

The State of New Hampshire  
**Department of Environmental Services**

**Thomas S. Burack, Commissioner**

*Celebrating 25 Years of Protecting  
New Hampshire's Environment*



**WATER CONSERVATION PLAN APPROVAL**

May 10, 2012

Pittsburg Water Department  
Town of Pittsburg  
c/o Richard Sargent  
1526 Main Street  
Pittsburg, NH 03592

**RE: Pittsburg – Pittsburg Water Department (PWS ID: 1901010)  
Water Conservation Plan, March 2012, NHDES # 999382**

Dear Mr. Sargent:

On April 6, 2012, the New Hampshire Department of Environmental Services (“DES”) Drinking Water and Groundwater Bureau received a Water Conservation Plan, dated March 2012 (the “Plan”), for the Pittsburg Water Department located in Pittsburg, 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 Plan, DES has determined the Plan complies with Env-Wq 2101.06, *Requirements for Existing Small Community Water System*.

Pursuant to Env-Wq 2101.11, the Town of Clarksville and the North Country Council, Inc. were provided the opportunity to comment on the Plan from April 10, 2012, the date of public notification, through May 1, 2012. DES received no comments.

On **May 10, 2015** and every three years thereafter, the water system shall submit a detailed and completed compliance report form to DES documenting compliance with the Plan. Required information includes contact information for the water-system owner and for the individual responsible for carrying out plan tasks; dates tasks were performed; and data relating to meter reading, water audits, leak detection, and public outreach. A copy of the *Water Conservation Plan Ongoing Compliance 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, and scrolling down to Water Conservation.

The Pittsburg Water Department is a DES registered water user (WUID# 20660). Monthly water use from the Clarksville is estimated and reported quarterly to DES. Once the new wells are connected, monthly water use should continue to be reported on a quarterly basis.

[www.des.nh.gov](http://www.des.nh.gov)

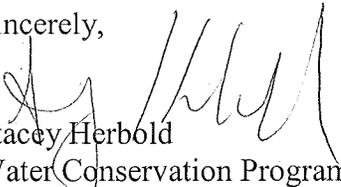
29 Hazen Drive • PO Box 95 • Concord, NH 03302-0095

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Revisions to the Plan shall not be implemented without further approval from DES.

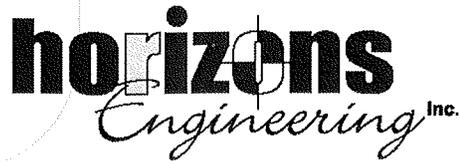
Please feel free to contact me with any questions at (603) 271-6989 or via e-mail at [stacey.herbold@des.nh.gov](mailto:stacey.herbold@des.nh.gov) .

Sincerely,



Stacey Herbold  
Water Conservation Program  
Drinking Water and Groundwater Bureau

cc: Matt Hernick, Horizons Engineering  
Town of Clarksville  
North Country Council  
Dianna Morgan, NHDES



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**WATER CONSERVATION PLAN  
EXISTING SMALL COMMUNITY WATER SYSTEM  
PITTSBURG WATER DEPARTMENT  
TOWN OF PITTSBURG, NEW HAMPSHIRE**

**Prepared for:**

**Town of Pittsburg,  
Pittsburg, NH**

**Prepared by:**

**Horizons Engineering, Inc.  
Littleton, NH**

**March 2012**

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**WATER CONSERVATION PLAN - EXISTING SMALL COMMUNITY WATER  
SYSTEM  
PITTSBURG WATER DEPARTMENT  
TOWN OF PITTSBURG, NEW HAMPSHIRE**

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**Appendices:**

- \* Outreach Educational Materials developed by NHDES:
  - WD-DWGB-26-2 Water Efficiency Practices for Domestic Indoor Water Use
  - WD-DWGB-26-3 Water Efficiency Practices for Outdoor Water Use
  
- \* NHDES Ongoing Compliance Form and Appendices
- \* Source Meter Calibration Form
- \* Leak Worksheet

\* Note: these Appendices are available online 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)

**Water Conservation Plan Format and Content:**

The format and content of this document is based on Section III. "Water Conservation Plan Guidance Document for Existing Small Community Water Systems..." of "*Water Conservation Plan Guidance Document for Community Water Systems, September 2011 (WD-11-22)*", specifically prepared by Derek Bennett and Stacey Herbold, NHDES Drinking Water and Groundwater Bureau.

