SULTAN CITY COUNCIL COMMITTEE
Government Services and Public Safety

AGENDA ITEM COVER SHEET

DATE: December 6, 2007

SUBJECT: Water Use Efficiency Rule (WUE)

CONTACT PERSON: Public Works Director Dunn
Water System Manager Mike Williams

ISSUE:

1. Adopting water use efficiency goals by January 22, 2008 consistent with the Water Use Efficiency Rule (Attachment A)

2. Recommend Approval of Pace Engineering Contract to assist the City in setting the Water Use Efficiency Goals and conducting a Public Hearing.

3. Set Public Hearing for the Council meeting on January 10, 2007

RECOMMENDED ACTION:

1. Adopt the following goals for the Sultan Water System by January 22, 2008 consistent with "The Water Use Efficiency Rule" from the 2005 Department of Health approved Water System Plan:
   a. Complete the installation of Electronic Water Meters to reduce average day demand per capita by capturing all usage.
   b. Maintain and calibrate the source production meters.
   c. Distribute conservation brochures provided by the Department of Health and Ecology to customers.
   d. Continue annual water main replacement of older distribution piping.
   e. Develop a leak detection program.
   f. Continue to explore future use of reclaimed wastewater as the irrigation source for parks and landscaping.

2. Recommend approving a contract with Pace Engineering.

BACKGROUND:

Increasing demand on our state's water resources:
1. Growing communities,
2. agriculture,
3. industry, and
4. the importance of conserving water for fish.

ATTACHMENT A

To help meet the growing needs, the Washington State Legislature passed the Municipal Water Supply – Efficiency Water Requirements Act of 2003, better known as the Municipal Water Law. The law gives municipal water suppliers certain benefits and obligations. One obligation is to comply with the Water Use Efficiency Rule.

The water use efficiency rule affects all municipal water supplies, which includes all Group A community water systems with 15 or more residential connections and some non-community water systems that use water in a residential manner (RCW 90.03.015).

Rule Requirement	**Deadline for water systems w/1,000 or more connections**	**Sultan Goals Status**
Install production meter(s)	January 22, 2007	Completed 1979
Collect consumption and production data	Now	Currently Underway
Include WUE program in planning documents	January 22, 2008	2005 Water System Plan
Set your own WUE goals	January 22, 2008	Currently Underway
Submit service meter installation schedule	July 1, 2008	Start 1989 Complete 1992
Submit first annual performance report	July 1, 2008	June 30, 2008
Install service meters	January 22, 2017	Completed
Meet 10% leakage standard (based on 3-year average)	Three years after installing all service meters	2005 – 22% 2006 – 10% Oct 2007 – 4.8%

SUMMARY:

The proposed goals are a sublet of the water conservation goals (Attachment B) adopted in the 2004 Water System Plan. The City of Sultan conducted the public hearing process during the adoption process on the 2005 Water System Plan approved by the Washington Department of Health on August 23, 2006. Chapter 4 of the 2005 Water System Plan addresses the issue of water conservation, encouraging water use efficiency by the consumers.

The WUE Rule effect on the Sultan Water System:

1. A more active role with water conservation and customer efficiency reduces the demand on our system in:
    a. Benefit from lower operating costs
    b. Lower energy bills
    c. Lengthen the life of the Water Treatment Plant
2. It will enhance public health by improving water system efficiency and reliability.

All municipal bodies governing water suppliers must set their own goals for efficiently using water through a public process. This process assures that water customers and the public have an opportunity to participate and provide comments on the goals set by the City Council to use water efficiently. City Staff recommends contracting with PACE Engineering to assist the City in meeting the state requirement including the public involvement process.

FISCAL IMPACT:

1. Contract with PACE Engineering (Attachment C):
2. Contract not to exceed $6,080, included in the 2008 budget.
3. Help the City to become compliant with WAC 246-290-800 as outlined in Department of Health's Water Use Efficiency Guidebook (DOH pub. #331-175).
4. Help with the
    a. public process,
    b. documentation, and
    c. reporting to Department of Health.

The work City Staff has completed will reduce the cost of the contract with PACE, we have completed portions of the tasks below:

Task 1:

The information gathered by staff will minimize work needed to complete the WUE goals. The information gatehered for the WUE will help in the water rate study proposed in the 2008 Budget.

Task 2:

PACE will confirm our stated goals from the Water System Plan as staff has identified, without additional o research.

Task 3:

Help to measure the goals we set and the ability to accomplish the goals based on:

a. Staff
b. Cost
c. Operations and Maintenance
d. Grants and Loan available

Task 4:

Attend one Public Hearing in the process of our Goals.

ATTACHMENTS:

A	Fact Sheet: Summary of the Water Use Efficiency Rule
B	Water System Plan Goals, Chapter 4
C	PACE Engineering Proposal

Fact Sheet

Water Use Efficiency Rule

Summary of the Water Use Efficiency Rule

July 2007
DOH PUB. #331-302
(Update)

Background

Now available online!
Getting Started
Water Use Efficiency Guidebook

Growing communities, agriculture, industry, and the importance of conserving water for fish have placed an increasing demand on our state's water resources. To help meet these growing needs, the Washington State Legislature passed the Municipal Water Supply - Efficiency Requirements Act of 2003, better known as the Municipal Water Law. The law gives municipal water suppliers certain benefits and obligations. One of their obligations is to comply with the water use efficiency rule.

The water use efficiency rule affects all municipal water suppliers, which includes all Group A community water systems with 15 or more residential connections and some non-community water systems that use water in a residential manner (RCW 90.03.015).

Water Use Efficiency Rule – Key Elements

- Water Use Efficiency Planning Requirements – As part of a water system plan or small water system management program, municipal water suppliers must collect data, forecast demand, evaluate leakage, evaluate rate structures that encourage water use efficiency, and evaluate or implement water use efficiency measures. For more information about this part of the rule, please see the Fact Sheet, *Planning Requirements* (DOH Pub. #331-303).

- Distribution Leakage Standard – Municipal water suppliers must meet a state distribution system leakage standard in order to minimize water loss in the distribution system. For more information about this part of the rule, please see the Fact Sheet, *Distribution Leakage Standard* (DOH Pub. #331-304).

- Water Use Efficiency Goal Setting and Performance Reporting – Municipal water suppliers must set water use efficiency goals through a public process and report annually on their performance to customers, Department of Health, and also make the information available to the public. For more information about this part of the rule, please see the Fact Sheet, *Goal Setting and Performance Reporting* (DOH Pub. #331-305).

Requirements and Deadlines

The rule requirements and compliance deadlines are shown in the table below. The requirements are listed in order, by the date they are due.

Rule Requirement	Deadline for water systems under 1,000 connections	Deadline for water systems w/ 1,000 or more connections
Install production meter(s)	January 22, 2007	January 22, 2007
Collect consumption & production data	January 1, 2008	Now
Include WUE program in planning documents	January 22, 2008	January 22, 2008
Set your own WUE goals	January 22, 2009	January 22, 2008
Submit service meter installation schedule	July 1, 2009	July 1, 2008
Submit first annual performance report	July 1, 2009	July 1, 2008
Install service meters	January 22, 2017	January 22, 2017
Meet 10% leakage standard (based on 3-year average)	Three years after installing all service meters	Three years after installing all service meters

For More Information

If you have any questions about the water use efficiency rule, please contact:

Michael Dexel
Water Resources Policy Lead
Office of Drinking Water
Department of Health
PO Box 47822
Olympia, Washington 98504-7822
Phone: 360-236-3154
Fax: 360-236-2252
E-mail: michael.dexel@doh.wa.gov

Additional information can be found on the Web at:
http://www.doh.wa.gov/ehp/dw/municipal_water/water_use_efficiency_rule.htm

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Questions & Answers

Water Use Efficiency Rule

July 2007
DOH PUB. #331-361
(Update)

Why was the Water Use Efficiency Rule passed?

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. The water use efficiency rule will help conserve water for the environment and future generations. It will also enhance public health by improving water system efficiency and reliability.

Is my water system affected by this rule?

All municipal water suppliers are affected by the rule requirements; this includes most Group A community water systems with 15 or more residential connections and some non-community water systems that serve water in a residential manner. The Department of Ecology can help you figure out whether these rules apply to your water system. See Ecology contacts below or view Ecology's policy on municipal water suppliers at www.ecy.wa.gov/programs/wr/rules/images/pdf/pol2030.pdf

Central Regional Office (Yakima):	Scott Turner	(509) 457-7106
Eastern Regional Office (Spokane):	Dan Tolleson	(509) 329-3526
Northwest Regional Office (Bellevue):	Paul Fabiniak	(425) 649-4342
Southwest Regional Office (Lacey):	Phil Crane	(360) 407-0238

What do we need to do, and by when?

The rule requirements and compliance deadlines are shown in the table below. The requirements are listed in order, by the date they are due.

Rule Requirement	Deadline for water systems under 1,000 connections	Deadline for water systems w/ 1,000 or more connections
Install production meter(s)	January 22, 2007	January 22, 2007
Collect consumption & production data	January 1, 2008	Now
Include WUE program in planning documents	January 22, 2008	January 22, 2008
Set your own WUE goals	January 22, 2009	January 22, 2008
Submit service meter installation schedule	July 1, 2009	July 1, 2008
Submit first annual performance report	July 1, 2009	July 1, 2008
Install service meters	January 22, 2017	January 22, 2017
Meet 10% leakage standard (based on 3-year average)	Three years after installing all service meters	Three years after installing all service meters

Washington State Department of Health
Division of Environmental Health
Office of Drinking Water

HELPING TO ENSURE SAFE AND RELIABLE DRINKING WATER

What are some examples of water use efficiency measures?

There are hundreds of water use efficiency measures from which a water system may choose, including: landscape efficiency ordinance, low-flow showerheads, rebates to customers for installing water efficient appliances, using weather-based irrigation systems, and other measures appropriate for your system. Additional guidance on water use efficiency measures is located in the *Getting Started: Water Use Efficiency Guidebook*, DOH Pub. #331-375.

How do I set my water system's goals?

All municipal water suppliers must set their own goals for efficiently using water through a public process. This process assures that water customers and the general public have an opportunity to participate and provide comments on the goals set by the water system to use water efficiently.

What costs are involved in meeting the rule requirements?

