The State of New Hampshire
DEPARTMENT OF ENVIRONMENTAL SERVICES

Clark B. Freise, Assistant Commissioner

WATER CONSERVATION PLAN APPROVAL

June 2, 2017

Donald Dumont
Whip-O-Will Hill Village Cooperative, Inc.
33 Ridgewood Place
Plymouth, NH 03264

Subject: **Plymouth – Whip O Will (PWS ID #: 1943010)**
Water Conservation Plan, NHDES # 140062

Dear Mr. Dumont:

On April 4, 2017, the New Hampshire Department of Environmental Services ("DES") Drinking Water and Groundwater Bureau received a Water Conservation Plan (the "WCP"), signed on March 29, 2017, for Whip O Will located in Plymouth, 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 Plymouth and the North Country Council 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. All meters shall be installed per the manufacturer's instructions or American Water Works Association standards.

3. Upon source activation, all meters shall be tested and maintained based on the schedule proposed in the WCP.

4. 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.

5. 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 21020** to the facility. The total monthly volume withdrawn from each source shall be reported to DES on a quarterly basis. The first quarter report due is Quarter 2 2017. **The reporting period opens July 1, 2017 and is due 45 days from the end of the reporting period.** 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 contact Stacey Herbold by phone at (603) 271-6685 or by email at stacey.herbold@des.nh.gov.

6. The primary operator, Pump Systems Inc., for Whip O Will is already an authorized data provider for at least one other facility. If you retain Pump Systems Inc. to report to the Water Use Registration and Reporting Program for your system, please contact Stacey Herbold by phone at (603) 271-6685 or by email at stacey.herbold@des.nh.gov to provide authorization.

7. Within one year of final source approval, a water conservation outreach and education program shall be implemented in accordance with the WCP.

8. Upon final source approval, a comprehensive leak detection survey shall be completed every two years in accordance with the "Manual of Water Supply Practices, Water Audits and Loss Control Programs", document identification number AWWA M36, American Water Works Association, 2016.

9. Leaks shall be repaired within 60 days of discovery.

10. From the date of this 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.

11. 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.

    d. Leak detection survey reports.

12. Proposed changes to the WCP shall not be implemented unless approved by DES.

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

Kelsey Vaughn
Water Conservation Program
Drinking Water and Groundwater Bureau

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

ec: John Benham, Pump Systems Inc.
James Knighton, Whip-O-Will Hill Village Cooperative, Inc.
Bruce Cox, Horizons Engineering, Inc.
Town of Plymouth
North Country Council
Christine Bowman, DES
Stephen Roy, DES
Stacey Herbold, DES

WATER CONSERVATION PLAN: **WHIP-O-WILL HILL VILLAGE COOPERATIVE**

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. Whip-O-Will Hill Village Cooperative 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: Whip-O-Will Hill Village Cooperative, Plymouth

2. Owner of system and mailing address: Whip-O-Will Hill Village Cooperative, P.O. Box 715 Plymouth, NH 03264

3. Name and mailing address of preparer of water conservation plan: Bruce H. Cox, Horizons Engineering, Inc. P.O. Box 1825 New London, NH 03257

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.): A manufactured home park with 165 users and 66 connections.

2. Description of water sources, including water sources to be developed for non-potable uses such as irrigation: Existing well BRW 4, Proposed well BRW 6. There are no sources for irrigation or other non-potable uses.

3. Name designation of each proposed water source and any existing sources: Existing well BRW 4, Proposed well BRW 6.

4. Number of connections proposed for each of the following classes:
   a) Residential: 66
   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: 2005 (only available data)

Average daily use (ADU): 17,400 gallons per day. Recent anecdotal data suggests 12,000± gallons per day
Lowest ADU in the winter: unknown
Highest ADU in the summer: unknown

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:

Source Name: BRW 4 (existing)
Source Meter Make: Sensus
Source Meter Model: IPERL
Source Meter Size: 1”
Source Meter Installation Date: 2016
Last Meter Test/Calibration Date: Manufactured 7/2015

Source Name: BRW 6 (proposed)
Source Meter Make: Sensus
Source Meter Model: IPERL
Source Meter Size: 1”
Source Meter Installation Date: 2016
Last Meter Test/Calibration Date: Manufactured 7/2015

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 50 psi to 60 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. Leak Detection

1. An acoustic leak detection survey of the entire system will be completed every two years from the date of final source approval.

a) Testing schedule: Every other year, 100% of the system will be surveyed.

b) The survey will be conducted by a professional leak detection consultant retained by the system.

2. Acoustic leak detection will be conducted in accordance with the "Manual of Water Supply Practices M36, Water Audits and Loss Control Programs" (AWWA, 2016).

III. Consumption Side Management

A. Educational Outreach Initiative

The following education and outreach initiative will be implemented no later than one year from the date of final source approval.

1. The system will begin distributing water efficiency outreach materials twice a year with the rent bills. Rent bills are sent to tenants monthly and include the fixed water charge. 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. A leak detection report for each leak detection survey conducted over the previous three years will be submitted with the report form in IV.A., above.

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 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): James Knighton V.P.

Owner Signature: James Knighton Date: 3/29/17

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, 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.

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