant process.

Chapter 10

33) Page 10-4. Regarding the Department of Health (DOH) paragraph. It's been several years since DWSRF was jointly administered by DOH and the Department of Commerce. Please update this section to include current information.

Appendix A

34) The WFI included in this draft was last updated in 2019. Please include a current, up to date WFI with your next submittal. Identify any changes needed and sign and date the form.

Appendix C

35) Provide signed and dated forms from the City of Ellensburg and Kittitas County.

Appendix D

36) Provide a SEPA checklist and SEPA determination; both signed and dated.

Appendix E

37) Provide information showing the WUE goal was adopted in a public forum following the public notification process required by WAC 246-290-830.

Appendix F – Cross-Connection Control Program

38) Include a list of all installed backflow prevention devices and a table showing the timing and testing results.

Appendix G – O&M Manual

39) There's no date identified on the O&M manual and emergency response plan included in this appendix but they appear to be in need of updating: all of the current wells (Table 2-1) are not identified; PFAS water quality monitoring (see comment 8) above) is not included; population and connections are from 2013; the water emergency phone list and Eastern Drinking Water Operations sheet are outdated and include individuals no longer with DOH. Please update this appendix as needed.

Appendix H – Water System Construction Standards

40) Detail WT-15. According to the "Water System Design Manual" (DOH Publication 331-123, 2019), water piping needs to be protected from natural gas lines if the natural gas line is not at least 18 inches below the water piping.
41) Detail WT-50. The discharge from the blow-off cannot be located in a vault that can flood and submerge the discharge. So, the current detail either needs to show the discharge being above grade or the vault has a drain-to-daylight.
42) Detail WT-85. Any and all types of backflow prevention devices cannot be located in a vault that can flood and submerge the discharge. So, the current detail either needs to show the discharge being above grade or the vault has a drain-to-daylight.

Appendix J – Water Quality Monitoring Plan

43) Coliform Monitoring Plan. The system collects 2 samples per month from 10 routine sample locations. Consider including more sample locations to better represent the City's approximately 10,000 connections.

Other

44) Once DOH comments have been addressed and we are ready to approve the WSP, we will notify you via email. Once DOH receives documentation (signed minutes or resolution) that the WSP has been approved by your governing board we will forward an approval letter to the water system.
45) The Department of Ecology has issued a comment letter regarding this submittal. Please address the issues, if any, contained in the letter in the second draft submittal.

END OF COMMENTS

The department's review of your water system plan does not confer or guarantee any right to a specific quantity of water. Our review is based on your representation of available water quantity. If the Washington Department of Ecology, a local planning agency, or other authority responsible for determining water rights and water system adequacy determines that you have use of less water than you represent, the number of approved connections may be reduced commensurate with the actual amount of water and your legal right to use it.

We hope that you have found these comments to be clear, constructive, and helpful in the development of your final WSP. We ask that you submit **two copies** of the revised WSP **on or**

before June 10, 2022 (one copy may be in electronic format). In order to expedite the review of your revised submittal, please complete the enclosed DOH Comment Response Form summarizing how each of the above comments was addressed in the revised WSP and where each response is located (i.e., page numbers, Appendices, etc.)

Regulations establishing a schedule for fees for review of planning, engineering, and construction documents have been adopted (WAC 246-290-990). Please note that we have included an invoice for **$5,484.00** for the review of the Water System Plan. This fee covers our cost for review of the initial submittal, plus the review of one revised document. Please remit your complete payment in the form of a check or money order within thirty days of the date of this letter to: DOH, Revenue Section, P.O. Box 1099, Olympia, WA 98507-1099.

Thank you again for submitting your draft WSP for our review. If you have any comments or questions concerning our review please contact either of us at (509) 329-2116, Russell.Mau@doh.wa.gov or (509) 329-2122, Brenda.Smits@doh.wa.gov, respectively.

Sincerely,

Russell Mau, PhD, PE, DOH Regional Engineer
Regional Engineer
Office of Drinking Water
Division of Environmental Public Health

Brenda Smits
Regional Planner
Office of Drinking Water
Division of Environmental Public Health

Enclosures: Comment Response Form
Invoice

cc: Scott Mallery, PE, DOH Assistant Regional Engineer
Katrina McLaughlin, DOH Compliance Program Manager
Ying Fu, Department of Ecology, Eastern Regional Office
Kittitas County Health Department
Kittitas County Planning Department
Zach Schrempp, PE, RH2 Engineering
Michelle Campbell, PE, RH2 Engineering

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RH2 ENGINEERING
Bothell
22722 29th Drive SE, Suite 210
Bothell, WA 98021
1.800.720.8052 / rh2.com

May 31, 2022

Ms. Ying Amponsah
Water Resources Program
Department of Ecology
4601 N Monroe Street
Spokane, WA 99205-1295

Sent via: *Email*

Subject: **Submittal #22-0102, City of Ellensburg Water System Plan Response to Department of Ecology Comments**

Dear Ms. Amponsah:

On behalf of the City of Ellensburg (City), RH2 Engineering, Inc., (RH2) has prepared the following responses to the Department of Ecology (Ecology)'s comments on the City's Water System Plan. The review comments from Ecology's letter dated February 23, 2022 are addressed below. Ecology comments are provided below in **bold** text, with RH2/City responses in normal text.

Ecology Comments

Combine the city's ground and surface water rights because they are all municipal water supply quantities. Once the ground water and surface water rights are combined, the city will have adequate water rights to support its growth. Though some water rights need to file change applications or request for conforming to municipal purpose of use.

The city can file change applications under surface water rights to add the existing wells to these rights, due to the statement in this report that indicates that the ground and surface water in the area are hydraulically connected.

For water rights S4-84605 (domestic use), S4-83651 (stock water), the city can send Ecology a letter to "Request for Conforming Document" to change the current purpose of use to municipal use.

The City can apply Qi only water rights to increase the pumping quantity from city's existing wells, but it is not recommended because the city already has adequate Qi quantity (after combing GW and SW) to support its future growth.

RH2/City Response

Thank you for your comments and recommendations regarding the City's water rights. The City will consider these recommendations as it plans for future growth and increased water demands.

WASHINGTON LOCATIONS
Bellingham
Bothell (Corporate)
East Wenatchee
Issaquah
Richland
Tacoma

OREGON LOCATIONS
Medford
Portland

IDAHO LOCATIONS
Meridian

If you have any questions, please contact me at (425) 951-5319 or via email at zschrempp@rh2.com.

Sincerely,

Zachary W. Schrempp

Zach Schrempp, PE
Project Engineer

ZS/sp

cc: Mr. Derek Mayo, PE, City of Ellensburg
Mr. Mike Helgeson, City of Ellensburg

RH2 ENGINEERING
Bothell
22722 29th Drive SE, Suite 210
Bothell, WA 98021
1.800.720.8052 / rh2.com

August 26, 2022

Dr. Russell Mau, PE
Regional Engineer
Eastern Drinking Water Operations
Department of Health
16201 East Indiana Avenue, Suite 1500
Spokane Valley, WA 99216

Sent via: *Email*

Subject: **Submittal #22-0102, City of Ellensburg Water System Plan Response to DOH Comments**

Dear Dr. Mau:

On behalf of the City of Ellensburg (City), RH2 Engineering, Inc., (RH2) has prepared the following responses to the Washington State Department of Health's (DOH) comments on the City's Water System Plan (WSP). The review comments from DOH's letter dated March 10, 2022 are addressed below. DOH comments are provided in **bold** text, with RH2 responses in normal text.

General Comments

1) **The draft WSP includes tables with data through the year 2018. Please update information throughout the WSP to include data through the year 2020 at a minimum. Data through the year 2021 would be preferred, since this information would show how the water system operated through an extremely hot summer.**

   A narrative has been added to the Water Demands chapter (Pages 4-28 and 4-29) describing the actual system demand for years 2019 through 2021, including a comparison to the projected demands. The narrative discusses the potential impact to demands from the pandemic shutdowns and extreme weather in 2020 and 2021.

2) **The draft WSP includes projections through the year 2030. Unless the projections are extended, the plan will be approved until the year 2030.**

   The demand projections shown in Tables 4-15 and 4-16, the water rights analyses in Chapter 6, the system analyses in Chapter 7, the capital improvement program (CIP) schedule shown in Table 9-6, and the financial program described in Chapter 10 have been updated through 2033. The City requests a 10-year approval of the WSP on this basis.

WASHINGTON LOCATIONS
Bellingham
Bothell (Corporate)
East Wenatchee
Issaquah
Richland
Tacoma

OREGON LOCATIONS
Medford
Portland

IDAHO LOCATIONS
Meridian

3) **Provide calculations for all tables and analysis.**

RH2 can provide supporting calculations for any WSP tables in spreadsheet format to DOH. The number of supporting files/calculations is significant; please specify the tables/analysis where additional review is required and RH2 will transmit the supporting files.

Chapter 1

4) **Table 1-2.**

The total number of connections listed in Table 1-2 is 5,804; the total number of connections listed on the WFI (App A) is 9,969. Update Water System Data from 2018 to more recent data (see Comment 1 above). Update the WSP as needed so that the number of service connections is consistent throughout the document.

Table 1-2 has been revised to clarify that for 2018 there are approximately 5,804 customer meters in the system and 9,969 total service connections per the City's WFI form. Refer to the responses to Comment 1 and Comment 10 regarding updated system data.

5) **Please verify that all connections that use City water are metered – including all connections to apartment (multi-family) buildings, all parks, all irrigation, all clustered connections (like all connections to CWU), all cemeteries, all schools and school facilities, and all public buildings and public uses (including any construction or agricultural fill stations).**

The system is fully metered and the City tracks all authorized uses. However, not every "connection" per DOH definition (e.g., multi-family unit) has its own City water meter.

6) **Please update the definitions for MDD and PHD to the definitions provided in the WAC 246-290.**

These definitions have been updated.

Chapter 2

7) **Figure 2-1. Include identification of the Retail Service Area.**

The Retail Service Area and Service Area boundaries are the same. The map legend has been revised to reflect this.

8) **For the Telemetry and control system – identify whether the system operates as a "SCADA" system or if it requires manual control based on telemetry data (e.g. do the wells turn on and off automatically based on depth in reservoirs; or, as the document text states, does it require operators to make adjustments).**

The system is typically operated in an automatic fashion by the SCADA system. Operators often adjust the levels at which each individual well runs (especially during months of lower demand) to keep all of the wells in rotation. The chapter text has been updated to clarify.

9) **Regarding Figure 2-2 and text on Page 2-14.**

Verify that the Illinois Well PRV station is operational. Please describe its function or operational setpoints.

This facility is currently under construction. Additional text has been added to the chapter to describe the pressure reducing valve's (PRV) function.

Chapter 3

10) **Table 3-3. Show how the projected population for 2020 and 2021 compare to actual numbers and update as needed.**

A narrative has been added to Chapter 3 discussing the updated population data available and comparing it to the projections presented in the WSP.

11) **Explain how the UGA is defined or delineated and how its population is defined (i.e. is the "UGA outside the City limits" simply The Verge apartment complex?)**

The Urban Growth Area (UGA) is shown graphically on Figure 3-1. As described on Page 3-7, an estimated 202 single-family residences and 282 multi-family units located outside the City limits, but within the UGA boundary, are served by the water system.

12) **For the approximately 15 parcels outside the UGA that are served by the City's water system confirm:**

i. **The number of parcels (WSP text states "approximately 15"), and**

ii. **The type of structure that is being served (WSP text states "It was assumed that one single-family residence").**

The City has confirmed that water service is provided to 17 parcels outside the UGA, all of which are single-family residences. Because this change is so minor, the water system population projections presented in Chapter 3 were not changed.

13) **Table 3-3 and Chart 3-1. Confirm the forecast growth is 2.0 percent, and then compare to the past change in population.**

Yes, the forecast annual growth for the City + UGA is 2.0 percent as described in the text on page 3-7. The annual growth rate of the City population from 2010 through 2019, using the Office of Financial Management intercensal estimates (Table 3-2), was approximately 1.0 percent.

Chapter 4

14) **Update the Tables and information in this chapter to include the most recent data available. This chapter currently shows 2018 data. See comment 1) above.**

Please see response to Comment 1. A narrative has been added to the Water Demands chapter (Pages 4-28 and 4-29) describing the actual system demand for years 2019 to 2021, including a comparison to the projected demands.

15) **Table 4-1. This table does not appear to include water usage for multi-family connections (or is lumping their use under "building" not "living units"). Identify and include water usage for multi-family connections. For proper connection accounting to meet DOH requirements, a multi-family "building" is not a "connection", instead, the number of living "units" within the building is defined as "connections". The living units need to be then assessed for usage to determine the values such as ADD and MDD (and then the resulting PHD defined by "ERUs") in terms of gpd per "connection" or per "ERU". Please confirm you have completed the analyses for ADD and MDD and capacity analyses based on the proper definition of "connections", then converted to "ERUs". Verify that multi-family connections are included in the analysis of ADD, MDD, and PHD.**

The chapter language has been updated to clarify the difference between the number of customer meters reported in Table 4-1/Table 4-2 and the DOH definition of a connection as reported on the WFI form. The system capacity analyses are performed on an equivalent residential unit (ERU) basis (see analyses beginning on Page 4-18).

16) **Table 4-2.**

i. **Explain what is meant by "Average Number of Connections".**

The City reads meters monthly. This number represents the annual average number of meters read per month. Additional text has been added to the chapter for clarification.

ii. **The data for residential connections do not match Table 4-1 nor the WFI. As an example, and perhaps this is covered in Table 4-3, the current WFI (in Appendix A) shows 576 multi-family connections that corresponds to 4546 full-time units. See comment 14) above.**

Please see responses to Comments 4 and 15. The chapter language has been updated to clarify the difference between the number of customer meters reported in Table 4-1/Table 4-2 and the DOH definition of a connection as reported on the WFI form.

iii. **The flow data identified as metered consumption do not match data presented in Table 4-1. The two residentials in Table 4-1, when added together, do not match the data in Table 4-2. Also, the flow data for Commercial does not match in either table. Update as needed.**

To reduce confusion, the 2018 data has been removed from Table 4-1 and is only reported in Table 4-2. The charts in this section of the chapter have been re-structured; 2018 data is now presented separately from 2013 through 2017 data in Charts 4-7 and 4-9.

17) **Regarding Table 4-7. DOH does not agree that allocating all supply water to only the residential population is a consistent and useful "scalar" for forecasting or predicting future water use. Other data presented in the current draft version of the WSP indicates decreasing per person water usage (see discussion regarding Table 4-5). Please use the DOH established "ERU" approach to look at various ERU usage across years to identify any trending and then complete forecasting or predicting of water usage and future CIP needs.**

Please reference Tables 4-10 through 4-13 for the ERU analyses. The data presentation in these tables is comparable with the approach used in DOH Worksheet 4-1.

18) **Under "Peak Demands" starting on Page 4-16 – DOH has the following comments:**

i. **For "Average Day Demand", the calculations and developed numbers need to be scaled to the individual residential usage (ADD per gpd/ERU). After calculating ADD for single family residential units, then all other average uses, per defined "connection", are scaled by the residential ADD, to then find the number of ERUs for all other types of connections.**

Refer to the response to Comment 17. Please reference Tables 4-10 through 4-13 for the ERU analyses. The data presentation in these tables is comparable with the approach used in DOH Worksheet 4-1.

ii. **For "Maximum Day Demand", this is the largest maximum day demand, not an average of yearly MDD values.**

This demand is calculated and presented in Table 4-9.

iii. **Also for MDD, taking the largest month may make sense for a relatively steady water system that is not experiencing either growth or changes in water usage, but it could be the largest simply because it was the month with the greatest "population" or greatest number of active connections. In this case, 2015 is not a year associated with greatest growth (as noted per Table 4-5). But, to create a proper basis for assessing year-to-year maximum months, the approach advocated by DOH is to scale maximum month usage by the number of total active ERUs during the respective month. This gives gallons per**

month per ERU. Then, looking at these values (and as noted above in these comments) across time can show either trending or simply the largest value.

The highest observed Maximum Month Average Day Demand (MMADD) (July 2015) in the 2013 through 2018 analysis period was scaled to Maximum Day Demand (MDD) using the ratio in section 3.4.1 of the DOH *Water System Design Manual* (WSDM). The water system population has been continuously growing, so using the 2015 MMADD demands to calculate MDD is a conservative approach.

iv. **For "Peak Hour Demand", the presented approach is acceptable, as long as "correct" MDD and N values are used.**

No response/revisions needed.

