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**Water Conservation Plan Guidance Document**

**for Community Water Systems**

**Last Updated:** December 5, 2022

**Introduction**

A community water system seeking authorization for a new source of water is required to submit a water conservation plan (WCP) to the New Hampshire Department of Environmental Services (NHDES) for approval. The WCP must demonstrate how the water system proposes to comply with water conservation standards pursuant to Env-Wq 2101, *Water Conservation* rules. This guidance document includes WCP templates to assist community water systems with drafting WCPs in accordance with Env-Wq 2101.

**Instructions**

1. This document contains multiple WCP templates (see below). Confirm with the NHDES Water Conservation Program which WCP template to use. ***If the WCP is for a new small system where the system ownership will be transferred from a developer to a homeowner’s association (HOA), contact the NHDES Water Conservation Program, because a waiver to certain requirements in Env-Wq 2101 may be granted, and a WCP template that is not included in this document should be used.***

Templates in This Document:

New Small and New Large Community Water Systems

New Landlord Owned Community Water Systems

Existing Large Community Water Systems

Existing Small and Existing Landlord Owned Community Water Systems

1. Delete this cover page, the other templates, and Appendix C (if it isn’t applicable), so you are only working in the appropriate template and appendices for your system type.
2. Review the definitions in Appendix A of this document, so you are familiar with the terms.
3. Complete the WCP template using the below prompts. Add any additional information that will provide background or context. The verb tense for existing water systems should be updated as applicable to reflect current practices. For example, use the phrase “the system is” or “the system will continue to” instead of “the system will.”

**INSERT** = Type the required information.

**PICK** = Choose one of the options. Delete the other options.

1. Once you’ve completed the WCP, email the WCP as a Microsoft Word document and any questions to the NHDES Water Conservation Program. NHDES will review the draft and send you a response within 30 days of receiving the WCP, in accordance with Env-Wq 2101.24(d).
2. NHDES will schedule a meeting with the system owner, system operator, and anyone else responsible for implementing the WCP to discuss the WCP.
3. Once a final draft of the WCP is agreed upon by the system owner and NHDES, NHDES will either send a signature line to the system owner for addition to the WCP or NHDES will insert the signature line into the final draft of the WCP.
4. Upon the system owner’s signature of the WCP, the public notification process can proceed as stated in Appendix B.
5. Once the public notification process is completed, email a copy of the signed WCP and the certified mail return receipts to the NHDES Water Conservation Program. NHDES will review the submittals and issue the WCP approval within 45 days of receiving the submittals, in accordance with Env-Wq 2101.26.

**Contact**

New Hampshire Department of Environmental Services

Drinking Water and Groundwater Bureau

Water Conservation Program

PO Box 95

Concord, NH 03302-0095

(603) 271-0659

waterconservation@des.nh.gov

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

***If the WCP is for a new small system where the system ownership will be transferred from a developer to an HOA, contact the NHDES Water Conservation Program, because a waiver to certain requirements in Env-Wq 2101 may be granted, and a WCP template that is not included in this document should be used.***

**New Small and New Large Community Water Systems**

WATER CONSERVATION PLAN: **INSERT NAME OF WATER SYSTEM**

A community water system seeking authorization for a new source of water must submit a water conservation plan (WCP) to the New Hampshire Department of Environmental Services (NHDES) for approval. The WCP must demonstrate how the water system proposes to comply with water conservation standards pursuant to Env-Wq 2101, *Water Conservation* rules. **INSERT NAME OF WATER SYSTEM** is a new **PICK: (1)** small community water system. **(2)** large community water system.

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

# Introduction

## Contact Information

### Name and location of system:

### INSERT

### Owner of system and mailing address:

### INSERT

### Name and mailing address of preparer of WCP:

### INSERT

## System Overview

### Description of the community being served:

### INSERT DESCRIPTION

### Description of water sources, including water sources to be developed for non-potable uses such as irrigation:

### INSERT DESCRIPTION

### Name designation of each proposed water source:

### INSERT

### Number of connections proposed for each of the following classes:

#### Residential: INSERT NUMBER

#### Industrial/Commercial/Institutional: INSERT NUMBER

#### Municipal: INSERT NUMBER

### PICK: (1) Names of any consecutive water systems or privately owned redistribution systems proposed to receive water from the water system: INSERT NAMES. (2) The water system does not plan to provide water to any consecutive water systems or privately owned redistribution systems.

