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1. Introduction

This chapter introduces Olympia’s 2009 - 2014 Water System Plan. It describes the overall context for the Plan, which includes the City’s commitment to sustainability, taking a broad view of the entire hydrologic cycle, and meeting Washington State Department of Health (DOH) requirements for water system planning. Accomplishments since the 2004 Plan and current priorities are summarized for each element of the Utility’s responsibilities. Final sections of the chapter review the process of developing the Plan, including opportunities for public comment, and an overview of how the Plan is organized.

1.1 OVERALL CONTEXT FOR WATER SYSTEM PLAN

The Utility’s mission is to provide and protect nature’s water for a healthy community, and its long-term vision is that Olympia’s water supply sustains people in perpetuity while protecting the environment. In the context of the City’s commitment to sustainability, this mission and vision create the primary framework for the Plan. The Utility sees itself as a steward of the water resource and therefore takes a broad view of the entire hydrologic cycle, rather than focusing narrowly on system infrastructure. More specifically, the Plan meets DOH requirements and is designed as a useful blueprint for implementation by Utility staff.

Towards a Sustainable Future

The City of Olympia made a commitment to becoming a model sustainable community in 1993. The City’s Sustainable City Philosophy (Appendix 1-1) defines a sustainable community as, “One that persists over generations and is far-sighted, flexible enough, and wise enough to maintain its natural, economic, social, and political support systems.”

Olympia’s Comprehensive Plan states: “Olympia’s future and its ability to achieve sustainability will be influenced by how we design, finance, and deliver public services to the community.”

This Plan acknowledges that actions taken today impact future generations – the human community as well as plants, fish and wildlife depend on an abundant supply of clean, fresh water now and into the future.

While this Plan considers a 20-year planning horizon, becoming a sustainable community requires a much longer view. Recommendations included in this Plan have been evaluated by considering the City’s sustainability goals and are directed toward the long-term use of Olympia’s water resources through a variety of strategies, including conservation, use of reclaimed water and protection of surface and groundwater sources.
1. Introduction

**Hydrologic Cycle**

The water supply on Earth is finite, and the same water has been moving over, on, and under Earth’s surface for thousands of years. The continual movement of water—called the hydrologic cycle—collects, purifies and circulates water around the planet. The Utility considers itself a steward of this water resource.

This Plan evaluates the City of Olympia’s water system from the perspective of the full hydrologic cycle, not solely from the traditional perspective of source, storage and distribution. It recognizes the connection between groundwater and surface water, and the effect that Olympia’s groundwater-dependent water system may have on surrounding surface water bodies. It also begins to consider the impacts global climate change may have on the dynamics of the hydrologic cycle, and what those trends mean to Olympia’s long-term water supply.

**Drinking Water Utility Goals**

Given the City’s commitment to sustainability, and the Utility’s role as steward of the water resource, the Utility has established five long-term goals:

1. Provide adequate supplies of water for future needs while protecting in-stream flows and sustaining long-term capacity of aquifers.
2. Use Olympia’s limited water supplies efficiently to meet the needs of the community and natural environment.
3. Protect groundwater quality to ensure clean drinking water for current and future generations and avoid the need for expensive treatment facilities.
4. Improve, operate and maintain the infrastructure to ensure reliable delivery of high quality water to a growing population.
5. Manage the Drinking Water Utility in a fiscally responsible manner that meets all State requirements, allocates costs equitably and recognizes the importance of water conservation.

**Water System Plan Purpose**

This Plan has been prepared in accordance with WAC 246-290-100, which requires public water systems with more than 1,000 connections to submit a water system plan for review and approval by DOH. Plans are intended to demonstrate the system’s operational, technical, managerial and financial capability to achieve and maintain compliance with relevant local, state and federal plans and regulations; and to demonstrate how the system will address present and future needs in a manner consistent with other relevant plans and local, state and federal laws.

The Plan is also intended as a guide or blueprint for Utility staff to use in implementing its strategies and actions over the next six years, and to provide benchmarks against which progress toward the Utility’s goals can be measured.
1.2 ACCOMPLISHMENTS AND CURRENT PRIORITIES

The Utility has made great strides in the past 20 years. In the 1990s, the emphasis was on improving system efficiencies. The 1998 Water System Plan focused on beginning to systematically upgrade and replace aging infrastructure. For example, three new pumps eliminated the need for additional storage and allowed water from McAllister Springs to be used throughout the system. Under the 2004 Plan, the Utility began planning to develop the McAllister Wellfield as a replacement for the City’s primary source at McAllister Springs, and prioritized seismic upgrades and other improvements to several storage tanks.