19) **Table 4-10 and the determination of ADD = 317 (gpd/ERU) and then using a peaking factor to find MDD = 735 (gpd/ERU). The use of a single year to determine these values is not reasonable. The maximum usage year was 2015, so looking at the ratio of 2015 to 2018 provides a multiplier of 1.09, so then ADD = 346 (=1.09 * 317) and MDD then becomes 801 (=1.09 * 735). These updated values are more in line with the previous City's WSP values for ADD and MDD of 358 and 809, respectively. DOH would then agree that WUE approaches have resulted in some reductions in water usage on a per connection basis (difference between 346 and 358 and between 801 and 809) – and MDD water usage logically would show a lesser WUE-type reduction than the average usage across an entire year or many years). Update this Chapter as needed to include more recent data (see comment #1) and provide calculations (see comment #3).**

RH2 utilized 2018 data because this was the only year where data was originally available that separated single-family residential use from all other customer classes. In response to DOH's comment, RH2 worked with the City to extract additional information from the City's records. There were some small inconsistencies with this dataset compared to the dataset originally provided by the City. However, a basic calculation was performed showing that the average consumption per ERU_{ADD} for years 2013 through 2021 was approximately 314 gpd/ERU_{ADD}.

This value is approximately 1 percent less than the 317 gpd/ERU_{ADD} calculated using the 2018 data and presented in Tables 4-10 and 4-11, so the demand projections and capacity calculations presented in the WSP are slightly conservative. Accordingly, these numbers were not revised. The City does not have further budget available to perform a complete update of the demand projections, capacity analysis, and CIP.

20) **For the discussion and approach of allocating DSL as part of water usage. This approach to DSL is not supported by DOH for the following reasons:**

i. **DSL does not have a peaking factor. Consider a leaking pipe, it will most likely leak less during time periods of MDD and PHD because the piping will be operating under lesser pressures and not "pushing" as much water out of the leaking pipes and so taking the ADD + DSL and then peaking that value to find MDD + DSL unnecessarily peaks the DSL portion that is a relatively constant value.**

RH2 and the City acknowledge DOH's comment. A conservative approach to demand forecasting is desired; therefore, the approach presented in the draft WSP is preferred.

ii. **The City is required to track DSL and strive to reduce or eliminate DSL, not add back into ADD and MDD and "hide it".**

The City tracks and estimates distribution system leakage (DSL); this is presented in Table 4-6. DSL is presented on an ERU basis in Tables 4-10 and 4-11.

iii. **Separating out DSL and evaluating as a "use category" and identifying how many ERUs is a clear method to highlight the cost of DSL.**

DSL is presented on an ERU basis in Tables 4-10 and 4-11.

iv. **The correct approach in evaluating DSL is to find PHD_{MDD} from MDD and N, as noted using Equation 3-1, find PHD_{DSL}, and then adding the two together. If the City does desire a conservative approach to defining capacity – DOH suggest taking final values for ADD, MDD, and PHD and then scaling up these values by 10% or 20% or take the capacity limits determined from the direct ADD, MDD, and PHD values and scaling these down by 10% or 20%.**

RH2 and the City acknowledge DOH's comment. A conservative approach to demand forecasting is desired; therefore, the approach presented in the draft WSP is preferred.

Chapter 5

21) **For Cross-connection Control – please provide a listing of all installed backflow prevention devices and the results of most recent testing. See comment 38) below.**

The requested information has been added to Appendix F.

22) **Page 5-3. Identify the Retail Service Area in Figure 2-1 where Duty to Serve is applicable. See Comment 7) above.**

Please see response to Comment 7. The Retail Service Area has been identified on Figure 2-1.

23) **For "Pressure" requirements identify DOH requirements for pressure maintenance for PHD and MDD+FF.**

This section of the WSP has been revised to explicitly reference the requirement of 30 psi under Peak Hour Demand (PHD) conditions and 20 psi under Maximum Day Demand plus Fire Flow (MDD+FF) conditions.

Chapter 6

24) **Please remove (or note as being superseded and completely inapplicable) "Stage 1 Disinfectants/Disinfection Byproducts Rule". Stage 2 was implemented several years ago, and the Stage 1 rule and any results do not apply.**

This section of the WSP has been revised to reflect that the Stage 1 rule has been superseded and is now inapplicable.

25) **Page 6-27. Group A drinking water rules have been revised to require water systems to monitor for select per- and polyfluoroalkyl substances (PFAS) using specific analytical methods. The new rule establishes states action levels (SALs) for 5 PFAS compounds. Update this section as needed to reflect this new rule and the required monitoring.**

This section of the WSP has been updated to include current information on PFAS regulations.

Chapter 7

26) **For Table 7-2 and all other similar capacity tables. Present data as shown in Worksheet 4-1 or similar (i.e. identify both Connections and then ERUs for "Usage" or "Demands" and then identify the number of ERUs that is the capacity limit). Another way to state this is to show the Upper Half of Worksheet 4-1 with Connections and ERUs for each category including DSL for the following:**

- **Current plan year**

- **Projected for plan approval period**
- **Projected for 20 years**

Then, prepare various Lower Half of Worksheet 4-1 with ERU capacity limits for:

- **Total City**
- **Each Pressure Zone**
- **Then for any proposed improvements – however, this can simply be accomplished by noting, for example, "X" additional storage volume will provide "Y" additional ERU capacity.**

DOH does require an identification of capacity limits based on ERUs and the basis for the ERUs needs to be based on separating out DSL.

An ERU analysis in a format similar to Worksheet 4-1 has been prepared for this WSP. Please reference Tables 4-10, 4-11, 4-12, 4-13, and 4-16 for the analyses corresponding to the upper half of Worksheet 4-1. Reference Tables 7-13 and 7-14 for the analyses corresponding to the lower half of Worksheet 4-1.

RH2 and the City understand that DOH's current preferred approach is that the ERU analysis be performed on a consumptive basis, with DSL excluded. Accordingly, Tables 4-10 and 4-11 have been prepared and presented in the WSP to highlight the number of ERUs currently consumed by DSL. However, our preference for the system capacity analyses is to include DSL in the water usage for each ERU, as this results in a more conservative estimate of available system capacity. As discussed in Chapter 4 of the WSP (pages 4-23 and 4-24), including DSL and authorized unmetered use in the water usage for each ERU helps approximate the increasing DSL and authorized unmetered use volume as the overall system ages and grows in size. The ERU demand basis is the City's preferred approach for preparing Certificates of Water Availability and tracking water availability for new service connections and future development.

RH2 encourages DOH to consider the fact that development of this WSP began before the current version of the WSDM was released, and the guidance on this topic has changed with the most recent version of the WSDM. The City does not have further budget available to perform a complete update of the ERU capacity analysis and CIP using a consumptive basis for the ERU capacity analyses.

27) **Tables 7-3 and 7-4. To properly evaluate "source" capacity limits, refer to Figure 2-2 and complete source capacity limit calculations as follows:**

- **1740 Zone – has eight (8) well sources + two PRVs – Vuecrest BPS**
- **1824 Zone – has three (3) well sources – two PRVs + Vuecrest BPS**

RH2 and the City acknowledge DOH's comment. However, our preference is to utilize the approach presented. A system-wide source capacity analysis is presented in Table 7-2, which evaluates the capacity of the existing sources to meet the system-wide MDD. The development of Tables 7-3 and 7-4 to understand the supply capacity to each pressure zone is, in our opinion, a matter of engineering judgment and open to differing interpretations. If DOH requires that these tables be changed, please provide a reference to the section of the WAC or WSDM that RH2 can follow to better understand the requirements for this analysis.

28) **Table 7-3. Describe the "1760 Zone" and show on Figure 2-1 and Figure 2-2.**

The 1760 Zone is a proposed future pressure zone and accordingly is not shown on the existing system figures. Please reference text on page 7-7. The pressure zone is shown in plan view on Figure 9-1 and schematic form on Figure 9-2.

29) **Table 7-10 – what is the "1860 Zone"? Please show on Figure 2-1 and Figure 2-2.**

The 1860 Zone is a proposed future pressure zone and accordingly is not shown on the existing system figures. Please reference text on page 7-8. The pressure zone is shown in plan view on Figure 9-1 and schematic form on Figure 9-2.

Chapter 8

30) **Emergency Operations. Include how the City is prepared for large-scale wildfires, vandalism (such as breaking open the hatch on a reservoir), contamination of the water system (such as someone opens the hatch on a reservoir and dumps something into the reservoir), and other similar non-normal situations. This includes how the City would practice dry-runs for such emergencies and also identify steps to be followed would in an actual situation.**

The City's Emergency Response Plan (ERP) describes emergency operations. The ERP is not a public document and accordingly was not included as part of the WSP. Chapter 8 has been updated to include some information regarding wildfires, vandalism, contamination, and training, with references to where this information is available in the City's ERP.

31) **Public Notification. Identify the specific steps, processes, or approaches the City would follow to provide communications to the public for both general information and for dire emergencies.**

Chapter 8 has been updated to include specific references to where contact information is available in the ERP.

32) **Include the City's customer compliant process.**

A description has been added to Chapter 8 describing the City's customer complaint process.

Chapter 10

33) **Page 10-4. Regarding the Department of Health (DOH) paragraph. It's been several years since DWSRF was jointly administered by DOH and the Department of Commerce. Please update this section to include current information.**

This section has been updated.

Appendix A

34) **The WFI included in this draft was last updated in 2019. Please include a current, up to date WFI with your next submittal. Identify any changes needed and sign and date the form.**

The current WFI form from DOH's Sentry database has been included in Appendix A.

Appendix C

35) **Provide signed and dated forms from the City of Ellensburg and Kittitas County.**

The signed consistency statements have been included in Appendix C.

Appendix D

36) **Provide a SEPA checklist and SEPA determination; both signed and dated.**

These documents have been included in Appendix D.

Appendix E

37) **Provide information showing the WUE goal was adopted in a public forum following the public notification process required by WAC 246-290-830.**

This process has been completed and the documentation of the Water Use Efficiency (WUE) goal adoption has been included in Appendix E.

Appendix F – Cross-Connection Control Program

38) **Include a list of all installed backflow prevention devices and a table showing the timing and testing results.**

Please see Comment 21. The requested information has been added to Appendix F.

Appendix G – O&M Manual

39) **There's no date identified on the O&M manual and emergency response plan included in this appendix but they appear to be in need of updating: all of the current wells (Table 2-1) are not identified; PFAS water quality monitoring (see comment 8) above) is not included; population and connections are from 2013; the water emergency phone list and Eastern Drinking Water Operations sheet are outdated and include individuals no longer with DOH. Please update this appendix as needed.**

The City plans to update the Operations and Maintenance plan in the future to reflect new facilities, regulations, etc. Currently, this update is planned for after the completion of the Illinois Well (expected early/mid 2023). Emergency contact information is included in the ERP (see response to Comment 31) and a reference has been added to Chapter 8.

Appendix H – Water System Construction Standards

40) **Detail WT-15. According to the "Water System Design Manual" (DOH Publication 331-123, 2019), water piping needs to be protected from natural gas lines if the natural gas line is not at least 18 inches below the water piping.**

The City has previously provided the following response to this comment and confirmed in discussions with DOH that revisions to the detail are not needed at this time.

"The City utilizes an industry guidance of 3 foot horizontal and 1 foot vertical separation from natural gas distribution mains to water mains. This follows the "Ten State Standards" recommended guidance for water works per WAC-246-290-200(1)(c) and also referenced by the DOH Water System Design Manual and DOH/DOE Pipeline Separation Design and Installation Guide. The Ten State Standards do not treat natural gas as a contamination source in section 8.8. It states in section 8.7.9 that water mains should be installed with adequate separation from natural gas mains for ease of rehabilitation, maintenance and repair of the water main."

41) **Detail WT-50. The discharge from the blow-off cannot be located in a vault that can flood and submerge the discharge. So, the current detail either needs to show the discharge being above grade or the vault has a drain-to-daylight.**

The City has discussed this comment with DOH and confirms that the vaults have sufficient drainage so as not to flood and submerge the discharge.

42) **Detail WT-85. Any and all types of backflow prevention devices cannot be located in a vault that can flood and submerge the discharge. So, the current detail either needs to show the discharge being above grade or the vault has a drain-to-daylight.**

The City has discussed this comment with DOH and confirms that the vaults have sufficient drainage so as not to flood and submerge the discharge.

Appendix J – Water Quality Monitoring Plan

43) **Coliform Monitoring Plan. The system collects 2 samples per month from 10 routine sample locations. Consider including more sample locations to better represent the City's approximately 10,000 connections.**

The City acknowledges this comment and will consider DOH's suggestion.

Other

44) **Once DOH comments have been addressed and we are ready to approve the WSP, we will notify you via email. Once DOH receives documentation (signed minutes or resolution) that the WSP has been approved by your governing board we will forward an approval letter to the water system.**

This documentation will be provided by the City after DOH has provided notification that the WSP is ready for approval.

45) **The Department of Ecology has issued a comment letter regarding this submittal. Please address the issues, if any, contained in the letter in the second draft submittal.**

Ecology's comments have been reviewed and a formal response letter has been sent to Ecology.

RH2 has enclosed one electronic copy of the final WSP. If DOH requires a hard copy of the final WSP, please let us know.

If this submittal of information meets your needs for WSP approval, RH2 requests, on behalf of the City, that the WSP be approved. If you have any questions, please contact me at (425) 951-5319 or via email at zschrempp@rh2.com.

Sincerely,

Zachary W. Schrempp

Zach Schrempp, PE
Project Engineer

ZS/sp

cc: Ms. Brenda Smits, DOH
Mr. Derek Mayo, PE, City of Ellensburg
Mr. Mike Helgeson, City of Ellensburg

Enclosures: 2022 City of Ellensburg Water System Plan (one electronic copy)

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STATE OF WASHINGTON
DEPARTMENT OF ECOLOGY
Central Region Office
1250 West Alder St., Union Gap, WA 98903-0009 • 509-575-2490

November 17, 2022

Ellensburg Water Department
Attn: Mike Helgeson
501 N Anderson St.
Ellensburg, WA 98926
Email: helgy@ci.ellensburg.wa.us

Re: Ellensburg Water Department Water System; ID # 22950; Kittitas County
Second draft Water System Plan; DOH Project #22-0102

Thank you for the opportunity to review the above referenced Water System Plan (WSP), received on September 21, 2022. Consistent with the Memorandum of Understanding between the Department of Health (DOH) and Department of Ecology (Ecology), regarding joint review and approval of WSPs, this letter is being sent to your office with Ecology's comments. Specific elements of the WSP review included the Water Rights Self-Assessment as well as additional water rights documentation, including Ecology's water right files and previous WSPs and project reports, as applicable.

Ecology notes the below inconsistencies with Ecology's records and the information provided in the WSP:

- For GWC-925-D, Ecology's records show that the well was drill prior to 1950 and was drilled to 303.5 feet, the information provided in the WSP showed the well (S03-Memorial Well) was drilled in 2019 and drilled to 1,007 feet.
- For GWC 3525-A, the report of examination states that the instantaneous and annual quantities are supplemental to the City's existing rights. Because it states that this right is supplemental then they would be non-additive to the City's existing rights.
- For G4-25307C, Ecology's records show the annual quantity is 2,750 acre-feet/year.

If you have any questions, please contact me at Christopher.Kossik@ecy.wa.gov or (509) 379-1826.

Sincerely,

Christopher Kossik
Permitting & Operations Unit Supervisor
Water Resources Program
Central Regional Office

NS/221130

CC: Brenda Smits, Department of Health
ERO Admin, Department of Health
Derek Mayo, City of Ellensburg
Kittitas County Health Department

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STATE OF WASHINGTON
DEPARTMENT OF HEALTH
EASTERN DRINKING WATER REGIONAL OPERATIONS
16201 E Indiana Avenue, Suite 1500, Spokane Valley, Washington 99216-2830
(509) 329-2100 • 711 Washington Relay Service

November 29, 2022

Derek Mayo
City of Ellensburg
501 N Anderson Street
Ellensburg, WA 98926

Subject: Ellensburg Water Department; WSID#22950; Kittitas County Water System Plan; Submittal #22-0102; **DOH Comments**

Dear Mr. Mayo:

Thank you for providing the draft Water System Plan (WSP) for the Ellensburg Water Department received in this office on December 16, 2021, and the second draft WSP received on September 2, 2022. The comments and comment numbers below are from our initial DOH letter dated March 10, 2022. These are carried forward with comments that have been addressed crossed out. The comments that still need to be addressed retain the original comment number and have additional comments/information provided in *italics* below:

General Comments

1) ~~The draft WSP includes tables with data through the year 2018. Please update information throughout the WSP to include data through the year 2020 at a minimum. Data through the year 2021 would be preferred, since this information would show how the water system operated through an extremely hot summer.~~ *Response accepted; DOH will require evaluation of more years of "production" and "consumption" data for any CIP submitted to DOH for review and approval.*
2) ~~The draft WSP includes projections through the year 2030. Unless the projections are extended, the plan will be approved until the year 2030.~~ *Projections have been extended through 2033, the City requests a 10-year plan approval.*
3) Provide calculations for all tables and analysis. *The response to this comment was that supporting calculations "can" be provided in spreadsheet format to DOH and that the number of files/calculations is significant; asking for DOH to specify the tables /analysis where additional review is required. We have discussed this requirement and comment previously during a virtual meeting and thought we had come to an understanding. Based on the response it appears that more understanding and information is needed:*
    - *WAC 246-290-040 specifically cites requirement for PE licensed in the State of Washington for preparing water system plans, WAC 246-290-100(4)(e) codifies need for analysis as part of a water system plan, and WAC 246-290-110(3)(f) codifies engineering requirements for analysis that includes providing calculations.*

- *DOH ODW Regional Engineers are Professional Engineers who have the requisite capabilities to REVIEW work completed by other Professional Engineers.*
- *DOH ODW Regional Engineers cannot accept the liability and conflict of interest entailed in completing engineering calculations.*
- *The information provided in a water system plan is "public" and should provide sufficient information for the general public to be able to follow the presented information.*

Your proposal to provide your information in a spreadsheet format may satisfy the first three bullets but does not satisfy the last.

