



The State of New Hampshire
DEPARTMENT OF ENVIRONMENTAL SERVICES



Thomas S. Burack, Commissioner

WATER CONSERVATION PLAN APPROVAL

January 15, 2016

Mark Poulin
Town of Errol
PO Box 100
Errol, NH 03579-0100

RE: Errol – Errol Water Works/West (PWS ID #: 0781010)
Water Conservation Plan, NHDES # 150083

Dear Mr. Poulin:

On January 6, 2016, the New Hampshire Department of Environmental Services (“DES”) Drinking Water and Groundwater Bureau received a Water Conservation Plan (the “WCP”), signed on November 23, 2015, for Errol Water Works located in Errol, 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 North Country Council was 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. No later than the source activation date, source meters, and any other meters measuring water consuming process prior to distribution shall be read monthly, no sooner than 27 days and no later than 33 days from the last meter reading.
3. Within three years of source approval, meters shall be installed on all service connections.
4. Upon service meter installation, service meters shall be read on a quarterly basis.
5. No later than the earlier of installing all service meters or within 3 years of obtaining approval of the new source, 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.

6. Within 2 years of installing all service meters or within 5 years of obtaining approval for a new source of water, whichever is earlier, a conservation rate structure shall be implemented and residents billed quarterly.
7. 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.
8. Within one year of source approval, a leak detection and repair program shall be implemented in accordance with the WCP.
9. Within one year of receiving source approval, a water efficiency and outreach program shall be implemented in accordance with the WCP.
10. Within three years of source approval, a meter maintenance plan shall be implemented in accordance with the schedule proposed in the WCP.
11. No later than final source approval, the system shall begin reporting monthly production volumes to the NHDES Water Use Registration and Reporting program on a quarterly basis. DES has assigned **WUID 21005** to the facility. The total monthly volume withdrawn from each source shall be reported to DES on a quarterly basis by **April 15, July 15, October 15, and January 15**). 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 Registration and Reporting or registering as a data provider please call (603) 271-6685.
12. From the date of this WCP Approval, all new 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. 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 first report will be due on **January 15, 2019**. 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; and

- c. Date of installation and replacement of all meters, as well as testing and calibration records.

14. Revisions to the Plan shall not be implemented without further approval from 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, 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: John Warzocha, Horizons Engineering
Pierre Rousseau, Primary Operator
North Country Council
Christine Bowman, NHDES
Steve Roy, NHDES

WATER CONSERVATION PLAN: Town of Errol Water System

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. **Town of Errol Water System** 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 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): PIERRE F. ROUSSEAU, OPERATOR

Owner Signature: *Pierre F. Rousseau* Date: 1/23/15

I. Introduction

A. Contact Information

1. Name and location of system: **Town of Errol Community Water System**
2. Owner of system and mailing address: **Town of Errol, Board of Selectmen, P.O. Box 100, Errol, NH 03579**
3. Name and mailing address of preparer of water conservation plan: **Bruce Cox, P.E., Horizons Engineering, Inc., P.O. Box 1825, New London, NH 03825**

B. System Overview

1. Brief description of the project and water sources, including water sources to be developed for non-potable uses such as irrigation: **The water system improvement project includes construction of a new bedrock well; construction of a 35,000 gallon storage tank; replacing most water mains with 6" pipe; install various valves, blowoffs, and a pressure reducing valve; replace all individual service lines; decommission the hydroneumatic storage tanks; install an automatic system to control and monitor performance and notify the operator of system wide problems; and replace damaged and missing water meters. The new well will be used for local potable use only.**
2. Name designation of each proposed water source and any existing sources: **Proposed: Well #4. Existing: Well #1, Well #2, Well #3.**
3. Number of connections proposed for each of the following classes:
 - a) Residential: **58**
 - b) Industrial/commercial/institutional: **17**
 - c) Municipal: **3**
4. The water system does not provide water to any consecutive water systems or privately owned redistribution systems.
5. There are no proposed connections that will receive more than 20,000 gpd.

C. Transfer of Ownership

1. The system ownership is not proposed to be transferred.

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 existing source and if known, for each proposed source:

Source Name: **Well #1**

Source Meter Make: **To be determined**

Source Meter Model: **To be determined**

Source Meter Size:

Source Meter Installation Date: **To be installed**

Last Meter Test/Calibration Date: **New meter (factory calibration)**

Source Name: **Well #2**

Source Meter Make: **To be determined**

Source Meter Model: **To be determined**

Source Meter Size:

Source Meter Installation Date: **To be installed**

Last Meter Test/Calibration Date: **New meter (factory calibration)**

Source Name: **Well #3**

Source Meter Make: **To be determined**

Source Meter Model: **To be determined**

Source Meter Size:

Source Meter Installation Date: **To be installed**

Last Meter Test/Calibration Date: **New meter (factory calibration)**

Source Name: **Well #4**

Source Meter Make: **To be determined**

Source Meter Model: **To be determined**

Source Meter Size:

Source Meter Installation Date: **To be installed**

Last Meter Test/Calibration Date: **New meter (factory calibration)**

d) No later than the source activation date, source meters will be read at least every 30 days.

