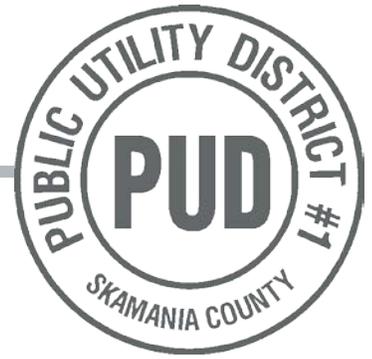


2019 Drinking Water Quality Report

Carson and Underwood Water Systems



What is this report?

We are pleased to present this year's Annual Water Quality Report (Consumer Confidence Report) as required by the Safe Drinking Water Act (SDWA). This report is designed to provide details about where your water comes from, what it contains, and how it compares to standards set by regulatory agencies. This report is a snapshot of last year's water quality. We are committed to providing you with information because informed customers are our best allies.

This year, you are likely reading the report online, rather than the traditional paper copy sent by mail. The Environmental Protection Agency changed the requirements to allow utilities to communicate this important information digitally. Customers are still able to request a paper copy by calling 509-427-5126 or emailing info@skamaniapud.com.

Do I need to take special precautions?

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. Environmental Protection Agency's (EPA) /Centers for Disease Control (CDC) guidelines on appropriate means to lessen the risk of infection by Cryptosporidium and other microbial contaminants are available from the Safe Water Drinking Hotline (1-800-426-4791)

Water System Planning

Skamania PUD provides reliable, high-quality drinking water to 2,800 people in the unincorporated community of Carson and 1,000 people in Underwood. Thoughtful planning and strategic investment in our drinking water supplies and infrastructure will help ensure the Carson and Underwood Water Systems have enough water to meet the needs of our customers into the future.

To plan for long-term needs and meet regulatory requirements, Skamania PUD regularly updates its Water System Plan, which was last updated in 2013. Throughout the next year, Skamania PUD will be working to evaluate water utility policies, procedures, current inventory of assets, and analysis of system needs. While the 2020 plan will focus on the next 10 years, longer term outlooks to 2040 and beyond will also be discussed.

The 2020 Water System Plan will describe how Skamania PUD:

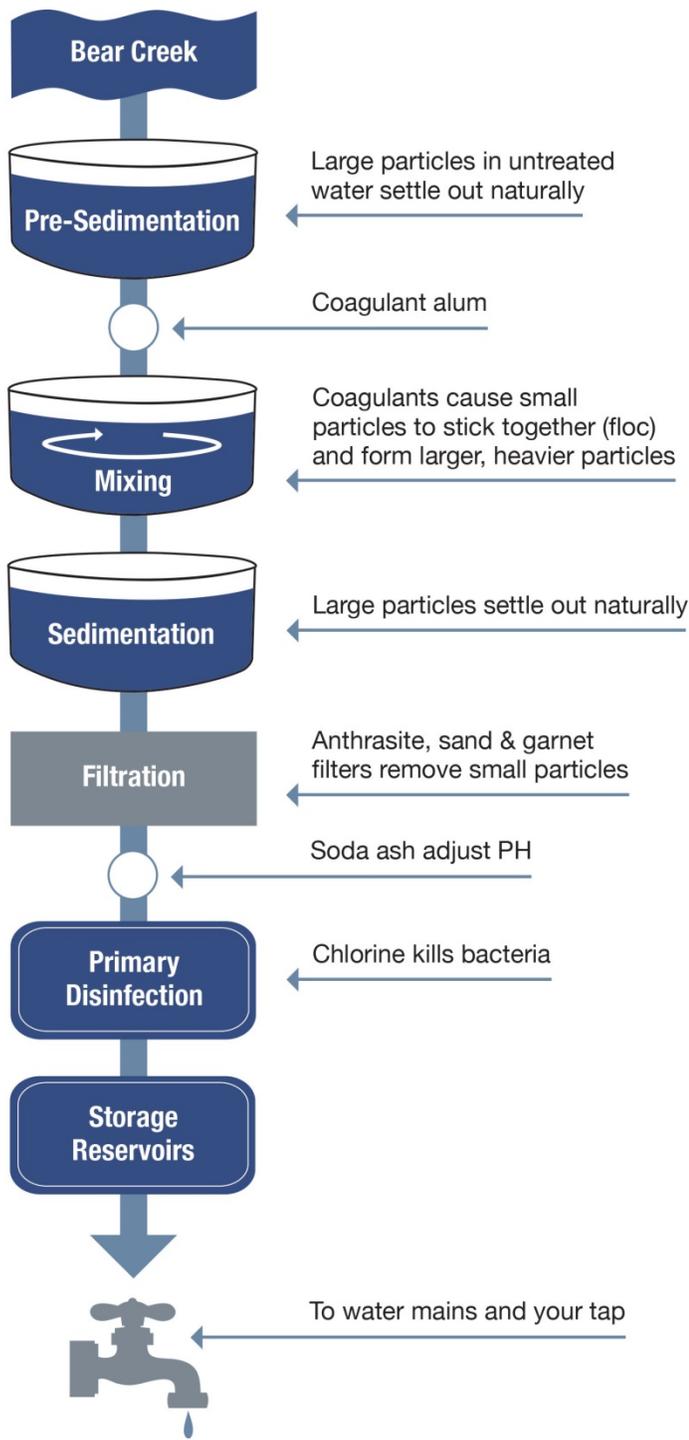
- Meets current and future water demands,
- Ensures high-quality drinking water,
- Enhances system reliability and resiliency, and
- Cost-effectively invests in and maintains the water system.

