



The State of New Hampshire
DEPARTMENT OF ENVIRONMENTAL SERVICES



Thomas S. Burack, Commissioner

AMENDED
WATER CONSERVATION PLAN APPROVAL

August 30, 2012

Robert Barry
Commissioner
New Hampton Village Precinct
PO Box 506
New Hampton, NH 03256

RE: New Hampton– New Hampton Village Precinct (PWS ID: 1691010)
Amended Water Conservation Plan, NHDES # 999024

Dear Mr. Barry

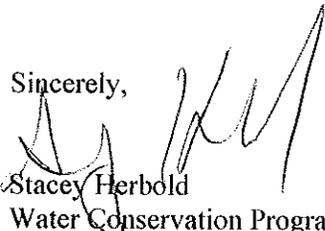
On October 22, 2008, the Department of Environmental Services (“DES”) Drinking Water and Groundwater Bureau approved a Water Conservation Plan for the New Hampton Village Precinct. On August 23, 2012, DES received an Amended Water Conservation Plan for the system. The purpose of this letter is to approve the Amended Water Conservation Plan (the “Amended WCP”) dated August 9, 2012, per the following conditions:

1. Ongoing three year compliance reports shall be submitted every three years from the date of the original Water Conservation Plan Approval, October 22, 2008. The next compliance report is due on **October 22, 2014**.
2. Revisions to the Amended WCP shall not be implemented without further approval from DES.

A copy of the Amended WCP and the *Water Conservation Plan Ongoing Compliance Form* may be located by going to the DES website, www.des.nh.gov, clicking on the “A-Z List” in the top right corner of the page, and scrolling down to Water Conservation.

Please feel free to contact me with any questions at (603) 271-0659 or via e-mail at stacey.herbold@des.nh.gov.

Sincerely,


Stacey Herbold
Water Conservation Program
Drinking Water and Groundwater Bureau

cc: Joel Powers, primary operator

New Hampton Village Precinct

WATER CONSERVATION PLAN

Updated: August 9, 2012

Plan presented in accordance with NHDES format.

CONSERVATION PLAN OUTLINE

I. Introduction

A. Contact Information

1. New Hampton Village Precinct
New Hampton, NH
2. Robert Barry
New Hampton Village Precinct
PO Box 506
New Hampton, NH 03256-0506

B. System Overview

1. System supplied from two sources. Surface supply from Mountain Pond and Gordon Hill Reservoir, which have been on line since 1910, and a bedrock well (BRW-1), which has been on line since June 2009.
2. There are 128 year-round connections to the distribution system consisting of: a) Residential -87, b) Institutional - 37 billed to the New Hampton School, and 2 billed to the New Hampton Community School, and c) Municipal -2 New Hampton town Office and New Hampton Public Safety Building. There are three seasonal

connections serving: the cemetery, the watering trough on Main Street, and the Town Common at the intersection of Main Street and Old Bristol Road.

3. There are no individual connections that currently receive or will receive more than 20,000gpd.

C. Water Use Trends and Supporting Data/Population Trends

1. There are no substantive seasonal fluctuations in water usage presently or anticipated to occur within the system.
2. No growth in population is expected within the Precinct as the land within its limits is built-out. Some seasonal reduction in population occurs during the summer when New Hampton School changes from academic student population to summer sport camp/ band camp and educational conference activities. Water irrigation around the campus compensates for the reduction in population over this period of time.
3. Maximum Day yield is approximately 75,000gpd.
4. Average Daily water use is approximately 35,000gpd
5. Maximum Daily Water Use is approximately 50,000gpd.
6. Minimum Hourly Flow is unknown.

D. Source Meters

1. Name designation for each water source is: Surface Supply-Gordon Hill Reservoir with overland feed from Mountain Pond and Ground-water Supply from BRW-1.
2. There is no distinct meter to determine the volume of water drawn from the Gordon Hill Reservoir. All water drawn from this source goes through the Kinetico filtration system and is pumped into the

160,000 gallon storage tank along with all water pumped from BRW-1.

- a. Water released from the storage tank is metered as it enters the Precinct's public water distribution system. This meter is a Hays WT Series (4-inch) unit. It was installed at the time of construction of the Treatment Plant and storage tank construction in 1995. It has not been calibrated since that time.
 - b. Water drawn from BRW-1 is metered as it enters the building prior to passing through the plants filtration system and on into the storage tank. This meter is a Signet, Model 2537 Paddelwheel Flowmeter (3-inch) unit which was installed in the spring of 2009 when the Bedrock well was being put into operation. The meter will be tested in 2013. When replaced, the meter will be replaced with an AWWA certified meter or magnetic meter approved by DES.
3. The distribution meter for all water discharged to the water supply distribution system (i.e. Hays unit) will be replaced with a new meter in the summer/fall of 2012. The new meter will be capable of capturing low flows and be AWWA certified or be a magnetic flow meter, which specifications have been reviewed by DES prior to installation.
 4. The source meter on BRW-1 will be tested /calibrated and, if necessary, changed out with a new AWWA certified meter at the time that the manufacturer's accuracy warranty expires.