As a couple examples of "sample" calculations that satisfy all four bullets, please consider the following:

- *For Single-family Residential in Table 4-10: "ADD = 317 gpd/ERU = 506,854,292 gallons per year ÷ 365 days per year ÷ 4377 ERUs (where: 1 Single-family Residential connection = 1 ERU)"*
- *For Multi-family Residential in Table 4-10: "1,309 ERUs = 151,604,028 gallons per year ÷ 365 days per year ÷ 317 gpd/ERU"*

If you still have troubles recognizing the types of sample calculations to provide, please ask DOH for additional examples.

Chapter 1

~~4) Table 1-2.~~
~~The total number of connections listed in Table 1-2 is 5,804; the total number of connections listed on the WFI (App A) is 9,969. Update Water System Data from 2018 to more recent data (see Comment 1 above). Update the WSP as needed so that the number of service connections is consistent throughout the document.~~

~~5) Please verify that all connections that use City water are metered – including all connections to apartment (multi-family) buildings, all parks, all irrigation, all clustered connections (like all connections to CWU), all cemeteries, all schools and school facilities, and all public buildings and public uses (including any construction or agricultural fill stations).~~

~~6) Please update the definitions for MDD and PHD to the definitions provided in the WAC 246-290.~~

Chapter 2

~~7) Figure 2-1. Include identification of the Retail Service Area.~~

~~8) For the Telemetry and control system – identify whether the system operates as a "SCADA" system or if it requires manual control based on telemetry data (e.g., do the wells turn on and off automatically based on depth in reservoirs; or, as the document text states, does it require operators to make adjustments).~~

~~9) Regarding Figure 2-2 and text on Page 2-14.~~
~~Verify that the Illinois Well PRV station is operational. Please describe its function or operational setpoints.~~

Chapter 3

10) ~~Table 3-3. Show how the projected population for 2020 and 2021 compare to actual numbers and update as needed.~~
11) ~~Explain how the UGA is defined or delineated and how its population is defined (i.e., is the "UGA outside the City limits" simply The Verge apartment complex?)~~
12) ~~For the approximately 15 parcels outside the UGA that are served by the City's water system confirm:~~
    i. ~~The number of parcels (WSP text states "approximately 15"), and~~
    ii. ~~The type of structure that is being served (WSP text states "It was assumed that one single-family residence").~~
13) ~~Table 3-3 and Chart 3-1. Confirm the forecast growth is 2.0 percent, and then compare to the past change in population.~~

Chapter 4

14) ~~Update the Tables and information in this chapter to include the most recent data available. This chapter currently shows 2018 data. See comment 1) above.~~
15) Table 4-1. This table does not appear to include water usage for multi-family connections (or is lumping their use under "building" not "living units"). Identify and include water usage for multi-family connections. For proper connection accounting to meet DOH requirements, a multi-family "building" is not a "connection", instead, the number of living "units" within the building is defined as "connections". The living units need to be then assessed for usage to determine the values such as ADD and MDD (and then the resulting PHD defined by "ERUs") in terms of gpd per "connection" or per "ERU". Please confirm you have completed the analyses for ADD and MDD and capacity analyses based on the proper definition of "connections", then converted to "ERUs". Verify that multi-family connections are included in the analysis of ADD, MDD, and PHD.
    While the content of the initial comment regarded Table 4-1, DOH wants to expand the discussion to combine the presentation of Tables 4-1, 4-2, 4-3, and 4-10. DOH prefers Table 4-3 because it shows the usage per "living unit" that is then a direct comparison to a single-family residential connection. Using the information presented in Table 4-3 and the first line in Table 4-10, the water usage for "living units" in Multi-family Residential equates to 0.36 ERU (0.36 ERU = 113 gpd ÷ 317 gpd/ERU). By "lumping" total usage for Multi-family into each "building", the resulting ERUs for each building is totally random depending on the size of the building. In the end, the total ERUs is still the same (1,310 ERUs = 3665 living units x 0.36 ERUs per living unit), but showing per living unit, allows for a direct comparison and assessment to usage by single-family residence.
16) ~~Table 4-2.~~
    i. ~~Explain what is meant by "Average Number of Connections".~~
    ii. ~~The data for residential connections do not match Table 4-1 nor the WFI. As an example, and perhaps this is covered in Table 4-3, the current WFI (in Appendix A) shows 576 multi-family connections that corresponds to 4546 full-time units. See comment 14) above.~~
    iii. ~~The flow data identified as metered consumption do not match data presented in Table 4-1. The two residentials in Table 4-1, when added~~

~~together, do not match the data in Table 4-2. Also, the flow data for Commercial does not match in either table. Update as needed.~~

17) ~~Regarding Table 4-7. DOH does not agree that allocating all supply water to only the residential population is a consistent and useful "scalar" for forecasting or predicting future water use. Other data presented in the current draft version of the WSP indicates decreasing per person water usage (see discussion regarding Table 4-5). Please use the DOH established "ERU" approach to look at various ERU usage across years to identify any trending and then complete forecasting or predicting of water usage and future CIP needs.~~

18) Under "Peak Demands" starting on Page 4-16 – DOH has the following comments:
    i. ~~For "Average Day Demand", the calculations and developed numbers need to be scaled to the individual residential usage (ADD per gpd/ERU). After calculating ADD for single family residential units, then all other average uses, per defined "connection", are scaled by the residential ADD, to then find the number of ERUs for all other types of connections.~~
    ii. For "Maximum Day Demand", this is the largest maximum day demand, not an average of yearly MDD values.
    iii. Also, for MDD, taking the largest month may make sense for a relatively steady water system that is not experiencing either growth or changes in water usage, but it could be the largest simply because it was the month with the greatest "population" or greatest number of active connections. In this case, 2015 is not a year associated with greatest growth (as noted per Table 4-5). But, to create a proper basis for assessing year-to-year maximum months, the approach advocated by DOH is to scale maximum month usage by the number of total active ERUs during the respective month. This gives gallons per month per ERU. Then, looking at these values (and as noted above in these comments) across time can show either trending or simply the largest value.
    iv. For "Peak Hour Demand", the presented approach is acceptable, as long as "correct" MDD and N values are used.

DOH requires multiplying your MDD by 1.09. Per your inclusion of DSL as part of demand being deemed "conservative", DOH fully concurs that properly accounting for the "1.09" multiplier also is conservative. So, the correct value for MDD = 918 gpd/ERU = 1.09 x 842 gpd/ERU. Also, as noted in various communications, the previous WSP showed MDD = 809 gpd/ERU (that excluded DSL as a component, i.e., "809" was based on metered consumption data), and MDD is defined as the largest single daily water demand. So, even if your current data show a lesser value (801 gpd/ERU = 1.09 x 735 gpd/ERU), capacity analyses need to account for the entire history of water usage.

19) Table 4-10 and the determination of ADD = 317 (gpd/ERU) and then using a peaking factor to find MDD = 735 (gpd/ERU). The use of a single year to determine these values is not reasonable. The maximum usage year was 2015, so looking at the ratio of 2015 to 2018 provides a multiplier of 1.09, so then ADD = 346 (=1.09 * 317) and MDD then becomes 801 (=1.09 * 735). These updated values are more in line with the previous City's WSP values for ADD and MDD of 358 and 809, respectively. DOH would then agree that WUE approaches have resulted in some reductions in water usage on a per

connection basis (difference between 346 and 358 and between 801 and 809) – and MDD water usage logically would show a lesser WUE-type reduction than the average usage across an entire year or many years). Update this Chapter as needed to include more recent data (see comment #1) and provide calculations (see comment #3).
DOH requires multiplying your MDD by 1.09. Per your inclusion of DSL as part of demand being deemed "conservative", DOH fully concurs that properly accounting for the "1.09" multiplier also is conservative. So, the correct value for MDD = 918 gpd/ERU = 1.09 x 842 gpd/ERU. Also, as noted in various communications, the previous WSP showed MDD = 809 gpd/ERU (that excluded DSL as a component, i.e., "809" was based on metered consumption data), and MDD is defined as the largest single daily water demand. So, even if your current data show a lesser value (801 gpd/ERU = 1.09 x 735 gpd/ERU), capacity analyses need to account for the entire history of water usage.

20) ~~For the discussion and approach of allocating DSL as part of water usage. This approach to DSL is not supported by DOH for the following reasons:~~
    i. ~~DSL does not have a peaking factor. Consider a leaking pipe, it will most likely leak less during time periods of MDD and PHD because the piping will be operating under lesser pressures and not "pushing" as much water out of the leaking pipes and so taking the ADD + DSL and then peaking that value to find MDD + DSL unnecessarily peaks the DSL portion that is a relatively constant value.~~
    ii. ~~The City is required to track DSL and strive to reduce or eliminate DSL, not add back into ADD and MDD and "hide it".~~
    iii. ~~Separating out DSL and evaluating as a "use category" and identifying how many ERUs is a clear method to highlight the cost of DSL.~~
    iv. ~~The correct approach in evaluating DSL is to find PHD_{MDD} from MDD and N, as noted using Equation 3-1, find PHD_{DSL}, and then adding the two together. If the City does desire a conservative approach to defining capacity – DOH suggest taking final values for ADD, MDD, and PHD and then scaling up these values by 10% or 20% or take the capacity limits determined from the direct ADD, MDD, and PHD values and scaling these down by 10% or 20%.~~

Chapter 5

21) ~~For Cross-connection Control – please provide a listing of all installed backflow prevention devices and the results of most recent testing. See comment 38) below.~~
22) ~~Page 5-3. Identify the Retail Service Area in Figure 2-1 where Duty to Serve is applicable. See Comment 7) above.~~
23) ~~For "Pressure" requirements identify DOH requirements for pressure maintenance for PHD and MDD+FF.~~

Chapter 6

24) Please remove (or note as being superseded and completely inapplicable) "Stage 1 Disinfectants/Disinfection Byproducts Rule". Stage 2 was implemented several years ago, and the Stage 1 rule and any results do not apply.

Please remove all text regarding the totally defunct "Stage 1" discussion or move your very last sentence in this subsection to be a stand-alone paragraph at the very start of this subsection, so then everyone knows to not read the remainder.

25) ~~Page 6-27. Group A drinking water rules have been revised to require water systems to monitor for select per- and polyfluoroalkyl substances (PFAS) using specific analytical methods. The new rule establishes states action levels (SALs) for 5 PFAS compounds. Update this section as needed to reflect this new rule and the required monitoring.~~

Chapter 7

26) For Table 7-2 and all other similar capacity tables. Present data as shown in Worksheet 4-1 or similar (i.e., identify both Connections and then ERUs for "Usage" or "Demands" and then identify the number of ERUs that is the capacity limit). Another way to state this is to show the Upper Half of Worksheet 4-1 with Connections and ERUs for each category including DSL for the following:
    - Current plan year
    - Projected for plan approval period
    - Projected for 20 years

    Then, prepare various Lower Half of Worksheet 4-1 with ERU capacity limits for:
    - Total City
    - Each Pressure Zone
    - Then for any proposed improvements – however, this can simply be accomplished by noting, for example, "X" additional storage volume will provide "Y" additional ERU capacity.

    DOH does require an identification of capacity limits based on ERUs and the basis for the ERUs needs to be based on separating out DSL.
    The current presentation of the summary of the capacity analysis(ses) spans two chapters and does not provide a clear statement of "ERU Capacity Summary". While the "Water System Design Manual" (DOH Publication 331-123, any version) may be "guidance", it is the manifestation of the WAC and RCW stating, "use industry standards", and RH2 had three representatives who provided input and support for the 2019 version of the WSDM. As much as DOH Regional Engineers can sift through many pages and scattered tables, this document is also for the public. Perhaps, as we have discussed, you create an additional appendix and then provide a more concise form of your tables.
    Without any sample calculations showing how you found your capacity limit values, DOH was unable to review the data. Please see Comment/Response 3 above.
27) Tables 7-3 and 7-4. To properly evaluate "source" capacity limits, refer to Figure 2-2 and complete source capacity limit calculations as follows:
    - 1740 Zone – has eight (8) well sources + two PRVs – Vuecrest BPS
    - 1824 Zone – has three (3) well sources – two PRVs + Vuecrest BPS

    DOH does not follow how the engineering requirement for evaluating a pressure zone can be based on "engineering judgment". A pressure zone is simply a "mini" water system that has flows in (can be source(s), pump station(s), and/or PRVs or "transfer stations"), flows out (pump station(s) and/or PRVs or "transfer stations"), possibly storage, and then demands – there is no "judgment" as to whether these exist and can function to convey, contain, or consume water or have an impact on the capacity to

provide demands. Please consider a simple hypothetical example: a water system consists of two pressure zones with 1 connection in the first pressure zone that also contains the well and 99 connections in the upper pressure zone exclusively served by a booster pump station. The PHD demand is 1 gpm per connection and the well source can pump in excess of 100 gpm. So, as an "overall" capacity evaluation, everything is copasetic. However, the booster pump station is sized for 5 gpm because it was installed many years ago when there were only a couple houses in the upper pressure zone. Looking exclusively at the upper pressure zone, does it have sufficient capacity to serve more than 5 connections?
Without any sample calculations showing how you found your capacity limit values, DOH was unable to review the data. Please see Comment/Response 3 above.

28) Table 7-3. Describe the "1760 Zone" and show on Figure 2-1 and Figure 2-2.
This is a planning document that is prepared to outline the successful operations and management of a water system for the next 10 years. Unless the "1760 Zone" and "1860 Zone" creations are "pie-in-the-sky" ideas that will not come to fruition for decades, then this planning document should evaluate the infrastructure requirements to provide their water service needs AND evaluate how providing their capacities will affect the pressure zone that is being discretized. For example, a "carved out" pressure zone will have a relatively larger PHD when analyzed by itself in comparison to evaluating the PHD demand of that pressure zone as part of the original pressure zone.
29) Table 7-10 – what is the "1860 Zone"? Please show on Figure 2-1 and Figure 2-2.
See comment 28 above.

Chapter 8

~~30) Emergency Operations. Include how the City is prepared for large-scale wildfires, vandalism (such as breaking open the hatch on a reservoir), contamination of the water system (such as someone opens the hatch on a reservoir and dumps something into the reservoir), and other similar non-normal situations. This includes how the City would practice dry runs for such emergencies and also identify steps to be followed would in an actual situation.~~
~~31) Public Notification. Identify the specific steps, processes, or approaches the City would follow to provide communications to the public for both general information and for dire emergencies.~~
~~32) Include the City's customer compliant process.~~

Chapter 10

~~33) Page 10-4. Regarding the Department of Health (DOH) paragraph. It's been several years since DWSRF was jointly administered by DOH and the Department of Commerce. Please update this section to include current information.~~

Appendix A

~~*34)* The WFI included in this draft was last updated in 2019. Please include a current, up to date WFI with your next submittal. Identify any changes needed and sign and date the form.~~ *Please note that WFI connection information in DOH's Sentry database relies 100% on information being provided by the water system. DOH requires that water*

systems keep their WFI updated to reflect current conditions (WAC 246-290-480(2)(e)(i)).

