



The State of New Hampshire  
**DEPARTMENT OF ENVIRONMENTAL SERVICES**



Clark B. Freise, Assistant Commissioner

**WATER CONSERVATION PLAN APPROVAL**

January 30, 2017

Ray Buxton, Jr.  
Newfields Village Water and Sewer District  
PO Box 301  
Newfields, NH 03856

**Subject: Newfields – Newfields Village Water and Sewer District (PWS ID #: 1681010)  
Water Conservation Plan, NHDES # 160069**

Dear Mr. Buxton:

On January 10, 2017, the New Hampshire Department of Environmental Services (“DES”) Drinking Water and Groundwater Bureau received a Water Conservation Plan (the “WCP”), signed on January 9, 2017, for Newfields Village Water and Sewer District located in Newfields, 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 Newfields 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. No later than source activation, source meters, distribution meters, and any other meters measuring water consuming processes prior to distribution shall be read on a monthly basis—no sooner than 27 days and no later than 33 days from the last meter reading.
3. Within three years of final source approval, meters shall be installed on all service connections that are not currently metered.
4. Service meters shall be read on at least a quarterly basis.
5. All meters shall be installed per the manufacturer’s instructions or American Water Works Association standards.

6. Upon source activation, all meters shall be tested and maintained based on the schedule proposed in the WCP.
7. 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.
8. 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 at least quarterly.
9. 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. Within one year of final source approval, a leak detection and repair program shall be implemented in accordance with the WCP.
11. Within one year of final source approval, a water efficiency outreach and education program shall be implemented in accordance with the WCP—the system will become a WaterSense partner and promote the WaterSense program.
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. The system shall continue reporting monthly source production volumes to the DES Water Use Registration and Reporting program on a quarterly basis.
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 water efficiency outreach and education activities during the reporting period.
  - c. Date of installation and replacement of all meters, as well as testing and calibration records.
15. Revisions to the WCP 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](http://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](mailto:kelsey.vaughn@des.nh.gov).

Sincerely,



Kelsey Vaughn  
Water Conservation Program  
Drinking Water and Groundwater Bureau

ec: Paula Boyle, Hoyle, Tanner & Associates, Inc.  
Peter Hellfach, Piscataqua Environmental Services  
Town of Newfields  
Rockingham Planning Commission  
Stacey Herbold, DES  
Christine Bowman, DES  
Steve Roy, DES

# **NEWFIELDS VILLAGE WATER AND SEWER DISTRICT**

## **WATER CONSERVATION PLAN**

**January 2017**



Newfields Village Water and Sewer District  
P.O. Box 301  
Newfields, NH

**WATER CONSERVATION PLAN:  
Newfields Village Water and Sewer District**

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. **Newfields Village Water and Sewer District** is an existing small community water system, according to Env-Wq 2101.03(ab).

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: **Newfields Village Water and Sewer District,  
Newfields, New Hampshire**
  
2. Owner of system and mailing address:  
**Newfields Village Water and Sewer District  
P.O. Box 301  
Newfields, New Hampshire 03856**  
  
**Attn: Mr. Ray Buxton, Jr., Chairman**
  
3. Name and mailing address of preparer of water conservation plan:  
**Hoyle, Tanner & Associates, Inc.  
150 Dow Street  
Manchester, NH 03101**

B. System Overview

1. Brief description of the community being served (ex. number of units, apartments, partially attached condos, individual homes, shared common facilities, population, etc.): The Newfields Village Water and Sewer District's water system is comprised of primarily residential users. There are approximately 220 customers in the District.
  
2. Description of water sources, including water sources to be developed for non-potable uses such as irrigation: The Newfields Village Water District will rely on two (2) bedrock wells (no. 6 and newly reactivated no. 3) and three (3) overburdened wells (no. 1, 2 and 4) for water sources. There are no non-potable water uses in the District.
  