**I. Introduction**

**A. Contact Information**

1. Name and location of system:

The Pittsburg Water System is located primarily within the village area of the town of Pittsburg, New Hampshire. The wells, storage tank, and pump house are located across the Connecticut River, just north of Cedar Stream Road in Clarksville, New Hampshire. The PWSID is 1901010.

2. Owner of system and mailing address:

Pittsburg Water Department / Town of Pittsburg  
c/o Richard Sargent, Water System Operator  
1526 Main Street  
Pittsburg, NH 03592

3. Name and mailing address of designer of the water conservation plan:

Matt Hernick, EIT  
Horizons Engineering, Inc.  
34 School Street  
Littleton, NH 03561  
(603) 444-4111

**B. System Overview**

1. Reason for new source:

The existing / former well field off Crawford Road in Clarksville has been plagued by bacterial contamination and low yields. A new source is needed to provide adequate quantities of clean and safe water.

2. Number of connections existing and proposed for each of the following classes:

- |   |                  |
|---|------------------|
| a) Residential:                         | Approximately 65 |
| b) Industrial/commercial/institutional: | Approximately 10 |
| c) Municipal:                           | Approximately 5  |

3. Description of any connections that currently receive or will receive more than 20,000 gpd:

No customers receiving more than 20,000 gpd are currently, or expected to be, connected.

C. Water Use Trends and Supporting Data / Population Trends

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

Current data is inadequate to determine seasonal fluctuations in water use. High use due to landscape irrigation is not expected.

2. Anticipated growth in population and seasonal fluctuations in population:

According to Municipal Population Projections 2010 to 2030, prepared by the New Hampshire Office of Energy & Planning (OEP), the population of the town is expected to increase 8.9% between 2010 and 2030. Seasonal population in the service area varies somewhat because seasonal properties are utilized in the summer and winter.

3. Maximum day yield of existing sources based on 24-hour pumping.

The maximum day yield of existing sources is approximately 28,800 gallons per day (gpd). The permitted production volume of the new wells will be 57,599 gpd, and these wells are capable of producing that quantity of water.

4. Average daily water use.

Current average daily demand (ADD) is approximately 28,800 gpd. This demand is based on well pump capacities and is only an estimate. Calculated ADD for year 2030 is 48,100 gpd, although actual ADD may be significantly lower.

5. Maximum daily water use.

Current maximum daily demand (MDD) is approximately 28,800 gpd, again based on well pump capacities. Calculated MDD for year 2030 multiplying ADD by a factor of 2 is 96,200 gpd.

6. Minimum hourly flows (if available).

These data are not currently available.

D. Source Meters

1. Name designation of each water source.

Existing Sources at Crawford Road well field:

ART-2: Artesian bedrock well (to be decommissioned 2012)

ART-4: Artesian bedrock well (to be decommissioned 2012)

ART-5: Artesian bedrock well (to be decommissioned 2012)

New Sources at Cedar Stream Road well field:

GPW-1: Gravel pack well #1 (to be brought online 2012)

GPW-2: Gravel pack well #2 (to be brought online 2012)

2. Meter make, model, size, flow range, and date of last calibration for each existing source meter.

Existing sources are not metered.

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

New source meter information is not yet available (as of March 2012) because meters for new sources GPW-1 and GPW-2 have not yet been installed. Meters will be installed in accordance with manufacturer's instructions on each source prior to connection of the sources to the water system.

4. Frequency that source meters will be tested/calibrated.

Once installed, source meters will be calibrated at least yearly, or as recommended by meter manufacturer.

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

Once installed, source meters will be read at least every 30 days at a minimum.

6. The following statement applies to source meters.

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

To detect and minimize water losses within the system, a comprehensive leak detection survey of the water system will be completed every 2 years (Option B).

### A. Option B: Leak Detection

1. Summary of findings for the most recent leak detection surveys including the following information:
  - a) Year(s) conducted.  
2011
  - b) Number of leaks found.  
3
  - c) Estimated losses recovered.  
Leaks were on the order of 1 gallon per minute.
  - d) Percent of system surveyed.  
>50% concentrated on western end
2. Are pipe locations known? If not, include a statement that a pipe location survey will be conducted in order to perform leak detection.