The range of costs will vary, depending on system size and other factors such as installing service meters on existing connections, costs involved in water system planning, and costs of implementing a Water Loss Control Action Plan. Detailed cost analysis is available in the document, "Final Significant Analysis and Small Business Economic Impact Statement," which is available on the Office of Drinking Water Web site listed below.

How will this affect my customers' rates?

Although the new rule requires municipal water suppliers to pay more attention to conservation and rate structures, it is the responsibility of each water system to determine which conservation measures best apply to their system and whether rates need to change.

Is there any funding assistance for my water system?

Although we have no current source of funding for water use efficiency activities, DOH is working to identify funding opportunities to assist municipal water suppliers in complying with the rule.

When will guidance documents be available, and what topics will they cover?

Getting Started: Water Use Efficiency Guidebook, DOH Pub. #331-375, is now available online. The guidebook explains how the rule affects water systems, and how it will change the way they do business by requiring them to involve the public in the decision making process. It includes an appendix full of examples, worksheets, and an annual reporting form to help systems comply. If you would like to suggest a topic for additional guidance, contact Mike Dexel at (360) 236-3154.

When will water systems be trained on the new requirements?

DOH will be working with many of our partners to help water systems understand the rule requirements. Training is one of our top priorities. As training opportunities become available, we will post them on the Office of Drinking Water Web site (below) and include them in our quarterly Water Tap newsletter.

Where can I find more information to help me comply with this rule?

You can find additional information on these Web sites:

Office of Drinking Water: http://www.doh.wa.gov/ehp/dw/municipal_water/water_use_efficiency_rule.htm
American Water Works Association: http://awwa.org/waterwiser/
Partnership for Water Conservation: http://www.partners4water.org/
Evergreen Rural Water of Washington: http://www.erwow.org/
U.S. Environmental Protection Agency: http://www.epa.gov/watersense/index.htm

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Fact Sheet

Water Use Efficiency Rule

Planning Requirements

July 2007
DOH PUB. #331-303
(Update)

Background

One of the three elements of the water use efficiency rule is water use efficiency planning. Water use efficiency has been an important component of water system planning for over 10 years and assists water systems in developing drinking water supply strategies. The Washington State Legislature recognized this in the Municipal Water Law and required the Department of Health (DOH) to use its existing guidance as a starting point. DOH now incorporates the new water use efficiency planning requirements into its planning program.

Now available online!
Getting Started
Water Use Efficiency Guidebook

The new water use efficiency planning requirements focus on:

- Data collection and reporting.
- Demand forecasting.
- Evaluation of leakage, rates, and water use efficiency measures.

Data Collection and Reporting

Understanding a municipal water supplier's impact on the water supply is important for making informed water resource decisions. The new rule requires municipal water suppliers to describe their water source and supply characteristics (such as instream flows, salt water intrusion, and aquifer depletion).

Municipal water suppliers need data to develop a successful water use efficiency program. By understanding how much water is used, where it goes, and who is served, a municipal water supplier can make educated choices about how best to conserve water. Under the new rule, municipal water suppliers need to collect production and consumption data on a regular basis and report that information in their planning document and annual performance report (see Fact Sheet, *Goal-Setting and Performance Reporting,* DOH Pub. #331-305).

Demand Forecasting

Demand forecasting is important because it identifies how much water will be needed in the future. Municipal water suppliers must forecast their projected water demand as part of their planning documents. In preparing the forecast, municipal water suppliers must determine future use with and without savings expected from their water use efficiency program.

Evaluation and Selection of Water Use Efficiency Measures

The new rule gives municipal water suppliers flexibility in selecting or implementing measures that achieve their water use efficiency goals.

Municipal water suppliers need to evaluate or implement a specified number of water use efficiency measures based on water system size. There are six different size categories; the larger the water system, the more measures they must evaluate. An evaluation is not required for any measure the municipal water supplier will implement. Municipal water suppliers with fewer than 1,000 connections must describe how they evaluated their water use efficiency measures. Municipal water suppliers with 1,000 or more connections must complete their evaluation following criteria described in the rule.

Additional Evaluation Requirements

All municipal water suppliers must evaluate the feasibility of implementing rates that encourage water use efficiency and educate customers about water use efficiency practices. Water systems with 1,000 or more connections must also evaluate water reclamation opportunities.

For More Information

If you have any questions about the water use efficiency rule, please contact:

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Department of Health
PO Box 47822
Olympia, Washington 98504-7822
Phone: 360-236-3154
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E-mail: michael.dexel@doh.wa.gov

Additional information can be found on the Web at:
http://www.doh.wa.gov/ehp/dw/municipal_water/water_use_efficiency_rule.htm

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Fact Sheet

Water Use Efficiency Rule

Distribution Leakage Standard

July 2007
DOH PUB. #331-304
(Update)

Background

One of the three elements of the water use efficiency rule is a statewide distribution system leakage standard. Since the late 1980s, the Department of Health (DOH) has encouraged water systems to reduce unaccounted-for water to 20 percent or less. Municipal water suppliers must now meet a state standard that minimizes water loss from their distribution system.

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Getting Started
Water Use Efficiency Guidebook

Minimizing leakage in water systems has many benefits for water systems and their customers. These benefits include:

- Improved operational efficiency.
- Lowered water system operational costs.
- Reduced potential for contamination.
- Extended life of facilities.
- Reduced potential property damage and water system liability.
- Reduced water outage events.
- Improved public relations.

Distribution System Leakage Standard

The rule requires all municipal water suppliers to maintain their distribution system leakage at or below 10 percent of their production. Municipal water suppliers need to report their leakage as a percentage and as leakage volume. DOH will allow alternative methodologies for determining leakage if specific criteria are followed.

Having a fully metered water system is the best way for a municipal water supplier to accurately determine its leakage. Under existing law, municipal water suppliers are required to have source meters and service meters must be installed within 10 years of the effective date of the rule (See Fact Sheet, *Metering Requirements*, DOH Pub. #331-306).

The distribution system leakage standard applies to the distribution grid of the water system and includes reservoirs located within the distribution system. Municipal water suppliers may exclude transmission lines and raw water reservoirs from the leakage calculation, although this

type of water loss must be described in the planning document. All water that is not metered and tracked will be considered leakage. Municipal water suppliers must account for uses such as fire protection, flushing, construction, and other non-revenue water by metering or by estimating, using credible means.

Leakage Reporting and Compliance

The rule requires municipal water suppliers to report leakage information in planning documents and annually in performance reports. Compliance with the leakage standard is based on a rolling three-year average. Municipal water suppliers not meeting the distribution system leakage standard must develop and implement a Water Loss Control Action Plan, which identifies the steps and timelines for reducing leakage. In the Water Loss Control Action Plan, municipal water suppliers may address technical or economic concerns which affect their ability to comply with the standard. If municipal water suppliers are not fully metered, they need to report annually on their progress toward installing meters on all service connections.

For More Information

If you have any questions about the water use efficiency rule, please contact:

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Phone: 360-236-3154
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Fact Sheet

July 2007
DOH PUB. #331-305
(Update)

Water Use Efficiency Rule

Goal Setting and Performance Reporting Requirements

Background

One of the three elements of the water use efficiency rule is water use efficiency goal setting and performance reporting. Municipal water suppliers must set water use efficiency goals through a public process and report annually on their performance to customers and the Department of Health (DOH), and also make this information available to the public.

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Water Use Efficiency Goal Setting

All municipal water suppliers with 1,000 or more connections must set their initial water use efficiency goals by January 22, 2008, or by January 22, 2009 for water systems with fewer than 1,000 connections. These water use efficiency goals must be set through a public process and re-evaluated at least every six years. Municipal water suppliers may use their existing public processes as long as they meet the requirements of the rule.

All municipal water suppliers need to set water use efficiency goals and record these goals in planning documents and performance reports. When setting water use efficiency goals, the municipal water supplier must:

- Include a measurable outcome in terms of water production or consumption (for example: reduce peak production volumes by five percent, maintain current single family residential use, and reduce leakage from 30 percent to 10 percent).
- Address water supply and forecasted demand characteristics.
- Include an implementation schedule for meeting the goals.

Performance Report

All municipal water suppliers must report annually (by July 1) on their water use efficiency performance to customers and DOH, and also make this information available to the public. Municipal water suppliers may fulfill the reporting requirement to their customers and the public by including performance information in their consumer confidence report (an annual water quality report mailed to customers).

When reporting annually to DOH, municipal water suppliers must use the *Annual Water Use Efficiency Performance Report Form*, DOH Form #331-376.

Performance reports need to include the following elements:

- Annual water system production total.
- Annual distribution system leakage information. If a municipal water supplier is not fully metered, then it needs to report annually on its progress toward installing meters on all service connections (see Fact Sheet *Distribution Leakage Standard,* DOH Pub. #331-304 for more details).
- A description of the water system's water use efficiency goals and progress toward achieving those goals.

Performance Reporting Schedule

For municipal water suppliers with 1,000 or more connections, the initial performance report is due July 1, 2008.

For municipal water suppliers with fewer than 1,000 connections, the initial performance report is due July 1, 2009.

For More Information

If you have any questions about the water use efficiency rule, please contact:

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Fact Sheet

Water Use Efficiency Rule

Metering Requirements

July 2007
DOH PUB. #331-306
(Update)

Background

Source and service metering are key to a successful water use efficiency program. Source and service meters provide the data necessary to determine leakage, assist in managing an important resource, and enhance planning activities. The water use efficiency rule requires installation of service meters. The Department of Health's (DOH) new metering requirement and the benefits of metering are summarized below.

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Source Meters

Source meters are required on all existing and new water sources. Source meters assist water systems in tracking production and seasonal variations and account for the use of the resource.

Service Meters

All municipal water suppliers must meter their existing and new service connections. The rule allows for the volume of water to be measured through a single meter for the following clustered entities: campgrounds, RV parks, designated mobile home parks, a building with multiple units, and complexes with multiple buildings served as a single connection. Municipal water suppliers have 10 years to phase in meter installation for existing connections. Installing service meters at new connections is required immediately.

Here are some of the benefits of installing service meters:

- Provides the most accurate method to determine distribution system leakage standard (see Fact Sheet, *Distribution Leakage Standard*, DOH Pub. #331-304).
- Assists in determining trends and variations in water usage.
- Identifies how much water customers use.
- Provides a tool to educate customers about their water use.
- Aids in the creation of customer-specific water use efficiency programs.
- Allows municipal water suppliers to begin to charge equitably based on usage.
- Increases efficiency which can expand water system capacity. This is especially true when combined with leak detection, leak repair, and a consumption-based rate structure.