2. Meter Selection, Installation, and Maintenance

a) All meters will be AWWA certified, with the exception of b), below.

b) AWWA does not have standards for magnetic flow meters. If a magnetic flow meter is proposed, the meter make, model, size, and manufacturer specifications will be forwarded to the NHDES Water Conservation program for review. The meter will not be installed until receiving approval for its use from NHDES.

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

d) 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," (American Water Works Association, 2012).

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

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

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

B. Pressure Management

1. The design pressures of the system are from **33.7** psi to **83.4** psi.

C. Leak Detection and Repair

1. Leak detection methodologies will be conducted in accordance with "Manual of Water Supply Practices M36, Water Audits and Loss Control Programs" (American Water Works Association, 2009).

2. Leaks will be repaired within 60 days of discovery unless a waiver is obtained in accordance with Env-Wq 2101.09.

3. 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 leak (gpm), and the nearest street address to the leak.

D. Service Metering, Billing, and Water Audits

1. No later than the source activation date, a distribution meter will be installed to measure flow at the point of entry into the water system.

E. Service Meter Installation, Reading, and Maintenance

1. Within three years of source approval, service meters will be installed on all service connections including public sector service connections and all points of transfer to consecutive water systems and privately owned distribution systems.

2. Service meters will be read: at least every 90 days.

3. Service Meters will be read by: an automatic remote read system.

4. It is expected it will take 1day to read all service meters.

5. Service meters will be maintained in accordance with Section II.A.2.e.

F. Water Balance & Water Audit.

1. The system does not currently have service meters installed. Upon installation of all service meters, the system will begin submitting a water balance (system input volume – authorized metered consumption) annually to NHDES.

2. The yearly water balance will be reported to NHDES using the NHDES online water balance reporting tool, and will be submitted no later than March 1. (The electronic reporting form is located on the Water Conservation homepage of the NHDES website.)

3. The water system will prepare and submit a water audit and response plan if more than 15% of system input volume cannot be accounted for by authorized metered consumption. The response plan will identify how the water system intends to reduce losses to below 15% within two years.

4. Water audits will be calculated in accordance with “Manual of Water Supply Practices M36, Water Audits and Loss Control Programs” (American Water Works Association, 2009).

G. Conservation Rate Structure and Billing

1. Within two years of installing all service meters or within five years of source approval, whichever is earlier, a conservation rate structure will be implemented. Customers will be charged based on usage and the rate per unit of water will be uniform (ex. \$4.00/1000 gallons of water) or increase with usage (ex. \$4.00/0-500 gallons of water, \$4.50/ 501-1000 gallons of water).
2. The rate structure will be submitted to NHDES prior to implementation.
3. No irrigation water is supplied.
4. Upon implementation of the rate structure, customers will be billed quarterly.

III. Consumption Side Management

A. Educational Outreach Initiative

The following education and outreach initiative will be implemented by: no later than the date of final source approval.

1. No later than the source activation date; the system will begin distributing water efficiency outreach materials twice a year with bills. 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., 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* are being achieved.
- B. By March 1 of each year, the system will submit a water balance for the prior year to NHDES using an electronic reporting form located by going to www.des.nh.gov, scrolling down the "A-Z" list and choosing "Water Conservation".
- C. The water system will report monthly production volumes, quarterly to the NHDES Water Use Registration and Reporting Program upon receiving a Water Use ID number from NHDES. Monthly means once every calendar month, but not sooner than 27 days after and no later than 33 days after the previous reading.

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

Within 10 days of submitting the conservation plan to NHDES, the applicant is required to provide a copy of the plan via certified mail with return receipt requested to the governing board of the municipality in which a proposed source is located, all municipalities that will receive water from the water system (if any), all wholesale customers (if any), and the regional planning commission serving the location of the proposed source. In most cases, only the municipality and the regional planning commission will require notification. All signed copies of the certified mail return receipt (the green card) must be forwarded to NHDES.

Additional Attachments

The applicant must provide the governing boards 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, and request that the governing board amend local site planning requirements to reflect the requirements of Env-Wq 2101 or to promote water efficiency.

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, that pursuant to Env-Wq 2101.13, the systems must implement a water conservation plan and should contact the NHDES Water Conservation Program using the contact information below.