### PICK: (1) Description of any connections that will receive more than 20,000 gallons per day (gpd): INSERT DESCRIPTION. (2) There are no proposed connections that will receive more than 20,000 gallons per day (gpd).

## Transfer of Ownership

### PICK: (1) The ownership of the water system is proposed to be transferred to a private utility company. (2) The ownership of the water system is proposed to be transferred to a homeowner’s association. (3) The system ownership is not proposed to be transferred.

# System Side Management

## Water Meters

### Source, Distribution, and Zone Meters

#### No later than the source activation date, a meter will be installed on each water source.

#### No later than the source activation date, PICK: (1) a distribution meter will be installed to measure flow at the point of entry into the water system. (2) all water-consuming processes prior to distribution, such as backwash, treatment process water, and continuous analyzers, will be metered.

#### PICK: (1) No later than the source activation date, a meter will be installed on the irrigation well. (2) An irrigation well is not proposed.

#### Meter information for each water source, other meters in the pump house, and zone meters (if applicable):

Meter Type Description: **INSERT (ex. Source, Distribution, Process)**

Meter Size: **INSERT**

Meter Make: **INSERT**

Meter Model: **INSERT**

Meter Flow Range: **INSERT**

#### No later than the source activation date, source meters, distribution meters, pump house meters, and zone meters will be read INSERT HOW OFTEN (at least monthly).

### Service Meter Installation, Reading, and Maintenance

#### Service meters will be installed on all service connections, including public sector service connections and all points of transfer to consecutive water systems or privately owned redistribution systems.

#### Service meters will be installed no later than the source activation date. Any service connection that is added to the water system after the source activation date will have a service meter installed no later than connection of the service to the water system.

* + - 1. Summary of makes, models, and sizes of proposed service meters:

**INSERT**

#### Service meters will be read INSERT HOW OFTEN (at least quarterly).

#### Service meters will be read by PICK: (1) manual read. (2) touch pad read. (3) walk-by read. (4) drive-by read (AMR). (5) automatic (AMI). (6) The reading method is not yet known, but the service meters will be equipped with some type of remote read system.

#### It is expected it will take INSERT NUMBER days to read all service meters.

#### PICK: (1) Service meters will be maintained in accordance with II.A.3.d), below. (2) Service meters will be tested using a statistical method to determine the rate of change-out. The details of the method are as follows: INSERT AN EXPLANATION OF THE STATISTICAL METHOD THAT WILL BE USED TO TEST METERS, INCLUDING TESTING RATE, STATISTICAL SAMPLE SIZE, CALCULATED CONFIDENCE LEVEL, CRITERIA FOR TESTING, AND CRITERIA FOR REPLACEMENT.

### Meter Selection, Installation, and Maintenance

#### All meters will meet the American Water Works Association (AWWA) standards.

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

#### 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).

* + - 1. 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) |
| Less than 1 | 10 |
| 1 to 2 | 4 |
| 3 | 2 |
| Greater than 3 | 1 |

* + - 1. A log of the dates that meters were installed, tested, calibrated, repaired, and replaced will be maintained. Testing reports and calibration certificates will be kept on file.

## Water Balance and Water Audit

### No later than March 1 of each year, a water balance (system input volume – authorized metered consumption) for the previous year will be reported to NHDES using the NHDES online water balance reporting form. The link to the electronic reporting form is on the [NHDES Water Conservation website](https://www.des.nh.gov/climate-and-sustainability/conservation-mitigation-and-restoration/water-conservation).

### If the water balance calculated in II.B.1., 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.

#### The water audit will be completed in accordance with the “Manual of Water Supply Practices M36, Water Audits and Loss Control Programs” (AWWA, 2016).

#### The response plan will be based on the findings of the water audit and will identify how the water system will reduce the water balance to below 15% within two years.