Meter Selection, Installation, Operation, and Maintenance

In order to ensure water is being accounted for accurately, meters must be selected, installed, operated, and maintained using generally accepted industry standards and as required by the manufacturer.

Meter Installation Schedule

For municipal water suppliers with 1,000 or more connections, include a meter installation schedule with the initial performance report by July 1, 2008.

For municipal water suppliers with fewer than 1,000 connections, include a meter installation schedule with the initial performance report by July 1, 2009.

For More Information

If you have any questions about the water use efficiency rule, please contact:

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PO Box 47822
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Water Use Efficiency Excerpt
Group A Public Water Systems Chapter 246-290 WAC
Effective January 22, 2007

Disclaimer: This version of the Water Use Efficiency Rule is reformatted for readability and ease of use and does not reflect the entire requirements of chapter 246-290 WAC, Group A Public Water Supplies. The Department of Health prepared this version of the rule from the Code Reviser's official copy. It is an excerpt of specific sections adopted in chapter 246-290 WAC that reflect the final rule language.

WAC 246-290-010 Definitions.

Abbreviations and acronyms:

WUE - water use efficiency.

"Authorized consumption" means the volume of metered and unmetered water used for municipal water supply purposes by consumers, the purveyor, and others authorized to do so by the purveyor, including, but not limited to, fire fighting and training, flushing of mains and sewers, street cleaning, and watering of parks and landscapes. These volumes may be billed or unbilled.

"Cost-effective" means the benefits exceed the costs.

"Demand forecast" means an estimate of future water system water supply needs assuming historically normal weather conditions and calculated using numerous parameters, including population, historic water use, local land use plans, water rates and their impacts on consumption, employment, projected water use efficiency savings from implementation of a water use efficiency program, and other appropriate factors.

"Elected governing board" means the elected officers with ultimate legal responsibility for operational, technical, managerial, and financial decisions for a public water system.

"Forecasted demand characteristics" means the factors that may affect a public water system's projected water needs.

"Governing body" means the individual or group of individuals with ultimate legal responsibility for operational, technical, managerial, and financial decisions for a public water system.

"Marginal costs" means the costs incurred by producing the next increment of supply.

"Municipal water supplier" means an entity that supplies water for municipal water supply purposes.

"Municipal water supply purposes" means a beneficial use of water:

(a) For residential purposes through fifteen or more residential service connections or for providing residential use of water for a nonresidential population that is, on average, at least twenty-five people for at least sixty days a year;

(b) For governmental or governmental proprietary purposes by a city, town, public utility, district, county, sewer district, or water district; or

(c) Indirectly for the purposes in (a) or (b) of this definition through the delivery of treated or raw water to a public water system for such use.

(i) If water is beneficially used under a water right for the purposes listed in (a), (b), or (c) of this definition, any other beneficial use of water under the right generally associated with the use of water within a municipality is also for "municipal water supply purposes," including, but not limited to, beneficial use for commercial, industrial, irrigation of parks and open spaces, institutional, landscaping, fire flow, water system maintenance and repair, or related purposes; and

(ii) If a governmental entity holds a water right that is for the purposes listed in (a), (b), or (c) of this definition, its use of water or its delivery of water for any other beneficial use generally associated with the use of water within a municipality is also for "municipal water supply purposes," including, but not limited to, beneficial use for commercial, industrial, irrigation of parks and open spaces, institutional, landscaping, fire flow, water system maintenance and repair, or related purposes.

"Public forum" means a meeting open to the general public that allows for their participation.

"Societal perspective" means a point of view that includes a broad spectrum of public benefits, including, but not limited to, enhanced system reliability; savings that result from delaying, deferring, or minimizing capital costs; and environmental benefits such as increased water in streams, improvements in aquifer recharge and other environmental factors.

"Water demand efficiency" means minimizing water use by the public water system's consumers through purveyor sponsored activities that may include, but are not limited to distributing water saving devices, providing rebates or incentives to promote water efficient technologies or by providing water audits to homes, businesses, or landscapes.

"Water supply characteristics" means the factors related to a public water system's source of water supply that may affect its availability and suitability to provide for both short-term and long-term needs. Factors include, but are not limited to, source location, name of any body of water and water resource inventory area from which water is diverted or withdrawn, production capacity, the source's natural variability, the system's water rights for the source, and other legal demands on the source such as water rights for other uses, conditions established to protect species listed under the Endangered Species Act in 50 CFR 17.11; instream flow restrictions established under Title 173 WAC, and any conditions established by watershed plans approved under chapter 90.82 RCW and RCW 90.54.040(1) or salmon recovery plans under chapter 77.85 RCW.

"Water supply efficiency" means increasing a public water system's transmission, storage and delivery potential through activities that may include, but are not limited to system-wide water audits, documenting authorized uses, conducting leak surveys and repairs on meters, lines, storage facilities, and valves.

"Water use efficiency (WUE)" means increasing water supply efficiency and water demand efficiency to minimize water withdrawals and water use.

"Water use efficiency program" means policies and activities focusing on increasing water supply efficiency and water demand efficiency to minimize water withdrawals and water use.

WAC 246-290-100 Water system plan.

(1) The purpose of this section is to establish a uniform process for purveyors to:

(a) Demonstrate the system's operational, technical, managerial, and financial capability to achieve and maintain compliance with relevant local, state, and federal plans and regulations;

(b) Demonstrate how the system will address present and future needs in a manner consistent with other relevant plans and local, state, and federal laws, including applicable land use plans;

(c) Establish eligibility for funding under the drinking water state revolving fund (SRF).

(2) Purveyors of the following categories of community public water systems shall submit a water system plan for review and approval by the department:

(a) Systems having one thousand or more services;

(b) Systems required to develop water system plans under the Public Water System Coordination Act of 1977 (chapter 70.116 RCW);

(c) Any system experiencing problems related to planning, operation, and/or management as determined by the department;

(d) All new systems;

(e) Any expanding system; and

(f) Any system proposing to use the document submittal exception process in WAC 246-290-125.

(3) The purveyor shall work with the department and other parties to establish the level of detail for a water system plan. In general, the scope and detail of the plan will be related to size, complexity, water supply characteristics, forecasted demand characteristics, past performance, and use of the water system. Project reports may be combined with a water system plan.

(4) In order to demonstrate system capacity, the water system plan shall address the following elements, as a minimum, for a period of at least twenty years into the future:

(a) Description of the water system, including:

(i) Ownership and management, including the current names, addresses, and telephone numbers of the owners, operators, and emergency contact persons for the system;

(ii) System history and background;

(iii) Related plans, such as coordinated water system plans, abbreviated coordinated water system plans, local land use plans, ground water management plans, and basin plans;

(iv) Service area map, characteristics, agreements, and policies; and

(v) Satellite management, if applicable.

(b) Basic planning data, including:

(i) Current population, service connections, water use, and equivalent residential units; and

(ii) Sufficient water production and consumption data to identify trends including the following elements:

(A) Monthly and annual production totals for each source, including water purchased from another public water system;

(B) Annual usage totals for each customer class as determined by the purveyor;

(C) Annual usage totals for water supplied to other public water systems; and

(D) For systems serving one thousand or more total connections, a description of the seasonal variations in consumption patterns of each customer class defined by the purveyor.

(iii) Projected land use, future population, and water demand for a consecutive six-year and twenty-year planning period within the system's service area.

(c) Demand forecasts, developed under WAC 246-290-221, for a consecutive six-year and twenty-year planning period. These shall show future use with and without savings expected from the system's water use efficiency program.

(d) For systems serving one thousand or more total connections, a demand forecast projecting demand if the measures deemed cost-effective per WAC 246-290-810 were implemented.

(e) System analysis, including:

(i) System design standards;

(ii) Water quality analysis;

(iii) System inventory description and analysis; and

(iv) Summary of system deficiencies.

(f) Water resource analysis, including:

(i) A water use efficiency program. Municipal water suppliers must meet the requirements in WAC 246-290-810;

(ii) Source of supply analysis, which includes:

(A) An evaluation of water supply alternatives if additional water rights will be pursued within twenty years; and

(B) A narrative description of the system's water supply characteristics and the foreseeable effect from current and future use on the water quantity and quality of any body of water from which its water is diverted or withdrawn based on existing data and studies;

(iii) Water shortage response plan if a water system experiences a water shortage, or anticipates it will experience a water shortage within the next six-year planning period;

(iv) Water right self assessment;

(v) Water supply reliability analysis;

(vi) Interties; and

(vii) For systems serving one thousand or more total connections, an evaluation of opportunities for the use of reclaimed water, where they exist, as defined in RCW 90.46.010(4).

(g) Source water protection in accordance with WAC 246-290-135.

(h) Operation and maintenance program in accordance with WAC 246-290-415 and 246-290-654(5), as applicable.

(i) Improvement program, including a six-year capital improvement schedule.

(j) Financial program, including demonstration of financial viability by providing:

(i) A summary of past income and expenses;

(ii) A one-year balanced operational budget for systems serving one thousand or more connections or a six-year balanced operational budget for systems serving less than one thousand connections;

(iii) A plan for collecting the revenue necessary to maintain cash flow stability and to fund the capital improvement program and emergency improvements; and

(iv) An evaluation that has considered:

(A) The affordability of water rates; and

(B) The feasibility of adopting and implementing a rate structure that encourages water demand efficiency.

(k) Other documents, such as:

(i) Documentation of SEPA compliance;

(ii) Agreements; and

(iii) Comments from the county and adjacent utilities.

(5) Purveyors intending to implement the project report and construction document submittal exceptions authorized under WAC 246-290-125 must include:

(a) Standard construction specifications for distribution mains; and/or

(b) Design and construction standards for distribution-related projects, including:

(i) Description of project report and construction document internal review procedures, including engineering design review and construction completion reporting requirements;

(ii) Construction-related policies and requirements for external parties, including consumers and developers;

(iii) Performance and sizing criteria; and

(iv) General reference to construction materials and methods.

(6) The department, at its discretion, may require reports from purveyors identifying the progress in developing their water system plans.

(7) Purveyors shall transmit water system plans to adjacent utilities and local governments having jurisdiction, to assess consistency with ongoing and adopted planning efforts.

