



SECTION VI

SECTION VI - OPERATION PROGRAM

DEPARTMENT ORGANIZATION, ROLES, AND CERTIFICATIONS

The Public Works Director is Bart Stepp, P.E. The Public Works Department is not only responsible for the water system, but also storm drainage, sewage collection and treatment, streets, parks, facilities, building, and planning. The Public Works Department consists of seventeen people including Mr. Stepp. The most recent City organizational chart (2012) is included in Appendix E. The Water Treatment Plant (WTP) superintendant is Robert Choate and the utility service worker with primary responsibility for the distribution system is Mike Peterson. The City ensures that at least one person is available at all times for emergencies.

DOH requires operator certification for all group A public water systems. The level of certification required is dependent upon the system size and complexity. The City currently requires a Group 2 Water Distribution Manager (WDM2), a Group 3 WTP Operator (WTPO3) and a Cross-connection Control Specialist (CCS). The City has three employees certified as WDM3, two as WTPO2, one WTPO3 and four as CCS. The City is currently in compliance with all water operator certifications. A list of certified employees is provided in Appendix E.

RECORD KEEPING AND REPORTING

Records must be maintained for water quality, treatment, water use data, complaints, and maintenance activities. DOH requires that water systems document where the records are filed and specifies how long records are to be kept. In addition, DOH specifies minimum procedures for reporting required records. Water use data is kept on file at the City Hall Annex (230 Davidson Ave). All other files are currently kept at either the Water Plant (130 Scott Hill Rd) or the Public Works Office (300 E Scott Ave) and are maintained by the superintendant and public works staff. Files are also scanned electronically and available on the City Server. Table VI-1 summarizes the basic record keeping conducted by the City of Woodland. This meets the requirements of WAC 246-290-480.

The basic reporting requirements applicable to the water system are in regards to water quality violation and Water Facility Inventory forms (WFIs). Acute coliform violations must be reported to DOH within 24 hours of the sample results. Other water quality violations must be reported within 48 hours. Any changes to the system's WFI must be reported within 30 days of the change.

TABLE VI-1 Record Keeping Requirements

Record Type	Retention Period	Official File Location
Bacteria Sample Results	5 years	WTP
Chemical Sample Results	Life of the Facility	WTP
Public Notification	3 years	Public Works
Treatment Related Reports	3 years	WTP
Service Order Requests	3 years	Public Works
Sanitary Surveys (by DOH or others)	10 years	Public Works
Reports and Construction Documents	Life of the Facility	Public Works
Water Use Data	10 years	City Hall Annex

ROUTINE AND PREVENTATIVE OPERATION AND MAINTENANCE

The City separates routine O&M tasks into two categories: distribution system and WTP. Distribution system routine O&M is the responsibility of the Public Works Leadman. Most distribution system maintenance is currently assigned to Mike Peterson. Routine O&M at the WTP is the responsibility of the water plant superintendent Robert Choate as discussed above; the City has numerous operator certifications and cross training is encouraged. Up to five public works employees are available to assist Mike Peterson or provide back-up coverage for routine O&M.

WTP routine O&M requirements are extensive and demanding in order to achieve compliance with the very complex water treatment requirements. A list of the routine O&M tasks for the WTP is provided in Appendix E. The daily, weekly and monthly WTP O&M tasks are fairly predictable and repetitive. However, the specific adjustments to chemical feed rates required to optimize water quality and maximize efficiency are highly specialized and require a significant level of experience to perform these tasks well.

Routine O&M task for the distribution system are not as predictable as routine WTP tasks. Water distribution routine O&M tasks include inspection of source and storage facilities, meter replacement, valve exercising, hydrant flushing, water quality sampling and repairs. Inspections at the source facilities consist of recording hour meter readings, time, date, pump operation and any other site-specific duties. The other duties are conducted as needed and the general guidelines for general distribution system O&M are summarized in Appendix E.

SERVICE ORDER REQUEST RESPONSE PROCEDURES

The City documents customer service order requests (SOR) and responds in a timely manner. The City currently receives SOR's from the general public through the Public Works Office, City Hall, City Hall Annex and customer contact with staff in the field. Most SOR's are minor and are addressed promptly. The City utilizes a simple SOR form to document the request and resolution. The form is filed at the public works office after it is resolved. A copy of the City's service order request form is provided in Appendix E. The city is in the process of implementing a city-wide electronic SOR tracking system.

SUPPLY INVENTORY

The City maintains sufficient materials on hand to address routine repair and maintenance. A list of the minimum recommended inventories as established by the City is included in Appendix E

WATER QUALITY MONITORING

The Water Treatment Superintendent conducts water quality monitoring and is responsible for scheduling and collecting samples in accordance with WAC 246-290. Bacteriological samples (coliform) are taken in accordance with the Coliform Monitoring Plan currently on-file with the DOH Southwest Regional Office. A copy of the coliform monitoring plan is included in Appendix F. The Operator delivers or arranges for pick-up of samples to Addy Lab in Vancouver for testing. Sample bottles are picked-up as needed or when samples are dropped off for testing. Results are sent directly to both the City and DOH. The City maintains an electronic copy of the results in the Addy Lab file at the water plant as well as at the Public Works office.

For chemical testing, the City typically uses Addy Lab. Bottles for testing are usually requested by the City in advance and are delivered to or picked-up by the City. Samples are then sent to the lab. The Operator maintains records of all samples sent to the labs by retaining the chain of custody until results are obtained and the chain of custody is then discarded. A list of the current chemical water quality-monitoring schedule developed by DOH is provided in Appendix F. This table is updated by DOH and sent to all public water systems annually.

