



The State of New Hampshire
Department of Environmental Services



Robert R. Scott, Commissioner

January 22, 2019

Harold Morse
Hampstead Area Water Co.
54 Sawyer Avenue
Atkinson, NH 03811
harold@hampsteadwater.com

Transmitted via Email

**Subject: Water Conservation Plan Approval
Sandown – Fairfield (PWS ID#: 2082020)
Water Conservation Plan, NHDES # 005312**

Dear Mr. Morse:

On January 18, 2019, the New Hampshire Department of Environmental Services (“DES”) Drinking Water and Groundwater Bureau received a Water Conservation Plan (the “WCP”), signed on January 3, 2019, for Fairfield, located in Sandown, New Hampshire. Pursuant to RSA 485:61 and Env-Wq 2101, community water systems seeking permits from DES for new sources of groundwater shall submit a water conservation plan to DES. Based on review of the WCP, DES has determined the WCP complies with Env-Wq 2101, *Water Conservation* rules.

Pursuant to Env-Wq 2101, the Town of Sandown and the Rockingham Planning Commission were provided a copy of the WCP, along with other required materials.

DES approves the WCP based on the following conditions:

1. No later than source activation, all source meters, distribution meters, meters measuring water consuming processes, and any transfer meters and data loggers shall be installed.
2. By January 22, 2020, the source meter for BRW1 (1” Master Meter BL09) and the distribution meter (1” Neptune T-10) shall be tested or replaced, and the testing reports or confirmation of replacement shall be submitted to the DES Water Conservation Program.
3. Upon source activation, source meters and any other meters measuring water consuming processes prior to distribution shall be read monthly, no sooner than 27 days and no later than 33 days from the last meter reading.
4. All meters shall be installed per the manufacturer’s instructions or American Water Works Association standards.
5. Upon source activation, all meters shall be tested and maintained based on the schedule proposed in the WCP.
6. Upon source approval, the system shall report monthly source production volumes to the DES Water Use Registration and Reporting Program on a quarterly basis. DES has assigned **WUID 21039** to the facility.

The water system shall register as a data provider and utilize the DES OneStop reporting tool to submit water use data. Instructions for using the tool are enclosed with this letter. If you have any questions about water use reporting or registering as a data provider, please contact Stacey Herbold by phone at (603) 271-6685 or by email at stacey.herbold@des.nh.gov.

7. Service meters shall be installed on all service connections in the Kelly Green Development expansion before each house is occupied.
8. Service meters shall continue to be read at least quarterly.
9. A conservation rate structure shall continue to be implemented and residents billed at least quarterly.
 - a. Residents shall be charged based on the amount of water each residence uses, and the rate shall be structured so that the cost per gallon(s) is either constant or increasing with the amount of water used.
10. Starting in the year 2020, a water balance, the difference between the system input volume and the metered authorized consumption, shall be reported annually to DES. The water balance shall be reported by March 1 for the prior year using the online reporting tool.
11. Leaks shall be repaired within 60 days of discovery unless a waiver is obtained in accordance with Env-Wq 2101.23.
12. From the date of this approval, all non-metallic pipes installed in the system shall be outfitted with detectable tracer tape or detectable tracer wire, or be GPS located and maintained in a GIS system.
13. Within one year of source approval, a water conservation outreach and education program shall be implemented in accordance with the WCP, including the distribution of water efficiency outreach materials twice a year.
14. Every three years from the date of this approval, a *Water Conservation Plan Ongoing Compliance Reporting Form* shall be submitted to DES documenting how the system has maintained compliance with the WCP. The following records shall be maintained by the water system to include with the report:
 - a. A leak log including the date a leak was discovered, the date a leak was repaired, the type of leak (ex. water main, service line, hydrant, valve), the approximate size of the leak (gpm), and the nearest address to the leak.
 - b. The title of water efficiency materials distributed and the date of distribution.
 - c. Date of installation and replacement of all meters as well as testing and calibration records.
15. Proposed changes to the WCP shall not be implemented unless approved by DES.

