6 | OPERATIONS AND MAINTENANCE

WATER SYSTEM MANAGEMENT AND PERSONNEL

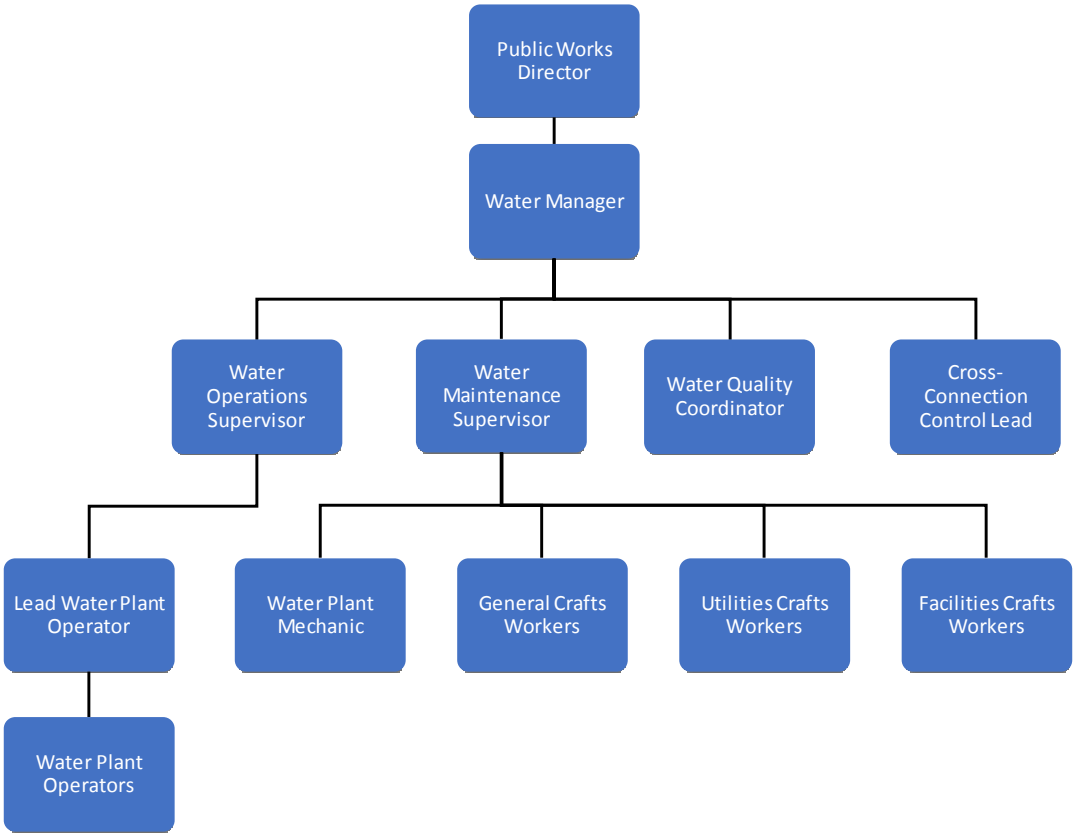
GENERAL POLICIES

The City of Richland's (City) general policies are established by a seven member City Council. Two of the seven members serve as Mayor and Mayor Pro Tem. In addition, a seven member Utility Advisory Committee (committee) exists to advise the City Council on policies regarding City-owned utilities, such as the City's water system. All seven committee members are selected by the City Council.

STRUCTURE

The City consists of several departments, including the Public Works Department. This department functions under the direction of the Public Works Director. Within the Public Works Department is the Water Division, which is divided into Operations and Maintenance sections. The Water Manager oversees both sections and reports to the Public Works Director. **Chart 6-1** shows the organization of the City's Water Division.

Chart 6-1
City Water Division Organizational Structure



OPERATOR CERTIFICATION

Under Washington Administrative Code (WAC) 256-292-040, the City's distribution system is currently classified as Group 4, requiring the City to have at least one Water Distribution Manager (WDM) classified at a level equal to or higher than the water system's classification. Under the same code, the City's highest purification plant's rating is Class 3 The highest purification plant classification requires that the City have at least one WDM and one Water Treatment Plant Operator (WTPO) classified at a level equal to or higher than the class rating. The WDM and WTPO can be the same person. The operator in charge during an operating shift shall have a minimum classification of one level lower than the classification of the distribution system or purification plant's highest class.