Along with the Water System Plan, the Water Use Efficiency Goals will also be updated. The public will be invited to provide comments through the SEPA review process and public meetings.

SPANISH(ESPAÑOL)

Este informe contiene información muy importante sobre la calidad de su agua potable.

Por favor lea este informe o comuníquese con alguien que pueda traducir la información.



Where does my water come from?

CARSON

Carson Water System has two sources of water; surface water from Bear Creek and groundwater from the Industrial Site Well located north of Carson on Old State Road.

Your Bear Creek surface water is treated in a “treatment train” (a series of processes applied in a sequence) that includes coagulation, flocculation, sedimentation, filtration, and disinfection. Coagulation removes dirt and other particles suspended in the source water by adding chemicals (coagulants) to form tiny sticky particles called “floc,” which attract the dirt particles. Flocculation (the formation of larger flocs from smaller flocs) is achieved using gentle, constant mixing. The heavy particles settle naturally out of the water in a sedimentation basin. The clear water then moves to the filtration process where the water passes through anthracite, sand, and garnet that remove even smaller particles. A small amount of chlorine is used to kill bacteria and other microorganisms (viruses, cysts, etc.) that may be in the water before water is stored and distributed to homes and businesses in the community.

Your Industrial Site ground water is treated by disinfection. Disinfection involves the addition of chlorine to kill dangerous bacteria and microorganisms that may be in the water. Disinfection is one of the major public health advances of the 20th century.