The online *Annual Water Balance Reporting Form* and the *Water Conservation Plan Ongoing Compliance Reporting 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, clicking "Water Conservation," and scrolling down to "Forms/Applications."

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

Sincerely,



Kelsey Vaughn
Water Conservation Program
Drinking Water and Groundwater Bureau

Attached: (2) Water Use Registration Guidance and Water Use Reporting Guidance

ec: Hannah Lloyd, Richard Bibeau, John Herbst; Hampstead Area Water Co.
Town of Sandown
Rockingham Planning Commission
Andrew Koff, Stacey Herbold; DES

WATER CONSERVATION PLAN: FAIRFIELD

A community water system seeking authorization for a new source of water must submit a water conservation plan to the New Hampshire Department of Environmental Services (NHDES) for approval demonstrating how the water system proposes to comply with water conservation standards pursuant to Env-Wq 2101, *Water Conservation* rules. Fairfield is an existing small community water system.

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

I. Introduction

A. Contact Information

1. Name and location of system: Fairfield – Sandown, NH
2. Owner of system and mailing address: Hampstead Area Water Company, Inc., 54 Sawyer Avenue Atkinson, NH 03811
3. Name and mailing address of preparer of water conservation plan: John Herbst, Hampstead Area Water Company, Inc., 54 Sawyer Avenue, Atkinson, NH 03811

B. System Overview

1. Description of the community being served:
The system currently consists of 15 3-bedroom homes serving approximately 38 people. The system plans to expand in the near future and add 22 2-bedroom homes.
2. Description of water sources, including water sources to be developed for non-potable uses such as irrigation:
There is currently one bedrock well (BRW1) serving the system. In order to meet the increased demand due to the expansion, a bedrock well (BRW2) is being proposed.
3. Name designation of each proposed water source and any existing sources:
BRW1 (existing) and BRW2 (proposed)
4. Number of connections proposed for each of the following classes:
 - a) Residential: 15 currently, 37 after expansion
 - b) Industrial/Commercial/Institutional: 0
 - c) Municipal: 0
5. The water system does not provide water to any consecutive water systems or privately owned redistribution systems.
6. There are no proposed connections that receive more than 20,000 gpd.

7. Please provide the following information based on metered source withdrawal volumes from the last complete year. Please report in gallons.

Year: 2017

Average daily use (ADU): 1,892 gpd

Lowest ADU in the winter: 1,647 gpd

Highest ADU in the summer: 2,155 gpd

C. Transfer of Ownership

1. The system ownership is not proposed to be transferred. Hampstead Area Water Company, Inc. will own and operate the Fairfield system, including the proposed expansion (Kelly Green Development).

II. System Side Management

A. Water Meters

1. Source Meters

a) No later than the source activation date, meters will be installed on each new and any existing water source.

b) An irrigation well is not proposed.

c) Source meter information for each existing source and if known, for each proposed source:

Source Name: BRW1

Meter Size: 1"

Meter Make: Master Meter

Meter Model: BL09

Note: This meter will be replaced in 2019.

Source Name: BRW2

Meter Size: 1"

Meter Make: Neptune

Meter Model: T-10

d) No later than the source activation date, source meters will be read at least monthly.

2. Meter Selection, Installation, and Maintenance

a) All meters will be American Water Works Association (AWWA) certified.

b) The selected size of the meters will be based on projected flow rates.

c) Meters will be installed as specified by the manufacturer, including requirements for horizontal or vertical placement, distance of straight run of pipe upstream and downstream of the meter, and strainer installation. If the manufacturer does not supply installation specifics, meters will be installed in accordance with the "Manual of Water Supply Practices M6, Water Meters-Selection, Installation, Testing, and Maintenance" (AWWA, 2012).

d) The following meter testing and calibration schedule or meter change-out schedule will be implemented. If the manufacturer’s accuracy warranty extends beyond the schedule below, the meter will be tested or changed-out no later than the warranty expiration date.