(8) For community systems, the purveyor shall hold an informational meeting for system consumers prior to departmental approval of a water system plan or a water system plan update. The purveyor shall notify consumers in a way that is appropriate to the size of the system.

(9) Department approval of a water system plan shall be in effect for six years from the date of written approval unless:

(a) Major projects subject to SEPA as defined in WAC 246-03-030(3)(a) are proposed that are not addressed in the plan;

(b) Changes occur in the basic planning data significantly affecting system improvements identified; or

(c) The department requests an updated plan or plan amendment.

(10) The purveyor shall update the plan and submit it for approval at least every six years. If the system no longer meets the conditions of subsection (2) of this section, the purveyor shall as directed by the department, submit either a plan amendment the scope of which will be determined by the department, or a small water system management program under WAC 246-290-105.

WAC 246-290-105 Small water system management program.

(1) The purpose of a small water system management program is to:

(a) Demonstrate the system's operational, technical, managerial, and financial capability to achieve and maintain compliance with all relevant local, state, and federal plans and regulations; and

(b) Establish eligibility for funding under the drinking water state revolving fund (SRF).

(2) All noncommunity and all community systems not required to complete a water system plan as described under WAC 246-290-100(2) shall develop and implement a small water system management program.

(3) The purveyor shall submit this program for review and approval to the department when

(a) A new NTNC public water system is created; or

(b) An existing system has operational, technical, managerial, or financial problems, as determined by the department.

(4) Content and detail shall be consistent with the size, complexity, past performance, and use of the public water system. General content topics shall include, but not be limited to, the following elements:

(a) System management;

(b) Annual operating permit;

(c) Water facilities inventory form;

(d) Service area and facility map;

(e) Water right self assessment;

(f) Description of the system's source(s) including the name and location of any body of water from which its water is diverted or withdrawn;

(g) A water use efficiency program. Municipal water suppliers must meet the requirements in WAC 246-290-810;

(h) Water production and consumption data including each of the following:

(i) Monthly and annual production for each source, including water purchased from another public water system;

(ii) Annual consumption totals for residential and nonresidential connections;

(iii)Total annual volume of water supplied to other public water systems;

(i) Average daily demand;

(j) Current population served;

(k) The forecast of average daily demand based on the system's approved number of connections that considers:

(i) Water use trends based on actual water use records; and

(ii) Applicable land use plans;

(l) An evaluation that has considered the feasibility of adopting and implementing a rate structure that encourages water demand efficiency;

(m)Source protection;

(n) Component inventory and assessment;

(o) List of planned system improvements;

(p) Water quality monitoring program;

(q) Operation and maintenance program;

(r) Cross-connection control program;

(s) Emergency response plan; and

(t) Budget.

(5) The department may require changes be made to a small water system management program if necessary to effectively accomplish the program's purpose.

WAC 246-290-132 Interties.

(1) No interties shall be used and/or constructed as a public water supply without department approval.

(2) Interties shall not be eligible for submittal exceptions pursuant to WAC 246-290-125.

(3) Prior to department approval, purveyors proposing nonemergency interties shall ensure that the intertie is addressed:

(a) In an approved coordinated water system plan, water system plan, water system plan update, water system plan amendment, or small water system management program including:

(i) Location of the proposed intertie;

(ii) Date it is proposed to be utilized;

(iii) The purpose, physical capacity, service area, and proposed usage of the intertie;

(iv) Copy of the intertie agreement between purveyors;

(v) Description of how the intertie:

(A) Improves overall system reliability;

(B) Enhances the manageability of the system;

(C) Provides opportunities for conjunctive use; or

(D) Delays or avoids the need to develop new water sources;

(vi) Identification of any potential public health or safety concerns;

(vii) Discussion of any water quality and treatment issues;

(viii) Demonstration of the source capacity and hydraulic capacity of the supplying and receiving systems at the designed flow rate through the intertie;

(ix) Water right assessment;

(x) Identification of alternative sources that will be utilized when the intertie agreement expires if the water is not being provided in perpetuity; and

(xi) Identification and comparison of alternatives if any.

(b) In construction documents in accordance with WAC 246-290-120 including:

(i) Demonstration of the installation of a source meter to measure water exchanged; and

(ii) Water right assessment, if not previously provided to the department. Where RCW 90.03.383 requires a water right or water right change to be issued by the department of ecology, construction work on the intertie shall not begin, notwithstanding any prior approval of the intertie by the department in a water system plan, until the department of ecology issues the required water right document.

(4) Emergency use interties are interconnections between public water systems permitting the temporary exchange or delivery of water between those systems only in cases of emergency that result in permanent supplies being unavailable for use. Prior to department approval, purveyors proposing emergency use interties shall ensure that the emergency intertie is addressed:

(a) In an approved coordinated water system plan, water system plan, water system plan update, water system plan amendment, or small water system management plan including:

(i) Description of the intended use of the emergency intertie;

(ii) Location of the proposed intertie;

(iii) Date the intertie is intended to be operational;

(iv) Copy of the intertie agreement between purveyors detailing the conditions and limitations of the intertie; and

(v) Hydraulic analysis conducted to identify the impacts upon each water system.

(b) In a project report in accordance with WAC 246-290-110 or in a construction document in accordance with WAC 246-290-120.

(5) Purveyors proposing interties shall apply to the department of ecology for water right changes as provided in RCW 90.03.383. Except as provided in RCW 90.03.383(7) and 90.03.390, no interties may be constructed without department of ecology action on the proposed change.

(6) The purveyor may be required to have emergency interties approved as nonemergency interties where the interties are used frequently or on a long-term basis. If the department makes a determination, the intertie will require approval in accordance with subsection (3) of this section.

(7) Intertie agreements between purveyors shall include:

(a) Identification of specific time periods in which water will be provided;

(b) Identification of the volume of water available for use, including any seasonal or other restrictions; and

(c) Identification of how water use efficiency programs, data collection, water demand forecasting, and other operational matters will be coordinated.

WAC 246-290-221 Water demand design criteria.

(1) Except as provided in this section, expanding systems shall use water demand design for average day demand (ADD), and peak periods of demand such as maximum day demand (MDD), and peak hourly demand (PHD) that are based upon actual metered water use records. The data collected shall be sufficient to account for seasonal or other cyclic changes in water demand, and shall correlate to the maximum number of full-time or part-time equivalent residential units in service at any time.

(2) For seasonally used, transitory noncommunity, or recreational developments the design for ADD, MDD, and PHD shall be based upon metered water uses whenever such data is available. The data must account for the daily population using the water over the time that records are collected, and must reflect the uses associated with maximum occupancy for the development. The design demands for these developments apply only to part-time uses, and may not be applied to structures or dwellings that can be permanently occupied.

(3) In the absence of metered use or other comparable information, the following sources of design information may be used:

(a) Comparable metered water use data from analogous water systems. Analogous systems are those with similar characteristics, such as demographics, housing sizes, income levels, lot sizes, climate, water pricing structure, water use efficiency practices, use restrictions, and soils and landscaping; or

(b) Design criteria or guidelines in the most recent edition of the department manual for design of Group A public water systems.

(4) The design for water systems based upon metered water use records shall have an MDD no lower than three hundred fifty gallons per day per equivalent residential unit (ERU), except for the design of any expansion to an existing water system that has a minimum of two years of meter records that clearly demonstrate that a lower design value for MDD may be used without significant risk of pressure loss. The meter records must correlate the demand data to the actual level of occupancy for the periods covered by the records.

(5) The minimum water demand and duration required for fire flow and/or fire suppression storage shall be determined by the local fire control authority, or chapter 246-293 WAC for systems within the boundaries of a designated critical water supply service area (CWSSA). Public water systems that are not required to comply with minimum fire flow standards shall coordinate with the local fire control authorities to ensure that any hydrants on the system, if they can possibly be used in the course of fire suppression activities, do not create adverse pressure problems within the water system as a result of fire control actions.

WAC 246-290-420 Reliability and emergency response.

(1) All public water systems shall provide an adequate quantity and quality of water in a reliable manner at all times consistent with the requirements of this chapter.

(2) During normal operating conditions, for both average and peak demand periods, water pressure at the consumer's service meter, or property line if a meter is not used, shall be maintained at the approved design pressure, but in no case be less than 20 psi (140 kPa). Water quality shall be maintained as required in Part 4 and Part 6 of this chapter.

(3) When fire flow is required, 20 psi (140 kPa) at the operating hydrant and at least positive pressure shall be maintained throughout the system under fire flow conditions.

(4) The purveyor shall address abnormal operating conditions, such as those associated with fires, floods, unscheduled power outages, facility failures, and system maintenance, by using measures consistent with applicable regulations and industry standards to ensure the system is constructed, maintained, and operated to protect against the risk of contamination by cross-connections as a result of loss of system pressure.

(5) For operations during abnormal conditions, the purveyor shall establish the level of reliability, in accordance with consumer expectations, to ensure prevention of loss of pressure or prompt restoration of pressure when a loss of pressure has occurred. Consumer expectations may be established by a simple majority of the affected consumers within the system's service area, or within specific, definable pressure zones when different levels of service may be encountered. A simple majority of consumers can be associated with either a vote of the consumers for privately owned and operated systems, or of the system's governing body, such as council, board, or commission, for publicly governed systems. Consumer expectations shall not be used by a purveyor to justify a failure to address routine or repeated loss of pressure within the system, or within specific, definable pressure zones, because of the purveyor's failure to properly construct, maintain, or operate the system. The level of reliability established under this subsection, and measures for achieving such

reliability, shall be identified in the operations and maintenance program and incorporated into the water system design, and shall be approved by the department. The level of reliability shall not affect the purveyor's obligations under subsections (1) through (4) of this section.

(6) The purveyor shall implement all appropriate measures necessary to meet the identified level of reliability for normal and abnormal operating conditions. Procedures for system operation during normal and abnormal operating conditions shall be documented in an operations and maintenance and emergency response program in accordance with WAC 246-290-415 and shall be implemented in a timely and reasonable manner.

(7) If a purveyor is unable to satisfactorily address departmental concerns or consumer complaints regarding the level of reliability associated with normal or abnormal operating conditions, the purveyor may be required to prepare a project report pursuant to WAC 246-290-110 that addresses an evaluation of the problem, impacts on affected consumers, and recommended corrective action. Unless the department determines that public health protection requires otherwise, improvements related to abnormal operating conditions described under subsection (5) of this section will be required commensurate with the established level of reliability for abnormal operating conditions.

