Canaan Water Department
Amended Water Conservation Plan

DES Original Approval: 3/23/2009
Amended Document: June 2012

CONSERVATION PLAN OUTLINE

I. Introduction

A. Contact Information

1. Name and location of system. Canaan Water Department
   Fernwood Farms Road, Canaan, NH
2. Owner of system and mailing address.
   Town of Canaan
   c/o Michael Samson, Town Administrator
   PO Box 38
   Canaan, NH 03741

B. System Overview

1. Reason for new source. High contaminant level by-products for treatment of surface water source. New well to blend with water.
2. Number of connections existing and proposed for each of the following classes:
   a) Residential; 154
   b) Industrial/commercial/institutional; 3
   c) Municipal: 10
3. Description of any connections that currently receive or will receive more than 20,000 gpd. None

C. Water Use Trends and Supporting Data / Population Trends

The current system has 168 users and the maximum additional users based on wastewater capacity is 229 users (36% increase approved in 2011-2012). The previous flows were 55,000 gpd of discharge. The amended permit increases that discharge to 75,000 gpd. The population of the town is growing by 15% every ten years. Growth in the village area is limited by the capacity of the sewer system. There are about 20 units to be added by approved connections.

Existing, if applicable, and anticipated seasonal fluctuation in water use and reason for fluctuation.

1. Anticipated growth in population and seasonal fluctuations in population.
2. Maximum day yield of existing sources based on 24-hour pumping. 42,739 gpd
3. Average daily water use. 28,101 gpd
4. Maximum daily water use.
5. Minimum hourly flows (if available).

D. Source Meters

1. Name designation of each water source. BRW 1 & Canaan St Lake

2. Meter make, model, size, flow range, and date of last calibration for each existing source meter. Foxboro Model I-A Series Flow Meter IMT20-Sa10fgz distribution meter

3. Meter make, model, size, and flow range for each new water source (if known).

Replaced with: Siemen Sitrans FM Mag 5100 W

4. Frequency that source meters will be tested/calibrated. Yearly by A&D Instruments. Testing certifications will be maintained and made available upon request.

5. Frequency that source meters will be read (at least every 30 days). 30 days

6. Source meters will be selected, installed, and maintained in compliance with "Manual of Water Supply Practices M6, Water Meters-Selection, Installation, Testing, and Maintenance,"(American Water Works Association, 1999).

II. System Side Management

A. Option A: Metering and Water Accounting

1. Service Meters

a) How many un-metered connections exist? 18

There are at least 5 units that are billed with estimated flows but with no meters because the meters have repeatedly frozen up. There are at least 3 units that have water pressure low enough that the insertion of a water meter at this time would reduce the pressure below permitted pressure. All of these accounts are to be remedied during the meter reinstallation. Low pressure will be resolved using in-home booster pumps and meters subject to freezing will be frost proofed. The third area is where there are broken meters or wires that have been newly discovered. Some of these will likely continue although we have specified radio meters with no flow or tampering or lack of connectivity alarms as part of the meter/software package and we will be using monthly checks of the system.

Hydrant flushing will also be metered.

b) Service connections will be metered within 3 years from March 23, 2009, the date of original approval of Canaan Water Department's Water Conservation Plan. Radio read meters proposed to be installed no later than 10/31/2012.

c) Frequency that service meters will be read (at least every 90 days). Quarterly (March, June, September, and December)

d) Description of all methods that will be used to read service meters. Radio read.

e) Expected number of days needed to read all service meters. One day.

f) Proposed rate of meter testing and/or meter change out. 10% of meters will be tested and changed out if necessary starting in 2019.

g) Service meters will be selected, installed, and maintained in accordance with "Manual of Water Supply Practices M6, Water Meters-Selection, Installation, Testing, and Maintenance," (American Water Works Association, 1999).