As much of the distribution system will be replaced in 2012, new pipe locations will be determined using as-built plans. All existing main pipe locations are believed to be known and located. For portions of the water system which are not replaced and the pipe locations are unknown, a pipe location survey will be conducted before the leak detection survey.

3. Breakdown of pipe material, age, and length.

Existing system summary:

<u>Pipe Material</u>	<u>Length</u>	<u>Age</u>
4" A.C. (transmission main from ex. Wells/tank to Main St.)	4,000 ft	1960's
2" Galvanized	825 ft	age varies
2" Plastic	1,500 ft	" "
1 1/2" Plastic	3,225 ft	" "
1 1/4" Plastic	375 ft	" "
1" Plastic	750 ft	" "

Proposed system summary:

As part of the proposed water system improvements currently in final design (March 2012), a new transmission water main from the new well

site to Main Street will be constructed of 6" diameter ductile iron (D.I.) or PVC pipe. As much of the remainder of the distribution mains will be replaced as funding allows with new 6" and 4" diameter D.I. or PVC pipes.

4. Availability of contact points and adequacy of spacing.

Valves on main are used for contact and spacing is adequate.

5. Is pipe material non-metallic? If yes, as leaks are difficult to acoustically detect in non-metallic systems, what additional measures will be taken to detect leaks?

Most pipes in the existing system are non-metallic. A pressure indicator is located in the middle of the west end main (in the old fire station) and main valves can be used to create pressure zones to isolate areas to look for leaks. There is also a meter at this location.

6. Will zone meters be installed to assist with leak detection identification and location?

Because the entire system is small, zone meters will not be installed.

7. Will future leak detection surveys be conducted in-house or contracted out?

Leak detection surveys will be conducted in-house.

8. If in-house, what equipment will be used and what training will be required?

Water department staff will borrow (or rent) a listening device designed to detect water leaks from the nearby Ethan Allan furniture factory or one of the New Hampshire water associations. This equipment continues to be used with success to find leaks in the system. Recently, a set of Pollard Water geophones was acquired by the Town to enhance leak detection capabilities. No additional training is required at this time, however, operators should keep current on certifications and seek leak detection training when available.

9. If in-house, describe the leak detection method to be used.

A visual check of the length of the distribution water main will be done to detect any leaks which are evident on the surface. A chlorine test kit will be used to determine if water observed in unusual locations is chlorinated and thus leaking from water pipes. The listening device (probe) will be used at contact points including water main valves and service line shutoffs to detect possible leaks. Due to the linear nature of the Town's distribution system the location of possible leaks will be narrowed by the

sequential use of water main valves to temporarily close sections of main. Geophones will be used to further pinpoint probable leaks for excavation if necessary.

10. Frequency of leak detection:

A comprehensive leak detection survey will be conducted every two years. Targeted leak detection will be done more frequently upon suspicion of leaks in any specific area.

11. Will leak detection be done all at one time or staggered throughout the two years? If staggered, what is the timeline and what percentage of the system will be surveyed during each initiative?

Leak detection will be done for the entire system at one time.

12. Standard for leak detection:

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

13. Repair of leaks detected:

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

**B. Pressure Management**

1. Existing minimum distribution pressure:

It is likely that occasionally minimum pressures are at or below 20psi. This will be remedied when new, larger distribution water mains are constructed.

2. Existing maximum distribution pressure:

Approximately 70 psi.

3. How is pressure currently monitored and how will pressure continue to be monitored?

Pressure is currently monitored at the old fire station. Once the new wells, pumps, and infrastructure are installed system pressure will be set by the booster pump and/or hydropneumatic tank system to be relatively constant at the source.

4. What method will be used to reduce pressures in zones found to be in excess of 80 psi?

None exists currently. The new infrastructure will be designed to balance water provision between minimum and maximum pressures. Where pressures must be in excess of 80 psi in the new system, pressure reducing valves (PRVs) will be installed on the main line or on services as necessary.

5. What will be the timeframe for reduction (at least within 1 year of source water approval)?

Pressure reduction identified as necessary will be installed concurrently with new water mains and services.