3. Name designation of each proposed water source and any existing sources:  
Baker Street - Well no. 1 – gravel well

Baker Street at Corrosion Control Facility - Well no. 2 – gravel well  
Baker Street – Reactivation of Well no. 3 (deep bedrock well proposed to be reactivated in January 2017)  
Baker Street at Corrosion Control Facility - Well no. 4 – gravel well  
Hemlock Court - Well no. 6 – deep bedrock well

4. Number of connections proposed for each of the following classes:
  - a). Residential: **Two Hundred and ten (210)**
  - b). Industrial/Commercial/Institutional: **Four (4)**
  - c). Municipal: **Three (3)**
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: **2015**  
Average daily use (ADU): **34,000 gpd**  
Lowest ADU in the winter: **30,000 gpd**  
Highest ADU in the summer: **41,015 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 each existing source and if known, for each proposed source:

**Well no. 1**  
Meter Make: **Master Meter**  
Meter Model: **will be upgraded January 2017**  
Meter Size: **2"**  
Meter Flow Range: **0-30 gpm**  
Meter Installation Date: **January 2017**

Last Meter Test/Calibration Date: **N/A**

**Well no. 2**

Meter Make: **Master Meter**

Meter Model: **MM5FP**

Meter Size: **1"**

Meter Flow Range: **0-30 gpm**

Meter Installation Date: **September 2006**

Last Meter Test/Calibration Date: **Meter will be calibrated in 2017**

**Well no. 3**

Meter Make: **Neptune Meter**

Meter Model: **to be installed January 2017**

Meter Size: **2"**

Meter Flow Range: **0-13 gpm**

Meter Installation Date: **January 2017**

Last Meter Test/Calibration Date: **N/A**

**Well no. 4**

Meter Make: **Master Meter**

Meter Model: **MM6F**

Meter Size: **1 ½"**

Meter Flow Range: **0-30 gpm**

Meter Installation Date: **September 2016**

Last Meter Test/Calibration Date: **N/A**

**Well no. 6**

Meter Make: **Master Meter**

Meter Model: **MM7F**

Meter Size: **2"**

Meter Flow Range: **0-100 gpm**

Meter Installation Date: **June 2000**

Last Meter Test/Calibration Date: **Meter will be calibrated in 2017**

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 American Water Works Association (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” (AWWA, 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 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

- f) 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 25 psi to 52 psi.

**C. Leak Detection and Repair**

- 1. Leak detection methodologies will be conducted in accordance with the “Manual of Water Supply Practices M36, Water Audits and Loss Control Programs” (AWWA, 2016).
- 2. Leaks will be repaired within 60 days of discovery unless a waiver is obtained in accordance with Env-Wq 2101.23.
- 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 the leak (gpm) and the nearest street address to the leak.



## D. Service Metering, Billing and Water Audits

### 1. Source and Other System Side Meters

- a) No later than the source activation date, all water consuming processes prior to distribution, such as backwash, treatment process water and continuous analyzers will be metered.

### 2. Service Meter Installation, Reading and Maintenance

- a) Service meters are installed on all service connections, all points of transfer to consecutive water systems and privately owned redistribution systems. Service meters are all newly installed in 2016 and are all Sensus iPERL meters. Information regarding the meters is found at [www.sensus.com/products/iperl-north-america](http://www.sensus.com/products/iperl-north-america).
- b) Service meters will be read at least every 90 days.
- c) Service meters will be read by touch pad read.
- d) It is expected it will take four (4) days to read all service meters in the District.
- e) Service meters will be maintained in accordance with II.A.2., above.

### 3. Water Balance and Water Audit

- a) The system currently has service meters installed. Previous water loss estimates are attached to this WCP (see Attachment 1 – Water Loss Report).
- b) The yearly water balance (system input volume – authorized metered consumption) will be reported to NHDES using the NHDES online water balance reporting tool, and will be submitted no later than March 1 of each year. The electronic reporting form is located on the Water Conservation homepage of the NHDES website.
- c) The water system will prepare and submit a water audit and response plan if more than 15% of the 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.
- d) Water audits will be calculated in accordance with the “Manual of Water Supply Practices M36, Water Audits and Loss Control Programs” (AWWA, 2016).

### 4. Conservation Rate Structure and Billing

- a) 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).