2. Water Audit

a) Frequency that water audit will be conducted (at least annually). Unaccounted for water will be calculated annually. If unaccounted for water exceeds 15% a water audit will also be calculated.

b) The water audit will be calculated in accordance with "Manual of Water Supply Practices M36, Water Audits and Loss Control Programs" (American Water Works Association, 2009).

c) The water system shall prepare and submit a response plan to the department within 60 days if the percentage of unaccounted for water exceeds 15 percent of the total water introduced to the water system. The response plan shall identify how the water system intends to reduce the percentage of non-revenue water to below 15 percent within two years.

3. Conservation Rate Structure and Billing

a) Description of proposed rate structure and timeline for implementation (no later than 5 years from source water approval. Must comply with 2101.04 (o) and that DES will be notified of the new structure no later than the first billing cycle.

Plan to have flat rate of $.00045/gal by first quarter of 2014.

b) Proposed billing frequency (minimum is quarterly). Quarterly

c) Informative billing practices to be used (ex. water use in gallons / usage history). The system will determine if software is compatible with providing bills showing water usage per month.

B. Pressure Management

1. Existing minimum distribution pressure (anticipated pressure for new landlord owned systems). 20 psi

2. Existing maximum distribution pressure (anticipated for new landlord owned systems). 85 psi (2.7 mile of pipe)

C. Intentional Water Loss

1. Are there "bleeders" used within the system at dead ends to improve water quality or prevent freeze-up? If yes, what looping opportunities exist? ??

2. Are storage tanks intentionally allowed to overflow because of system hydraulics or water quality concerns? If yes, what opportunities exist for the installation of altitude valves or tank mixing systems? Yes. The storage tank has been allowed to overflow in the summer for water quality reasons. Plans are in place to remedy this issue over 2012.

III. Consumption Side Management

A. Educational Outreach Initiative

1. Informational materials that will be used. The following DES materials or other water efficiency materials, such as from the EPA WaterSense program, will be posted on the town website:

WD-DWGB-26-1 – An Introduction to Water Use Management and Water Efficiency Practices
WD-DWGB-26-2 – Water Efficiency Practices for Domestic Indoor Water Use
WD-DWGB-26-3 – Water Efficiency Practices for Outdoor Water Use
WD-DWGB-26-4- Fundamentals of Xeriscaping and Water-Wise Landscaping
WD-WSEB-26-15-Perfomring a Domestic Water Use and Conservation Audit
WD-WSEB-26-17 – Water Conservation at Home

2. Rate of dissemination. One of the six fact sheets will be included with each consumer confidence report that is mailed out on a yearly basis. A different fact sheet will be mailed out every year so that customers have received all six after six years.

3. Does the water system intend on becoming a WaterSense partner? http://www.epa.gov/watersense/

4. Will a rebate program be offered to replace older fixtures with WaterSense certified fixtures?

5. Will customer audits be offered? Offers audits through Granite State Rural.

6. Other outreach plans?

IV. Zoning Ordinance / Bylaws: Canaan has no zoning.

A. Are connections to the water system subject to any of the following water efficiency ordinances or bylaws?

1. Indoor
   a) Water efficient fixtures beyond the existing plumbing code.
2. Landscaping
   a) Minimum topsoil requirements.
   b) Use of native/drought tolerant plants and grasses.
   c) Area and slope restrictions for turf grass.
3. Irrigation System

a) Prohibition or restrictions to irrigation systems.
b) Require soil moisture sensors.
c) Require rain sensors.

4. Other water efficiency ordinances?

V. Water Use Restrictions

A. What is the water system's plan relative to implementing water restrictions? A restriction has never had to be implemented but an enforcement procedure is in place.

B. Who is responsible for enforcing restrictions? The town.

VI. Reporting and Implementation

1. "The water system will submit a form supplied by DES once every three years documenting how compliance with the requirements of Env-Wq 2101 is being achieved."

2. "Activities outlined in the water conservation plan will be completed by water system personnel under the supervision of a certified water system operator."

I certify that I have read this Water Conservation Plan, understand the responsibilities of the water system as referenced in the plan, and that all information provided is complete, accurate, and not misleading.

Signature Owner Name (print): RobertE Reagan

System Owner Signature: Robert E Reagan Date: 7/13/2012