(8) Restrictions on designed, or historically documented, normal water uses shall not be allowed except under the following conditions:

(a) Whenever there is clear evidence that, unless limitations are imposed, water use at normal levels will lead to a relatively rapid depletion of water source reserves, such as in drought situations or when significant facility failures occur;

(b) Whenever a water system observes that demands for water exceed the available supply, as a result of such events as miscalculated planning, inattentive operation, or unforeseen problems with sources and that limitations would be necessary to insure basic levels of service while additional sources were being sought or developed, or the situation was being otherwise remedied; or

(c) Whenever the water system institutes restrictions as part of a water use efficiency program which has been accepted by the system consumers through appropriate public decision-making processes within existing governance mechanisms, or has been mandated under state regulatory authority.

(9) A purveyor shall provide the department with the current names, addresses, and telephone numbers of the owners, operators, and emergency contact persons for the system, including any changes to this information. The purveyor shall also maintain twenty-four-hour phone availability and shall respond to consumer concerns and service complaints in a timely manner.

WAC 246-290-480 Recordkeeping and reporting.

(1) Records. The purveyor shall keep the following records of operation and water quality analyses:

(a) Bacteriological and turbidity analysis results shall be kept for five years. Chemical analysis results shall be kept for as long as the system is in operation. Records of source meter readings shall be kept for ten years. Other records of operation and analyses required by the department shall be kept for three years. All records shall bear the signature of the operator in responsible charge of the water system or his or her representative. Systems shall keep these records available for inspection by the department and shall send the records to the department if requested. Actual laboratory reports may be kept or data may be transferred to tabular summaries, provided the following information is included:

(i) The date, place, and time of sampling, and the name of the person collecting the sample;

(ii) Identification of the sample type (routine distribution system sample, repeat sample, source or finished water sample, or other special purpose sample);

(iii)Date of analysis;

(iv)Laboratory and person responsible for performing analysis;

(v) The analytical method used; and

(vi)The results of the analysis.

(b) Records of action taken by the system to correct violations of primary drinking water standards. For each violation, records of actions taken to correct the violation, and copies of public notifications shall be kept for no less than three years after the last corrective action taken.

(c) Copies of any written reports, summaries, or communications relating to sanitary surveys or SPIs of the system conducted by system personnel, by a consultant or by any local, state, or federal agency, shall be kept for ten years after completion of the sanitary survey or SPI involved.

(d) Copies of project reports, construction documents and related drawings, inspection reports and approvals shall be kept for the life of the facility.

(e) Where applicable, records of the following shall be kept for a minimum of three years:

(i) Chlorine residual;

(ii) Fluoride level;

(iii) Water treatment plant performance including, but not limited to:

(A) Type of chemicals used and quantity;

(B) Amount of water treated; and

(C) Results of analyses.

(iv) Turbidity;

(v) Source meter readings; and

(vi) Other information as specified by the department.

(f) The purveyor shall retain copies of public notices made in accordance with Part 7, Subpart A of this chapter and certifications made to the department under 40 CFR 141.33(e) for a period of at least three years after issuance.

(g) Purveyors using conventional, direct, or in-line filtration that recycle spent filter backwash water, thickener supernatant, or liquids from dewatering processes within their treatment plant shall, beginning no later than June 8, 2004, collect and retain on file the following information for review and evaluation by the department:

(i) A copy of the recycle notification and information submitted to the department in accordance with WAC 246-290-660 (4)(a)(i).

(ii) A list of all recycle flows and the frequency with which they are returned.

(iii) Average and maximum backwash flow rate through the filters and the average and maximum duration of the filter backwash process in minutes.

(iv) Typical filter run length and a written summary of how filter run length is determined.

(v) The type of treatment provided for the recycle flow.

(vi) Data on the physical dimensions of the equalization and/or treatment units, typical and maximum hydraulic loading rates, type of treatment chemicals used and average dose and frequency of use, and frequency at which solids are removed, if applicable.

(h) Purveyors required to conduct disinfection profiling and benchmarking in accordance with 40 CFR 141.530 through 141.544 shall retain the results on file indefinitely.

(2) Reporting.

(a) Unless otherwise specified in this chapter, the purveyor shall report to the department within forty-eight hours the failure to comply with any national primary drinking water regulation (including failure to comply with any monitoring requirements) as set forth in this chapter. For violations assigned to Tier 1 in WAC 246-290-71001, the department must be notified as soon as possible, but no later than twenty-four hours after the violation is known.

(b) The purveyor shall submit to the department reports required by this chapter, including tests, measurements, and analytic reports. Monthly reports are due before the tenth day of the following month, unless otherwise specified in this chapter.

(c) The purveyor shall submit to the department copies of any written summaries or communications relating to the status of monitoring waivers during each monitoring cycle or as directed by the department.

(d) Source meter readings shall be made available to the department.

(e) Water facilities inventory form (WFI).

(i) Purveyors of **community** and **NTNC** systems shall submit an annual WFI update to the department;

(ii) Purveyors of **TNC** systems shall submit an updated WFI to the department as requested;

(iii) Purveyors shall submit an updated WFI to the department within thirty days of any change in name, category, ownership, or responsibility for management of the water system, or addition of source or storage facilities; and

(iv) At a minimum the completed WFI shall provide the current names, addresses, and telephone numbers of the owners, operators, and emergency contact persons for the system.

(f) Bacteriological.

The purveyor shall notify the department of the presence of:

(i) Coliform in a sample, within ten days of notification by the laboratory; and

(ii) Fecal coliform or *E. coli* in a sample, by the end of the business day in which the purveyor is notified by the laboratory. If the purveyor is notified of the results after normal close of business, then the purveyor shall notify the department before the end of the next business day.

(g) Systems monitoring for unregulated contaminants in accordance with WAC 246-290-300(9), shall send a copy of the monitoring results to the department within thirty days of receipt of analytical results.

(h) Systems monitoring for disinfection by-products in accordance with WAC 246-290-300(7) shall report information to the department as specified in 40 CFR 141.134.

(i) Systems monitoring for disinfectant residuals in accordance with WAC 246-290-300(7) shall report information to the department as specified in subsection (2)(a) of this section, and 40 CFR 141.134(c).

(j) Systems required to monitor for disinfection by-product precursor removal in accordance with WAC 246-290-300(7) shall report information to the department as specified in 40 CFR 141.134(d).

(k) Systems shall submit to the department, in accordance with 40 CFR 141.31(d), a certification that the system has complied with the public notification regulations (Part 7, Subpart A of this chapter) when a public notification is required. Along with the certification, the system shall submit a representative copy of each type of notice.

WAC 246-290-496 Metering requirements.

(1) Production:

(a) The volume of water produced or purchased must be measured using a source meter or other meter installed upstream of the distribution system.

(b) The requirements of this section do not alter any source metering regulations adopted by either the department of health or the department of ecology.

(c) The requirements of this section do not apply to volumes of water delivered to a public water system through an emergency intertie.

(2) Consumption:

(a) The requirements of this section apply to public water systems that supply water for municipal water supply purposes.

(b) Except as provided in (g) of this subsection, the volume of water delivered to consumers must be measured by meters installed on all direct service connections.

(c) Meters must be installed on all existing direct service connections and clustered entities as provided in (g) of this subsection within ten years of the effective date of this rule.

(d) Meters must be installed on all new direct service connections when the service connection is activated.

(e) Meters must be installed on all interties used as permanent or seasonal sources within ten years of the effective date of this rule.

(f) If a system is not fully metered, the municipal water supplier shall complete the following:

(i) Develop a meter installation schedule consistent with this section.

(A) For systems serving one thousand or more total connections, submit the schedule to the department by July 1, 2008.

(B) For systems serving less than one thousand total connections, submit the schedule to the department by July 1, 2009.

(C) The schedule must include milestones demonstrating steady and continuous progress toward compliance with the requirements of this section.

(ii) Implement activities to ensure distribution system leakage is minimized (e.g., periodic leak detection and repair) until the system is fully metered.

(iii) Report the status of meter installation and all actions taken to minimize leakage in annual performance reports developed under WAC 246-290-840 and water use efficiency programs developed under WAC 246-290-810.

(g) The volume of water may be measured through a single meter for the following clustered entities:

(i) A campground;

(ii) A recreational vehicle park;

(iii) A designated mobile home park;

(iv) A building with multiple units; and

(v) A complex with multiple buildings served as a single connection.

(3) Meters must be selected, installed, operated, calibrated, and maintained following generally accepted industry standards and information from the manufacturer.

PART 8. WATER USE EFFICIENCY

WAC 246-290-800 Purpose and applicability.

(1) The purpose of Part 8 is to:

(a) Define requirements for water use efficiency programs in water system plans developed under WAC 246-290-100 and small water systems management programs developed under WAC 246-290-105.

(b) Establish a water distribution system leakage standard.

(c) Define process requirements for water use efficiency goal setting.

(d) Establish water use efficiency performance reporting requirements.

(2) The requirements of Part 8 of this chapter apply to public water systems that supply water for municipal water supply purposes.

WAC 246-290-810 Water use efficiency program.

(1) Water system plans and small water system management programs submitted for approval for the first year after the effective date of this rule, must describe the municipal water supplier's existing water use efficiency program. The municipal water supplier must continue existing levels of water use efficiency.

(2) Subsections (3) and (4) of this section apply to:

(a) Water system plans submitted to the department for approval under WAC 246-290-100 one year after the effective date of this rule.

(b) Small water system management programs developed and implemented or submitted to the department for approval one year after the effective date of this rule.

(3) Municipal water suppliers shall develop and implement a water use efficiency program which includes sufficient cost-effective water use efficiency measures to meet the water use efficiency goals developed under WAC 246-290-830.

(4) Municipal water suppliers shall complete the following items in the water use efficiency program:

(a) Describe the current water use efficiency program;

(b) For systems serving one thousand or more total connections, estimate the amount of water saved through implementation of the water use efficiency program over the last six years;

(c) Describe the chosen water use efficiency goals and document the goals were established in accordance with WAC 246-290-830;

(d) Evaluate water use efficiency measures to determine if they are cost-effective as follows:

(i) Evaluate or implement, at a minimum, the number of water use efficiency measures specified in Table 1 based on the system's total number of connections.

(ii) Evaluate or implement water use efficiency measures from the following categories of measures if they are applicable: Indoor residential, outdoor, and industrial/commercial/institutional.