## Leak Detection and Repair

* + 1. A leak detection program will be implemented upon the source activation date. The leak detection program will be as follows:

**INSERT DESCRIPTION (ex. leak detection surveys, zone meters, night flow analyses)**

### 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.

### Leak detection will be conducted in accordance with the “Manual of Water Supply Practices M36, Water Audits and Loss Control Programs” (AWWA, 2016).

### Leaks will be repaired within 60 days of discovery unless a waiver is obtained in accordance with Env-Wq 2101.23.

### 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.

## Pressure Management

### The design pressures of the system are from INSERT LOW PRESSURE psi to INSERT HIGH PRESSURE psi.

### (Delete if pressures are below 100 psi.) The system is being designed with pressures over 100 psi because INSERT EXPLANATION AND INCLUDE A DESCRIPTION OF THE METHODS THAT WILL BE USED TO REDUCE PRESSURES WHERE FEASIBLE (PLEASE INCLUDE INFORMATION ABOUT BEST MANAGEMENT PRACTICES WITHIN THE DISTRIBUTION SYSTEM, NOT JUST PRESSURE REDUCING VALVES AT EACH SERVICE CONNECTION).

# Consumption Side Management

## Conservation Rate Structure and Billing

### No later than the source activation date, a conservation rate structure will be implemented. Customers will be charged based on actual usage, and the cost per unit of water for residential connections will be uniform (ex. $4.00/1,000 gallons of water) or increase with usage (ex. $4.00/0-500 gallons of water, $4.50/501-1,000 gallons of water).

### PICK: (1) The rate structure will be as follows: INSERT RATE STRUCTURE. (2) The rate structure will be submitted to NHDES upon the source activation date.

### PICK: (1) Irrigation water will be billed at the same rate. (2) Irrigation water will be billed at a different rate. (3) Irrigation water will not be billed separately.

### (Delete if not applicable.) PICK: (1) The irrigation rate structure will be as follows: INSERT RATE STRUCTURE. (2) The irrigation rate structure will be submitted to NHDES upon the source activation date.

### No later than the source activation date, customers will be billed INSERT FREQUENCY (minimum is quarterly).

## Educational Outreach Initiative

## PICK:

#### (1) No later than the source activation date, the system will distribute water efficiency outreach materials to residents twice a year with PICK: (a) bills. (b) Consumer Confidence Reports. (c) Other: INSERT DESCRIPTION. The materials distributed will be either [NHDES Water Efficiency Fact Sheets](https://www.des.nh.gov/resource-center/publications?keys=efficiency&purpose=&subcategory=Water+Conservation) or [EPA WaterSense materials](http://www.epa.gov/watersense/).

#### (2) No later than the source activation date, 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/).

**(3)** No later than the source activation date, the system will hold a yearly water efficiency event. The event will be **INSERT DESCRIPTION (Examples: offering rebates on water efficient fixtures, holding a water efficient showerhead sale, holding a water efficiency-related workshop, or promoting water efficiency at a water system open house.)**

### (4) No later than the source activation date, the following informative billing practices will be used:

* + - 1. Usage will be represented in gallons on water bills; and
			2. At least 13 months of historical usage will be included in a table or in a graph with the bill for comparison; and
			3. A link to the [WaterSense program’s website](http://www.epa.gov/watersense/) or other water efficiency website will be included on the bill with a tip for saving water.
		1. The system will maintain a log indicating how the system has complied with III. B.1., above. The log will include the dates that outreach and education actions were taken and what was done.

# Reporting and Implementation

* 1. 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.

## 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.

## 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 this water conservation plan and Env-Wq 2101, Water Conservation rules, is being achieved.

**New Landlord Owned Community Water Systems**

WATER CONSERVATION PLAN: **INSERT NAME OF WATER SYSTEM**

A community water system seeking authorization for a new source of water must submit a water conservation plan (WCP) to the New Hampshire Department of Environmental Services (NHDES) for approval. The WCP must demonstrate how the water system proposes to comply with water conservation standards pursuant to Env-Wq 2101, *Water Conservation* rules. **INSERT NAME OF WATER SYSTEM** is a new landlord owned community water system.