The City's water system is also required to have a Cross-connection Control Specialist (CCS) responsible for the cross-connection control program, and a certified backflow assembly tester (BAT) for inspecting, testing, and monitoring backflow prevention assemblies. **Table 6-1** shows the current certifications (as of June 2016) of the City's water system operations and maintenance staff. The City supports the scheduling and training necessary to ensure that all applicable operations and maintenance staff meet professional growth requirements.

Table 6-1
Water Personnel and Certificates

Personnel	Position	Water System Certifications (as of June 2016)			Responsibilities
		WTPO	WDM	Other	
John Finch	Water Manager Water Operations Supervisor	3	4	CCS	Oversees Water Division operations and maintenance sections and reports to Public Works Director. Oversees system water quality and cross-connection control program. Signs off on operations and maintenance water system reporting to regulating agencies.
Scott Siefken	Water Maintenance Supervisor	---	3	CCS	Leads Maintenance section and reports to Water Manager.
Brent Andrews	Lead Water Plant Operator	2	3	CCS	Assists with overseeing Operations section and reports to Water Manager. Vacation relief operator of WTP. Prepares operations and maintenance reports for regulating agencies.
Kim Duncan	Water Quality Coordinator	1	3	BAT, CCS	Oversees water quality monitoring and signs off on reporting to regulating agencies not addressed by Operations. Reports to Water Manager.
John Tallent	Cross-Connection Control Lead	3	3	CCS	Oversees Cross-connection Control Program and reports to Water Manager.
Shon Clark	Water Plant Operator	2	3		"A" shift Operator for WTP. Water system operator. Reports to Lead Water Plant Operator.
Von Eggers	Water Plant Operator	2	3		"B" shift Operator for WTP. Water system operator. Reports to Lead Water Plant Operator.
Devin Desparte	Water Plant Operator	2	1		"C" shift Operator for WTP. Water system operator. Reports to Lead Water Plant Operator.
Pete Fateley	Operator in Training	1	---		"D" shift Operator for WTP. Water system operator. Reports to Lead Water Plant Operator.

Operation of heavy equipment is a potential work place hazard. The water system operators shall follow all appropriate Occupational Safety and Health Administration (OSHA) regulations.

NORMAL OPERATIONS

STAFFING

The City employs permanent, full-time staff to address routine operations and preventive maintenance. Staffing for routine operations includes 8 people at 40 hours per week. Staffing for preventive maintenance includes 7 people at 40 hours per week.

ROUTINE OPERATIONS

Routine operations involve analysis, formulation, and implementation of procedures to ensure that the facilities are functioning efficiently and meeting the pressure requirements and other demands of the system. The City's maintenance procedures are exceptional, with repairs being made promptly so customers receive high quality water service.

The City strives to maximize the operating efficiency and life of all production and distribution system components through a prescribed preventive maintenance program. The water treatment plant (WTP) is the hub for Operations activities and requires 24-hour operator attention. The WTP has an Operations and Maintenance (O&M) Manual that is kept at the WTP for staff reference. The City's telemetry system has the ability to monitor reservoir levels, operate well and pump stations, and monitor intrusion alarms remotely from the WTP control room. Daily monitoring of all other

sources, pumping equipment, and storage facilities ensures that mechanical systems are functioning properly and facilities are secure. Daily monitoring of water quality through sampling and testing ensures that supply and treatment equipment are functioning properly and the water is safe to consume.

The City regularly performs unidirectional flushing of the distribution system. A schedule developed by the City ensures that all areas of the distribution system are flushed regularly to maintain water quality within the system. The City also conducts preventive hydrant and valve maintenance as part of the prescribed preventive maintenance program.

Distribution system reservoirs are inspected externally on a daily basis. Defects of appurtenances such as ladders, hatches, and vents are repaired as needed. Draining, cleaning, and inspecting interior coating systems are completed every 5 to 7 years on a rotating basis.