(iii) For systems serving less than one thousand total connections, describe the evaluation process used to select water use efficiency measures.

(iv) For systems serving one thousand or more total connections, include the following criteria when evaluating water use efficiency measures:

(A) Quantitatively evaluate water use efficiency measures to determine if they are cost-effective from the system's perspective including the marginal costs of producing water.

(B) Address whether the water use efficiency measures are cost-effective if the costs are shared with other entities.

(C) Quantitatively or qualitatively evaluate water use efficiency measures to determine if they are cost-effective from the societal perspective.

Table 1

Number of connections	Less than 500	500-999	1,000-2,499	2,500-9,999	10,000-49,999	50,000 or more
Water use efficiency measures	1	4	5	6	9	12

(e) Describe all water use efficiency measures to be implemented within the next six years including a schedule and a budget that demonstrates how the water use efficiency measures will be funded;

(f) Describe how consumers will be educated on water use efficiency practices;

(g) Estimate projected water savings from selected water use efficiency measures;

(h) Describe how the water use efficiency program will be evaluated for effectiveness;

(i) Evaluate water distribution system leakage as follows:

(i) Include distribution system leakage totals in accordance with WAC 246-290-820 for the past six years.

(ii) If necessary, include a copy of the water loss control action plan in accordance with WAC 246-290-820(4).

(iii) If all or portions of transmission lines are excluded when determining distribution system leakage, estimate the amount of leakage from the excluded portion of the transmission mains and describe how it is maintained to minimize leakage.

WAC 246-290-820 Distribution system leakage standard.

(1) Municipal water suppliers shall determine distribution system leakage annually in accordance with subsection (2) of this section or an alternative methodology in accordance with subsection (3) of this section.

(a) Municipal water suppliers shall include (i), (ii), or (iii) of this subsection in water use efficiency performance reports developed under WAC 246-290-840 and water use efficiency programs developed under WAC 246-290-810:

(i) Distribution system leakage totals calculated in accordance with subsection (2) of this section shall be recorded in annual percent and volume;

(ii) Distribution system leakage totals calculated in accordance with subsection (3) of this section shall include annual figures and the chosen methodology's numerical standard(s); and

(iii) For systems not fully metered, the status of meter installation and any actions taken to minimize leakage.

(b) Municipal water suppliers will be considered in compliance with this section if any of the following conditions are satisfied:

(i) Distribution system leakage calculated in accordance with subsection (2) of this section is ten percent or less for the last three-year average;

(ii) Distribution system leakage calculated in accordance with subsection (3) of this section meets the compliance level(s) established under subsection (3)(c) of this section for the last three-year average;

(iii) For systems serving less than five hundred total connections, distribution system leakage calculated in accordance with subsection (2) of this section is less than twenty percent for the last three-year average and the steps outlined in subsection (5) of this section are completed; or

(iv) A water loss control action plan has been developed and implemented in accordance with subsection (4) of this section and the system is meeting the implementation schedule.

(2) Calculate the percent of distribution system leakage annually using the following equation:

$$DSL = [(TP - AC)/(TP)] \times 100$$

Where:

DSL	=	Percent of Distribution System Leakage (%)
TP	=	Total Water Produced and Purchased
AC	=	Authorized Consumption

(a) Total water produced and purchased, and authorized consumption must be calculated using data from meters installed under WAC 246-290-496. Elements of authorized consumption that cannot be metered, such as fire flow, must be estimated.

(b) All or portions of transmission lines may be excluded when determining distribution system leakage.

(c) Any water that cannot be accounted for shall be considered distribution system leakage.

(3) Municipal water suppliers may use an alternative methodology to calculate distribution system leakage if both (a) and (b) of this subsection are satisfied.

(a) The alternative methodology is contained in published standards or specifications of the department, Environmental Protection Agency, American Water Works Association, American Public Works Association, or American Society of Civil Engineers.

(b) The alternative methodology is approved for statewide use by the department, to provide a better evaluation of distribution system leakage than percent of total water produced and purchased, is appropriate for the system requesting to use it, and uses numerical standards so that compliance and action levels can be determined.

(4) If the average distribution system leakage for the last three years does not meet the standard calculated in accordance with subsection (1)(b)(i), (ii), or (iii) of this section, the municipal water supplier shall develop and implement a water loss control action plan. Municipal water suppliers shall submit the water loss control action plan to the department as part of a water use efficiency program under WAC 246-290-810 and upon request by the department. The control methods described in a water loss control action plan shall be commensurate with the level of leakage reported. The following items shall be included in the water loss control action plan:

(a) The control methods necessary to achieve compliance with the distribution system leakage standard;

(b) An implementation schedule;

(c) A budget that demonstrates how the control methods will be funded;

(d) Any technical or economic concerns which may affect the system's ability to implement a program or comply with the standard including past efforts and investments to minimize leakage;

(e) If the average distribution system leakage calculated under subsection (2) of this section is greater than ten and less than nineteen percent of total water produced and purchased, the water loss control action plan must assess data accuracy and data collection;

(f) If the average distribution system leakage calculated under subsection (2) of this section is between twenty and twenty-nine percent of total water produced and purchased, the water loss control action plan must include elements listed under (e) of this subsection and implementation of field activities such as actively repairing leaks or maintaining meters within twelve months of determining standard exceedance;

(g) If the average distribution system leakage calculated under subsection (2) of this section is at thirty percent or above the total water produced and purchased, the water loss control action plan must include elements listed under (e) and (f) of this subsection and include implementation of control methods to reduce leakage within six months of determining standard exceedance; and

(h) If the average distribution system leakage calculated under subsection (3) of this section is over the methodology's numerical standard, the department will take appropriate compliance actions and work collaboratively with the municipal water supplier to ensure the control methods and level of activity are commensurate with the level of leakage.

(5) Systems serving less than five hundred total connections may submit a request to the department for approval of an average distribution system leakage up to twenty percent. The following information must be submitted to the department with the request:

(a) Production volume;

(b) Distribution system leakage volume;

(c) Evidence documenting that:

(i) A leak detection survey using best available technologies has been completed on the system within the past six years;

(ii) All leaks found have been repaired;

(iii) The system is unable to locate additional leaks; and

(iv) Ongoing efforts to minimize leakage are included as part of the system's water use efficiency program; and

(d) Any technical concerns or economic concerns, or other system characteristics justifying the higher distribution system leakage

WAC 246-290-830 Water use efficiency goal setting.

(1) The elected governing board or governing body of the public water system shall establish water use efficiency goals within one year of the effective date of this rule for systems serving one thousand or more total connections, and within two years of the effective date of this rule for systems serving less than one thousand total connections.

(2) Water use efficiency goals must be designed to enhance the efficient use of water by the system and/or its consumers.

(3) If a municipal water supplier determines that further reductions over current consumption levels are not reasonably achievable, the municipal water supplier shall provide justification that considers historic water use efficiency performance and investment and any other factors that support that determination. Justification must be provided in water use efficiency programs developed under WAC 246-290-810 and in water use efficiency performance reports developed under WAC 246-290-840.

(4) Municipal water suppliers must provide documentation when requested by the department and in water use efficiency programs developed under WAC 246-290-810 that demonstrates the following goal setting requirements have been met:

(a) Goals shall be set in a public forum that provides opportunity for consumers and the public to participate and comment on the water use efficiency goals;

(b) Public notice must occur at least two weeks prior to the public forum. Public notice must include the purpose, date, time, and place of the forum, and where materials supporting the rationale for the proposed goals can be reviewed;

(c) The elected governing board or governing body of the public water system shall review and consider all comments received;

(d) The following must be made available to the public for the purpose of fully documenting the basis for each goal:

(i) The information listed under WAC 246-290-810(4);

(ii) Annual water use efficiency performance reports prepared under WAC 246-290-840;

(iii) Water supply characteristics description in accordance with WAC 246-290-100 (4)(f)(iii)(B) or source description in accordance with WAC 246-290-105 (4)(f); and

(iv) A summary of the comments received and how they were considered.

(5) Existing public processes may be used if all requirements listed under subsection (4) of this section are met.

(6) Water use efficiency goals must include:

(a) Consideration of the system's forecasted demand and water supply characteristics;

(b) Measurable outcomes in terms of reduced or maintained water production or usage. Outcomes may be expressed on a per capita, per connection, total system, or other basis as deemed appropriate by the municipal water supplier;

(c) A schedule for achieving the water use efficiency goals; and

(d) Implementation schedule for each water use efficiency measure selected under WAC 246-290-810(4).

(7) The elected governing board or governing body of the public water system shall evaluate and reestablish water use efficiency goals following the process identified in subsection (4) of this section at least every six years and as part of a water system plan approval under WAC 246-290-100 or small water system management program approval under WAC 246-290-105.

(8) Water use efficiency goals may be changed at any time in accordance with subsection (4) of this section. Changes to goals must be identified in the next performance report.

(9) Water use efficiency programs must be modified if any water use efficiency goal is not met. Program modifications must be designed to achieve the system's water use efficiency goals.

WAC 246-290-840 Water use efficiency performance reports.

(1) Municipal water suppliers shall develop an annual water use efficiency performance report and must:

(a) Send the water use efficiency performance reports to the department and the consumers by July 1st of each year for the previous year and make them available to the public;

(b) For systems serving one thousand or more total connections, develop the first water use efficiency performance report by July 1, 2008;

(c) For systems serving less than one thousand total connections, develop the first water use efficiency performance report by July 1, 2009; and

(d) Municipal water suppliers shall submit performance reports in a manner specified by the department.

(2) Water use efficiency performance reports shall include:

(a) Total annual production. Systems with multiple sources may provide aggregate data;

(b) Annual water distribution system leakage totals in accordance with WAC 246-290-820;

(c) A description of the system's water use efficiency goals set in accordance with WAC 246-290-830;

(d) A schedule for achieving the goals;

(e) A narrative description of progress toward achieving the goals; and

(f) Report the status of meter installation and all actions taken to minimize leakage.

WAC 246-290-990 Water system evaluation and project review and approval fees.

(1) The fees for the review and approval of water system plans, project reports, construction documents, existing systems, and related evaluations required under chapters 246-290, 246-291, 246-293, 246-294, and 246-295 WAC are:

(a) Water system plans required under WAC 246-290-100, 246-290-105, 246-291-140, 246-293-220, and 246-293-230.