5. The source and distribution meter will be tested/calibrated in the future in accordance with AWWA M6 manual of Water Supply Practices, Water Meter Selection, Installation, Testing and Maintenance latest edition (currently 1999). The Testing/calibration schedule will not commence until the manufacturer's accuracy warranty for the new meter expires. The AWWA Manual refers to the New Hampshire Public Utilities Commission standards for testing meters as follows: 1"-2"=4 years, 3"=2 years, 4"=1 year. PUC standards will be followed if the manufacturer does not provide a recommendation for testing and calibration and if AWWA does not provide any additional guidance.
6. The source meter (Hays unit) recording discharge of water from the storage tank (includes both treated reservoir and BRW-1 source water) is read on a daily basis and reported to NHDES on a monthly basis. The distribution meter will continue to be read daily and will always be read on the first day of customer service meter readings for water accounting purposes.
7. In the future, 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. Metering and Water Accounting

1. Service Meters

- a) There are no year-round unmetered service connections on the system. There are however, as noted in I.B. System Overview above, three unmetered seasonal connections which are used for hand-watering of landscaping and flower gardens at the noted locations.
- b) No irrigation meters are installed on the system.
- c) All service connections for the existing system are metered and all new connections to the system or connections to the system for new landlord owned systems are required to be metered prior to start-up of service.
- d) Service meters are currently read every three months/quarterly (approximately every 90 days).
- e) Currently all service meters are read with an external electronic meter reader.
- f) All service meters are read within a two-day period.
- g) At this point in time the proposed rate of meter testing and /or meter change-out is thirty-two meters per year, resulting in a four year process commencing in 2012 and completion no later than November 2015. The meter maintenance program will be ongoing. Meters will be tested /calibrated and replaced as necessary every 10 years on a staggered schedule commencing in 2022.
- h) All service meters will be selected installed, and maintained in accordance with the manual of Water Supply Practices M6, Water Meters-Selection, Installation, Testing, and Maintenance, (American Water Works Association, 1999).

2. Water Accounting

- a) The Precinct has not conducted a thorough water audit to differentiate between apparent losses and real losses, but the system has calculated unaccounted for water over the past several years. 2009=38% 2010=28% 2011=22%.
- b) The system will calculate unaccounted for water quarterly, as well as yearly. Should a spike in volume or percent unaccounted for water occur in any quarter, the Precinct will investigate as necessary to identify the apparent leaks(s) and take corrective action to repair system integrity.
- c) If yearly unaccounted for water exceeds 15%, within 60 days the Precinct will submit to DES the following:
 - a. A water audit for the year differentiating between apparent losses and real losses; and
 - b. A two year plan identifying how the system intends to reduce unaccounted for water to below 15% based on reducing apparent and real losses and any unmetered uses.
- d) A log of leaks detected and repaired will be maintained. The log will identify the date a leak was identified, the date repaired, the type of leak (i.e. main, service, hydrant, valve, and estimated size of leak.
- e) The Water Audit will be calculated in accordance with the manual of Water Supply Practices M36, Water Audits and Loss Control Programs (American Water Works Association, 2009). (Note* DES has a simplified audit on the Water Conservation website.)

3. Response Plan

a. Currently unaccounted for water exceeds 15%, therefore in addition to meter upgrades, the Precinct will conduct the following:

i. A comprehensive leak detection survey of the system prior to September 1, 2012 to identify leaks.

Identified leaks will be repaired as follows:

(a) All identified points of leakage whether from a main or service connection will be scheduled, based on severity, for repair and performed as soon as possible.

(b) Those leaks not repaired due to budgetary constraints in 2012 will be scheduled for funding and repair in 2013 and work conducted in the summer of 2013.

ii. Documentation of leaks identified during the survey will be maintained. Documentation will include the type of leak (i.e.-main, service, valve, hydrant), date of leak identified, date of leak repaired and estimated size of leak (gpm). The log will identify all leaks found as a result of the survey. The log will also be maintained into the future to include any leaks found so as to be considered during water accounting.

iii. NHVP will monitor on a quarterly basis both the volume of metered water entering the distribution system, and the volume of metered water

consumed and water volume otherwise accounted for to determine what the volume of unaccounted water is for that period of time.