This section summarizes significant improvements since 2004 and current priorities for each aspect of the Utility’s responsibilities. For details, see Chapters 5-16.

Sources of Supply

Since 2004, the Utility has:

- Obtained Washington State Department of Ecology (Ecology) approval for transfer of City-owned water rights to the new Indian Summer Well in southeast Olympia.
- Obtained Ecology approval of water right change applications for the new Briggs Well.
- Initiated condemnation of water rights at the former Olympia Brewery, in cooperation with the cities of Lacey and Tumwater.
- Begun negotiating a regional strategy to mitigate impacts of the McAllister Wellfield and new wells planned by neighboring cities on surface and groundwater. A mitigation plan is required before Ecology can approve transfer of McAllister Springs and Abbott Springs water rights to the Wellfield.

The current priority is:

- Developing the McAllister Wellfield and other new sources, including the Briggs Well and the former Olympia Brewery supply.

Water Conservation

Since 2004, the Utility has:

- Decreased total water use by 8.06 percent (2004-2007), while the number of connections increased by 4.35 percent. (Calculation excludes Thurston PUD No.1, which became a wholesale customer in 2005.)
- Implemented a water loss tracking system, and reduced City’s unaccounted-for water loss from 13.74 percent in 2004 to 8.84 percent in 2007.

Current priorities:

- Complying with new water use efficiency regulations.
- Engaging commercial and institutional customers in outdoor conservation programs.
1. Introduction

**Reclaimed Water**

Since 2004, the Utility has:

- Brought reclaimed water on-line in Olympia’s downtown core. Water is used for irrigation by the Washington State Department of General Administration, the Port of Olympia, and the City Parks, Arts and Recreation Department.
- Developed a business plan to guide decisions on use of reclaimed water.

Current priority:

- Partnering with LOTT Alliance to extend a reclaimed water line to the west side of Olympia via Deschutes Parkway and Lakeridge Drive.
- Distributing reclaimed water to the Capitol Campus in partnership with the State of Washington.

**Groundwater Protection**

Since 2004, the Utility has:

- Identified a network of groundwater level monitoring wells in Allison Springs Drinking Water Protection Area (DWPA).
- Prepared a land acquisition strategy for Olympia’s DWPAs.
- Designed a pilot project to reduce nitrates from residential fertilizers in the Shana Park DWPA, based on a study identifying fertilizers as a likely source of increasing nitrates there.
- Begun implementing a successful process for technical review of new development proposals within DWPAs.

Current priorities:

- Preventing groundwater pollution from stormwater infiltration.
- Influencing the attitudes, knowledge and behaviors of Utility customers to protect water quality.
- Developing a system wide groundwater monitoring plan that will track potential contamination sources, and serve as an early warning system for groundwater pollution near water sources.
- Building awareness with DWPA residents about groundwater as the source of drinking water and its vulnerability to pollution from activities on the land surface, and changing behaviors that put groundwater quality at highest risk.

**Supply, Storage and Distribution Infrastructure**

Since 2004, the Utility:
• Developed and began using the new Indian Summer Well in southeast Olympia.

• Installed significantly more efficient pumps at Shana Park and Allison Springs wells through a partial grant from Puget Sound Energy, saving an estimated $30,000 in power costs annually.

• Replaced and upgraded the storage tank at Stevens Field, in the South Capitol neighborhood, adding 350,000 gallons of storage capacity. Replaced the storage tank on Bush Avenue, making needed seismic improvements.

• Began using HDPE pipe instead of PVC for small diameter pipe replacements, as part of the Healthy Olympia Project.

• Upgraded the failing Woodland Park water system and added it to Olympia's system. Installed 2,400 feet of 8-inch main and 1,300 feet of 2-inch main, funded by a DOH grant and a homeowner Local Improvement District (LID).

• Replaced about 50 substandard fire hydrants.

Current priorities:

• Replacing the remaining old, small diameter asbestos-concrete and galvanized iron pipe.

Water Quality

Since 2004, the Utility has:

• Eliminated the majority of high health hazard cross-connections, preventing backflow of contaminants at both area hospitals and the Port of Olympia.

• Developed a new water quality database to improve efficiency of data collection and analysis.

• Completed study of ultraviolet disinfection at McAllister Springs and purchased land for a UV plant if the McAllister Wellfield is not online by 2012.

Current priorities:

• Preparing to install ultraviolet treatment at McAllister Springs if the new Wellfield is not online by 2012.

• Complying with the new Groundwater Rule to protect against bacterial contamination, particularly at Shana Park Well.

Operations and Maintenance

Since 2004, the Utility has:

• Begun implementing a new plan for preventive maintenance management.