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

# Introduction

## Contact Information

### Name and location of system:

### INSERT

### Owner of system and mailing address:

### INSERT

### Name and mailing address of preparer of WCP:

### INSERT

## System Overview

### Description of the community being served:

### INSERT DESCRIPTION

### Description of water sources, including water sources to be developed for non-potable uses such as irrigation:

### INSERT DESCRIPTION

### Name designation of each proposed water source:

### INSERT

### Number of connections proposed for each of the following classes:

#### Residential: INSERT NUMBER

#### Industrial/Commercial/Institutional: INSERT NUMBER

#### Municipal: INSERT NUMBER

### PICK: (1) Names of any consecutive water systems or privately owned redistribution systems proposed to receive water from the water system: INSERT NAMES. (2) The water system does not plan to provide water to any consecutive water systems or privately owned redistribution systems.

### PICK: (1) Description of any connections that will receive more than 20,000 gallons per day (gpd): INSERT DESCRIPTION. (2) There are no proposed connections that will receive more than 20,000 gallons per day (gpd).

## Transfer of Ownership

### PICK: (1) The ownership of the water system is proposed to be transferred to a private utility company. (2) The ownership of the water system is proposed to be transferred to a homeowner’s association. (3) The system ownership is not proposed to be transferred.

# System Side Management

## Water Meters

### Source Meters

#### No later than the source activation date, a meter will be installed on each water source.

#### PICK: (1) No later than the source activation date, a meter will be installed on the irrigation well. (2) An irrigation well is not proposed.

#### Meter information for each water source:

Source Name: **INSERT**

Meter Size: **INSERT**

Meter Make: **INSERT**

Meter Model: **INSERT**

#### No later than the source activation date, source meters will be read INSERT HOW OFTEN (at least monthly).

### Meter Selection, Installation, and Maintenance

#### All meters will meet the American Water Works Association (AWWA) standards.

* + - 1. The selected size of the meters will be based on projected flow rates.

#### 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).

* + - 1. 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) |
| Less than 1 | 10 |
| 1 to 2 | 4 |
| 3 | 2 |
| Greater than 3 | 1 |

* + - 1. A log of the dates that meters were installed, tested, calibrated, repaired, and replaced will be maintained. Testing reports and calibration certificates will be kept on file.

## Pressure Management

### The design pressures of the system are from INSERT LOW PRESSURE psi to INSERT HIGH PRESSURE psi.

### (Delete if pressures are below 100 psi.) The system is being designed with pressures over 100 psi because INSERT EXPLANATION AND INCLUDE A DESCRIPTION OF THE METHODS THAT WILL BE USED TO REDUCE PRESSURES WHERE FEASIBLE (PLEASE INCLUDE INFORMATION ABOUT BEST MANAGEMENT PRACTICES WITHIN THE DISTRIBUTION SYSTEM, NOT JUST PRESSURE REDUCING VALVES AT EACH SERVICE CONNECTION).

## Leak Detection and Repair

### 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.

### Leak detection will be conducted in accordance with the “Manual of Water Supply Practices M36, Water Audits and Loss Control Programs” (AWWA, 2016).

### Leaks will be repaired within 60 days of discovery unless a waiver is obtained in accordance with Env-Wq 2101.23.

### 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.

## Water Loss Minimization

**DELETE AFTER READING: THE SYSTEM HAS THE CHOICE OF IMPLEMENTING ONE OF THE THREE WATER LOSS MINIMIZATION APPROACHES LISTED BELOW. PLEASE PICK ONE APPROACH AND DELETE THE OTHER TWO APPROACHES.**

**PICK 1:** Service Metering, Billing, and Water Balance Reporting

### Distribution Meter

* + - 1. No later than the source activation date, **PICK: (1)** a distribution meter will be installed to measure flow at the point of entry into the water system. **(2)** all water-consuming processes prior to distribution, such as backwash, treatment process water, and continuous analyzers, will be metered.

### Service Meter Installation, Reading, and Maintenance

#### Service meters will be installed on all service connections, including public sector service connections and all points of transfer to consecutive water systems or privately owned redistribution systems.

#### Service meters will be installed no later than the source activation date. Any service connection that is added to the water system after the source activation date will have a service meter installed no later than connection of the service to the water system.