- iv. It is anticipated that the percentage of unaccounted for water will be reduced as a result of leak repairs and meter upgrades completed within the intervening time periods. Ultimately dropping below the threshold of 15% of allowed unaccounted for loss before the need to prepare a further plan of action to DES to take corrective action.

4. Conservation Rate Structure

- a. The Precinct's current billing rate is \$15.00/1000 gallons (\$0.015/gal) with a minimum quarterly charge of \$27.50.
- b. If irrigation meters are allowed to be installed, the water usage recorded will be billed at the general rate.
- c. No seasonal rate structure is in effect at this time and none is contemplated in the future.
- d. Billing is currently quarterly in sync with meter reading.
- e. All service meters read in gallons. Current billing provides the following information: previous meter reading and present meter reading down to the hundreds of gallons, a multiplier (100), total units in gallons, rate per unit (\$0.015/gal) and Total of user charges. In addition a usage, summary is provided which indicates the total units metered in the billing period, the number of days in the billing cycle and the resulting average daily use during that cycle. Should any consumer desire a

historical record of their billings the Precinct can provide such information for the preceding eight quarters at no cost to the consumer.

B. Pressure Management

1. The existing minimum distribution pressure is 25psi.
2. The existing maximum distribution pressure is 95psi.
3. Since construction of the storage tank at the water treatment plant in 1996 the pressure minimum and maximum have not changed as they represent the highest and lowest elevation of services on the distribution system and are located at the extreme ends of the Precinct boundary limits.
4. The lone pressure zone in excess of 80psi exists in the last 1000lf of the distribution system. This situation has been in effect for 17 years with no issues to date regarding the pressure exceeding 80psi.
5. The Precinct has no plans to address this issue.
6. Should the Water Audit to be conducted this spring/summer identify any leaks within this zone of excess pressure we will undertake repairs within our financial capacity this year and include funding in the 2013 Budget to undertake the remaining efforts required.

C. Intentional Water Loss

1. There are no "bleeders" utilized in the system.
2. The systems water storage tank is monitored daily to insure no overflow of the tank occurs.

III. Consumption Side management

A. Educational Outreach Initiative

1. With the January, 2012 water bill the Precinct transmitted a copy of the Environmental Fact Sheet WD-DWGB-26-15, Performing a Domestic Water Use and Conservation Audit to all its customers. Along with the April quarterly billing the Precinct transmitted a copy of the Environmental Fact Sheet WD-DWGB-26-2, Water Efficiency Practices for Domestic Water Use to all of its customers and in addition we transmitted a copy of the Environmental Fact Sheet WD-DWGB-26-13 Water Efficiency Practices for Institutions to the New Hampton School and the Newfound Regional School District's New Hampton Community School.
2. The Precinct intends to disseminate the same documents twice a year in accordance with the same schedule above. Other materials which may be used are DES's outdoor water use fact sheet and EPA Water-Sense materials.
3. The Precinct does not plan on becoming a Water-Sense partner.
4. No rebate program is /or will be offered to replace older fixtures with Water-Sense certified fixtures.
5. No consumer audits will be offered.
6. No other outreach programs are being contemplated at this time.

IV. Zoning Ordinance / Bylaws

The Town of New Hampton has no Zoning Ordinances or Bylaws relating to connections to the water system.

V. Water Use Restrictions

- A. In 2002 the New Hampton Village Precinct adopted a Water use Restriction Ordinance in accordance with RSA38:26, in order to properly operate and maintain its water supply system. In the event of a water system emergency, the Precinct Commissioners are authorized to implement whatever water conservation measures are necessary to protect the integrity of the system and maintain water service to its customers, though at a reduced level and/or on a limited basis until such time the emergency is abated. Depending on the emergency the Precinct would invoke any or all of the restrictions listed in Part 2. Section 7. "Water Use Restrictions" of the NHDES Community Water System Emergency Plan Guide (Rev. 2009). It should be noted that the Precinct utilized this Ordinance in June of 2010 when it had to take its 160,000 gallon storage tank out of service for three weeks for cleaning, repairs and improvements.
- B. The Precinct Commissioners are responsible for enforcing the restrictions.

VI. Reporting and Implementation

- 1. The New Hampton Village Precinct 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. The Activities outlined in the water conservation plan will be completed by New Hampton Village Precinct personnel or its authorized agents under the supervision of a certified water system operator.

Document prepared by: Robert T. Barry, (NHVP Commissioner overseeing Water)

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.

Owner Name (print) ROBERT T. BARRY

Owner Signature: Robert T Barry Date: 8/20/2012