Appendix C

35) ~~Provide signed and dated forms from the City of Ellensburg and Kittitas County.~~

Appendix D

36) ~~Provide a SEPA checklist and SEPA determination; both signed and dated.~~

Appendix E

37) ~~Provide information showing the WUE goal was adopted in a public forum following the public notification process required by WAC 246-290-830.~~

Appendix F – Cross-Connection Control Program

38) ~~Include a list of all installed backflow prevention devices and a table showing the timing and testing results.~~

Appendix G – O&M Manual

39) ~~There's no date identified on the O&M manual and emergency response plan included in this appendix, but they appear to be in need of updating: all of the current wells (Table 2-1) are not identified; PFAS water quality monitoring (see comment 8) above) is not included; population and connections are from 2013; the water emergency phone list and Eastern Drinking Water Operations sheet are outdated and include individuals no longer with DOH. Please update this appendix as needed.~~

Appendix H – Water System Construction Standards

40) ~~Detail WT-15. According to the "Water System Design Manual" (DOH Publication 331-123, 2019), water piping needs to be protected from natural gas lines if the natural gas line is not at least 18 inches below the water piping.~~

41) ~~Detail WT-50. The discharge from the blow-off cannot be located in a vault that can flood and submerge the discharge. So, the current detail either needs to show the discharge being above grade or the vault has a drain-to-daylight.~~

42) ~~Detail WT-85. Any and all types of backflow prevention devices cannot be located in a vault that can flood and submerge the discharge. So, the current detail either needs to show the discharge being above grade or the vault has a drain-to-daylight.~~

Appendix J – Water Quality Monitoring Plan

43) ~~Coliform Monitoring Plan. The system collects 2 samples per month from 10 routine sample locations. Consider including more sample locations to better represent the City's approximately 10,000 connections.~~

Other

44) Once DOH comments have been addressed and we are ready to approve the WSP, we will notify you via email. Once DOH receives documentation (signed minutes or

resolution) that the WSP has been approved by your governing board we will forward an approval letter to the water system.

45) The Department of Ecology has issued a comment letter dated November 17, 2022, regarding this submittal. Please address the issues, if any, contained in the letter in the second draft submittal.

END OF COMMENTS

The department's review of your water system plan does not confer or guarantee any right to a specific quantity of water. Our review is based on your representation of available water quantity. If the Washington Department of Ecology, a local planning agency, or other authority responsible for determining water rights and water system adequacy determines that you have use of less water than you represent, the number of approved connections may be reduced commensurate with the actual amount of water and your legal right to use it.

We hope that you have found these comments to be clear, constructive, and helpful in the development of your final WSP. We ask that you submit **two copies** of the revised WSP **or revised WSP pages as soon as possible** (one copy may be in electronic format).

Thank you again for submitting your draft WSP for our review. If you have any comments or questions concerning our review please contact either of us at (509) 329-2116, Russell.Mau@doh.wa.gov or (509) 329-2122, Brenda.Smits@doh.wa.gov, respectively.

Sincerely,

Russell Mau, PhD, PE
DOH Regional Engineer
Office of Drinking Water
Division of Environmental Public Health

Brenda Smits
DOH Regional Planner
Office of Drinking Water
Division of Environmental Public Health

Enclosures: Ecology correspondence dated November 17, 2022

cc: Kittitas County Health Department
Kittitas County Planning Department
Christopher Kossik, Department of Ecology, Central Regional Office
Mike Helgeson, City of Ellensburg
Zach Schrempp, PE, RH2 Engineering
Michele Campbell, PE, RH2 Engineering
Scott Mallery, PE, DOH Assistant Regional Manager
Katrina McLaughlin, DOH Compliance Program Manager

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RH2 ENGINEERING
Bothell
22722 29th Drive SE, Suite 210
Bothell, WA 98021
1.800.720.8052 / rh2.com

August 15, 2023

Mr. Christopher Kossik
Permitting & Operations Unit Supervisor
Water Resources Program
Central Region Office
Department of Ecology
1250 West Alder Street
Union Gap, WA 98903-0009

Sent via: *Email*

Subject: **City of Ellensburg Water System Plan (DOH Project No. 22-0102)**
Response to Department of Ecology Comments on
Re-Submitted Plan

Dear Mr. Kossik:

On behalf of the City of Ellensburg (City), RH2 Engineering, Inc., (RH2) has prepared the following responses to the Washington State Department of Ecology (Ecology)'s comments on the re-submittal (second draft) of the City's Water System Plan (WSP). The review comments from Ecology's letter dated November 17, 2022, are addressed below. Ecology comments are provided in **bold** text, with RH2/City responses in normal text.

For GWC-925-D, Ecology's records show that the well was drill prior to 1950 and was drilled to 303.5 feet, the information provided in the WSP showed the well (S03-Memorial Well) was drilled in 2019 and drilled to 1,007 feet.

There is an error on page 6-5 of the WSP. The first sentence will be replaced with: "The Memorial Well was completed in 1931 to a total depth of 303.5 feet."

For GWC-3525-A, the report of examination states that the instantaneous and annual quantities are supplemental to the City's existing rights. Because it states that this right is supplemental then they would be non-additive to the City's existing rights.

RH2 does not agree with Ecology's interpretation. The annual volume is the only portion of this water right that is non-additive (supplemental). The instantaneous rate is additive, as shown in the WSP.

WASHINGTON LOCATIONS
Bellingham
Bothell (Corporate)
East Wenatchee
Issaquah
Richland
Tacoma

OREGON LOCATIONS
Medford
Portland

IDAHO LOCATIONS
Nampa

For G4-25307C, Ecology's records show the annual quantity is 2,750 acre-feet/year.

It is true that the water right identifies 2,750 acre-feet per year (afy) as the annual volume. However, at a pumping rate of 1,700 gallons per minute (gpm), it is only possible to pump 2,750 afy if pumping 24 hours per day, 7 days a week for 366 days (leap year). The annual volume listed in the WSP was 2,742 afy, which is the volume that could be withdrawn when pumping at 1,700 gpm, 24 hours per day, 7 days a week for 365 days.

RH2 will update the description of GWC G4-25307C on Page 6-10 to 2,750 afy to address Ecology's comment but will leave the tables and water right self-assessment form as-is to reflect the annual volume for a non-leap year.

Thank you for your comments. If you have any questions, please contact me at (425) 951-5319 or via email at zschrempp@rh2.com.

Sincerely,

Zachary W. Schrempp

Zach Schrempp, PE

Project Engineer

ZS/sp/bc

cc: Mr. Derek Mayo, PE, City of Ellensburg
Mr. Mike Helgeson, City of Ellensburg

RH2 ENGINEERING
Bothell
22722 29th Drive SE, Suite 210
Bothell, WA 98021
1.800.720.8052 / rh2.com

August 23, 2023

Dr. Russell Mau, PE
Regional Engineer
Eastern Drinking Water Operations
Department of Health
16201 East Indiana Avenue, Suite 1500
Spokane Valley, WA 99216

Sent via: *Email*

Subject: **Submittal No. 22-0102, City of Ellensburg Water System Plan Response to DOH Comments**

Dear Dr. Mau:

On behalf of the City of Ellensburg (City), RH2 Engineering, Inc., (RH2) has prepared the following responses to the Washington State Department of Health's (DOH) comments on the City's Water System Plan (WSP) re-submittal. The review comments from DOH's letter dated November 29, 2022, are addressed below. DOH comments are provided in **bold** text, with RH2 responses in normal text.

General Comments

3) Provide calculations for all tables and analysis.

Numerous sample calculations have been added to the WSP to address this comment, utilizing the example format provided by DOH. Numerous additional table footnotes also have been added to assist the reader in understanding the source of presented information.

Chapter 4

15) Table 4-1. DOH preference regarding consumption table presentation.

The City acknowledges DOH's comment and preference. As noted by DOH, the method preferred by DOH and the method utilized in the WSP arrive at the same number of equivalent residential units (ERUs); therefore, the system capacity calculations are unaffected.

18) and **19) DOH requirement to change the Average Day Demand (ADD) and Maximum Day Demand (MDD) per ERU utilized in the WSP.**

ERU_{ADD} and ERU_{MDD} gallons per day per ERU values have been adjusted utilizing the 1.09 multiplier required by DOH.

WASHINGTON LOCATIONS
Bellingham
Bothell (Corporate)
East Wenatchee
Issaquah
Richland
Tacoma

OREGON LOCATIONS
Medford
Portland

IDAHO LOCATIONS
Nampa

Chapter 6

24) Remove all text regarding the Stage 1 Disinfectants/Disinfection Byproducts Rule.

For clarity, the last sentence of this subsection has been moved to be a standalone paragraph at the very start of the subsection.

Chapter 7

26) Presentation of ERU capacity analysis.

Appendix P has been created that presents the ERU capacity analysis in the "Worksheet 4-1" format for existing, 2030, 2033, and 2044.

27) Evaluation of capacity limits in Tables 7-3 and 7-4.

These tables and the associated text have been updated to address DOH comments.

28) Description of 1760 Zone.

The descriptive text associated with Table 7-5 has been updated to address DOH comments. The 1760 Zone is a proposed future pressure zone and, accordingly, is not shown on the existing system figures. The pressure zone is shown in plan view on Figure 9-1 and in schematic form on Figure 9-2.

29) Description of 1860 Zone.

The descriptive text associated with Table 7-6 has been updated to address DOH comments. The 1860 Zone is a proposed future pressure zone and, accordingly, is not shown on the existing system figures. The pressure zone is shown in plan view on Figure 9-1 and in schematic form on Figure 9-2.

Other

44) Once DOH comments have been addressed and we are ready to approve the WSP, we will notify you via email. Once DOH receives documentation (signed minutes or resolution) that the WSP has been approved by your governing board we will forward an approval letter to the water system.

This documentation will be provided by the City after DOH has provided notification that the WSP is ready for approval.

45) The Department of Ecology has issued a comment letter dated November 17, 2022 regarding this submittal. Please address the issues, if any, contained in the letter in the second draft submittal.

Ecology's comments have been reviewed and a formal response letter has been sent to Ecology.

RH2 has enclosed one hard copy and one electronic copy of the City's WSP.

If this submittal of information meets your needs for WSP approval, RH2 requests, on behalf of the City, that the WSP be approved. If you have any questions, please contact me at (425) 951-5319 or via email at zschrempp@rh2.com.

Sincerely,

Zachary W. Schrempp

Zach Schrempp, PE
Project Engineer

ZS/sp/bc

cc: Ms. Brenda Smits, DOH
Mr. Derek Mayo, PE, City of Ellensburg
Mr. Mike Helgeson, City of Ellensburg

Enclosures: 2023 City of Ellensburg Water System Plan (one hard copy and one electronic copy)

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STATE OF WASHINGTON
DEPARTMENT OF ECOLOGY
Central Region Office
1250 West Alder St., Union Gap, WA 98903-0009 • 509-575-2490

October 27, 2023

SENT VIA EMAIL

Mike Helgeson
Ellensburg Water Department
501 N Anderson St.
Ellensburg, WA 98926

Email: helgy@ci.ellensburg.wa.us

Re: Ellensburg Water Department Water System; ID # 22950; Kittitas County
Third Draft Water System; DOH Project # 22-0102

Dear Mike Helgeson:

Thank you for the opportunity to review the above referenced Water System Plan (WSP), received on August 30, 2023. Consistent with the Memorandum of Understanding between the Department of Health (DOH) and Department of Ecology (Ecology), regarding joint review and approval of WSPs, this letter is being sent to your office with Ecology's comments. Specific elements of the WSP review included the Water Rights Self-Assessment as well as additional water rights documentation, including Ecology's water right files and previous WSPs and project reports, as applicable.

Ecology notes the below inconsistency with Ecology's records and the information provided in the WSP.

- For GWC 3525-A, the Report of Examination states that the instantaneous and annual quantities are supplemental to the City's existing rights. Because it states that this right is supplemental then they would be non-additive to the City's existing rights.

Contact information

Please direct all questions about this letter to:

Christopher Kossik
Permitting & Operations Unit Supervisor
Water Resources Program
Central Region Office

Phone: 509-379-1826
Email: christopher.kossik@ecy.wa.gov

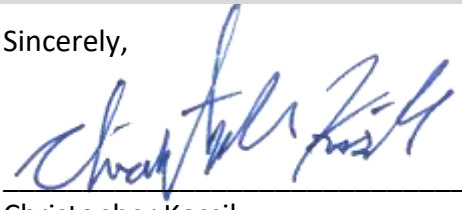
Americans with Disabilities Act information

Accommodation Requests

To request ADA accommodation including materials in a format for the visually impaired, call Ecology at 360-407-7668 or visit https://ecology.wa.gov/accessibility. People with impaired hearing may call Washington Relay Service at 711. People with speech disability may call TTY at 877-833-6341.

Signature

Sincerely,



Christopher Kossik
Permitting & Operations Unit Supervisor
Water Resources Program
Central Region Office

CK:aa (231021)

ecc: Brenda Smits, Department of Health, Brenda.smits@doh.wa.gov
ERO Admin, Department of Health, eroadmin@doh.wa.gov
Derek Mayo, City of Ellensburg, mayod@ci.ellensburg.wa.us
Kittitas County Health Department, jesse.cox@co.kittitas.wa.us

From: Zach Schrempp
Sent: Friday, January 5, 2024 3:53 PM
To: Mau, Russell E (DOH)
Cc: DOH EPH DW ERO ADMIN; Derek Mayo; Mike Helgeson; lyyskir@ci.ellensburg.wa.us; Michele Campbell; Don Popoff; Smits, Brenda M (DOH)
Subject: RE: City of Ellensburg Water System Plan (22-0102) - re-submittal - Capacity Evaluation

Dr. Mau,

Thank you for your comments. In order to bring our calculations closer in line with those presented by DOH, we have revised the WSP document again and uploaded a new January 2024 PDF copy to the DOH Box.com account. If there are any issues retrieving the revised copy, please let me know.

Comment 1: Acknowledged.
Comment 2: Acknowledged.
Comment 3: Acknowledged.
Comment 4: Acknowledged. Concur with elevations/volumes presented by DOH. 1740 Zone highest elevation service: 1,668 feet. 1824 Zone highest elevation service: 1,734 feet. Values presented in Table 7-1.
Comment 5: Acknowledged.
Comment 6: For ES calculations, the Qs values we are using are from Table 7-3 and Table 7-4 with the PRVs and Vuecrest BPS excluded. Concur with the Qs values presented by DOH for 1740 Zone (Qs = 6,754 gpm). For 1824 Zone, Qs used for existing = 1,987 gpm.

Thanks,
Zach Schrempp PE | RH2 Engineering, Inc.

O: 425.951.5319

From: Mau, Russell E (DOH) <Russell.Mau@DOH.WA.GOV>
Sent: Monday, December 18, 2023 11:17 AM
To: Zach Schrempp <zschrempp@rh2.com>
Cc: DOH EPH DW ERO ADMIN <EROADMIN@DOH.WA.GOV>; Derek Mayo <mayod@ci.ellensburg.wa.us>; Mike Helgeson <helgy@ci.ellensburg.wa.us>; lyyskir@ci.ellensburg.wa.us; Michele Campbell <mcampbell@rh2.com>; Don Popoff <dpopoff@rh2.com>; Smits, Brenda M (DOH) <brenda.smits@doh.wa.gov>
Subject: RE: City of Ellensburg Water System Plan (22-0102) - re-submittal - Capacity Evaluation

Mr. Schrempp:

DOH has reviewed the August 23, 2023 WSP submittal and comment responses below to provided this response email (all bulleted responses regarding the same enumerated bullets as provided in the email immediately below:

Comment/Response 1 – DOH has updated for our current set of calculations. Please note that your “pump stop” set points do leave, perhaps, more “freeboard” than required: for Craig Hill – freeboard = 2.5 feet (1740 – 1737.5); for Airport – freeboard = 6 feet (1824 – 1818).

Comment/Response 2 – While nesting appears to be allowed by the fire department/district, the City is choosing to not use nesting. For DOH as noted, this results in a considerable decrease in capacity to serve customers. At this point, DOH will attempt to match the WSP calculations, while also considering nesting.

Comment/Response 3 – See Comment/Response 2.