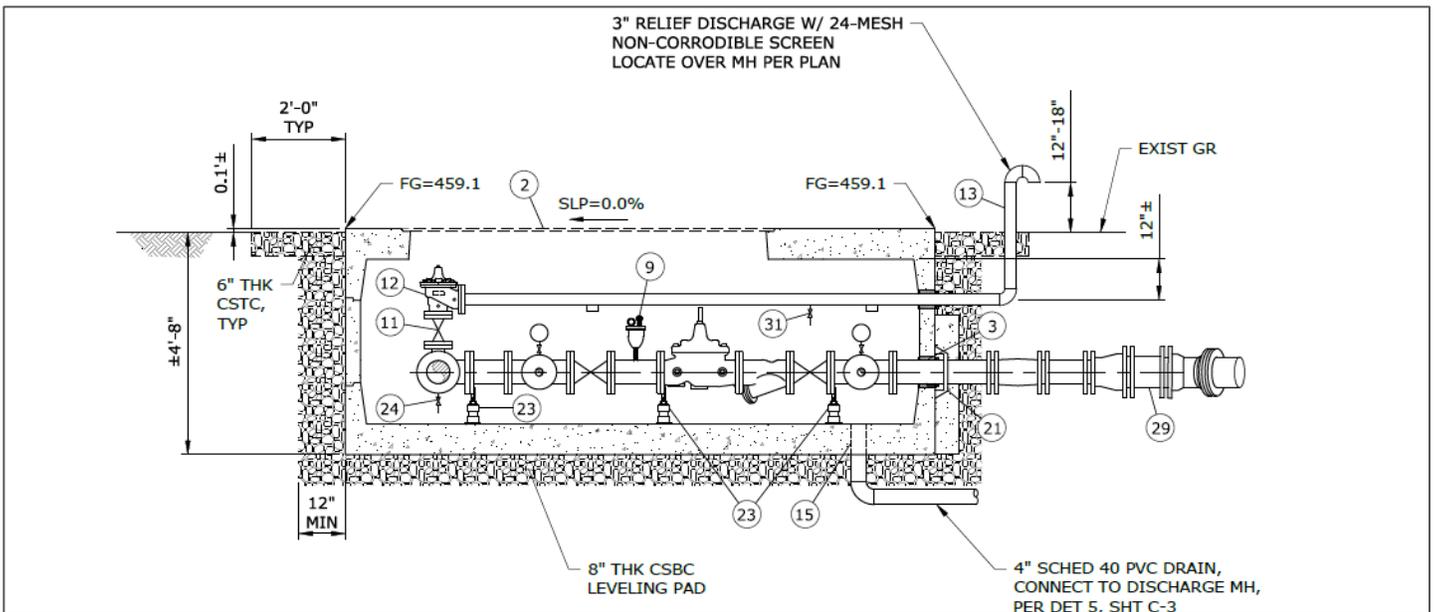
UNDERWOOD

The Underwood Water System uses groundwater from Galligan Springs, Shaddox Springs, and Galligan Well located north of SR 14 at an elevation of 350 feet. The water is then pumped 925 feet to serve the community of Underwood. Like the Industrial Site, water treatment is provided by chlorination.

Source	Susceptibility Rating
Bear Creek (Carson)	High
Industrial Well (Carson)	Moderate
Galligan Springs (Underwood)	High
Galligan Well (Underwood)	Low
Shaddox Springs (Underwood)	High

Source water assessment

Washington’s Source Water Assessment Plan (SWAP) is available at <http://www.doh.wa.gov/CommunityandEnvironment/DrinkingWater/SourceWater/Assessment>. The susceptibility rating is an assessment of the delineated area around the listed water sources through which contaminants, if present, could migrate and reach our source water. By default, the DOH assigns a susceptibility rating of “high” for all springs and surface water sources.



Design of the Redwood Street PRV Station | Carson, WA

Substances expected to be in drinking 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 Safe Drinking Water Hotline (1-800-426-4791).

The sources of drinking water (both tap water and bottled water) include rivers, lakes, streams, ponds, reservoirs, springs, and wells. 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. The following substances may be present in source water (drinking water quality is determined by testing for these contaminants).

<p>MICROBIAL CONTAMINANTS such as viruses, parasites and bacteria</p>	<p>May come from sewage treatment plants, septic systems, agricultural livestock operations, and wildlife.</p>
<p>INORGANIC CONTAMINANTS such as salts and metals</p>	<p>Can occur naturally or may result from urban stormwater runoff, industrial or domestic wastewater discharges, oil and gas production, mining, and farming.</p>
<p>PESTICIDES AND HERBICIDES</p>	<p>May come from a variety of sources such as agriculture, urban stormwater runoff, and residential uses.</p>
<p>ORGANIC CHEMICAL CONTAMINANTS including synthetic and volatile organic chemicals</p>	<p>By-products of industrial processes and petroleum production, and can also come from gas stations, urban stormwater runoff, and septic systems.</p>
<p>RADIOACTIVE CONTAMINANTS</p>	<p>Can be naturally occurring or the result of oil and gas production and mining activities.</p>

In order to ensure that tap water is safe to drink, EPA prescribes regulations that limit the amount of certain contaminants in water provided by public water systems. Food and Drug Administration (FDA) regulations establish limits for contaminants in bottled water which must provide the same protection for public health.

