

Appendix L

Coliform Monitoring Plan including Sampling Locations Map



COLIFORM MONITORING PLAN

Introduction: The City of Cheney, Washington, has a population of 11,650 people, based upon 2016 population figures. 9,891 of that is served by city water and the remaining population (1,759) by EWU's water system. EWU has its own water system with two well sources, a large reservoir and sufficient fire flow to deal with the potential of fire on its campus. The University water system is able to handle the demand of the students, faculty and staff. For the purpose of this discussion, the population in the City to be dealt with, regarding the potential of Coliform contamination, is 9,891.

The number of service connections in the City is approximately 2,269 (per WFI). The expectation is that the City will grow in the near future and additional services will be demanded by new residents and businesses. All of our sources pump into the low zone and what is not used by connections, the water goes into the reservoirs. All boosted zones within the City are supplied from the main zone, no separated pressure zones.

Reservoirs

SOURCES:

- SO1- Permitted as Well number one (565 ft) has been redesignated as S06
- SO2- Permitted as Well number two (525 ft) has been redesignated as S06
- SO3- Permitted as Well number three (550 ft) legal description (SW ¼, SW ¼ of Sec. 12, T 23, R 41EWM) – Redesignated as S06
- SO5- Permitted as Well number five (2134 ft) legal description (NW ¼, NE ¼ of Sec. 23, T 23, R 41EWM)
- SO6- Well number one and number two as a well field source, legal description (NW ¼, NW ¼ of Sec. 13, T 23, R 41EWM)
- SO8- Well number six (710 ft.) legal description (SW 1/4, SW ¼ of Sec. 22. T 23N. R41EWM.)
- SO9- Well number seven (640 ft.) legal description (SW ¼, SW ¼ Sec. 22 T 23N. R41 EWM.)
- SO10- Well number eight (430 ft.) legal description (NE 1/4, NW ¼ Sec. 18, T23W,R42EWM.)

STORAGE:

Five reservoir tanks (Total of 4,200,000 gallons)

- Reservoir #0- 305 N. 10th; concrete; 283,000 gallons
- Reservoir #1- 225 N. 10th; concrete; 1,000,000 gallons
- Reservoir #2- 215 N. 10th; steel; 2,000,000 gallons
- Reservoir #3- 1557 Ridgeview; concrete, 1,000,000 gallons
- Reservoir #4- 1015 Oakland; steel; 200,000 gallons, High Zone

TREATMENT:

All sources are treated with fluoride, and all sources are treated with liquid sodium hypochlorite 12.5% for disinfection.

PRESSURE STATIONS:

- Booster Station #1; 203 N. 10th; High Zone
- Booster Station #3; 646 Marcella; High Zone

PRESSURE ZONES:

- Booster Pump Station #2; 1200 Salnave Rd.

APPROXIMATE CONNECTIONS BY PRESSURE ZONE & TOTAL CITY POPULATION

Main Zone 1,890 service connections
 Scenic Heights Zone 160 service connections
 High School Zone 219 service connections
 Total Population Served 9,981

Water Sampling Schedule

The City of Cheney is required to take **seven** routine samples during months 1-5 & 9-12 and **ten** routine samples during months 6-8. Routine samples are taken on a rotational basis using the following schedule:

Monthly Sampling Schedule

	Months 1-5	Months 6-8
WEEK 1	X1 X2 X3 X4 X5	X1 X3 X4
WEEK 2	X1 X2 X3 X4 X5	X2 X3 X4 X5
WEEK 3	X1 X2 X3 X4 X5	X1 X2 X5

Repeat sample sites are available upstream and downstream of all repeat sample sites.

All water storage tanks can be sampled as necessary. All sources can be sampled directly as necessary due to the Ground Water Rule changes. All sources are very low risk for contamination.

ROUTINE & REPEAT SAMPLE SITE ADDRESSES

Primary

Repeat Upstream (low zone) – 112 Anderson Road
Repeat Downstream (low zone) - 7 Pine Street

Repeat Upstream (low zone) – 520 4th Street
Repeat Downstream (low zone) - 703 4th Street

Repeat Upstream (low zone) –113 N 9th Street
Repeat Downstream (low zone) - 215 N. 9th Street

Repeat Upstream (low zone) – 1015 Salnave Street
Repeat Downstream (booster zone) - 1309 Gary Street

Repeat Upstream (low zone) – 717 N8th. Street
Repeat Downstream (high zone) - 619 Marcella Street

Sampling Method

All analysis of samples tested are completed by the Spokane County Health District or a laboratory certified by the Department of Health.

The method of obtaining the samples is as follows:

- a. Go to the sampling location with an acceptable sampling container from the Spokane County Health District or an accredited DOH lab.
- b. Be sure to obtain tap water from inside the residence or business location for sampling, such as directly from a kitchen sink. Using only two handle style not the mixing type.
- c. Remove all aerators from the tap faucet.
- d. Run the water for approximately 90 seconds at a minimum, to ensure the water is pulled in from the water main and then fill the sampling bottle the prescribed level.
- e. The operator taking the testing sample must not touch the water sampled of the neck of the bottle. Also at this time pull a chlorine free residual sample test.
- f. The operator taking the testing sample must ensure the sample is properly packaged at all times and properly marked before sending the sample to the testing lab. The sampling bottle and water contained therein must remain inside the package available, as much as possible.

Retest Procedure:

If a positive total coliform is detected through this sampling method, the City personnel will immediately retest at the same sampling location and test in two other locations, downstream and upstream within 5 active connections on either side of the original sampling location, and at any groundwater sources in use at that time. "Raw Water" samples must be taken at the well discharge before treatment and from an approved tap for sampling.

Repeat sampling must be done within 24 hrs of notification that a total coliform presence was found.

Each time contamination is suspected or found, this method of retesting must be implemented until the possible or potential contamination is eliminated or found not to exist.

Notification Procedure:

In any circumstances in which coliform contamination, is found or suspected, the DOH must be immediately contacted for advice and direction. A call should be made to Mr. Mark Steward at the DOH at 509-329-2134, or his replacement or designee.

Local Notification

Anatek Lab Spokane: 509-838-3999 504 E Sprague Ave. **Resurgence Engineering**
AAA Lab in Cheney: 509-235-9390 404 1st. Street. **Resurgence Engineering**

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Notification:

If contamination is known to exist or is suspected through sampling, the City must provide notice to the public of the potential contamination in compliance with DOH guidelines. This notification should be coordinated with the DOH contact person, Mr. Mark Steward.

Main Installation:

Just before activating a new service main in the City Water Service, coliform sampling and testing must be made. Only upon return of the sample testing results with an "absent" or "satisfactory" noted, will the main be tied in to existing system and put into operation.






Problem Reporting:

Any potential problem area or conditions that exists which causes concern on the part of the Water Department Staff, such as stagnant water, a new service connection area, cloudy or dirty water, etc., should be sampled and tested to determine if coliform is present.

LRRRRM:

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Reviewed by: Todd Ableman, Public Works Director

Legend

-  City Limits
-  Routine Sample Site
-  Repeat Upstream Sample Site
-  Repeat Downstream Sample Site
-  Street and Name