Comment/Response 4 – Please note that "grandfathering", in terms of both terminology and implementation, is non licet. As for Table 7-11 storage volumes, DOH provides the following for the Airport Reservoir:

Various Elevations:

- Overflow Elevation = 1824
- Pump Control Off Elevation = 1818
- Pump Control On Elevation = 1814 (= 4 feet wide operational band, as noted on Page 7-15 of the WSP)
- Dead Storage Elevation = 1780.92 feet (based on 640,000 gallons of DS in Table 7-11 of the WSP)
- Base Elevation = 1722 feet

Giving the following volumes:

Gallons/foot = π x $(43/2)^2$ $feet^2$ x 7.48 $gallons/feet^3$ = 10,862.47 gallons/foot

- Total Storage, TS = 1,107,971 gallons = (1824 – 1722) feet x 10,862.47 gallons/foot
- Freeboard Volume, FBS = 65,175 gallons = (1824 – 1818) feet x 10,862.47 gallons/foot
- OS = 43,450 gallons = (4 feet) x 10,862.47 gallons/foot
- DS = 640,000 gallons = (1780.918 – 1722) feet x 10,862.47 gallons/foot

This results in ES + SB = 359,347 gallons = TS – FBS – OS – DS = 1,107,971 – 65,175 – 43,450 – 640,000

Similarly, the following are the same elevations and volumes for the Craig Hill Reservoir:

Various Elevations:

- Overflow Elevation = 1740
- Pump Control Off Elevation = 1737.5
- Pump Control On Elevation = 1733.5 (= 4 feet wide operational band, as noted on Page 7-13 of the WSP)
- Dead Storage Elevation = 1715.11 feet (based on 2,430,000 gallons of DS in Table 7-9 of the WSP)
- Base Elevation = 1676.5 feet

Giving the following volumes:

Gallons/foot = π x $(103.5/2)^2$ $feet^2$ x 7.48 $gallons/feet^3$ = 62,932.09 gallons/foot

- Total Storage, TS = 3,996,188 gallons = (1740 – 1676.5) feet x 62,932.09 gallons/foot
- Freeboard Volume, FBS = 157,330 gallons = (1740 – 1737.5) feet x 62,932.09 gallons/foot
- OS = 251,728 gallons = (4 feet) x 62,932.09 gallons/foot
- DS = 2,430,000 gallons = (1715.113 – 1676.5) feet x 62,932.09 gallons/foot

This results in ES + SB = 1,157,129 gallons = TS – FBS – OS – DS = 3,996,188 – 157,330 – 251,728 – 2,430,000

So, DOH needs confirmation that you concur with these various elevations and volumes. Also, DOH would like to know the basis for the Dead Storage volume, i.e., what is the elevation of the highest service connection for both reservoirs, so that DOH can assess both 30 psi HGL (for ES evaluation) and 20 psi HGL (for Dead Storage) in both reservoirs to confirm the above information.

DOH wants to confirm this information before proceeding on with our full assessment of capacity.

Comment/Response 5 – Concur, and will be able to fully review or use the provided information based on your response to Comment/Response 4 above.

Comment/Response 6 – For the PRV-type stations and Booster Pump Stations, DOH sees the following for current conditions:

For 1740 Zone (Craig Hill Zone) – from Table 7-3:

- Vuecrest BPS = -1,700 gpm
- Transfer Station = +1,000 gpm (this is based on "empty" reservoir, which is full use of its capacity)
- Illinois Well PRV station = +1,000 gpm (under future implementation)

For 1824 Zone (Airport Zone):

- Vuecrest BPS = +1,700 gpm
- Transfer Station = -1,000 gpm
- Illinois Well PRV station = -1,000 gpm (under future implementation)

So, DOH will use the following for current conditions (and ± depending on into or out of a pressure zone):

- Vuecrest BPS = 1,700 gpm
- Transfer Station = 1,000 gpm
- Illinois Well PRV station = 1,000 gpm (under future implementation)

In all cases, please note that any flow rate is a "zero-sum" impact on the water system – i.e., while any flow rate into a pressure zone provides additional "source" capacity to that zone, an equivalent decrease in "source" capacity occurs in the initial pressure zone. Also, can you provide the flow rate value you used in your calculations? As noted in this paragraph, we cannot add to one zone and not consider the "loss" from the other zone. So, at some point, you have to decide on a flow rate to then evaluate "source" capacities and impact on ES for both zones. As direct implementations:

- For the Craig Hill Pressure Zone, the realized Qs = 6,754 gpm (from wells exclusively pumping into this pressure zone: City Well, Route 10, Hayward, Mt Stewart, Kiwanis, Memorial, Rodeo, Whitney) - 1,700 gpm (Vuecrest BPS) + 1,000 gpm (Transfer Station) + 0 (future Illinois Well PRV) – 0 (future 1760 Zone BPS)
- For the Airport Pressure Zone, the realized Qs = 936 gpm (from wells exclusively pumping into this pressure zone: Airport and Brooklane; does not currently include the Illinois well flow rate) + 1,700 gpm (Vuecrest BPS) – 1,000 (Transfer Station) – 0 (future Illinois Well PRV)

Please confirm concurrence with these "realized Qs" values, as their use in both source capacity and impact on ES for each zone.

At this point, once you can confirm the couple of items noted in the above discussion, DOH can finalize our review.

Thanks,

Russell E. Mau, PhD, PE
Regional Engineer
Office of Drinking Water
Washington State Department of Health
Russell.Mau@doh.wa.gov
www.doh.wa.gov |509-329-2116

From: Zach Schrempp <zschrempp@rh2.com>
Sent: Wednesday, November 8, 2023 5:19 PM
To: Mau, Russell E (DOH) <Russell.Mau@DOH.WA.GOV>
Cc: DOH EPH DW ERO ADMIN <EROADMIN@DOH.WA.GOV>; Derek Mayo <mayod@ci.ellensburg.wa.us>; Mike Helgeson <helgy@ci.ellensburg.wa.us>; lyyskir@ci.ellensburg.wa.us; Michele Campbell <mcampbell@rh2.com>; Don Popoff <dpopoff@rh2.com>; Smits, Brenda M (DOH) <brenda.smits@doh.wa.gov>
Subject: RE: City of Ellensburg Water System Plan (22-0102) - re-submittal - Capacity Evaluation

External Email

Dr. Mau,

Thank you for your comments; I am providing responses to each below on behalf of the City. I am also attaching correspondence from Ecology demonstrating that their outstanding comments on the Water System Plan have been resolved. As discussed in our meeting on Tuesday, the Illinois Well is essentially complete with pump, motor, and all required piping and wellhouse completed. The final electric component delivery is expected in December, and the well will be started and put into service immediately following delivery and installation. The Craigs Hill PZ project is currently out to bid, with construction expected to start this winter.

1. DOH: *"…please confirm the various dimensions of the reservoirs, and/or provide the basis for your volumes."*
   RH2: Our volume calculations are slightly more conservative than those calculated by DOH because we are using the actual operational "pump stop" level to set the top of the storage volume rather than the overflow elevation (consistent with DOH WSDM Figure 7-1).
   Craig Hill: 61 feet (1,737.5' elevation)
   Airport Reservoir: 96 feet (1,818' elevation)

2. DOH: *"As of the current information in DOH records, DOH shows 10,531 active connections, so the water system is dramatically "over-connected", and this "over-connection" would become more exacerbated if fire flow nesting is not allowed (see next comments)."*
   RH2: The fire marshal has previously approved fire flow nesting (see next comment response). As a more conservative approach, nesting is not included in the Table 7-7 storage analyses. The City has chosen to utilize the storage criteria in the WSP to conservatively plan for future storage. It is acknowledged that the WSP shows an existing storage deficiency in Table 7-7 based on the required storage criteria applied for the WSP. However, the required storage presented in Table 7-7 is quite conservative – e.g. nesting is not included, SB volume per ERU is >200 gpd, fire flow storage in each zone is based on highest planning-level FF requirement for that zone with no adjustments. The City is also aggressively pursuing the CIP to improve the storage deficiency: e.g. Craig Hill PZ reconfiguration (CIP PZ1) is currently out to bid, Illinois Well (CIP F7) will be online shortly, new reservoir (CIP F4) is scheduled for 2025/2026 in Table 9-6.

3. DOH: *"Does the Fire Department or Fire District allow for "nesting" of Fire Flow Storage and Standby Storage? If not, then the capacity limits provided above will become less as the Fire Flow Storage volumes are subtracted from the reservoir volumes prior to evaluating ES/SB. DOH definitely accepts "nesting", because this recognizes that it is unlikely that both MDD and a major fire occur at the same time."*
   RH2: While the tables in the WSP submittal are conservative and do not nest the standby and fire flow storage, there is historical precedent from the fire authority to allow nesting. The City's May 2014 WSP includes a letter in Appendix P (attached) confirming this.

4. DOH: *"For the Airport Zone, you show a Fire Flow Storage volume = 960,000 gallons. But, the available ES+SB storage is only 424,522 gallons, so this zone or reservoir is already deficient, under current conditions, for fire protection."*

RH2: While the available storage numbers calculated by DOH are not identical to Table 7-11, this conclusion is consistent that the 1824 Zone has deficient storage based on the required storage criteria applied for the WSP. However, the 0.96 MG fire flow storage requirement shown in Table 7-11 is based on the highest planning-level fire flow requirement for the pressure zone. It is assumed that existing structures are grandfathered as they were approved for construction based on the storage available at the time of their construction.

5. *DOH: "For the CIP, both activating the Illinois well and providing additional storage need to be elevated in priority, or their priorities need to be enhanced, and both zones would appear to need additional storage."*
   RH2: The City is aggressively pursuing the storage-related CIP projects and there are not many feasible ways to further accelerate the process. The Illinois Well (CIP F7) has been constructed and will be online shortly, which improves source/supply capacity. The Craig Hill PZ conversion (CIP PZ1), which reduces dead storage in the Craig Hill Reservoir, is currently out to bid. CIP F4 (new reservoir) is scheduled on Table 9-6 for 2025/2026 construction after siting (CIP F3), which is already an aggressive schedule for siting, predesign, design, and construction of an estimated 4.0 MG reservoir.

   DOH: "What may be key is to identify the total number of possible connections that can occur (under build-out) for each zone. This is rather critical (and, of course, identifying or providing a schedule of growth will determine when additional storage is needed) for determining additional storage needs. Please provide (or highlight where this information is provided in the current WSP) the number of connections per zone, so that DOH can confirm the additionally needed storage volume."
   RH2: Please see table for estimated ERUs per zone:

	ERUs			
	Existing	10-year	13-year	20-year
Zone	2020	2030	2033	2040
1740	8,797	8,250	8,856	10,334
1760	-	318	341	398
1824	2,503	5,711	6,130	7,154
1860	-	29	31	36
Total	11,300	14,307	15,358	17,922

6. *DOH: "Please confirm the flow rates for the two PRVs – you do state the transfer station has 1,000 gpm capacity, but only provide a range for the Illinois PRV."*
   RH2: This is dependent on reservoir levels, head loss in the distribution system and PRV station piping, etc. We provided capacity info from the May 2014 WSP for the transfer station on Page 2-14 and estimates for the Illinois Well PRV station on Page 2-15. We included what we believe to be reasonable/conservative capacities in the Chapter 7 supply tables.

Zach Schrempp PE | RH2 Engineering, Inc.

O: 425.951.5319

From: Mau, Russell E (DOH) <Russell.Mau@DOH.WA.GOV>
Sent: Tuesday, October 24, 2023 7:59 AM
To: Zach Schrempp <zschrempp@rh2.com>
Cc: DOH EPH DW ERO ADMIN <EROADMIN@DOH.WA.GOV>; Derek Mayo <mayod@ci.ellensburg.wa.us>; Mike Helgeson <helgy@ci.ellensburg.wa.us>; lyyskir@ci.ellensburg.wa.us; Michele Campbell <mcampbell@rh2.com>; Don Popoff <dpopoff@rh2.com>; Smits, Brenda M (DOH) <brenda.smits@doh.wa.gov>
Subject: RE: City of Ellensburg Water System Plan (22-0102) - re-submittal - Capacity Evaluation

Mr. Schrempp:

DOH has reviewed the capacity analysis component of the currently submitted WSP and has the following specific comments:

1. DOH finds the following capacity limits:

ADD =	346.0	gpd/ERU (DSL included)
MDD =	801.2	gpd/ERU (DSL included)
Capacity Component	**N (ERUs)**	**Comment**
$Qs_{Overall}$	13,822	24-hour pumping, w/o Preactive Illinois well
$Qs_{Overall}$	11,518	20-hour pumping, w/o Preactive Illinois well
$Qs_{Overall}$	18,315	24-hour pumping, w/ Preactive Illinois well
$Qs_{Overall}$	15,263	20-hour pumping, w/ Preactive Illinois well
$Qs^*_{Craig\ Hill\ Zone}$	10,881	24-hour, $Q_{PRV\ Illinois\ well} = 0$, $Q_{PRV\ Transfer\ Station} = 1000$ gpm, $Q_{booster} = 1700$ gpm
$Qs^*_{Airport\ Zone}$	2,940	24-hour, $Q_{PRV\ Illinois\ well} = 0$, $Q_{PRV\ Transfer\ Station} = 1000$ gpm, $Q_{booster} = 1700$ gpm
Qs^*_{Total}	13,821	$Q_{PRV\ Illinois\ well} = 0$
$Qs^*_{Craig\ Hill\ Zone}$	12,678	24-hour, $Q_{PRV\ Illinois\ well} = 1000$, $Q_{PRV\ Transfer\ Station} = 1000$ gpm, $Q_{booster} = 1700$ gpm
$Qs^*_{Airport\ Zone}$	5,636	24-hour, $Q_{PRV\ Illinois\ well} = 1000$, $Q_{PRV\ Transfer\ Station} = 1000$ gpm, $Q_{booster} = 1700$ gpm
Qs^*_{Total}	18,314	$Q_{PRV\ Illinois\ well} = 1000$
Qi	18,748	
Qa	22,878	
$ES/SB_{Craig\ Hill\ Zone}$	6,572	Illinois = 0, No ES required, only SB, SB = 200 x N
$ES/SB_{Airport\ Zone}$	1,944	Illinois = 0, Both ES and SB required, SB = 200 x N
$ES/SB_{Craig\ Hill\ Zone}$	6,572	Illinois included, No ES required, only SB, SB = 200 x N
$ES/SB_{Airport\ Zone}$	2,618	Illinois included, Both ES and SB required, SB = 200 x N

Please note that "Qs*" accounts for well flow into the water system zone, PRVs into or out of, and booster pumping into or out of. Looking at the "Qs^*_{Total}", these are equivalent (within rounding) to the "$Qs_{Overall}$" for the various well sources for the water system (and that makes sense because the PRV flow rates and booster pumping flow rates are a "zero-sum": add capacity to one zone while taking exact same capacity from the other).

For the ES/SB analysis, DOH included the top four (4) feet of each reservoir for OS and subtracted the same Dead Storage as noted in Tables 7-8/7-9 and 7-10/7-11.

For the two reservoirs, DOH calculates the following total volumes:

- Craig Hill, based on Diameter = 103.5 feet, Base Elevation = 1,676.5 feet, Overflow Elevation = 1,740 feet: Total Volume = PI*(103.5/2)*(103.5/2)*(1740 – 1676.5)*7.48 = 3,996,188 gallons (Tables 7-8/7-9 show 3.84 mgal).

- Airport, based on Diameter = 43 feet, Base Elevation = 1,722 feet, Overflow Elevation = 1,824 feet: Total Volume = PI*(43/2)*(43/2)*(1824 – 1722)*7.48 = 1,107,971 gallons (Tables 7-10/7-11 show 1.04 mgal). In both cases, the WSP values appear less than DOH calculations, so please confirm the various dimensions of the reservoirs, and/or provide the basis for your volumes.

Based on this capacity limit summary (but perhaps not accounting for fire flow – see other comments below), the "total" capacity of the water system currently is 8,516 ERUs (based on the ES/SB components of the two reservoirs within their respective pressure zones and not including the Illinois well that is currently shown as "pre-active" in DOH records). If the Illinois well becomes active, then the "total" water system capacity becomes 9,190 ERUs.

2. As of the current information in DOH records, DOH shows 10,531 active connections, so the water system is dramatically "over-connected", and this "over-connection" would become more exacerbated if fire flow nesting is not allowed (see next comments).
3. Does the Fire Department or Fire District allow for "nesting" of Fire Flow Storage and Standby Storage? If not, then the capacity limits provided above will become less as the Fire Flow Storage volumes are subtracted from the reservoir volumes prior to evaluating ES/SB. DOH definitely accepts "nesting", because this recognizes that it is unlikely that both MDD and a major fire occur at the same time.
4. For the Airport Zone, you show a Fire Flow Storage volume = 960,000 gallons. But, the available ES+SB storage is only 424,522 gallons, so this zone or reservoir is already deficient, under current conditions, for fire protection.
5. For the CIP, both activating the Illinois well and providing additional storage need to be elevated in priority, or their priorities need to be enhanced, and both zones would appear to need additional storage. What may be key is to identify the total number of possible connections that can occur (under build-out) for each zone. This is rather critical (and, of course, identifying or providing a schedule of growth will determine when additional storage is needed) for determining additional storage needs. Please provide (or highlight where this information is provided in the current WSP) the number of connections per zone, so that DOH can confirm the additionally needed storage volume.
6. Please confirm the flow rates for the two PRVs – you do state the transfer station has 1,000 gpm capacity, but only provide a range for the Illinois PRV.

DOH looks forward to your responses.