Water Quality Data

The Water Quality Table on the next page lists all the drinking water contaminants that we detected during the calendar year of this report. Although many more contaminants were tested, only those substances listed below were found in your water. All sources of drinking water contain some naturally occurring contaminants. At low levels, these substances are generally not harmful in our drinking water. Removing all contaminants would be extremely expensive, and in most cases, would not provide increased protection of public health. A few naturally occurring minerals may improve the taste of drinking water and have nutritional value at low levels.

Abbreviation	Definition
ppm	parts per million, or milligrams per liter (mg/L)
ppb	parts per billion, or micrograms per liter (µg/L)
pCi/L	picocuries per liter (a measure of radioactivity)
ND	not detected

Unless otherwise noted, the data presented in this table is from testing done in the calendar year of the report. The EPA or the State requires us to monitor for certain contaminants less than once per year because the concentrations of these contaminants do not vary significantly from year to year, or the system is not considered vulnerable to this type of contamination. As such, some of our data, though representative, may be more than one year old. In this table you will find terms and abbreviations that might not be familiar to you. To help you better understand these terms, we have provided the definitions.



TERM	DEFINITION
NTU	<i>Nephelometric Turbidity Units.</i> Turbidity is a measure of the cloudiness of the water. We monitor it because it is a good indicator of the effectiveness of our filtration system.
MCLG	<i>Maximum Contaminant Level Goal:</i> The level of a contaminant in drinking water below which there is no known or expected risk to health. MCLGs allow for a margin of safety.
MCL	<i>Maximum Contaminant Level:</i> The highest level of a contaminant that is allowed in drinking water. MCLs are set as close to the MCLGs as feasible using the best available treatment technology.
TT	<i>Treatment Technique:</i> A required process intended to reduce the level of a contaminant in drinking water.
MRDLG	<i>Maximum Residual Disinfection Level Goal:</i> The level of a drinking water disinfectant below which there is no known or expected risk to health.
MRDL	<i>Maximum Residual Disinfectant Level:</i> The highest level of a disinfectant allowed in drinking water.
MPL	<i>State Assigned Maximum Permissible Level</i>

SAMPLING SCHEDULE			
Parameter	Frequency	Parameter	Frequency
Chlorine residual	Continuous monitoring	Lead	Every 3 years
Turbidity	Continuous monitoring	Pesticides	Every 3 years
pH	Continuous monitoring	Volatile organic compounds	Every 3 years (Carson) Every 6 years (Underwood)
Total coliform bacteria	Monthly	Radionuclides	Every 6 years
Disinfection by-products	Quarterly (Carson), Annually (Underwood)	Asbestos	Every 9 years
Nitrate	Annually	Herbicides	Every 9 years
Copper	Every 3 years	Inorganic chemicals	Every 9 years