The City also has staff on call at all times to respond to production and distribution system failures and customer inquiries.

AVAILABLE EQUIPMENT

The City has several types of equipment available for daily routine O&M of the water system that is stored at the WTP. If additional equipment is required for specific projects, the City will rent the needed equipment or contract with a local contractor for the services needed. A stock of supplies in sufficient quantities for normal system O&M and short-term emergencies is stored at the WTP. The system maintains a detailed inventory of parts and supplies that assist in ensuring normal, necessary parts are available when needed. A list of major equipment available for use by the City's Water Division to perform the normal operation of the water system is shown in **Table 6-2**.

Table 6-2
Equipment and Vehicle List

Quantity	Equipment/Vehicle
1	2WD Pickup Trucks
2	4WD Pickup Trucks
1	Air Compressor
3	Backhoes
1	Crane Truck
3	Dump Trucks
5	Service Truck
3	Tapping Machines
1	Trailer-mounted Vacuum Truck
3	Trash Pumps
2	Welders

The City utilizes several different types of communications equipment to ensure a reliable and redundant means of communication between staff. All O&M staff are equipped with cell phones that have two-way radio capability.

Operations is responsible for the WTP and facility supplies and chemicals. **Table 6-3** lists major water treatment supplies and chemicals, the location each is used, and the supplier name.

Table 6-3
Water Treatment Supplies and Chemicals

Supply/Chemical Item	Locations Used	Supplier Name
Sodium Hypochlorite (Salt) (20 tons at the WTP, 5 tons at the North Richland Wellfield)	WTP North Richland Wellfield	Step Saver (contract)
Polyaluminum Chloride (bulk)	WTP	Kemira Oyj (contract)
Praestol	WTP	Univar USA
Activated Carbon (bags)	WTP	Not currently used
Calcium Hydroxide (Lime) (bags)	WTP	Not currently used
Polyaluminum Phosphate	Wellsian Way Air Stripping Facility	Filtration Technology, Inc.
Ultraviolet Bulbs	North Richland Wellfield	Wedeco (ITT)
Ultraviolet Sensors	North Richland Wellfield	Wedeco (ITT)

PREVENTIVE MAINTENANCE

Preventive maintenance is based on regular and frequent visits to the various facilities with scheduled routine inspections and tasks performed as part of the maintenance program. Information is recorded, and any necessary work is noted and scheduled accordingly. Materials required for maintenance are handled by the City's Purchasing Department or put out to bid, depending on the material. Maintenance schedules that meet or exceed manufacturers' recommendations have been established for all critical components in the water system. The City's maintenance procedures are exceptional, with repairs being made promptly, ensuring customers receive high-quality water service and limited interruptions. The City has compiled books that contain lists of major equipment and related information for each water system component. The books, which are listed below, are maintained in the City's Engineering Department.

- Water Intake & Treatment Plant
- Water Pump Stations
- Water Reservoirs

The following schedule is used as a minimum for preventive maintenance. Manufacturers' recommendations should be followed where conflict exists.

Storage Facilities

Daily	Visually check security and inspect facilities for proper operation.
Quarterly	Check condition of screens, vents, hatches, ends overflow pipes, conduits and junction boxes leading to reservoirs, and other areas critical to keeping out rodents and contaminants. Repair/replace as necessary.
Annually	Check interior condition.
As Needed	Clean and/or repaint interior and exterior as needed on tanks (approximate 5- to 7-year frequency).

Sources of Supply

Daily	Log and record volume delivered and current supply rate; perform visual inspection; check packing; check security; check for excessive heat, vibration, and noise of pump motors.
Quarterly	Check condition of screens, vents, conduits and junction boxes leading to wellheads, and other areas critical to keeping out rodents and contaminants. Repair/replace as necessary.
Annually	Check all valves; check control valve settings; re-grease.
As Needed	Maintain electrical and mechanical equipment; paint structures and piping; calibrate equipment; replace o-rings and diaphragms in equipment.

