

Satellite Management Agency Program & Comprehensive Satellite Water System Plan

September, 2004
Revised: January, 2005

A-6.2.2 WATER CONSERVATION PROGRAM

1) GOALS AND OBJECTIVES

The PUD's water conservation goal is:

To provide all PUD customers with the knowledge and incentive(s) to use water wisely and reduce wasteful water use practices.

To meet this goal, the PUD has established the following objectives:

- A) Continue to support public education.
- B) Provide technical assistance.
- C) Establish conservation incentives.

A. EDUCATIONAL MATERIALS

1. MATERIALS

The PUD maintains water conservation brochures and other educational materials at the Loon Lake office that are available to customers free-of-charge. These may include publications by the State Building Code Council, DOH, and AWWA. Also conservation information is included in each year's Consumer Confidence Report. See Appendix M.

B. TECHNICAL ASSISTANCE

1. CUSTOMER ASSISTANCE

PUD provides limited leak detection technical assistance to its customers, both from its office employees and from PUD field employees.

In 2003, the P.U.D. began reading the Suncrest service meters monthly, instead of 5 times per year. The additional cost has been approximately \$7,000 per year, or approximately \$0.50 per month per connection. Although this cost is significant, we see the following advantages.

- a. Better customer service by more timely billing for water used.
- b. A better "reality check" or "sticker shock" for high-usage customers when they pay for water used closer to the time period the water is used. This gives customers the opportunity to reduce their water usage much sooner than if they didn't see the bill for another month.
- c. If there is a leak on the customer's side of the meter, including the service pipe to the house and the house plumbing, it will usually be discovered sooner because of the more timely billing of water used.

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C. METERING

1. SOURCE METERS

PUD has installed source meters at each well source to meter water production. Source meters are read approximately weekly. Meter readings and records are kept at each individual pumphouse. Periodically, source pump production totals are kept on record at the PUD office.

2. SERVICE METERS

All water services are metered, and are read regularly. Residential service meters are either 5/8" x 3/4", or 1". Commercial meters are up to 4". The PUD replaces service meters which show signs of inaccuracy or failure.

3. UNACCOUNTED FOR WATER

The PUD's estimate for unaccounted water for the years 2000 to 2002 are shown in Table 12 of Part B. PUD field employees follow-up on suspected leaks, and in cases of unauthorized water usage. Field employees continuously assist customers in the detection and providing recommendations in the repair of service line leaks.

The PUD will perform leak detection on systems with unaccounted for water above 20%, to attempt to reduce the percentage to less than 20%, and hopefully less than 10%.

A comparison of the unaccounted for water from the 1997 Comprehensive Plan Update and this update is shown below.

The large increase in Unaccounted For Water at Addy is mostly due to a leak in the wall of the storage tank. This leak was repaired in 2003.

The reason for the increase at Spokane Lake Park is unknown at this time.

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TABLE 4
 COMPARISON OF UNACCOUNTED FOR WATER

LUD	11/1/93-10/31/94 in %	2000-2002 in %	Difference in %
#1 – Loon Lake	15.9	17.9	+2.0
#2 – Addy	0.8	11.1	+10.3
#3 – Waitts Lake	Unknown	15.7	Unknown
#4 – Suncrest	2.4	6.9	+4.5
#5 – Spokane Lake Park	14.0	28.3	+14.3
#6 – Long Lake	5.1	10.9	+5.8
#9 – Riverside	22.8	2.7	-20.1
#12 – Clayton	7.5	5.9	-1.6
#13 – Deer Lake	36.3	25.3	-11.0
#17 – Jump Off Joe Lake	50.7	32.9	-17.8
#18 – Westshore	21.5	6.4	-15.1
#19 – Halfmoon Ranchos	Unknown	-15.8	Unknown
#20 – Valley	Unknown	10.7	Unknown
#21 – Echo Estates	Unknown	-1.0	Unknown
#22 – River Park Estates	Unknown	-1.0	Unknown

D. SUNCREST CONSERVATION PROGRAM

Within the next 3 years, the PUD plans to implement a reduced lawn watering demonstration project on our Suncrest system. This is our only system with more than 1,000 connections. The purpose of this project is to modify the landscaping of one or two existing homes in such a way to reduce the outside landscape watering by at least 25%. An emphasis will be on relatively low-cost landscaping, so other property owners can use the ideas on their own lawns. The cost of the work required would be shared by:

1. The PUD.
2. The property owner.
3. The landscaper.

A condition of this project is that all 3 parties agree to participate in a 1 or 2-day “open house” so that interested customers of the Suncrest system can tour the project and obtain pertinent information first hand. The expected annual water savings from this demonstration project itself is 1% within the next 6 years.

No other conservation measures for Suncrest were considered cost-effective. See Section E. below for more details of general conservation measures.

Suncrest Water Usage

Year	Average Day Demand gpd/ERU	Calculated Max. Day Demand gpd/ERU
1994	1,139	2,002
2000	1,050	4,481
2001	1,001	2,609
2002	970	2,823
Projected 2010 (6-yr)	987	3,218

E. **ESTABLISH CONSERVATION INCENTIVES**

The projected water usage per ERU used in this Comp Plan Update is based upon a reduction of water used of 2% total per ERU for the time period 2002-2010, and an additional 5% total reduction per ERU for the period 2011-2024. These reduced water usages are shown in Table 11. The base period used to project these 2% and 5% reductions in water usage is the average of years 2000-2002.

1. **WATER RATES**

The overage rate was increased in January 2004 from 60¢ per one thousand gallons to 65¢. This rate may increase again in 2005.

As a measure to help implement conservation measures, in January, 1995, PUD implemented a rate structure that reduced the gallonage included in the monthly water base rates. This caused the overage rate to activate sooner and thereby encourage additional water conservation. This approach not only puts increasing pressure on water users to conserve, but also helps the low-to-moderate income customers by lowering the need for base rate increases.

The eventual result of this rate structure could be the total elimination of the base rate bulk gallonage. Customers would be charged by the gallon from the first gallon of water used. Gallonage rates could then be increased over a period of time until the conservation goals were met. The PUD is currently considering this type of rate structure for the 2005 or 2006 year. The monthly base rate, or "service fee", would be charged whether the water is off or on. This service fee would not include any water. All water used will be charged.

The P.U.D. has considered an increasing overage rate that would have several rate increases as the usage increases (inclining rates). That type of rate structure will be considered again in the next several years.

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The PUD presently charges by the size of the meter for base rate usage. The larger the meter, the higher the hookup fee and the monthly base rate. This policy was implemented in 1994. Also, in 1994 the dollar amount of the Plant Investment Fee for larger water meters was increased substantially, to better reflect the actual increased capacity of the meter. One purpose of this policy was to encourage the installation of smaller water meters. With smaller water meters being installed, less water is available to the customer. The end result is conservation. This policy is working.

2. WATER CONSERVATION FIXTURES

The Washington State Building Code, RCW 19.27, was revised in 1989, requiring all plumbing fixtures installed in new construction and remodels on or after July 1, 1993 to meet specified water use efficiency standards.

F. WATER RECLAMATION AND REUSE

The homes served by the Suncrest Water System are all on their own septic tanks and drainfields. Therefore, there is no opportunity for water reclamation and reuse at Suncrest.