Thanks,

Russell E. Mau, PhD, PE
Regional Engineer
Office of Drinking Water
Washington State Department of Health
Russell.Mau@doh.wa.gov
www.doh.wa.gov |509-329-2116

From: Kossik, Christopher (ECY) <CKOS461@ECY.WA.GOV>
Sent: Tuesday, October 31, 2023 3:03 PM
To: Andy Dunn
Cc: Zach Schrempp
Subject: RE: City of Ellensburg Water System Plan

Hi Andy,

Thank you for sending this additional information and explanation. I can confirm that Ecology now agrees that the most likely interpretation for GWC 3525-A, is that the instantaneous rate of 1,050 gpm is additive, while the annual volume of 1,675 afy is non-additive. This addresses Ecology's concerns in the comment letter dated October 27, 2023.

Thanks,
Christopher Kossik
Water Resources Program
509-379-1826

From: Andy Dunn <adunn@rh2.com>
Sent: Tuesday, October 31, 2023 2:45 PM
To: Kossik, Christopher (ECY) <CKOS461@ECY.WA.GOV>
Cc: Zach Schrempp <zschrempp@rh2.com>
Subject: RE: City of Ellensburg Water System Plan

Chris,

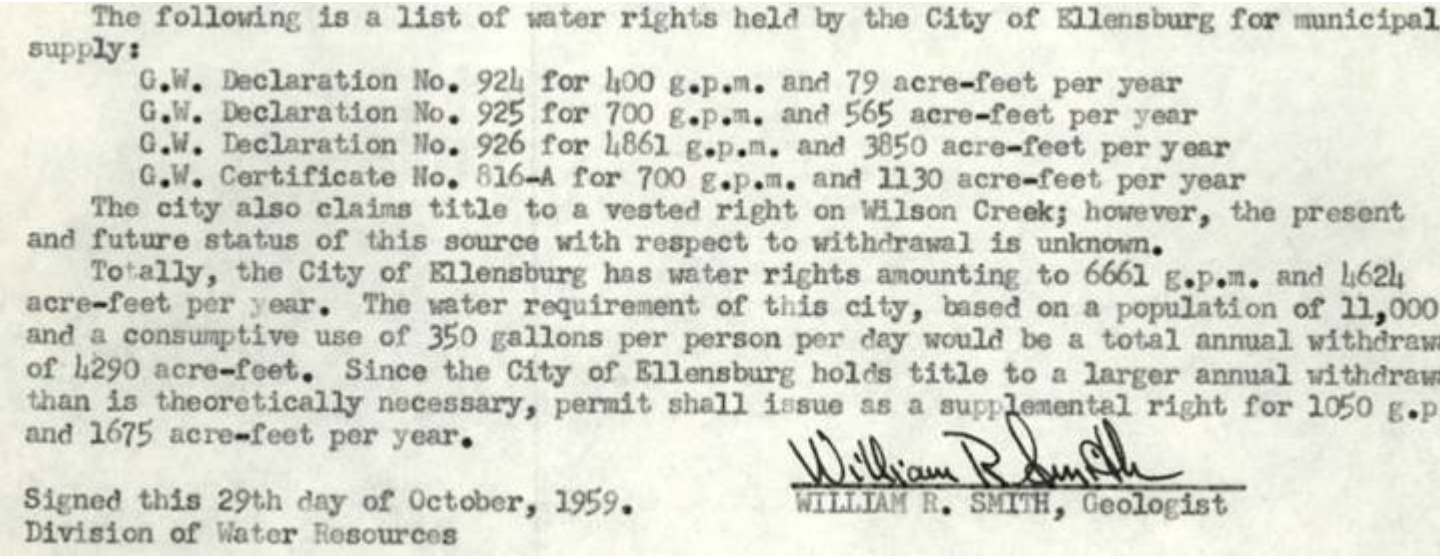
Thanks for the discussion today on Ecology's October 27, 2023 comment letter on the City of Ellensburg's Water System Plan update.

In that comment letter was the following statement:

Ecology notes the below inconsistency with Ecology's records and the information provided in the WSP.

- For GWC 3525-A, the Report of Examination states that the instantaneous and annual quantities are supplemental to the City's existing rights. Because it states that this right is supplemental then they would be non-additive to the City's existing rights.

In the water system plan update, RH2 had shown the instantaneous rate for GWC 3525-A as being additive, while the annual volume was shown as non-additive. The language from the referenced ROE for the water right that eventually led to GWC 3525-A is shown below:



The following is a list of water rights held by the City of Ellensburg for municipal supply:

G.W. Declaration No. 924 for 400 g.p.m. and 79 acre-feet per year
G.W. Declaration No. 925 for 700 g.p.m. and 565 acre-feet per year
G.W. Declaration No. 926 for 4861 g.p.m. and 3850 acre-feet per year
G.W. Certificate No. 816-A for 700 g.p.m. and 1130 acre-feet per year

The city also claims title to a vested right on Wilson Creek; however, the present and future status of this source with respect to withdrawal is unknown.

Totally, the City of Ellensburg has water rights amounting to 6661 g.p.m. and 4624 acre-feet per year. The water requirement of this city, based on a population of 11,000 and a consumptive use of 350 gallons per person per day would be a total annual withdraw of 4290 acre-feet. Since the City of Ellensburg holds title to a larger annual withdraw than is theoretically necessary, permit shall issue as a supplemental right for 1050 g.p and 1675 acre-feet per year.

Signed this 29th day of October, 1959.
Division of Water Resources

William R. Smith
WILLIAM R. SMITH, Geologist

In the final paragraph, a calculation is made that compares the City's existing annual water rights (shown as 4624 afy, but actually 5624 afy when adding the four existing water rights shown above) to the anticipated future annual demand for the City (4,290 afy). Since the existing City water right annual volume is larger than the anticipated future demand, no additive annual volume was granted. We agree that the annual volume under this water right is non-additive. No analysis in the ROE justifies the instantaneous rate being non-additive.

The wells associated with this water right (Airport Wells) were not previously utilized under any existing water rights. In reviewing Program Guidance Publication 20-11-065 – Use of Terms that Clarify Relationships Between Water Rights, it appears that this water right would be been issued as an alternate water right today since it was for municipal supply, which would have provided operational flexibility to the City to use the Airport Wells, along with its existing sources, to pump the needed annual volume to serve the City. As described in the document, the term supplemental is ambiguous and can actually mean opposite things.

https://apps.ecology.wa.gov/publications/documents/2011065.pdf

Can you confirm, through reply to this email, that after our discussion documented above, Ecology now agrees that the most likely interpretation for GWC 3525-A, is that the instantaneous rate of 1,050 gpm is additive, while the annual volume of 1,675 afy is non-additive.

Thanks,

Andy Dunn | RH2 Engineering, Inc.

O: 425.951.5448
C: 425.780.8619

From: Zach Schrempp <zschrempp@rh2.com>
Sent: Friday, October 27, 2023 4:28 PM
To: Christopher.Kossik@ecy.wa.gov
Cc: Andy Dunn <adunn@rh2.com>
Subject: City of Ellensburg Water System Plan

Dear Mr. Kossik,

Andy Dunn and I would like to schedule a teleconference with you to discuss the interpretation of GWC 3525-A in the City of Ellensburg's Water System Plan, so we can move forward with plan approval. Could you let us know when you would be available to meet with us?

Thanks,

Zach Schrempp PE
Project Manager | RH2 Engineering, Inc.

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STATE OF WASHINGTON
DEPARTMENT OF ECOLOGY
Central Region Office
1250 West Alder St., Union Gap, WA 98903-0009 • 509-575-2490

February 6, 2024

Mike Helgeson
Ellensburg Water Department
501 N Anderson St.
Ellensburg, WA 98926
Email: helgy@ci.ellensburg.wa.us

Re: Ellensburg Water Department Water System; ID #22950; Kittitas County
Fourth Draft Water System Plan; DOH Project # 22-0102

Dear Mike Helgeson:

Thank you for the opportunity to review the above referenced Water System Plan (WSP), received on January 8, 2024. Consistent with the Memorandum of Understanding between the Department of Health (DOH) and Department of Ecology (Ecology), regarding joint review and approval of WSPs, this letter is being sent to your office with Ecology's comments. Specific elements of the WSP review included the Water Rights Self-Assessment as well as additional water rights documentation, including Ecology's water right files and previous WSPs and project reports, as applicable.

Ecology did not identify any issues of concern during review of the WSP and/or supplemental documentation.

Contact information

Please direct all questions about this letter to:

Christopher Kossik
Permitting & Operations Unit Supervisor
Water Resources Program
Central Region Office

Phone: 509-379-1826
Email: christopher.kossik@ecy.wa.gov

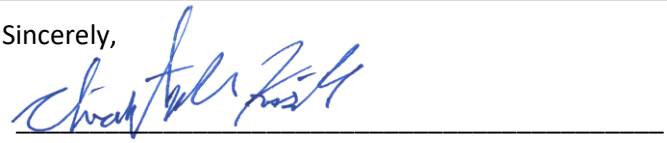
Americans with Disabilities Act information

Accommodation Requests

To request ADA accommodation including materials in a format for the visually impaired, call Ecology at 360-407-7668 or visit https://ecology.wa.gov/accessibility. People with impaired hearing may call Washington Relay Service at 711. People with speech disability may call TTY at 877-833-6341.

Signature

Sincerely,



Christopher Kossik
Permitting & Operations Unit Supervisor
Water Resources Program
Central Region Office

CK:aa (240209)

ecc: Brenda Smits, Department of Health, brenda.smits@doh.wa.gov
ERO Admin, Department of Health, eroadmin@doh.wa.gov
Derek Mayo, City of Ellensburg, mayod@ci.ellensburg.wa.us
Kittitas County Health Department, jesse.cox@co.kittitas.wa.us

Appendix P
ERU Capacity Analysis

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Existing ERU Capacity Summary - Consumption Basis
Worksheet 4-1 (format adapted from DOH WSDM)

Specific Single-Family Residential Connection Criteria (measured or estimated demands)

Average Day Demand (ADD)	2018:	317	gpd/ERU
	2020:	346	gpd/ERU
Maximum Day Demand (MDD)	2018:	735	gpd/ERU
	2020:	801	gpd/ERU

Water System Customer Meters Correlated to ERUs - 2018			
Service Classification	Total MDD for the classification (gpd)	Total # Customer Meters in the classification	ERUs
Residential			
Single-Family Residential	3,217,857	4,377	4,377
Multi-Family Residential	962,486	532	1,309
Nonresidential			
Commercial	1,399,263	561	1,903
CWU	1,518,737	77	2,066
TCF	336,099	1	457
Irrigation	557,467	135	758
Non-Profit	37,627	15	51
Municipal	595,631	106	810
Flushing Usage and Leaks Repaired	471,567	--	641
DSL	776,778	--	1,057
Total Existing ERUs (Residential + Nonresidential + DSL + Other) =			13,430

2020 Projected ERUs: 12,936 ERUs

Service Capacity as ERUs and Gallons Per Day - 2020 (Existing)			
Water System Component (Facility)	ERU Capacity for Each Component	Gallons/GPD Capacity for Each Component	
Water Rights (Qa)	22,893	7,916,473	gpd
Water Rights (Qi)	18,745	15,020,640	gpd
Physical Source Capacity	15,708	12,587,040	gpd
Storage (Equalizing & Standby)	(1,416)	(648,997)	gal
Transmission	42,653	34,179,400	gpd
Water System Service Capacity (ERUs) = (based on the limiting water system component shown above)	(1,416)		

Notes:
-Capacity determinations are only for existing facilities that are operational for the water system.
-Not shown above are distribution system limitations (WSDM Section 4.5.4) on ERUs because these are location-specific within the distribution system. These limits are not expected to limit the ERU capacity of the entire water system.

2030 ERU Capacity Summary - Consumption Basis - Without Improvements
Worksheet 4-1 (format adapted from DOH WSDM)

Specific Single-Family Residential Connection Criteria (measured or estimated demands)

Average Day Demand (ADD)	346	gpd/ERU
Maximum Day Demand (MDD)	801	gpd/ERU
2030 Projected ERUs:	16,378	ERUs

Service Capacity as ERUs and Gallons Per Day - 2030 (+10 years) Without Improvements			
Water System Component (Facility)	ERU Capacity for Each Component	Gallons/GPD Capacity for Each Component	
Water Rights (Qa)	22,893	7,916,473	gpd
Water Rights (Qi)	18,745	15,020,640	gpd
Physical Source Capacity	15,708	12,587,040	gpd
Storage (Equalizing & Standby)	(1,161)	(648,997)	gal
Transmission	42,653	34,179,400	gpd
Water System Service Capacity (ERUs) = (based on the limiting water system component shown above)	(1,161)		

Notes:
-Capacity determinations are only for existing facilities that are operational for the water system.
-Not shown above are distribution system limitations (WSDM Section 4.5.4) on ERUs because these are location-specific within the distribution system. These limits are not expected to limit the ERU capacity of the entire water system.

2030 ERU Capacity Summary - Consumption Basis - With Improvements
Worksheet 4-1 (format adapted from DOH WSDM)

Specific Single-Family Residential Connection Criteria (measured or estimated demands)

Average Day Demand (ADD)	346	gpd/ERU
Maximum Day Demand (MDD)	801	gpd/ERU
2030 Projected ERUs:	16,378	ERUs

Service Capacity as ERUs and Gallons Per Day - 2030 (+10 years) With Improvements			
Water System Component (Facility)	ERU Capacity for Each Component	Gallons/GPD Capacity for Each Component	
Water Rights (Qa)	22,893	7,916,473	gpd
Water Rights (Qi)	18,745	15,020,640	gpd
Physical Source Capacity	18,745	15,020,640	gpd
Storage (Equalizing & Standby)	22,281	6,197,752	gal
Transmission	42,653	34,179,400	gpd
Water System Service Capacity (ERUs) = (based on the limiting water system component shown above)	18,745		

Notes:
-Not shown above are distribution system limitations (WSDM Section 4.5.4) on ERUs because these are location-specific within the distribution system. These limits are not expected to limit the ERU capacity of the entire water system.

2033 ERU Capacity Summary - Consumption Basis - Without Improvements
Worksheet 4-1 (format adapted from DOH WSDM)

Specific Single-Family Residential Connection Criteria (measured or estimated demands)

Average Day Demand (ADD)	346	gpd/ERU
Maximum Day Demand (MDD)	801	gpd/ERU
2033 Projected ERUs:	17,581	ERUs

Service Capacity as ERUs and Gallons Per Day - 2033 (+13 years) Without Improvements			
Water System Component (Facility)	ERU Capacity for Each Component	Gallons/GPD Capacity for Each Component	
Water Rights (Qa)	22,893	7,916,473	gpd
Water Rights (Qi)	18,745	15,020,640	gpd
Physical Source Capacity	15,708	12,587,040	gpd
Storage (Equalizing & Standby)	(1,110)	(648,997)	gal
Transmission	42,653	34,179,400	gpd
Water System Service Capacity (ERUs) = (based on the limiting water system component shown above)	(1,110)		

Notes:
-Capacity determinations are only for existing facilities that are operational for the water system.
-Not shown above are distribution system limitations (WSDM Section 4.5.4) on ERUs because these are location-specific within the distribution system. These limits are not expected to limit the ERU capacity of the entire water system.

2033 ERU Capacity Summary - Consumption Basis - With Improvements
Worksheet 4-1 (format adapted from DOH WSDM)

Specific Single-Family Residential Connection Criteria (measured or estimated demands)

Average Day Demand (ADD)	346	gpd/ERU
Maximum Day Demand (MDD)	801	gpd/ERU
2033 Projected ERUs:	17,581	ERUs

Service Capacity as ERUs and Gallons Per Day - 2033 (+13 years) With Improvements			
Water System Component (Facility)	ERU Capacity for Each Component	Gallons/GPD Capacity for Each Component	
Water Rights (Qa)	22,893	7,916,473	gpd
Water Rights (Qi)	18,745	15,020,640	gpd
Physical Source Capacity	18,745	15,020,640	gpd
Storage (Equalizing & Standby)	20,485	6,197,752	gal
Transmission	42,653	34,179,400	gpd
Water System Service Capacity (ERUs) = (based on the limiting water system component shown above)	18,745		

Notes:
-Not shown above are distribution system limitations (WSDM Section 4.5.4) on ERUs because these are location-specific within the distribution system. These limits are not expected to limit the ERU capacity of the entire water system.

2040 ERU Capacity Summary - Consumption Basis - Without Improvements
Worksheet 4-1 (format adapted from DOH WSDM)

Specific Single-Family Residential Connection Criteria (measured or estimated demands)

Average Day Demand (ADD)	346	gpd/ERU
Maximum Day Demand (MDD)	801	gpd/ERU
2040 Projected ERUs:	20,516	ERUs

Service Capacity as ERUs and Gallons Per Day - 2040 (+20 years) Without Improvements			
Water System Component (Facility)	ERU Capacity for Each Component	Gallons/GPD Capacity for Each Component	
Water Rights (Qa)	22,893	7,916,473	gpd
Water Rights (Qi)	18,745	15,020,640	gpd
Physical Source Capacity	15,708	12,587,040	gpd
Storage (Equalizing & Standby)	(1,022)	(648,997)	gal
Transmission	42,653	34,179,400	gpd
Water System Service Capacity (ERUs) = (based on the limiting water system component shown above)	(1,022)		

Notes:
-Capacity determinations are only for existing facilities that are operational for the water system.
-Not shown above are distribution system limitations (WSDM Section 4.5.4) on ERUs because these are location-specific within the distribution system. These limits are not expected to limit the ERU capacity of the entire water system.