Booster Pump Stations

Daily	Inspect audio and visual operation of facility; check security; check pump motors for excessive heat, vibration, or noise.
Weekly	Observe and record motor current draw (three phases); log and record volume delivered and pump motor hours; check motor oil level; measure and record discharge pressure; check motor noise, temperature, and vibration.
Annually	Change motor and/or pump oil.
Annually	Take inventory of parts, pumps and motors.
As Needed	Calibrate flow meter; maintain electrical and mechanical equipment; paint structures and piping; perform routine maintenance of equipment.

Distribution System

Water Mains	
Annually or As Needed	Leak survey of approximately 10 percent of the main inventory.
Annually	Flushing.

Engine Generator Sets	
Bi-weekly	Operate to achieve normal operating temperatures; observe output.
Semi-annually	Perform routine maintenance in accordance with manufacturers' recommendations.
As Needed	Replace fluids and filters in accordance with manufacturers' recommendations (or more frequently depending on amount of use).
As Needed	Perform tune-up; replace parts as necessary.
Pressure Reducing Valves	
Annually	Flush and check all valves and screens; check pressure settings; rebuild and paint every 5 years, or as necessary.
Isolation Valves	
Annually	Operate fully open/closed; uncover where buried; clean out valve boxes and repair as necessary. Repair and/or install valve marker posts as necessary.
Hydrants	
Annually	Check for leakage and visual damage. Operate and flush; check drain rate; lubricate as necessary; measure pressure; paint as necessary. Check nozzle and cap threads, clean and lubricate per manufacturer's recommendations. Replace lost and damaged gaskets. Check and operate auxiliary valve in accordance with the valve maintenance schedule. Leave in open position. Inspect drain system to ensure proper drainage and protection from freezing weather.
Meters	
2- to 20-year Intervals	Time and measure volume of meter-delivered flow; dismantle, clean, and inspect all parts; replace worn or defective parts; retest meter for accuracy. Frequency varies based on meter size.
Customer Meters	
15-year Intervals	Perform maintenance tests and meter exchanges on a scheduled, routine basis. The average age of residential meters is 7 years. Meter sizes 1½ to 2 inches are tested every 4 years, and meter sizes 3 inches and larger are tested every 2 years.
Air and Vacuum Release Valve Assemblies	
Annually	Flush and inspect; repair as needed.
Blowoff Assemblies	
Annually	Flush and inspect; repair as needed.

Telemetry and Control System

Daily	Back-up program and data. Review alarms and reports; ensure problems are corrected.
Monthly	Visually inspect cabinets and panels for damage, dust, and debris.
Semi-annually	Inspect inside of cabinets and panels for damage, dust, and debris. Vacuum clean all modules. Test alarm indicator units. Clean and flush all pressure sensitive devices. Visually inspect all meters to coordinate remote stations.
Annually	Check master and remote telemetry units for proper operation; repair as necessary.

Tools and Equipment

Rolling Stock	
Weekly	Check all fluid levels and brakes. Fluid levels and brakes are checked each time the equipment is used if less than weekly.
As Needed	Replace fluids and filters in accordance with manufacturers' recommendations (or more frequently depending on type of use); perform preventive maintenance per manufacturers' recommendation.
Tools	
As Needed	Clean after each use; lubricate and maintain as necessary; inspect for damage and wear before each use; preventive maintenance performed per manufacturers' recommendation.

REF HYPERLINK MONITORING

The City performs water quality monitoring at its sources and in the distribution system as required by the Washington State Department of Health (DOH) Drinking Water Regulations (Chapter 246-290 WAC). Further discussion of the City's water quality monitoring is provided in **Chapter 3** of this Water System Plan (WSP) and in the City's Water Quality Monitoring Plan, which is included in **Appendix K**.

ROUTINE PROCEDURES

Source Monitoring

Monitoring is required at each of the City's three active sources for inorganic chemical (IOC) and physical substances, organic chemicals, and radionuclides. Current monitoring requirements for the City's three active sources are provided in **Appendix K**.