Water Quality Table

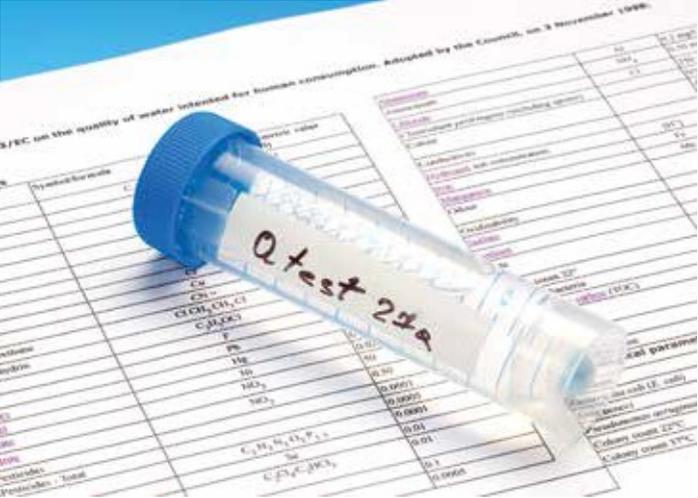
Substance (Unit of Measure)	EPA Regulations		Carson Water System (CA)			Underwood Water System (UW)			Violation	Typical Source
	Ideal Goal (MCLG)	Highest Level Allowed (MCL)	Amount Detected	Range	Year Sampled	Amount Detected	Range	Year Sampled		
Disinfectants & Disinfectant By-Products										
<i>(There is convincing evidence that addition of a disinfectant is necessary for control of microbial contaminants)</i>										
Haloacetic Acids (HAA5) (ppb)	NA	60	ND	NA	2018	ND	NA	2018	No	By-product of drinking water chlorination
Chlorine (ppm)	MRDLG = 4	MRDL = 4	0.54 (average)	0.33-0.96	2018	0.54 (average)	.25-1.1	2018	No	Water additive used to control microbes
TTHMs [Total Trihalomethanes] (ppb)	NA	80	2.9 (one sample)	NA	2018	ND	NA	2018	No	By-product of drinking water disinfection
Inorganic Contaminants										
Arsenic (ppb)	0	10	ND	NA	2011	ND	NA	2011	No	Erosion of natural deposits; Runoff from orchards
Sodium (ppm)	NA	NA	5.64 (one sample)	NA	2011	4.61 (one sample)	NA	2011	No	Naturally - occurring
Nitrate (ppm)	10	10	ND	NA	2018	1.55	1.5-1.6	2018	No	Runoff from fertilizer use; Leaching from septic tanks, sewage; Erosion of natural deposits
Fluoride (ppm)	4	4	0.09 (one sample)	NA	2011	0.09 (one sample)	NA	2011	No	Erosion of natural deposits; Discharge from fertilizer
Microbiological Contaminants										
Turbidity (NTU)	NA	0.3	0.03	0.02-0.04	2018	NA	NA	NA	No	Soil runoff
<i>(Turbidity is only sampled for surface water sources. 100% of the samples were below the MCL value of 0.3. A value less than 95% constitutes a Treatment Technique (TT) violation. Any measurement in excess of 1 is a violation unless otherwise approved by the state.)</i>										
Total Coliform (positive samples/month)	0	0	0	NA	2018	0	NA	2018	No	Naturally - occurring
Fecal coliform/E. coli - in the distribution system (positive samples)	0	0	0	NA	2018	0	NA	2018	No	Human and animal fecal waste
<i>(*A violation occurs when a routine sample and a repeat sample, in any given month, are total coliform positive, and one is also fecal coliform or E. coli positive.)</i>										
Radioactive Contaminants										
Gross Alpha (pCi/L)	0	15	ND	NA	2016	ND	NA	2016	No	Erosion of natural deposits
Radium 228 (pCi/L)	0	5	ND	NA	2016	ND	NA	2016	No	Erosion of natural deposits



Bear Creek Dam | Carson, WA

Lead in drinking water

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 Carson and Underwood Water Systems have never used lead service lines. Homes built before 1987 are more likely to have lead plumbing. Some faucets and certain kinds of solder could also have lead in them, even those installed recently. 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>.



Lead and Copper Monitoring Results

Substance (Unit of Measure)	Ideal Goal (MCLG)	Action Level	Carson (2017)			Underwood (2017)			Typical Source
			90th %	Sites Above AL/Total	Violation	90th %	Sites Above AL/Total	Violation	
Lead - at consumer taps (ppm)	0	0.015	0.0019	1/10	No	0.0017	1/10	No	Household plumbing
Copper - at consumer taps (ppm)	1.3	1.3	0.14	0/10	No	0.19	0/10	No	Household plumbing

EPA and state regulations require Skamania PUD and the systems it supplies to monitor for the presence of lead and copper at household taps in their service area every 3 years. The next round of required sampling will be conducted in 2020. The 90th % level means that out of every 10 homes sampled, 9 were at or below this level.

The results for water tested before it enters household plumbing were even lower. This indicates that there is virtually no lead or copper in the water you are provided, but your household plumbing may contribute to the presence of lead and copper at your tap.



Brooks Reservoir | Carson, WA

pH

The pH levels typically range from 6.8 to 7.5 in Carson and 7.3 to 8.0 in Underwood.

Water hardness

The Carson Water System water is considered soft with readings ranging between 25 and 40 ppm on the hardness scale. Underwood water is considered moderately hard with readings ranging between 60 and 80 ppm.

Hardness (ppm)	
0-60	Soft
61-120	Moderately Hard
121-180	Hard
181-up	Very Hard

Does my drinking water contain chlorine?