6. If pressure reduction is not technically feasible, please explain why and describe what additional steps the water system will take to monitor and repair leakage within these zones?

It is assumed that pressure reduction will be technically feasible where necessary.

#### 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?

No bleeders exist in current system. Low elevation "tail drains" with manually operated valves are currently provided for line flushing. As part of distribution system upgrades, blowoffs will be installed at the end of lines for system flushing. The widely spaced branching nature of the distribution system precludes opportunities for looping of water main.

2. Are storage tanks intentionally allowed to overflow because of system hydraulics or water quality concerns?

No.

### III. Consumption Side Management

#### A. Educational Outreach Initiative

1. Informational materials that will be used.

In addition to annual Consumer Confidence Reports (CCR), the following two fact sheets developed by NHDES will be distributed to customers to promote water conservation: WD-DWGB-26-2 Water Efficiency Practices for Domestic Indoor Water Use and WD-DWGB-26-3 Water Efficiency Practices for Outdoor Water Use, available online at: (<http://des.nh.gov/organization/commissioner/pip/factsheets/dwgb/documents/dwgb-26-2.pdf>) and (<http://des.nh.gov/organization/commissioner/pip/factsheets/dwgb/documents/dwgb-26-3.pdf>).

2. Rate of dissemination.

Water bills are sent twice each year. The Indoor Water Efficiency fact sheet will be distributed annually with the winter or fall billing and the Outdoor Water Efficiency fact sheet will be distributed annually with the spring or summer billing.

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

No.

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

No.

5. Will customer audits be offered?

No.

6. Other outreach plans?

No.

#### **IV. Zoning Ordinance / Bylaws**

D. 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.  
No.

2. Landscaping

a) Minimum topsoil requirements.  
No minimum topsoil requirements. Almost all areas within the water system boundary are already developed.

b) Use of native/drought tolerant plants and grasses.  
Native plants are used in non-yard areas.

c) Area and slope restrictions for turf grass.  
No restrictions.

3. Irrigation System

a) Prohibition or restrictions to irrigation systems.  
No.

b) Require soil moisture sensors.  
No.

c) Require rain sensors.  
No.

4. Other water efficiency ordinances?  
No.

#### **V. Water Use Restrictions**

A. What is the water system's plan relative to implementing water restrictions?

Once the new wells and infrastructure is operating, water restrictions are not likely to be necessary except in case of emergency.

B. Who is responsible for enforcing restrictions?

Emergency restrictions may be enforced by the police department or other Town officials.

## **VI. Reporting and Implementation**

A. The following statements apply to the Pittsburg Water System:

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."

## **VII. Public Notification of Water Conservation Plan**

Within seven days of submitting the conservation plan to DES, the Town of Pittsburg will provide a copy of the application and report via certified mail to:

1. The governing board of the municipality in which a proposed source is located (Town of Clarksville Board of Selectmen)
2. All municipalities that will receive water from the water system (Town of Pittsburg Board of Selectmen)
3. All wholesale customers (none)
4. The regional planning commission serving the location of the proposed source (North Country Council).

The notified entities may provide the DES with written comments regarding the application within 21 days of receipt. All signed copies of the Certified Mail Return Receipt (the green card) must be forwarded to DES.

Additional Attachments:

The Town of Pittsburg 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.

**VIII. NHDES Contact**

If questions arise regarding the Water Conservation Plan rules or reporting, contact:

Stacey Herbold, Water Conservationist  
New Hampshire Department of Environmental Services  
Drinking Water and Groundwater Bureau  
29 Hazen Drive, P.O. Box 95  
Concord, NH 03302-0095  
[stacey.herbold@des.nh.gov](mailto:stacey.herbold@des.nh.gov)  
Ph: (603) 271-0659  
FAX: (603) 271-0656

**IX. Water System Owner Certification and Signature**

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): Stephen T. Ellis

System Owner Signature: Stephen T. Ellis Date: 4-3-12

**WATER CONSERVATION PLAN - EXISTING SMALL COMMUNITY WATER SYSTEM  
PITTSBURG WATER DEPARTMENT  
TOWN OF PITTSBURG, NEW HAMPSHIRE**

**APRIL 2, 2012**

**APPENDICES  
TO  
WATER CONSERVATION PLAN**

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