• Prepared an emergency response field guide for emergency operation of critical water facilities.
• Improved security by installing surveillance and other equipment at critical facilities.

Current priorities:
• Standardizing water service meters and implementing the strategy for routine testing, calibration and replacement.
• Installing additional security equipment at critical facilities based on the vulnerability assessment.
• Ensuring that maintenance management is achieving the new Levels of Service developed during this planning process.
• Developing and implementing a formal asset management process.

Rates and Billing
Since 2004, the Utility has:
• Introduced a fourth tier to the residential rate structure and transitioned to marginal cost pricing, so that customers who use more water in summer now pay the true cost of providing water to them.
• Renegotiated wholesale water agreements, including new rates, with City of Lacey and Thurston PUD No. 1.
• Updated utility bills so customers can understand their water use. Bills now include consumption graphs and report usage in gallons as well as cubic feet.

Current priority:
• Completing a cost of service study and rate adjustments to ensure equity.
• Define a financial strategy to implement Plan goals and strategies.

1.3 PLANNING PROCESS
This Plan has been prepared by Drinking Water Utility staff, with technical assistance from HDR Engineering, Inc. and Golder Associates, and financial analysis by Financial Consulting Services Group. The Plan has been reviewed internally by the City’s Utility Advisory Committee and the City Council's Land Use and Environment Committee.

The Utility Advisory Committee (UAC) serves as the principal public advisor on utility policy matters for the City’s four public utilities: Drinking Water, Wastewater, Storm and Surface Water, and Waste ReSources. Committee members, therefore, played a key role in reviewing this Plan and providing recommendations to clarify and improve it.

SEPA Review
The State Environmental Policy Act (SEPA) requires the City to consider the potential environmental impacts of a proposal before making any final decisions.
After reviewing the SEPA Checklist and attachments (Appendix 1-2) the City’s environmental review officer issued a Determination of Non-significance (DNS) on July 25, 2008. This means that no significant adverse impacts were identified. No comments were received from the public nor were any appeals filed.

Potential impacts of construction projects planned for 2009-2014 were not specifically evaluated, and will be evaluated in a separate SEPA process when they are designed.

Public Hearing

As part of the Water System Plan process, DOH requires that utilities hold public hearings to provide the community with an opportunity to comment on the Plan. As follow-up to the July 15, 2008, City Council study session on the Plan, a public hearing was held during a Council meeting on November 18, 2008. A copy of the minutes is attached in Appendix 1-2. The Council Resolution adopting the DOH-approved Plan will be attached as Appendix 1-3.

Notice about the public hearing was mailed to community members at least 10 days prior to the public hearing. A postcard was mailed to all Utility customers and a letter was mailed to residents, property owners and businesses in Drinking Water Protection Areas (DWPAs). DWPAs occupants were notified of changes in delineation boundaries and land use implications. The complete 2009-2014 Water System Plan, including a summary, is available for downloading from the City website, and a printed copy can be viewed at the City of Olympia Public Works Plaza Building, 924 – 7th Avenue SE, Suite A, Olympia, Washington 98501.

1.4 PLAN ORGANIZATION

The Plan is organized generally into four parts. Part One gives the overview, context and background. Following this Introduction, Chapter 2 gives an overview of the water system and its service area: environment and land use, ownership and management, agreements with neighboring purveyors, and a general inventory of system facilities. Chapter 3 gives the population and water demand forecast. Chapter 4 reviews the legal and policy framework within which the Utility functions.

Part Two describes the Utility’s strategies for sustaining and protecting the water supply, and actions planned for 2009-2014. Chapter 5 describes the regional and local sources of supply and supply alternatives, existing water rights and proposed changes in water rights. Chapter 6 gives the evaluation of conservation potential. Chapter 7 describes how the Utility is encouraging the use of reclaimed water. Chapter 8, on groundwater protection, presents updated Drinking Water Protection Area (DWPA) delineations; hydrogeology, land use and zoning evaluations for each DWPA; contaminant source inventory, vulnerability analysis and spill prevention planning.

Part Three focuses on the system infrastructure. Chapters 9, 10 and 11 describe the strategies for improving and maintaining the source, storage and transmission/distribution infrastructure. Chapter 12 includes the strategies for maintaining compliance with federal and
state water quality requirements. **Chapter 13** covers operations and maintenance, including maintenance management, emergency response and asset management.

For ease of reference, **Part Four** summarizes planned actions and financial strategies. **Chapter 14** summarizes the capital projects identified in Chapters 9-13, and **Chapter 15** describes the rate structure, policies and debt financing needed to implement the Plan.