Yes. Skamania PUD's water contains a trace amount of chlorine residual added as a precaution against potential contaminants that might somehow enter the system. To reduce chlorine taste or smell, use a filter or fill a pitcher with water and let it sit for a while. The chlorine will react with the air and evaporate from the water.

Why is sodium included on the list?

Sodium has been included on the list by EPA to provide an opportunity for more study. While high levels of salt intake may be associated with hypertension in some individuals, sodium levels in drinking water are usually low and unlikely to be a significant contribution to adverse health effects, according to the EPA. The EPA has established a recommended level of twenty parts per million for sodium as a level of concern for those consumers that may be restricted for daily sodium intake in their diets. The EPA is considering updating the guidance level for sodium and says the current one is probably low. FDA imposes quality standards for bottled water that are equivalent to EPA's drinking water standards so switching to bottled water won't solve the sodium question if that is a concern for you. Instead, EPA recommends talking with your doctor or a dietician about reducing sodium in food intake.

Does my drinking water contain fluoride?

The Skamania PUD does not add fluoride to the Carson or Underwood drinking water. Some fluoride compounds, such as sodium fluoride and fluorosilicates, dissolve easily into ground water as it moves through gaps and pore spaces between rocks. Most water supplies contain some naturally occurring fluoride. Fluoride can also enter drinking water in discharge from fertilizer or aluminum factories.

Water Use Efficiency

In 2003 the State Legislature passed the Municipal Water Law, which directed the Department of Health (DOH) to adopt a rule that establishes Water Use Efficiency (WUE) requirements for all municipal water suppliers. There were several components in the requirements of the rule. These requirements included auditing for leakage, setting WUE goals, and submitting annual reports to the State DOH.

The Skamania PUD set goals to reduce the average residential water usage by 2% over a 6-year period and reducing the peak day demand by 12 gallons per day (GPD). These goals focus on customer water use and water savings. All users are encouraged to conserve water in their daily lives.

Ways We're Working Toward Using Our Water Efficiently

The distribution water mains in Carson and Underwood are aging, and leaks are the primary cause of unaccounted use. Last year we conducted our annual leak detection efforts in Carson to help identify underground leaks that are not visible from the surface. A total of 23 leaks were repaired in Carson. The DOH goal for unaccounted use of water is 10% or below in Carson and 20% or below in Underwood based on a three-year rolling average. The current three-year rolling average for unaccounted use is 37.5% in Carson and 9.2% in Underwood.

Customer views welcome

There are several ways you can get involved in water quality issues. You can communicate with elected officials, participate in public hearings and attend Skamania PUD Commission meetings. The Skamania PUD Board of Commissioners meets at 9:00 am on the first and third Monday of each month (when Monday is a holiday, the meeting is held the following day) at Skamania PUD, 1492 Wind River Road in Carson. Board sessions are open to the public. Please check the meeting agenda on our website: www.skamaniapud.com.

Water System Improvements

Skamania PUD is always working to maintain and improve the Carson and Underwood Water Systems. The following is a list of just a few of the projects we have been working on this past year.

- Brooks Reservoir – Skamania PUD completed construction of a new 400,000-gallon reservoir in the Carson Water System to improve water reliability, provide added water storage and additional fire protection for the community south of the High Bridge.
- Redwood PRV Station – A new PRV station was installed to reduce excessive downstream system pressures in the Columbia Heights area of Carson. Installation of the PRV results in reduced water consumption, lowered potential and severity of leaks, and decreased operation and maintenance costs.
- Carson Source Analysis - Using a \$25,000 grant from the WA Department of Health, Skamania PUD completed a study to evaluate future long-term drinking water source alternatives for the Carson Water System. The study evaluated both groundwater and surface water sources and ultimately found that the Wind River may be the most viable option taking into account past well drilling information, geology, population growth estimates and water right conditions.
- Shepard Pump Station and Reservoir – A new water storage reservoir and pump station is currently under construction to replace the existing, aging facilities that were constructed in the 1950s. The project will increase capacity and reliability for the Underwood Water System as well as improve the water system's disinfection facilities and communication capabilities. The project is expected to be complete in June 2019.

For more information please contact us at:

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