CROSS-CONNECTION CONTROL

The focus of the Cross-Connection Control Program (CCCP) is to prevent backflow of contaminated water into the system during low-pressure occurrences or other water system abnormalities. The backbone of

the program is a City Code (ordinance), which allows the City to eliminate cross-connections or require installation of an approved backflow prevention assembly to protect the public potable water system. The following is a summary of the City's compliance status based on minimum program elements, as identified in WAC 246-290-490 (3):

Element 1. Implementing Ordinance

The current CCCP ordinance is provided in Appendix E.

Element 2. Notification of Existing and New Connections

The City surveys sites to identify those with potential cross-connections. Sites are prioritized based upon potential risk and each site is inspected and documented. Based upon the inspection results, the customers are notified of cross-connection deficiencies, provided with a recommended action and given a date to complete this action. All new developments are reviewed at the permitting stage to determine backflow requirements and customers are notified. Required devices must be installed and tested prior to activation of the service meter. Initial passing test reports are received by and initial inspection of devices are performed by the city building official prior to the occupancy permit being issued.

Element 3. Schedules

Procedures and schedules are developed and implemented to insure that cross connections are eliminated whenever possible, controlled by installation of approved backflow preventers and installed in accordance with the requirements of WAC 246-290-490. In summary, the City has fully implemented the CCCP.

Elements 4, 5, 6 and 7. CCS Training

The City provides training and certification support to staff on a regular basis. The lead CCS, Robert Choate and public works staff are implementing CCCP policies consistent with the current City ordinance. The AWWA Pacific Northwest Section's "Cross-Connection Control Manual", DOH Guidance (DOH 331-234) and CC Rules (DOH 331-355, Washington State CC regulations WAC 246-290-490) are utilized as a basis for all CCCP activities. A copy of the manual, DOH guidance and CC Rules will be maintained at the Public Works Office for staff as well as public review and use.

Elements 8 and 9. Information and Record Keeping

The CCCP requires ongoing monitoring and testing on an annual basis. The City is responsible for notifying customers on an annual basis when a device is due for testing and tracks compliance date for receipt of test certification. The customer is responsible for having the assembly tested by an approved testing company. A record is kept in Backflow Prevention Management Software (BPMS) for each property address with a potential cross-connection or cross-connection control device. Record keeping forms have been developed as part of elements 4 through 7 in accordance with the guidance provided in the AWWA Manual and DOH Guidance. Thru canvassing the city, site surveys and review of building department records the city has been able to locate devices that were installed prior to the implementation of the Cross Connection Control Program.

The City provides public education through the consumer confidence report and on the city website. The City maintains an up-to-date list of certified backflow prevention assembly testers, which is available at the Public Works Office.

EMERGENCY RESPONSE PLAN

The City is required to have an Emergency Response Plan that addresses general procedures for routine or major emergencies within the water system. The major components of this plan are general procedures for Emergency Notification to the Public, General Communication with the Public, an Emergency Roster, and a Basic Contingency Plan for anticipated emergencies. These basic items are provided on a modified "Form 7", as recommended by DOH, included in Appendix E. The Emergency Response Plan is intended to be a quick reference for staff and will be distributed accordingly.

In addition to the basic emergency response plan in this WSP, the City must develop a vulnerability assessment and related emergency response plan for compliance with EPA requirements. The Vulnerability Assessment and Emergency Response Plan were completed and submitted in 2004. The documents were prepared by City staff. The vulnerability assessment is not for general distribution due to security issues. The emergency response plan will be maintained on file at the Public Works office for review.

OPERATIONS PROGRAM SUMMARY

The City submitted the Initial Distribution System Evaluation (IDSE) report to verify the most effective DBP sampling sites and was approved in 2010. The system is considered in compliance with the IDSE reporting requirements. The will submit a Stage 2 DBP Rule Compliance Monitoring Plan in 2013 to WSDOH for approval to begin compliance monitoring in the fourth quarter of 2013.

Since 2011 the city has employed more rigorous cross connection tracking with more thorough record keeping. Processes have been implemented to better utilize BPMS.

Larger water meters (2-inch and greater) typically represent fewer than five percent of all the meters in a distribution system, but often may account for 40 to 50 percent of a utility's total water production. Restoring the accuracy of large meters has been shown to reduce unaccounted-for water significantly, with consequent increases in revenue. The city has developed an inventory of large meters and their age to determine the need for replacement and realized there were a significant amount of large meters that need to be replaced. The City has set a goal of replacing all 3" and 4" meters over 15 years old by the end of 2013. Industry guidance suggests that larger meters should be calibrated every one to two years. However, for practical considerations, it is recommended in this case that source meters should be calibrated every 2 to 3 years and 2-inch through 4-inch meters should be calibrated every 5 to 10 years. Once the old meters are replaced the City will look to begin a large meter calibration program. The replacement of older 2" meters will begin in 2014.

Service meter accuracy can have a significant impact on revenue and unaccounted for water. Calibration of smaller meters is typically not cost effective and therefore older meters are usually replaced. The manufacturers recommended useful life of service meters is typically 10 to 15 years. Due to budget constraints the current replacement rate does not satisfy the recommended rate. The City has over the last four years on average replaced approximately 30 service meters each year. The current replacement schedule places an emphasis on replacing meters that are 15 years or older.

The City has a budget of \$17,000 in 2012 for replacement of water meters and \$20,000 in 2013. The City intends to budget at least \$20,000/year in 2014 and beyond.