2040 ERU Capacity Summary - Consumption Basis - With Improvements
Worksheet 4-1 (format adapted from DOH WSDM)

Specific Single-Family Residential Connection Criteria (measured or estimated demands)

Average Day Demand (ADD)	346	gpd/ERU
Maximum Day Demand (MDD)	801	gpd/ERU
2040 Projected ERUs:	20,516	ERUs

Service Capacity as ERUs and Gallons Per Day - 2040 (+20 years) With Improvements			
Water System Component (Facility)	ERU Capacity for Each Component	Gallons/GPD Capacity for Each Component	
Water Rights (Qa)	22,893	7,916,473	gpd
Water Rights (Qi)	20,542	16,460,640	gpd
Physical Source Capacity	20,542	16,460,640	gpd
Storage (Equalizing & Standby)	21,945	6,197,752	gal
Transmission	42,653	34,179,400	gpd
Water System Service Capacity (ERUs) = (based on the limiting water system component shown above)	20,542		

Notes:
-Not shown above are distribution system limitations (WSDM Section 4.5.4) on ERUs because these are location-specific within the distribution system. These limits are not expected to limit the ERU capacity of the entire water system.

Appendix Q
DOH System Capacity Correspondence

Felicia Smoker

From: Derek Mayo <mayod@ci.ellensburg.wa.us>
Sent: Tuesday, April 2, 2024 7:56 AM
To: Zach Schrempp; Mau, Russell E (DOH); Mike Helgeson
Cc: DOH EPH DW ERO ADMIN; Ryan Lyyski; Michele Campbell; Don Popoff; Smits, Brenda M (DOH)
Subject: RE: [Ext] RE: City of Ellensburg Water System Plan (22-0102) - re-submittal - Capacity Evaluation

Mr. Mau,

The City of Ellensburg concurs with the below from Mr. Schrempp, and are excited to complete our Water System Plan update. Thanks to RH2 and DOH for their combined efforts with our plan.
Thanks,

Derek Mayo, PE
City Engineer
City of Ellensburg
509-962-7230

From: Zach Schrempp <zschrempp@rh2.com>
Sent: Monday, April 1, 2024 6:40 PM
To: Mau, Russell E (DOH) <Russell.Mau@DOH.WA.GOV>; Derek Mayo <mayod@ci.ellensburg.wa.us>; Mike Helgeson <helgy@ci.ellensburg.wa.us>
Cc: DOH EPH DW ERO ADMIN <EROADMIN@DOH.WA.GOV>; Ryan Lyyski <lyyskir@ci.ellensburg.wa.us>; Michele Campbell <mcampbell@rh2.com>; Don Popoff <dpopoff@rh2.com>; Smits, Brenda M (DOH) <brenda.smits@doh.wa.gov>
Subject: [Ext] RE: City of Ellensburg Water System Plan (22-0102) - re-submittal - Capacity Evaluation

CAUTION - EXTERNAL EMAIL: The email below is from an external source. Please exercise caution before opening attachments, clicking links, fulfilling requests, or following guidance.

Russell,

Thank you, this looks good for the WSP approval. When the City's active service connections approach the total number of approved connections, the City will plan to discuss in greater detail with DOH what documentation would be required (e.g. O&M program with frequent source evaluation, as described below) to justify greater than 20-hour pumping.

Derek will also send an e-mail response so you have confirmation from the City. I will coordinate preparation of a final copy of the WSP PDF that includes the below summary of DOH calculations in a new appendix, as well as an updated title page as previously mentioned.

Thanks,
Zach Schrempp PE | RH2 Engineering, Inc.

O: 425.951.5319

From: Mau, Russell E (DOH) <Russell.Mau@DOH.WA.GOV>
Sent: Sunday, March 31, 2024 8:50 PM
To: Zach Schrempp <zschrempp@rh2.com>; Derek Mayo <mayod@ci.ellensburg.wa.us>; Mike Helgeson <helgy@ci.ellensburg.wa.us>
Cc: DOH EPH DW ERO ADMIN <EROADMIN@DOH.WA.GOV>; lyyskir@ci.ellensburg.wa.us; Michele Campbell <mcampbell@rh2.com>; Don Popoff <dpopoff@rh2.com>; Smits, Brenda M (DOH) <brenda.smits@doh.wa.gov>
Subject: RE: City of Ellensburg Water System Plan (22-0102) - re-submittal - Capacity Evaluation

All:

This email provides two parts: summary of DOH calculations and draft of approval letter text for capacity analysis results and approved connections.

Summary of DOH Calculations

The following presents a summary of DOH calculations:

ADD =	396.0	gpd/ERU (DSL included)
MDD =	917.0	gpd/ERU (DSL included)
Capacity Component	**N (ERUs)**	**Comment**
$Qs_{Overall}$	13,334	20-hour pumping
$Qs_{Overall}$	16,001	24-hour pumping
$Qs^*_{Craig\ Hill\ Zone}$	9,045	20-hour pumping
$Qs^*_{Craig\ Hill\ Zone}$	10,854	24-hour pumping
$Qs^*_{Airport\ Zone}$	4,103	20-hour pumping
$Qs^*_{Airport\ Zone}$	4,924	24-hour pumping
$Qs^*_{1760\ Zone}$	104	Total Number of Possible Residential Connections in 1760 Zone
Qs^*_{Total}	13,252	(Based on 20-hour pumping + 1760 Zone ERUs)
Qi	16,380	
Qa	19,989	
$ES/SB_{Craig\ Hill\ Zone}$	12,729	Both ES and SB required, SB = 200 x N
$ES/SB_{Airport\ Zone}$	1,838	No ES required, only SB, SB = 200 x N
ES/SB_{Total}	14,567	

With the following basis for "Q_S" capacity limits:

	WSP (gpm)
City Well =	1,366
Route 10 =	1,080
Hayward =	1,097
Mt Stewart =	649
Kiwanis =	819
Memorial =	381
Rodeo =	590
Whitney =	772
Illinois =	2,500
Airport =	156
Brooklane =	780
All Wells Total =	10,190
Total 1740 Zone =	6,754
Total 1824 Zone =	3,436

With the following basis for "Q_S*" capacity limits:

1740 Zone Q_S*			
	Q_S =	6,754	gpm
	$Q_{B\ Vuecrest}$ =	-1,700	gpm
	$Q_{PRV\ Illinois\ Well}$ =	1,000	gpm
	$Q_{PRV\ Transfer\ Station}$ =	1,000	gpm
	$Q_{Booster}$* $_{1760}$ =	-141.7	gpm
	Q_S* $_{Total\ 1740\ Zone}$ =	6,912	gpm
Airport Zone Q_S*			
	Q_S =	3,436	gpm
	$Q_{B\ Vuecrest}$ =	1,700	gpm
	$Q_{PRV\ Illinois\ Well}$ =	-1,000	gpm
	$Q_{PRV\ Transfer\ Station}$ =	-1,000	gpm
	Q_S* $_{Total\ Airport\ Zone}$ =	3,136	gpm

Draft Approval Letter Capacity Analysis and Approved Connections Language

For determining existing connections (at least for the basis year of 2018), using information in the current (4th draft) WSP submittal and using Table 4-12 shows the following:

- Active Meters: 5,804
- ERU Usage: 11,732

But, DOH needs to convert the "meters" to "connections" – so, I took the "532" meters for multi-family and substituted the current (March 31, 2024) WFI value for multi-family living units, 5,241, to calculate active connections: 10,513 connections (= 5,804 - 532 + 5,241).

So, here is the draft language based on the above discussion:

The Water System Plan (WSP) estimates current water usage for single-family residential connections, equated to Equivalent Residential Units (ERUs), to be an average day demand (ADD) of 396 gallons per day and a maximum day demand (MDD) of 917 gallons per day, including distribution system leakage (DSL). The WSP shows the water system, in 2018, serves 10,513 total connections, including 4377 single family, 532 multi-family (equated to 5,241 living units, based on 2024 data), 561 commercial/industrial, 77 university, 1 TCF, 135 Irrigation, 15 non-profit, and 106 municipal connections. As given in Worksheet 6-1, these connections equate to 11,732 ERUs.

This WSP includes capacity information that demonstrates the physical and legal ability of this water system to provide water during the 10-year period for which the approval of the WSP is valid. Based on the analysis presented in the WSP, the limiting factor in determining the approved number of connections is the **Pressure Zone Source Capacity** (based on 20 hours of pumping in a 24-hour day), with a limit of 13,252 ERUs.

DOH bases the number of approved connections on information as included in the WSP:

From WSP
Water System Capacity: 13,252 ERUs (limiting component is Pressure Zone Source Capacity)
Total Existing ERUs: - 11,732 ERUs (based on existing connections, including DSL)
Available ERUs: 1,520 ERUs

Existing number of occupied active service connections: 10,513
Available connections*: 1,520
Approved number of connections: 12,033 connections

* Assumes all new connections are single family connections.

Accordingly, the approved number of connections that will be reflected on the Water Facilities Inventory (WFI) form is **12,033**.

Please note, the next limiting factor is source capacity (for all well sources, pumping 20 hours in a 24-hour day), with a limit of 13,334 ERUs.

So, DOH seeks confirmation that these two items are satisfactory: capacity limits and the approval letter text.

Thanks,

Russell E. Mau, PhD, PE
Regional Engineer
Office of Drinking Water
Washington State Department of Health
Russell.Mau@doh.wa.gov
www.doh.wa.gov |509-329-2116

From: Zach Schrempp <zschrempp@rh2.com>
Sent: Sunday, March 31, 2024 8:06 PM

To: Mau, Russell E (DOH) <Russell.Mau@DOH.WA.GOV>; Derek Mayo <mayod@ci.ellensburg.wa.us>; Mike Helgeson <helgy@ci.ellensburg.wa.us>
Cc: DOH EPH DW ERO ADMIN <EROADMIN@DOH.WA.GOV>; lyyskir@ci.ellensburg.wa.us; Michele Campbell <mcampbell@rh2.com>; Don Popoff <dpopoff@rh2.com>; Smits, Brenda M (DOH) <brenda.smits@doh.wa.gov>
Subject: RE: City of Ellensburg Water System Plan (22-0102) - re-submittal - Capacity Evaluation

External Email

Russell,

We are good with proceeding to approval. If there are no further DOH questions, as discussed, we would like to prepare a final version of the WSP document with these capacity calculations included in a new Appendix Q. If possible, could you please provide us with a summarization of the DOH capacity calculations discussed in this e-mail thread to include? We will also update the title page to reflect the current mayor/council members.

Thanks,
Zach Schrempp PE | RH2 Engineering, Inc.

O: 425.951.5319

From: Mau, Russell E (DOH) <Russell.Mau@DOH.WA.GOV>
Sent: Sunday, March 31, 2024 11:50 AM
To: Zach Schrempp <zschrempp@rh2.com>; Derek Mayo <mayod@ci.ellensburg.wa.us>; Mike Helgeson <helgy@ci.ellensburg.wa.us>
Cc: DOH EPH DW ERO ADMIN <EROADMIN@DOH.WA.GOV>; lyyskir@ci.ellensburg.wa.us; Michele Campbell <mcampbell@rh2.com>; Don Popoff <dpopoff@rh2.com>; Smits, Brenda M (DOH) <brenda.smits@doh.wa.gov>
Subject: RE: City of Ellensburg Water System Plan (22-0102) - re-submittal - Capacity Evaluation

Greetings All:

Upon further reflection, we can adjust the "apparent" source (I show as "Q_S*") to properly account for the booster pump flow rate to the 1760 Zone, as follows:

- For evaluating ES and SB, we need to use the booster pump flow rate of 444 gpm, because it is based on the PHD for 104 ERUs (connections) and the ES equation is dependent on PHD.
- For evaluating the source flow capacity, it is dependent on the MDD. For MDD for the 1760 Zone, other analyses found the following value: MDD = 1961.4 gpd/ERU. So, converting this to a daily gpm: 141.7 gpm = 1961.4 gpd/ERU x 104 ERUs ÷(24 hours/day x 60 minutes/hour). Now, the 1740 Zone Q_S* = 6912.3 gpm = 6754 -1700 +1000 + 1000 – 141.7.

Now, using "6912.3 gpm" for "Q_S*" for the 1740 Zone, DOH finds a capacity of 9,045 ERUs. Thus, the total capacity for QS* for the 1740 Zone plus Airport Zone plus the 1760 Zone is 13,252 ERUs = 9,045 + 4,103 + 104.

The "Q_S*" capacity limit of 13,252 ERUs can be compared to the "Q_S" capacity limit of 13,334 ERUs. The reason for the difference is the MDD for the 104 ERUs in the 1760 Zone versus using the overall City MDD for "Q_S".

And, at this point, DOH is seeking confirmation that RH2 and the City concur with a capacity limit of 13,334 ERUs (based on Q_S* and 20 hours of pumping in a 24 hour day).

Thanks,

Russell E. Mau, PhD, PE
Regional Engineer
Office of Drinking Water
Washington State Department of Health
Russell.Mau@doh.wa.gov
www.doh.wa.gov |509-329-2116

From: Mau, Russell E (DOH)
Sent: Friday, March 29, 2024 11:27 PM
To: Zach Schrempp <zschrempp@rh2.com>; Derek Mayo <mayod@ci.ellensburg.wa.us>; Mike Helgeson <helgy@ci.ellensburg.wa.us>
Cc: DOH EPH DW ERO ADMIN <EROADMIN@DOH.WA.GOV>; lyyskir@ci.ellensburg.wa.us; Michele Campbell <mcampbell@rh2.com>; Don Popoff <dpopoff@rh2.com>; Smits, Brenda M (DOH) <brenda.smits@doh.wa.gov>
Subject: RE: City of Ellensburg Water System Plan (22-0102) - re-submittal - Capacity Evaluation

All:

Perhaps we can set up a "quick" meeting for early in the week to gain closure on this? I am available as follows:

- Monday, April 1 (yep) in the morning from 8:00 am to 11:00 am, excluding a meeting from 10:00 am to 10:30 am.
- Tuesday, April 2 in the morning from 8:00 am to 10:00 am.

But, I will attempt to provide satisfactory responses:

- For the booster pumping to the 1760 Zone – DOH used the "444" gpm flow rate, solely, because it is the PHD for the 1760 zone, exactly as calculated from Equation 3-1 (of the "Water System Design Manual") for 104 ERUs (the full buildout for the 1760 Zone) in the 1760 Zone. It appears that you have confirmed similar from the HLA report. Then, the "104" ERUs is the total number of connections in the 1760 Zone, so even though the "444" is a rather large flow rate, it simply only serves 104 connections (ERUs) and there are no other connections to serve. The reason it is not a "zero sum" situation – that a subtraction from one zone is an equal addition to another zone, this flow rate was selected for this zone because the zone operates as a "closed system" and so the booster pumping capacity is not evaluated using Equation 4-3 (based on MDD, not PHD), but based on Section 8.1.2 of the WSDM – the "capacity" of a booster pump station serving a closed system is based on providing "PHD" for the closed system zone. The "problem" (i.e., why subtracting 444 gpm of capacity from the 1740 Zone does not provide an equal increase in capacity in the 1760 Zone) arises in that all other "Q_S" and "Q_S*" capacity calculations are based on Equation 4-3 (and noted above, based on MDD, expressed as gpm, that divides the Q flow rates by a smaller number, yielding greater capacity). So, the $Q_{booster}$ = 444 gpm has to be subtracted from the flow rates serving the 1740 Zone and this loses a larger capacity (would be divided by MDD) than gained by serving the 1760 Zone that now is evaluated based on PHD. And, as noted earlier above, even if you divide 444 gpm x 60 minutes/hour x 20 hours by MDD and find a number greater than 104 ERUs, this greater number of connections served by the booster pumps simply do not exist – only 104 ERUs (or connections) are possible in the 1760 Zone.
- For 20 hours versus something greater than 20 hours of operation in a 24 hour period, while this is a "recommendation" or guidance (as is all WSDM information), the WSDM is intended to provide the rigorous detail needed to meet the WAC requirements that state somewhat generic terms as "industry standard" – and the WSDM has been publicly reviewed by water system owners and operators and consulting engineers to reach an "acceptance" on the WSDM as a "basis" for proper "engineering" of water systems. However, DOH does accept engineering judgments that provide a similar "basis" – thus, for using something greater than 20 hours of operation in a 24 hour day (and please note that scientists, probably more gifted than Regional Engineers at

DOH, have found that the earth is gradually increasing its spin rate, and that by 2029, we may need to apply a "negative leap second", so, on that particular day, the 24 hour day would only be 23 hours, 59 minutes, 59 seconds – and let's just hope that day does not coincide with the occurrence of MDD!), DOH would need to see something like an O&M program that actively and frequently evaluates the well pumps and well systems that provides confirmation that wells are less likely to fail when operated for longer time periods.