		Group A				
Project Type	Group B	<100 Services	100 to 500 Services	501 to 999 Services	1,000 to 9,999 Services	10,000 or more Services
Water system plan (New and Updated)	$134	$475	$1,167	$2,206	$3,584	$5,305
Minor water system plan alteration	$30	$112	$284	$547	$889	$1,305

(b) Satellite management agency (SMA) plans for Group A and Group B water systems required under WAC 246-295-040.

	Total Active or Approved Services				
Project Type	<100 Services	100 to 500 Services	501 to 999 Services	1,000 to 9,999 Services	10,000 or more Services
SMA plan for ownership (New and Updated)	$475	$1,167	$2,206	$3,584	$5,305
SMA approval amendment	$99 per hour or appropriate fee from category above, whichever is less				
SMA plan for operation only (New and Updated)	$1,167	$1,167	$1,167	$1,167	$1,167

Note: SMAs owning water systems and submitting planning documents to the department for review shall be charged only the SMA fee.

(c) New plan elements required under WAC 246-290-100, 246-290-105, 246-290-125, 246-290-132, 246-290-135, 246-290-691, and 246-291-140 including:

(i) Water use efficiency; and

(ii) Wellhead protection, shall be reviewed separately by the department and the fee assessed shall reflect the time spent for this review and shall be calculated based on ninety-nine dollars per hour. After the initial submittal, updated information shall be reviewed as part of the updated water system plan and the review fee shall be included in the applicable updated plan review fee listed under (a) or (b) of this subsection.

(d) Project reports required under WAC 246-290-110 and design reports required under WAC 246-291-120.

		Group A				
Project Type	Group B	<100 Services	100 to 500 Services	501 to 999 Services	1,000 to 9,999 Services	10,000 or more Services
All types of filtration or other complex treatment processes	$337	$687	$1,067	$1,546	$2,132	$2,827
Chemical addition only, such as ion exchange, hypochlorination, or fluoridation	$99	$199	$337	$508	$719	$962
Complete water system (an additional fee shall be assessed for review of treatment facility, if any)	$199	$475	$753	$1,100	$1,513	$1,994
System modifications requiring a detailed evaluation to determine whether the system, as modified, will comply with regulations (an additional fee shall be assessed for review of treatment facility, if any)	$134	$337	$547	$824	$1,167	$1,573

Note: In accordance with WAC 246-290-125, project reports are not required for minor projects that are described in sufficient detail in an approved water system plan, and have been reviewed as part of the process for approving the water system plan.

(e) Special reports or plans required under WAC 246-290-230, 246-290-235, 246-290-250, 246-290-470, 246-290-636, 246-290-640, 246-290-654, 246-290-676, 246-291-230 including:

(i) Corrosion control recommendation report;

(ii) Corrosion control study;

(iii) Plan to cover uncovered reservoirs;

(iv) Predesign study;

(v) Uncovered reservoir plan of operation;

(vi) Tracer study plan;

(vii) Surface water or GWI treatment facility operations plan;

(viii) Filtration pilot study; or

(ix) GWI determination reports, shall be reviewed by the department and the fee assessed shall reflect the time spent for this review and shall be calculated based on ninety-nine dollars per hour.

(f) Construction documents required under WAC 246-290-120 and design reports required under WAC 246-291-120.

		Group A				
Project Type	Group B	<100 Services	100 to 500 Services	501 to 999 Services	1,000 to 9,999 Services	10,000 or more Services
All types of filtration or other complex treatment processes	$337	$687	$1,067	$1,546	$2,132	$2,827
Chemical addition only, such as ion exchange, hypochlorination, or fluoridation	$99	$199	$337	$508	$719	$962
Complete new water system except treatment (an additional fee shall be assessed for review of treatment facility, if any)	$272	$613	$889	$1,238	$1,654	$2,132
New source only (an additional fee shall be assessed for review of treatment facility, if any)	$199	$370	$508	$687	$889	$1,134
One or more of the following submitted as a package and not requiring a detailed evaluation as determined by the department: Water line installation, booster pump station, modifications to source pumping, piping-valving, controls or storage reservoir (an additional fee shall be assessed for review of treatment facility, if any)	$134	$234	$370	$547	$753	$994
Documents submitted for projects such as water line installation, booster pump stations, modifications to source pumping, piping/valving, controls or storage reservoirs as determined by the department where such projects: Comply with design standards established by the department; Are prepared by a professional engineer in accordance with WAC 246-290-040; and Do not require a detailed evaluation by the department.	$62	$115	$192	$272	$377	$496

(g) Existing system approval required under WAC 246-290-140 and 246-291-130. For the purpose of this subsection the department shall determine whether a system is expanding or nonexpanding.

Project Type	Group B	Group A				
		<100 Services	100 to 500 Services	501 to 999 Services	1,000 to 9,999 Services	10,000 or more Services
NONEXPANDING system not requiring a detailed evaluation by the department	$260	$522	$785	$1,048	$1,311	$1,573
NONEXPANDING system requiring a detailed evaluation as determined by the department	$391	$785	$1,189	$1,573	$1,968	$2,362
EXPANDING system not requiring a detailed evaluation by the department	$522	$1,048	$1,573	$2,099	$2,626	$3,150
EXPANDING system requiring a detailed evaluation as determined by the department	$654	$1,311	$1,968	$2,626	$3,281	$3,939

(h) Monitoring waivers requested under WAC 246-290-300.

Project Type	Group B	Group A				
		<100 Services	100 to 500 Services	501 to 999 Services	1,000 to 9,999 Services	10,000 or more Services
Inorganic chemical monitoring waiver	Not applicable	$86 per source	$119 per source	$150 per source	$182 per source	$214 per source
Organic chemical monitoring waiver	Not applicable	$156 per source	$219 per source	$285 per source	$348 per source	$412 per source
Use waiver	Not applicable	$187 per source	$252 per source	$324 per source	$380 per source	$444 per source
Area wide waiver renewal	Not applicable	$187 per source	$233 per source	$278 per source	$324 per source	$357 per source
Inorganic chemical monitoring waiver renewal	Not applicable	$47 per source	$60 per source	$73 per source	$86 per source	$99 per source
Organic chemical monitoring waiver renewal	Not applicable	$92 per source	$131 per source	$171 per source	$208 per source	$246 per source
Use waiver renewal	Not applicable	$131 per source	$176 per source	$219 per source	$265 per source	$310 per source
Coliform monitoring waiver including departmental inspection requested by purveyor	Not applicable	$401	$496	$631	$803	Not applicable
Coliform monitoring waiver with third-party inspection report	Not applicable	$124	$124	$124	$124	Not applicable

(i) Other evaluations and approvals. As applicable, these fees will be charged in addition to the basic fees assessed under (a) through (h) of this subsection.

Project Type	Group B	Group A				
		<100 Services	100 to 500 Services	501 to 999 Services	1,000 to 9,999 Services	10,000 or more Services
Well-site evaluation and approval including the site inspection and hydrogeologic information review.	$199	$299	$352	$437	$547	$687
Regulatory monitoring plan [1]	No plan required	$192	$260	$326	$391	$456
Unfiltered system annual comprehensive report	Not applicable	$391	$654	$917	$1,179	$1,441
Water system compliance report	$112	$112	$112	$112	$112	$112

[1] A comprehensive document containing coliform, inorganic chemical and organic chemical monitoring plans in accordance with WAC 246-290-300.

(2) To determine the appropriate fee for a noncommunity system, calculate the service equivalent by taking the average population served each day of operation and dividing by twenty-five for a transient noncommunity (TNC) system and two and one-half for nontransient noncommunity (NTNC) system. Use the number of service equivalents to find out what Group A size category to look under and submit the appropriate fee. (All noncommunity systems are Group A systems as described in WAC 246-290-020.)

(3) Additional review and approval fees may be assessed as follows:

(a) The basic fee covers an evaluation, or the review of an initial submittal and one resubmittal if required. If additional resubmittals are required, an additional twenty-five percent of the original fee will be assessed for each additional resubmittal. For water system plan and SMA plan preparation the basic fee also covers a preplanning conference. When the department is asked to participate in other meetings involving the plan such as community meetings, public hearings, or meetings with elected officials, the department is authorized to charge additional fees at the rate of ninety-nine dollars per hour;

(b) Fees for department project approval based on local technical review will be determined on a case-by-case basis as outlined in the applicable memorandum of understanding between the department and the respective local agency;

(c) Fees for services which the department determines are not described under subsection (1) of this section, will be calculated based on a rate of ninety-nine dollars per hour.

Examples of these services include, but are not limited to:

(i) Review and inspection of water reuse projects;

(ii) Collection of water quality samples requested by purveyor;

(iii) Review of alternate technologies requested by purveyor, manufacturer or authorized representative;

(iv) Sanitary surveys, including the time spent as part of the annual on-site inspections for systems under WAC 246-290-690(3) that is in addition to the time necessary to assess watershed control and disinfection treatment;

(v) Well field designations; or

(vi) Transfers of ownership under WAC 246-290-035 or 246-294-060.

(d) Additional fees assessed by the department shall be billed to the purveyor using an itemized invoice.

(4) If the legislature revises the water system operating permit fee under RCW 70.119A.110 to incorporate into it one or more fees for service currently assessed separately under this section, and the purveyor has paid that consolidated fee, the department shall not assess or collect a separate fee under this section for any such service.

(5) All fees required under this section except as noted in subsection (3) of this section, shall be submitted prior to the department's approval. Payment of fees shall be in the form of a check or money order made payable to: The Department of Health, P.O. Box 1099, Olympia, Washington 98507-1099. Payment of a fee shall not guarantee approval of the submitted document or evaluation request.

(6) Purveyors unable to determine the appropriate fee payment to submit should contact the department.

Chapter 4 – Conservation Program, Water Right Analysis, System Reliability and Interties

4.1 CONSERVATION PROGRAM DEVELOPMENT AND IMPLEMENTATION

4.1.1 Background

A drought in 1987, over-allocation of water rights in several regions of Washington, and continued growth in the Puget Sound metropolitan area resulted in adoption of the Water Use Efficiency Act of 1989. Over the years the requirements of this act have been refined into the Conservation Planning Requirements, which include a series of checklists for water systems of varying size.