Meter Size (inches)	Testing Rate (years)
<1"	10 yrs
1" - 2"	4 yrs
3"	2 yrs
>3"	1 yr

e) A log of the date meters were installed, tested, calibrated, repaired, and replaced will be maintained. Calibration certificates will be kept on file.

B. Pressure Management

1. The design pressures of the system are from 60 psi to 80 psi.

C. Leak Detection and Repair

1. All non-metal pipes will either be GPS located and stored in a GIS system or equipped with detectable tracer tape or detectable tracer wire.
2. Leak detection will be conducted in accordance with the “Manual of Water Supply Practices M36, Water Audits and Loss Control Programs” (AWWA, 2016).
3. Leaks will be repaired within 60 days of discovery unless a waiver is obtained in accordance with Env-Wq 2101.23.
4. A log of all leaks will be maintained, including the date the leak was discovered, the date the leak was repaired, the type of leak (ex. service, main, hydrant, valve), the size of the leak (gpm), and the nearest street address to the leak.

D. Water Loss Minimization- Service Metering, Billing, and Water Audits

1. System Side Meter

a) A distribution meter is already installed to measure flow at the point of entry into the water system. Distribution meter information:

Meter Size: 1”
 Meter Make: Neptune
 Meter Model: T-10
 Last Meter Test/Calibration Date: 10/7/04
 Note: This meter will be replaced in 2019.

2. Service Meter Installation, Reading, and Maintenance

- a) Service meters are already installed on all existing service connections, including public sector service connections and all points of transfer to consecutive water systems and privately owned redistribution systems.
- b) Service meters will be installed on all service connections in the Kelly Green Development expansion before each house is occupied.
- c) Summary of service meter makes, models, sizes, and dates of installation:
In February/March 2012, 5/8" Neptune T-10 meters were installed on the 15 service connections.
- d) Service meters will continue to be read monthly.
- e) Service meters will continue to be read by drive by read.
- f) It is expected it will take less than 1 day to read all service meters.
- g) Service meters will be maintained in accordance with II.A.2.d), above.

3. Water Balance and Water Audit

- a) The water balance (system input volume – authorized metered consumption) will be reported to NHDES annually, starting in 2020 (by 3/1/20, the water balance for 2019 will be reported).
- b) No later than March 1 of each year, a water balance for the previous year will be reported to NHDES using the NHDES online water balance reporting tool. The electronic reporting form is located on the Water Conservation homepage of the NHDES website.
- c) If the water balance calculated in II.D.3.a), above is more than 15% of the system input volume, the water system will prepare a water audit and response plan and submit them with the water balance.
 - (1) The water audit will be completed in accordance with the "Manual of Water Supply Practices M36, Water Audits and Loss Control Programs" (AWWA, 2016).
 - (2) The response plan will be based on the findings of the water audit and will identify how the water system intends to reduce the water balance to below 15% within two years.

4. Conservation Rate Structure and Billing

- a) A conservation rate structure is already implemented, and customers are charged based on usage. (Conservation rate structure means that the rate per unit of water for residential connections is uniform [ex. \$4.00/1000 gallons of water] or increases with usage [ex. \$4.00/0-500 gallons of water, \$4.50/501-1000 gallons of water].)

- b) The rate structure is as follows: \$10.00 per meter base charge plus consumption charge of \$5.95 per 100 cubic feet. This is subject to change and is approved by the NH Public Utilities Commission.
- c) Irrigation water will not be billed separately.
- d) Customers will continue to be billed monthly.

III. Consumption Side Management

A. Educational Outreach Initiative

- 1. No later than one year from the date of final source approval, the system will begin distributing water efficiency outreach materials twice a year with bills and Consumer Confidence Reports. The materials distributed will be either NHDES Water Efficiency Fact Sheets located at <http://des.nh.gov/organization/commissioner/pip/factsheets/dwgb/index.htm#efficiency> or EPA WaterSense materials located at <http://www.epa.gov/watersense/>.
- 2. The system will maintain a log indicating how the system has complied with III. A.1., above. The log will include dates the outreach and education actions were taken and what was done.