- b) The current rate structure is attached (see Attachment 2 – Rate Structure).
- c) Irrigation water will not be billed separately.
- d) Upon implementation of the rate structure, customers will be billed quarterly.

### III. Consumption Side Management

#### A. Educational Outreach Initiative

1. No later than one year from the date of final source approval, the system will become a WaterSense partner and promote the WaterSense program. The system will include the "Look for WaterSense" logo on all bills, other mailings and the system's website. The logo will be accompanied by the WaterSense web address and WaterSense messaging. Information about the WaterSense program, including the logo and messaging, is available on the program's website (<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](http://www.des.nh.gov)).
- C. The water system will continue to report monthly production volumes quarterly to the NHDES Water Use Registration and Reporting Program. 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):

Ray Burtow Jr

Owner Signature:

Ray Burtow Jr

Date:

1-9-17

## 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, *Water Conservation* rules. Within 10 working days of receiving the summary from NHDES, the applicant is required to provide a copy of the water conservation 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 receipts (the green cards) must be forwarded to NHDES along with the final, signed water conservation plan.

**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](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.

Kelsey Vaughn, Water Conservationist  
New Hampshire Department of Environmental Services  
Drinking Water and Groundwater Bureau  
PO Box 95  
Concord, NH 03302-0095  
[kelsey.vaughn@des.nh.gov](mailto:kelsey.vaughn@des.nh.gov)  
Phone: (603) 271-0659  
Fax: (603) 271-0656

**Attachment 1  
Water Loss Report**

**NEWFIELDS VILLAGE WATER AND SEWER DISTRICT  
NEWFIELDS, NH**

Quarter and Year	System Input Volume Gal	Authorized Consumption Gal Billed + Unmetered	Water Loss Gal	% Water Loss
Q3-2013	3,489,054	3,326,300	162,754	4.66
Q4-2013	3,098,888	3,018,800	80,088	2.58
Q1-2014				
Q2-2014				
Q3-2014				
Q4-2014				
Q1-2015	3,053,338			
Q2-2015	3,712,514	3,527,818	184,696	4.97
Q3-2015				
Q4-2015				

**Attachment 2  
Rate Structure**

**NEWFIELDS VILLAGE WATER & SEWER DISTRICT**  
**Rate Schedule - February 2012**

Meter Size	Rate #	Water (billed quarterly)				Sewer (billed quarterly)	
		Meter Charge	Water Facility & Water Tower* Bonds	Water / Gallon (first 50,000 gals)	Water / Gallon (all gals over 50,000)	Sewer Base Charge (includes 10,000 gallons)	Sewer Volume (all gals over 10,000)
3/4" Water & Sewer	1	\$13.65	\$84.00 / Dwelling Unit	0.0075397	0.0075397	\$81.72 / Dwelling Unit	0.017792
3/4" Water ONLY	5	\$13.65	\$84.00 / Dwelling Unit	0.0075397	0.0075397	n/a	n/a
3/4" Sewer ONLY	6	\$13.65	n/a	n/a	n/a	\$81.72 / Dwelling Unit	0.017792
3/4" Comm. Water & Sewer	14	\$13.65	\$84.00 / Dwelling Unit	0.0075397	0.0098000	\$123.00 / Dwelling Unit	0.017792
3/4" Comm. Water ONLY	18	\$13.65	\$84.00 / Dwelling Unit	0.0075397	0.0098000	n/a	n/a

\* Water Tower Bond Effective January 01, 2016.

There are additional rate schedules for commercial customers with 1", 1 1/2" or 2" meters.

Outside water meters incur a meter charge and the appropriate charges for water consumption.

**Other Charges**

Meter Read for Pool Filling	\$75.00	
Service Disconnect (shut-off)	\$75.00	
Service Connect (turn service on)	\$75.00	
Meter Read (e.g. sale of property)	\$75.00	
Connection to Sewer District	\$1,950.00	Per Bedroom, plus \$50.00 Inspection Fee
Connection to Water District	\$635.00	Connection, Inspection & Meter Charges