Coliform Monitoring

A Coliform Monitoring Plan was first prepared by the City in 1991, and has most recently been revised in 2007. The current Coliform Monitoring Plan is included in **Appendix K**. The City's Water

Quality Coordinator supervises the revisions of the Coliform Monitoring Plan, which includes sampling protocol and locations. Sampling protocol involves collecting at least 60 routine coliform samples each month in the distribution system at specified locations. If a sample tested by the laboratory is unsatisfactory (positive, coliforms present), the lab will contact the City and the City will collect repeat samples at specified locations per the **Violation Procedures** section that follows. At various frequencies, coliform samples are also taken at the City's water sources, at house taps in response to customer complaints, at locations of new construction or system repairs, and at the reservoirs.

Disinfectant Residual Concentration Monitoring

The City monitors residual disinfectant concentrations in the distribution system on a daily basis and at the same time and locations of routine coliform monitoring. At the WTP, continuous monitoring equipment is used to record residual disinfectant concentrations of the water entering the distribution system.

Disinfectants/Disinfection Byproducts Monitoring

The City currently performs quarterly monitoring at 12 sample locations for total trihalomethanes (TTHMs) and haloacetic acids (HAA5s). The City also performs standard monitoring at eight sample locations to meet Stage 2 Disinfectants/Disinfection Byproducts Rule (Stage 2 D/DBPR) requirements. The City's Standard Monitoring Plan is included in **Appendix K**.

Lead and Copper Monitoring

Currently, 30 or more samples are taken every 3 years as required for the City. Samples are taken at customer taps from June through September. The City most recently performed lead and copper monitoring in 2014, and will be required to sample for lead and copper again in 2017.

Asbestos Monitoring

Asbestos monitoring is performed by the City once every 9 years. The most recent sample was taken in 2009, and the results were non-detect. The City will be required to sample for lead and copper again in 2018.

VIOLATION PROCEDURES

Maximum contaminant levels (MCLs) and maximum residual disinfectant levels (MRDLs) are stated in WAC 246-290-310. If an MCL or MRDL is exceeded, the City will take follow-up action in accordance with WAC 246-290-320. In general, when a primary standard violation occurs, the City will do the following:

1. Provide notification to the DOH in accordance with WAC 246-290-480;
2. Provide notification to consumers in accordance with 40 Code of Federal Regulations (CFR) 141.201 through 141.208 and Part 7, Subpart A, of WAC 246-290-300;
3. Determine the cause of the contamination; and
4. Take action as directed by the DOH.

When a secondary standard violation occurs, the City will notify DOH and take action as directed. Additional follow-up action specific to coliform monitoring includes repeat sample monitoring,

identification of the cause of the coliform presence, and correction. MCLs for disinfection byproducts and MRDLs for disinfectant residuals are primary standards.

There are no MCLs established for lead and copper. If the 90th percentile results of either lead or copper exceed the corresponding action level, the City will need to follow additional requirements as required by the Lead and Copper Rule and the DOH, including increased monitoring and treatment.

EMERGENCY RESPONSE PROGRAM

The City has had a vulnerability assessment prepared, which includes an Emergency Response Plan (ERP). The ERP includes a vulnerability assessment, contingency procedures, and emergency response procedures. The ERP should be updated in accordance with the requirements of the Bio-Terrorism Act of 2002 amendments to the Safe Drinking Water Act. The ERP contains confidential and/or sensitive information and is exempt from the Public Disclosure Act. However, it is available to City staff and can be reviewed by regulatory agencies on a need to know basis.

PUBLIC NOTIFICATION

The Federal Safe Drinking Water Act (SDWA), WAC 246-290-71001 through 71007, and the U.S. Environmental Protection Agency (EPA) Public Notification Rule require purveyors to notify their customers if any of the following conditions occur.

- Violation of a national primary drinking water regulation (NPDWR).
- Failure to comply with an applicable MCL or MRDL.
- Failure to comply with a prescribed treatment technique.
- Failure to perform water quality monitoring as required by the drinking water regulations.
- Failure to comply with testing procedures as prescribed by drinking water regulations.
- Operation under a variance or an exemption.
- Failure to comply with the requirements of any schedule that has been set under a variance or exemption.
- Occurrence of a waterborne disease outbreak or other waterborne emergency.
- Exceedance of the secondary maximum contaminant level (SMCL) for fluoride.
- Availability of unregulated contaminant monitoring data.
- Issuance of a departmental order.
- Failure to comply with a departmental order.
- Issuance of a category red operating permit by the DOH.