IV. Reporting and Implementation

- A. The water system will submit a form supplied by NHDES once every three years from the date of the water conservation plan approval documenting how compliance with the requirements of Env-Wq 2101, *Water Conservation* rules, is being achieved.
- B. By no later than March 1 of each year, a water balance for the previous year will be submitted to NHDES using the electronic reporting form located on the Water Conservation homepage of the NHDES website (www.des.nh.gov).
- C. The water system will report monthly production volumes quarterly to the NHDES Water Use Registration and Reporting Program upon receiving a Water Use Identification Number from NHDES. Monthly means once every calendar month, but no sooner than 27 days after and no later than 33 days after the previous reading.

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): Harold Morse

Owner Signature:  Date: 01/03/2019

Appendix A Definitions

Authorized metered consumption: billed metered water plus unbilled metered water.

Community water system (CWS): a public water system which serves at least 15 service connections used by year-round residents or regularly serves at least 25 year-round residents.

Consecutive water system: a public water system that buys or otherwise receives some or all of its finished water from one or more wholesale systems for at least 60 days per year.

Final source approval: the date of final well siting approval or the date of issuance of the large groundwater withdrawal permit.

Large community water system: a community water system that serves more than 1,000 persons.

Privately owned redistribution system (PORS): A system for the provision of piped water for human consumption which does not meet the definition of a public water system and meets all of the following criteria:

- (1) Obtains all of its water from, but is not owned or operated by, a public water system;
- (2) serves a population of at least 25 people, 10 household units or 15 service connections, whichever is fewest, for at least 60 days per year; and
- (3) has exterior pumping facilities, not including facilities used to reduce pressure, or exterior storage facilities which are not part of building plumbing.

Public water system (PWS): a system for the provision to the public of piped water for human consumption, if such system has at least 15 service connections or regularly serves an average of at least 25 individuals daily at least 60 days out of the year.

Small community water system: a community water system that serves 1,000 people or less.

Source activation date: the date the source is placed into use.

System input volume: the volume of water input to the water supply system after treatment, analysis, and storage.

Water balance: the difference between the system input volume and authorized metered consumption.

Water conservation: any beneficial reduction in water losses, waste or use.

Wholesale system: a public water system or an industrial, commercial or institutional (ICI) water user that treats source water and then sells or otherwise delivers finished water to a consecutive water system or privately owned distribution system.

Appendix B Notification Process

Public Notification Instructions

Once a final draft of the water conservation plan is agreed upon by the applicant and NHDES, NHDES will send a signature line to the applicant for addition to the plan along with a summary of the requirements of Env-Wq 2101, which may be found at http://des.nh.gov/organization/divisions/water/dwgb/water_conservation/index.htm.

Within 10 working days of receiving the summary from NHDES, the applicant is required to provide a copy of the water conservation plan and rules summary via certified mail with return receipt requested to:

- the governing board of the municipality in which a proposed source is located,
- the governing board of all municipalities that receive water from the water system (if any),
- the governing board of all wholesale customers of the water system (if any), and
- the regional planning commission serving the location of the proposed source.

The applicant must also request that the governing board amend local site planning requirements to reflect the requirements of Env-Wq 2101 and to promote water conservation landscaping for new projects.

All signed copies of the certified mail return receipts (the green cards) must be forwarded to NHDES along with the final, signed water conservation plan before approval of the water conservation plan will be issued.

Notification of Consecutive Water Systems and Privately Owned Redistribution Systems

Within 5 working days of obtaining final approval of the source from NHDES, the system is required to notify any consecutive water system or privately owned redistribution system receiving water from the system of the following:

- The projected source activation date; and
- The system will be subject to Env-Wq 2101 as of the source activation date, pursuant to Env-Wq 2101.13 and should contact the NHDES Water Conservation Program using the contact information below.

Kelsey Vaughn, Water Conservationist
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