Please review and let DOH know your thoughts, and if we want/need a brief meeting, let's get that set up ASAP to finalize this.

Thanks,

Russell E. Mau, PhD, PE
Regional Engineer
Office of Drinking Water
Washington State Department of Health
Russell.Mau@doh.wa.gov
www.doh.wa.gov |509-329-2116

From: Zach Schrempp <zschrempp@rh2.com>
Sent: Friday, March 29, 2024 4:26 PM
To: Mau, Russell E (DOH) <Russell.Mau@DOH.WA.GOV>; Derek Mayo <mayod@ci.ellensburg.wa.us>; Mike Helgeson <helgy@ci.ellensburg.wa.us>
Cc: DOH EPH DW ERO ADMIN <EROADMIN@DOH.WA.GOV>; lyyskir@ci.ellensburg.wa.us; Michele Campbell <mcampbell@rh2.com>; Don Popoff <dpopoff@rh2.com>; Smits, Brenda M (DOH) <brenda.smits@doh.wa.gov>
Subject: RE: City of Ellensburg Water System Plan (22-0102) - re-submittal - Capacity Evaluation

External Email

Russell,

After consulting with HLA Engineering (1760 BPS designers) and the City, we would like to move forward with the plan approval with the following notes:

- HLA stated that 444 gpm is the design PHD for the 1760 Zone; the design MDD is 156 gpm. Based on my calculations this would increase N_{Qs*} to 13,131 ERUs on a 20-hour pumping basis.
- The City is OK with using the 20-hour operation basis for the plan approval. If this capacity limit is reached prior to the expiration of the WSP approval, the City would like to re-assess with DOH whether applying the 20-hour limit is appropriate for the City.

Thanks,
Zach Schrempp PE | RH2 Engineering, Inc.

O: 425.951.5319

From: Mau, Russell E (DOH) <Russell.Mau@DOH.WA.GOV>
Sent: Wednesday, March 27, 2024 8:28 AM
To: Zach Schrempp <zschrempp@rh2.com>; Derek Mayo <mayod@ci.ellensburg.wa.us>; Mike Helgeson <helgy@ci.ellensburg.wa.us>
Cc: DOH EPH DW ERO ADMIN <EROADMIN@DOH.WA.GOV>; lyyskir@ci.ellensburg.wa.us; Michele Campbell

<mcampbell@rh2.com>; Don Popoff <dpopoff@rh2.com>; Smits, Brenda M (DOH) <brenda.smits@doh.wa.gov>
Subject: RE: City of Ellensburg Water System Plan (22-0102) - re-submittal - Capacity Evaluation

All:

Regarding the two comments in the email immediately below, here are DOH responses:

- Per "444 gpm/104 ERUs" – please see the first Note in the attached approval letter for the 1760 Zone.
- Per "20 hours versus 24 hours operation" – please see WAC 246-290-222(4) and WSDM: 3.10.4, 3.10.5, 4.4.2.7. In the cited WAC, the term "reliable" is interpreted by DOH as meaning 20 hours of operation. While the Water System Design Manual (WSDM) may not be "regulatory", it is the agreed-upon details for implementing "industry standard" engineering for water systems. Also, the use of 20 hours during MDD allows for "resting" of the various "source" pumps. As much as running continuously (24 hours) on the MDD day may not be "harmful", we then have to think about the cumulative 0.99 x MDD day and 0.98 x MDD day and so on. By allowing "resting" on the MDD day, we know we have "rest" on the other large demand days, too. Finally, the use of 20 hours does allow for a wells or wells being off-line (and mechanical systems, regardless of care and ongoing attention, will fail) and then other operable wells can take up the "slack".

So, similar to stated in my previous email, in this stream, DOH needs concurrence from the Professional Engineer and City to then move forward with DOH approval.

Thanks,

Russell E. Mau, PhD, PE
Regional Engineer
Office of Drinking Water
Washington State Department of Health
Russell.Mau@doh.wa.gov
www.doh.wa.gov |509-329-2116

From: Zach Schrempp <zschrempp@rh2.com>
Sent: Tuesday, March 26, 2024 6:34 PM
To: Mau, Russell E (DOH) <Russell.Mau@DOH.WA.GOV>; Derek Mayo <mayod@ci.ellensburg.wa.us>; Mike Helgeson <helgy@ci.ellensburg.wa.us>
Cc: DOH EPH DW ERO ADMIN <EROADMIN@DOH.WA.GOV>; lyyskir@ci.ellensburg.wa.us; Michele Campbell <mcampbell@rh2.com>; Don Popoff <dpopoff@rh2.com>; Smits, Brenda M (DOH) <brenda.smits@doh.wa.gov>
Subject: RE: City of Ellensburg Water System Plan (22-0102) - re-submittal - Capacity Evaluation

External Email

Russell,

I reviewed the below and concur with the calculations with a couple of notes:

- I am assuming that 444 gpm/104 ERUs is the correct capacity to use for the 1760 BPS/pressure zone, I have not reviewed the final project report for this pump station.
- I understand assessing source capacity based on 20 hours per day to be a recommendation rather than a requirement. Total N_{Qs*} would increase to 15,409 ERUs with 24 hours per day of pumping.

If DOH does not require any further documentation, I suggest that we move forward to plan approval.

Thanks,

Zach Schrempp PE | RH2 Engineering, Inc.

O: 425.951.5319

From: Mau, Russell E (DOH) <Russell.Mau@DOH.WA.GOV>
Sent: Tuesday, March 26, 2024 9:27 AM
To: Zach Schrempp <zschrempp@rh2.com>; Derek Mayo <mayod@ci.ellensburg.wa.us>; Mike Helgeson <helgy@ci.ellensburg.wa.us>
Cc: DOH EPH DW ERO ADMIN <EROADMIN@DOH.WA.GOV>; lyyskir@ci.ellensburg.wa.us; Michele Campbell <mcampbell@rh2.com>; Don Popoff <dpopoff@rh2.com>; Smits, Brenda M (DOH) <brenda.smits@doh.wa.gov>
Subject: RE: City of Ellensburg Water System Plan (22-0102) - re-submittal - Capacity Evaluation

All:

Ok, using SB = 200 x N and nesting, the two limiting capacities, based on DOH calculations are:

- "Q_S*" = 12,856 ERUs (the "effective" source capacity for each zone, added together)
- $Q_{Soverall}$ = 13,334 ERUs (all wells active and operating for 20 hours)

So, DOH needs "Professional Engineer" agreement that the "QS*" is both correctly calculated and acceptable.

The DOH calculations are the following.

Craig Hill (1740) Zone

The sources of supply (all types of flow into the zone) are:

City Well =	1366
Route 10 =	1080
Hayward =	1097
Mt Stewart =	649
Kiwanis =	819
Memorial =	381
Rodeo =	590
Whitney =	772

Total Qs = 6,754 gpm

$Q_{B\ Vuecrest}$ =	-1700
$Q_{PRV\ Illinois\ Well}$ =	1000
$Q_{PRV\ Transfer\ Station}$ =	1000
$Q_{B\ 1760}$ =	-444

So, Q_S* = 6,610 gpm = 6,754 - 1,700 + 1,000 + 1,000 - 444

Airport (1824) Zone

The sources of supply (all types of flow into the zone) are:

Illinois =	2500
Airport =	156
Brooklane =	780

Total Qs = 3,436 gpm

$Q_{B\ Vuecrest}$ =	1700
$Q_{PRV\ Illinois\ Well}$ =	-1000
$Q_{PRV\ Transfer\ Station}$ =	-1000

So, Q_S* = 3,136 gpm = 3,436 + 1,700 - 1,000 - 1,000

New 1760 Zone

The sources of supply (all types of flow into the zone) are:

$Q_{B\ 1760}$ =	444

While this is a "reduction" to the 1740 Zone, it is not a direct addition to capacity in the new 1760 Zone because it also provides fire flow.

Based on other discussions regarding the capacity of this zone (through the review and approval of the New 1760 Zone design), the "N" for the New 1760 Zone is limited to the total number of connections.

$N_{1760\ Zone\ Qs}$ = 104 ERUs

Total Q_S*

Total Q_S* = 9,746 gpm = 6,610 + 3,136

N_{Qs*}

N_{Qs*} = 12,752 ERUs = (6,610 gpm x 60 minute/hour x 20 hours/day) ÷ (917 gpd/ERU) + (3,136 gpm x 60 minute/hour x 20 hours/day) ÷ (917 gpd/ERU)

Total N_{Qs*} = 12,856 ERUs = 12,752 + 104

So, DOH needs confirmation that the City and RH2 agree with these calculations. Please note that the "Q_S*" approach does not equate directly with "Q_S", due to the pumping for the New 1760 Zone (more "extracted" from the 1740 Zone than provided for drinking water capacity into the New 1760 Zone). DOH can also agree that the fire flow protection provided into the New 1760 Zone would not be a 20 hour duration, but it also only amounts to a couple hundred ERUs of "lost" capacity (and is only ~2% impact "deficit"). As noted in the next paragraph, using this approach does provide for 20% growth in the current number of connections.

As noted in the email below, with current active connections of 10,717, a capacity limit of 12,857 ERUs allows for 2,140 ERUs of "growth" (and/or time to install more storage for more fire flow storage and standby storage).

DOH looks forward to your response.

Thanks,

Russell E. Mau, PhD, PE
Regional Engineer
Office of Drinking Water
Washington State Department of Health
Russell.Mau@doh.wa.gov
www.doh.wa.gov |509-329-2116

From: Zach Schrempp <zschrempp@rh2.com>
Sent: Monday, March 25, 2024 6:02 PM
To: Mau, Russell E (DOH) <Russell.Mau@DOH.WA.GOV>; Derek Mayo <mayod@ci.ellensburg.wa.us>; Mike Helgeson <helgy@ci.ellensburg.wa.us>
Cc: DOH EPH DW ERO ADMIN <EROADMIN@DOH.WA.GOV>; lyyskir@ci.ellensburg.wa.us; Michele Campbell <mcampbell@rh2.com>; Don Popoff <dpopoff@rh2.com>; Smits, Brenda M (DOH) <brenda.smits@doh.wa.gov>
Subject: RE: City of Ellensburg Water System Plan (22-0102) - re-submittal - Capacity Evaluation

External Email

Russell,

Thank you for your comments. We would request (Item 3 in your e-mail) that DOH allow the City to approve new connections based on a capacity analysis showing SB of 200 gal/ERU and nested FF storage. See below for a revised version of WSP Table 7-7 that reflects completion of the 1760 Zone and revised SB/FF criteria, showing a surplus of available storage.

If this approach/analysis is acceptable to DOH, we can include the table below as Appendix Q and proceed with the plan approval. Upon construction of the new reservoir, the City would revert to the more conservative storage criteria described in the WSP.

Description	Existing - Adjusted 2020 1740/1760 Operating Area	1824 Operating Area	
Available/Usable Storage (MG)			
Maximum Storage Capacity	3.84	1.04	
Dead (Non-Usable) Storage	0.00	0.64	1760 Zone completed
Total Available Storage	**4.24**		
Required Storage (MG)			
Operational Storage	0.25	0.04	
Equalizing Storage	0.35	0.09	
Standby Storage	1.76	0.50	Set SB to 200 gal/ERU
Fire Flow Storage	0.00	0.00	Nest FF volume of 1.20 MG
Total Required Storage	**2.99**		
Surplus or Deficient Storage (MG)			
Surplus or Deficient Amount	**1.25**		

Available ES+SB Volume	3.94	MG
Required ES+SB Volume	2.70	MG
Existing ERUs	11,300	ERUs
ES+SB Required per ERU	239	gal
Maximum Storage Capacity (ERUs)	**16,519**	**ERUs**

Thanks,

Zach Schrempp PE | RH2 Engineering, Inc.

O: 425.951.5319

From: Mau, Russell E (DOH) <Russell.Mau@DOH.WA.GOV>
Sent: Sunday, March 24, 2024 2:45 PM
To: Zach Schrempp <zschrempp@rh2.com>; Derek Mayo <mayod@ci.ellensburg.wa.us>; Mike Helgeson <helgy@ci.ellensburg.wa.us>
Cc: DOH EPH DW ERO ADMIN <EROADMIN@DOH.WA.GOV>; lyyskir@ci.ellensburg.wa.us; Michele Campbell <mcampbell@rh2.com>; Don Popoff <dpopoff@rh2.com>; Smits, Brenda M (DOH) <brenda.smits@doh.wa.gov>
Subject: RE: City of Ellensburg Water System Plan (22-0102) - re-submittal - Capacity Evaluation

Mr. Schrempp and City of Ellensburg:

DOH is at the point of completing our review of the 4th Draft WSP.

The only item needing attention regards the outcome of the capacity analysis results, as given in Table 7-13. This table shows a “negative” ERU capacity. This is based on lack of storage (i.e., as we have discussed – results from not having “nested” storage for SB and Fire Flow Storage) and also providing MDD x N for SB.

The following are outcomes:

1. Based on this "negative" capacity, DOH does need to set the approved capacity to exactly equal to the current number of active connections in our records (and would show in Sentry and on the WFI). As such, the City technically cannot add connections until providing additional capacity.
2. For approving the WSP based on this current analysis, DOH can provide a simple capacity statement noting Bullet 1, and still go ahead and approve.
3. DOH can provide a capacity statement that if "x" volume of fire flow storage is provided, then capacity limits would be "C1" through "Cn", but this would require a bit more communication to reach concurrence on capacity limit calculations (DOH can/will do this without considering the communications as additional WSP drafts – I would suggest that any communications simply be inserted into the WSP as an additional Appendix).
4. For the capacity calculations, DOH capacity calculations generally match for other capacity limits: Qi, Qa, Qs (shown below in this email). So, we would only need to reach a consensus on how to evaluate current reservoir capacities for the combined ES+SB volume (the amount of storage after subtracting OS and DS).
5. DOH capacity calculations are presented in the following table, based on the following:
    - ADD = 396 gpd/ERU
    - MDD = 917 gpd/ERU
    - Illinois Well is active, with Qs = 2,500 gpm
    - All other well Qs values as provided in Table 7-2.
    - $Q_{BVuecrest}$ = 1,700 gpm (from Craig Hill Zone into Airport Zone)
    - $Q_{PRV\ Illinois\ Well}$ = 1,000 gpm (from Airport Zone into Craig Hill Zone)
    - $Q_{PRV\ Transfer\ Station}$ = 1,000 gpm (from Airport Zone into Craig Hill Zone)
    - The 1760 Zone is established (as recently reviewed and approved)
    - Used 200 gallons x N for SB volume.

Capacity Component	N (ERUs)	Comment
$Qs_{Overall}$	13,334	20-hour pumping
$Qs_{Overall}$	16,001	24-hour pumping
$Qs^*_{Craig\ Hill\ Zone}$	8,649	20-hour pumping
$Qs^*_{Craig\ Hill\ Zone}$	10,379	24-hour pumping
$Qs^*_{Airport\ Zone}$	4,103	20-hour pumping
$Qs^*_{Airport\ Zone}$	4,924	24-hour pumping
$Qs^*_{1760\ Zone}$	104	
Qs^*_{Total}	12,856	
Qi	16,380	
Qa	19,989	
$ES/SB_{Craig\ Hill\ Zone}$	12,729	Both ES and SB required, SB = 200 x N
$ES/SB_{Airport\ Zone}$	1,838	No ES required, only SB, SB = 200 x N
ES/SB_{Total}	14,567	

So, this shows the following limiting capacities (but, please note, DOH calculations for capacity limits for ES+SB are based on SB = 200 gallons x N):

- "Q_S*" = 12,856 ERUs (the "effective" source capacity for each zone)
- $Q_{Soverall}$ = 13,334 ERUs (all wells active and operating for 20 hours)

As a comparison, the current WFI shows "10,717" active connections.

To summarize, at this point, DOH can accept the capacity analysis results and approve the WSP, with a capacity statement that the City has an approved capacity at the current number of active connections. Please let DOH know if

this is the approach you want or whether you want to assess capacity limits based on providing sufficient fire flow storage and have that communicated in the WSP approval letter.

Thanks,

Russell E. Mau, PhD, PE
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