Public notice requirements for each type of violation or situation are organized into three tiers per 40 CFR 141.201 through 208, and are based on the seriousness of the violation and the potential for adverse health effects.

Tier 1 public notices are required for NPDWR violations and situations with significant potential to have serious adverse effects on human health as a result of short-term exposure. Public notices in this tier must be provided as soon as possible, but no later than 24 hours after the violation is

known. The DOH must also be notified within this timeframe, who may require repeat or additional notices.

Tier 2 public notices are required for all other NPDWR violations and situations not covered in Tier 1 with the potential to have serious adverse effects on human health. Public notices under Tier 2 requirements, with the exception of turbidity violations, must be provided as soon as possible, but no later than 30 days after the violation is known. Turbidity violations must be reported to the DOH as soon as possible, but no later than 24 hours after the violation is known, to determine whether a Tier 1 public notice will be necessary. Repeat notices must be issued for as long as the violation persists.

All other NPDWR violations and situations not included in Tier 1 and Tier 2 are grouped within Tier 3. Tier 3 public notices must be provided within 1 year of the City learning of the violation or beginning operations under a variance or exemption. The notice must be repeated annually for as long as the violation, variance, exemption, or other situation persists.

SAFETY PROCEDURES

Safety is the concern and responsibility of all O&M staff. To maintain the highest level of safety, 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 on-going basis. The American Water Works Association publishes a manual entitled *Safety Practices for Water Utilities (M3)* that describes safety programs, provides guidelines for safe work practices, and provides techniques for a variety of water utility work situations.

City personnel are required to take training courses regarding the following topics: asbestos cement pipe handling; confined spaces; hazardous waste; fall protection; hearing protection; competent persons; electrical hazards; heavy equipment operation; CPR and first aid; traffic flagging; lockout-tagout; and blood-borne pathogens.

The City's facilities are equipped with confined space entry equipment, oxygen-gas meters, and lockout-tagout equipment. Each City vehicle is equipped with first aid and blood-borne handling kits. The City also owns flagging signs and equipment for safe handling of traffic.

The following procedures shall be followed for O&M tasks that involve the most common potential work place hazards in the City's water system.

EQUIPMENT TAGGING

The City has standard procedures for tagging equipment to prevent injury to personnel and damage to equipment. A copy of the City's Equipment Tagging Procedures is included as **Appendix U**.

WATER TREATMENT CHEMICALS

A list of chemicals used at the various water treatment facilities is provided in **Table 6-3**. Informational material Safety Data Sheets (MSDS) are maintained at chemical locations as required, with a master copy at the WTP. MSDS and other safety information applicable to the WTP are also contained in the WTP's O&M manual.

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. Use noise protection equipment.

WORKING IN TRAFFIC AREAS

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

WORKING ON OR AROUND WATER TANKS

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. Use noise protection equipment.

WORKING ON ASBESTOS CEMENT WATER MAIN

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

WORK SAFETY REGULATIONS

The City follows all appropriate Washington Industrial Safety and Health (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.
- WAC 296-155 Part C1 – Fall restraint for access to the top of the City's water tanks.
- *Manual on Uniform Traffic Control Devices* – Traffic control for work in the public right-of-way.

CROSS-CONNECTION CONTROL PROGRAM

The City Council approved an ordinance in 1988 to provide enforcement authority and establish local regulating standards for cross-connection control. Chapter 18.13, System Cross Connections, of the City's Municipal Code was created and is included in **Appendix V**. The only changes to Chapter 18.13 since its creation are the repeal of Section 18.13.090, Water Rule Penalties, in 1992, and revisions in 2004. To comply with WAC 246-290-490, the City has developed a Cross-connection Control Program, which is included in **Appendix V**. The Cross-connection

Control Program was most recently updated in November 2007, and was revised to become a premise isolation only program from a combination program. The Cross-connection Control Lead is assigned by the City's Public Works Department to implement the Cross-connection Control Program. In addition, four other Water Division personnel are certified CCSs.