The Sultan system falls within the 1,000 to 25,000 service connections category, and qualifies for a moderate program. All conservation programs must address three components: data collection, demand forecasts, and conservation elements. A common misconception is that water conservation programs focus only on reducing residential consumption through low-flush toilets and shower restrictors. In practice, an effective program relies on sound management of the utility and efficient use of existing resources. Such a program will bring the public into awareness of various aspects of conservation, including more than just low use fixtures. At the other extreme, should water supplies become severely limited, mandatory water use restrictions can be imposed.

4.1.2 Water Use Data Collection Requirements

The City is complying with all of the requirements listed in the DOH Checklist for water use data collection. Source meters record daily flows. Residential service meters are read bi-monthly. Annual records of source production are presented in Table 2-3. The City has reduced the unmetered accounts from ten to only three: the US Post Office, Snohomish County Fire District No. 5, and one residence.

Table 4-1
Water Conservation Achievements to Date

Year	Average Production in GPD	Served Population	Gallons Per Capita
1990	359,000	2236	161
1991	362,000	2241	162
1992	402,000	2293	175
1993	396,000	2407	165
1994	459,000	2562	179
Average			**168**
1999	415,000	3067	135
2000	476,000	3297	144
2001	465,000	3775	123
2002	473,000	3910	121
Average			**131**

Conservation data presented in Table 4-1 shows that a substantial reduction in water produced per capita has been achieved since the early 1990's.

4.1.3 Demand Forecasting Requirements

Water demand forecasts as required by the DOH Checklist are presented in Chapter 2 based on population projections from Snohomish County using data provided by the Office of Financial Management. This

information is combined with water use data to show per capita consumption as presented in Table 2-3, which documents a general decline in water use per capita.

Conservation savings are described in Section 2.2.5. Implementation of Everett Pipeline No. 5 could potentially reduce per capita water demand from about 150 GPD down to 130 GPD using 2002 data by eliminating backwash and related operational water demands at the Sultan water treatment plant. However, because operation of the Lake 16 source and the Sultan water treatment plant is more cost-effective, this implementation will not occur in the immediate future.

Further conservation measures within the existing system are anticipated to reduce average day demand by about 5 GPD per capita by the year 2025. These will include installation of more, low-water-use fixtures and the continued replacement of older pipe.

4.1.4 Water Conservation Program Requirements

Two conservation measures are required by the DOH Checklist, and both have been implemented by the City:

- Program promotional efforts include periodic inserts to the water bills and distribution of conservation brochures provided by the Departments of Health and Ecology.
- Source meters have been in place for years and data is regularly recorded.

4.1.5 Water Conservation Program

Conservation Objectives will focus on reducing per capita water use. Unaccounted water is about 15 percent of production; and attention will be directed towards reducing that level. Annual water demand billed per capita now averages about 130 GPD, which is over 20 percent lower than in the early 1990's.

Evaluation of Recommended Conservation Measures identified several that have already been implemented including customer assistance, consumption history billing, service meters, unaccounted water, and conservation pricing.

Selected Conservation Activities for implementation by the City include the following:

- Eventual transfer of water source to Everett Pipeline No. 5 will elimination the need for backwashing and associated cleaning of the existing water treatment plant, which uses about 79,000 gallons daily.
- Replacement of several older sections of distribution piping as outlined in Section 3.5.4 will reduce unaccounted water losses.
- Improved servicing of water service meters is anticipated to improve the accuracy of the bi-monthly billing and will likely result in slight increases in the quantities of water billed, which will reduce the amount of unaccounted water.

Targeted Water Savings Projections due to conservation efforts to be implemented over the next six years are reflected in the demand forecasts presented in Table 2-9. These savings are anticipated to reduce the water demand from about 130 GPD per capita down to about 125 GPD.

Attachment B2

Attachment C

Engineers | Planners | Surveyors

PACE
An Engineering Services Company

RECEIVED
OCT 16 2007
BY:

October 15, 2007

Mr. Mike Williams
Water Systems Manager
City of Sultan
PO Box 1199
319 Main Street
Sultan, WA 98294-1199

Dear Mr. Williams,

It was a pleasure speaking with you on the phone the other day. Understanding your desire to move forward with setting a Water Use Efficiency (WUE) Goal for the City of Sultan, this proposal discusses in detail the tasks listed on the enclosed cost estimate for the required work. The work outlined herein is for compliance with WAC 246-290-800, as outlined in Department of Health's (DOH) Water Use Efficiency Guidebook (DOH pub. #331-375).

As discussed, because the City of Sultan provides its own water and wastewater services to its residents, there are many advantages and disadvantages in the Goal Setting process. Since the City's water supply system currently has approximately 1,600 service connections that are all metered, a minimum of five (5) conservation measures will be required under the WUE Rule of the Municipal Water Law (MWL). These measures will be designed to help meet the City's Conservation Goal, and tailored to the unique characteristics of the service area. The following tasks describe the details of the work proposed herein:

Task 1: Define the characteristics of your current Water System. *Estimated Labor: 24 hrs*
After reviewing the 2005 Comprehensive Water System Plan, we will examine average daily use per Equivalent Residential Unit (ERU), as well as seasonal variations of consumption by the different customers that are classified within the system (single family residents, multi-family residents, commercial, industrial, etc). The amount of time allotted for Task 1 will depend on the level of detail the City's Water System Plan provides and organization of subsequent data. Reviewing historic water sales data, as well as a copy of the City's Water System Plan, will be required to complete this task. Task 1 also includes one meeting with City staff to review data and discuss past and potential water conservation measures.

Task 2: Recommend a WUE Goal. *Estimated Labor: 6 hrs*
Based on the findings of Task 1, and based on PACE's understanding of typical savings from existing conservation measures implemented throughout the State, we will propose a conservation goal that can be reasonably and affordably met by the City. The Goal will be provided in clear, acceptable language that can be brought to a Town Meeting and/or City Council for approval and adoption (see Task 4).

Task 3: Develop WUE Measures to meet the Goal. *Estimated Labor: 16 hrs*
As discussed, should the City choose to implement a conservation measure, evaluation of the cost-effectiveness of the measure is not required. As such, if the City already has a Conservation Program in place, PACE will help determine which measures meet the requirements set under the MWL. If funding is not available to implement a minimum of 5 WUE measures, any measures not implemented must be evaluated based on cost-effectiveness. This requires comparing the cost vs. savings of providing a gallon of water for each measure not implemented.

PACE Engineers, Inc.
Seattle Office
1601 Second Avenue | Suite 1000 | Seattle, WA 98101
p 206.441.1855 | f 206.448.7167

Attachment C1

Task 4: Provide Supporting Materials and/or Attend Town Meeting. *Estimated Labor: 10 hrs*
This task is for presentation of the WUE Goal at a scheduled Town Meeting or other Public Meeting, assistance in answering questions, and collecting comments from the public on the proposed goal. This will satisfy the public involvement requirement of the WUE regulations. In addition to attendance at one meeting, this Task will include the development of supporting materials for the public and a written summary of the proposed goal and recommended conservation measures. Attendance at additional Council or other meetings can be accomplished on a time and materials basis in accordance with the attached rate schedule.

Project Timeline
The MWL dictates that Conservation Goals under the WUE Rule must be established and submitted to the Department of Health by January 22, 2008. The City will need to provide sufficient public notice at least two weeks prior to the scheduled public meeting, which can coincide with an existing, regularly scheduled public meeting (such as City Council Meetings or Town Meetings). Given this timeframe, a meeting between PACE and City Staff will likely need to be scheduled for no later than the middle of November, 2007 to begin the work discussed in this proposal.

Fee Estimate
We propose to provide the services listed above with a not-to-exceed contract amount of $6,080, in accordance with the attached cost estimate. This amount is not to be exceeded without prior authorization for revised or additional scope of service.

We hope this proposal meets your needs and look forward to working with the City. Please call if you have any questions, and either myself or Susan Boyd, our Principal Planner, would be happy to discuss how we can best meet the City's needs.

Again, we are pleased to submit this proposal to accomplish the Professional Planning tasks for the this project, and look forward to working with you. If you concur with this proposal, please sign below and initial the attached "Terms and Conditions", and then forward one copy of each back to our office. Receipt of that copy will serve as our Notice to Proceed. We look forward to working with the City of Sultan on this important project for compliance with the Municipal Water Law.

Sincerely,

PACE ENGINEERS, INC.

Beau J. Schilz
Planner

Name/Signature	Title	Date

Attachment(s)

PACE Engineers

Project Budget Worksheet - 2007 Standard Rates

Project Name: **Project Name** City of Sultan WUE Compliance
Project #: **Proj Number** Billing Group #: 00
Location: Project Location City of Sultan
Task #: 00
Prepared By: Beau Schilz
Date: 12-Oct-07

Labor Hours by Classification

Staff Type # (See Labor Rates Table)		10P	10	32	16	36	41	43	46	48	64	91	
Staff Type Hourly Rate		$155	$155	$115	$95	$85	$135	$125	$105	$95	$85	$75	
Drawing/Task Title	Labor Code	Principal Planner	Principal Engineer	Project Planner	Engineer II	Planner I	Principal Surveyor	Project Manager	Project Surveyor	Survey Tech II	GIS Analyst I	Project Administrator	Hour Total
Task 1 - Examine Existing System	13	4		6		14							24.0
Task 2 - Develop Goal	13	2		2		2							6.0
Task 3 - WUE Measures	13			8		8							16.0
Task 4 - Public Meeting Support	13	4				6							10.0
													0.0
													0.0
													0.0
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													0.0
													0.0
Hours Total		10.0	0.0	16.0	0.0	30.0	0.0	0.0	0.0	0.0	0.0	0.0	56.0
Labor Total		$1,550	$0	$1,840	$0	$2,550	$0	$0	$0	$0	$0	$0	$5,940.00

Expenses	rate/unit	Reimbursable Quantity	Reimbursable Cost
Postage/Courier			
Plotter			
Photo/Video			
Mileage/Travel/Per Diem			
Miscellaneous			
Technology Fee			$140.00
Total			$140

Subconsultants	
Utility Locate	
Mechanical Engineer	
Electrical Engineer	
Geotechnical Engineer	
I & C Engineer	
Subconsultant Subtotal	$0
Markup	10%
Total	$0

PACE Billed Labor Total	$5,940
Reimbursable Expenses	$140
Subconsultants	$0
Total Project Budget	**$6,080**

Rate Table Used: 2007 Standard Rates

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File: 2007 Standard Budget Worksheet - Sultan.xls, Fee Worksheet

Attachment C3