From the water supply sources to customer water meters, the Water Division is responsible for cross-connection control. Downstream of customer water meters, cross-connection control is under the jurisdiction of the City's Building Official. Backflow preventers are required at cross connections as set forth in WAC 246-290-490 and the City's Cross-connection Control Program. Inspections are made to ensure proper installation of the backflow prevention assembly(s) (BFAs) or air gaps(s) (AGs). City water customers are responsible for initial and post-installation testing of their BFAs; and testing must be performed by a private BAT. After initial installation, and annually thereafter, the Water Quality Coordinator mails out notices to customers to test and maintain their BFAs. City-owned BFAs and AGs are tested and maintained by the City. Backflow incident response, public education, and recordkeeping and reporting are performed in accordance with WAC 246-290-490 and the City's Cross-connection Control Program. Included in **Appendix W** are the City's backflow preventer installation reports and the City's *Cross-connection Control Program Summary Report* for 2015.

RECORDKEEPING AND REPORTING

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

RECORDKEEPING

Records must 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 below.

- Bacteriological analysis results: 5 years.
- Chemical analysis results: for as long as the system is in operation.
- Daily source meter readings: 10 years.
- Water treatment plant records: 10 years.
- Public notices and certifications to DOH: 3 years after issuance.
- 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.
- Long Term 2 Enhanced Surface Water Treatment Rule (LT2ESWT) initial and second round source water monitoring: 3 years after bin classification.
- Applicable LT2ESWT treatment monitoring associated with microbial toolbox options: 3 years.

REPORTING

The City's 24-hour notice procedures are consistent with DOH and EPA guidelines, and are described in the City's ERP. Mr. Pete Rogalsky, Public Works Director, or Mr. John Finch, Water Manager, are the people identified to speak on the City's behalf as these situations dictate.

The City must report the following to DOH.

- As soon as possible, but no later than 24 hours after the violation is known: NPDWR violations and situations with significant potential to have serious adverse effects on human health as a result of short-term exposure that require Tier 1 public notices per 40 CFR 141.202.
- Within 1 business day: A backflow incident per WAC 246-290-490(8)f.
- 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.
- Within 48 hours: A violation of a primary MCL.

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. Daily and annual source meter recordings must be made available to DOH upon request. Records regarding the status of monitoring waivers must be submitted during each monitoring cycle. Waiver information is updated annually by DOH, and the utility is provided with a testing schedule.

A water facilities inventory (WFI) and report form must be submitted to DOH within 30 days of any change in name, category, ownership, or responsibility for management of the water system.

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.

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 violation is determined; and
- Notify water customers in accordance with WAC 246-290-71001 through 71007 and the EPA's Public Notification Rule.

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 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

Facilities Operations and Maintenance Manuals

O&M manuals are available for staff members' reference. These manuals are kept on file at the City office and/or the WTP. The City intends to maintain its policy of requiring complete O&M manuals for all new equipment and facilities.

Mapping and As-built Drawing Records

Maintenance of drawings is essential to City staff, developers, and anyone else needing to know how the water system is laid out throughout the City. The drawing records are stored at the City office in paper and electronic media. Updates are maintained by the City.

Operations and Maintenance Records

Records are stored at the City office for the following items.

- Backflow and cross connections
- Confined spaces
- Hydrant repairs
- Hydrant meter forms
- Hydrant databases
- Pump motor tests
- Well sounding and static water levels
- Precipitation
- Water usage
- Water used for construction
- Water consumable inventory
- Water maintenance
- Water main notes
- Water worksheets
- Water main flushing
- Bacteriological tests
- Inorganic chemical tests
- Volatile organic compound tests
- Synthetic organic compound tests
- Water samples from new developments
- Lead and copper tests

- Chlorination levels
- Customer complaints
- Vandalism forms

OPERATIONS AND MAINTENANCE DEFICIENCIES

The City's operations and maintenance program is sufficiently staffed and organized. The City meets all regulations and requirements, including certification requirements for staffing. As a result, there are no notable deficiencies to report.