* + - 1. Summary of makes, models, and sizes of proposed service meters:

**INSERT**

#### Service meters will be read INSERT HOW OFTEN (at least quarterly).

#### Service meters will be read by PICK: (1) manual read. (2) touch pad read. (3) walk-by read. (4) drive-by read (AMR). (5) automatic (AMI). (6) The reading method is not yet known, but the service meters will be equipped with some type of remote read system.

#### It is expected it will take INSERT NUMBER days to read all service meters.

* + - 1. **PICK: (1)** Service meters will be maintained in accordance with II.A.2.d), above. **(2)** Service meters will be tested using a statistical method to determine the rate of change-out. The details of the method are as follows: **INSERT AN EXPLANATION OF THE STATISTICAL METHOD THAT WILL BE USED TO TEST METERS, INCLUDING TESTING RATE, STATISTICAL SAMPLE SIZE, CALCULATED CONFIDENCE LEVEL, CRITERIA FOR TESTING, AND CRITERIA FOR REPLACEMENT.**

## Water Balance and Water Audit

#### No later than March 1 of each year, a water balance (system input volume – authorized metered consumption) for the previous year will be reported to NHDES using the NHDES online water balance reporting form. The link to the electronic reporting form is on the [NHDES Water Conservation website](https://www.des.nh.gov/climate-and-sustainability/conservation-mitigation-and-restoration/water-conservation).

#### 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.

##### The water audit will be completed in accordance with the “Manual of Water Supply Practices M36, Water Audits and Loss Control Programs” (AWWA, 2016).

##### The response plan will be based on the findings of the water audit and will identify how the water system will reduce the water balance to below 15% within two years.

## Conservation Rate Structure and Billing

### No later than the source activation date, a conservation rate structure will be implemented. Customers will be charged based on actual usage, and the cost per unit of water for residential connections will be uniform (ex. $4.00/1,000 gallons of water) or increase with usage (ex. $4.00/0-500 gallons of water, $4.50/501-1,000 gallons of water).

### PICK: (1) The rate structure will be as follows: INSERT RATE STRUCTURE. (2) The rate structure will be submitted to NHDES upon the source activation date.

### PICK: (1) Irrigation water will be billed at the same rate. (2) Irrigation water will be billed at a different rate. (3) Irrigation water will not be billed separately.

### (Delete if not applicable.) PICK: (1) The irrigation rate structure will be as follows: INSERT RATE STRUCTURE. (2) The irrigation rate structure will be submitted to NHDES upon the source activation date.

* + - 1. No later than the source activation date, customers will be billed **INSERT FREQUENCY (minimum is quarterly)**.

**PICK 2:** Leak Detection Survey

* + 1. An acoustic leak detection survey of the entire distribution system will be completed within two years of the source activation date and every two years thereafter.
			1. Survey schedule: **PICK: (1)** Every other year, 100% of the system will be surveyed. **(2) INSERT NUMBER** percentage of the system will be surveyed in the first year, and **INSERT NUMBER** percentage of the system will be surveyed in the second year.
			2. The survey will be conducted by **PICK: (1)** a professional leak detection consultant retained by the system. **(2)** system staff. **(If system staff, please provide the make and model of the leak detection equipment to be used and the staff members’ experience with leak detection or proposed training.)**
		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).

**PICK 3:** Night Flow Analysis

* + 1. Night flow analysis will be implemented no later than the source activation date.
		2. The system will conduct a night flow analysis **INSERT RATE (at least twice a year)**.
		3. A distribution meter capable of measuring flows less than 2 gallons per minute (gpm) will be installed on the distribution line and located after treatment, any other water-consuming processes, and storage. Distribution meter information:

Meter Size: **INSERT**

Meter Make: **INSERT**

Meter Model: **INSERT**

Meter Flow Range: **INSERT**

* + 1. See Appendix C for the night flow analysis methodology. **(GO TO APPENDIX C AND FILL IN THE INFORMATION)**

# III. Consumption Side Management

## Educational Outreach Initiative

* + 1. **PICK:**

**(1)** No later than the source activation date, the system will distribute water efficiency outreach materials to residents twice a year with **PICK:** **(a)** bills. **(b)** Consumer Confidence Reports. **(c)** Other: **INSERT DESCRIPTION**. The materials distributed will be either [NHDES Water Efficiency Fact Sheets](https://www.des.nh.gov/resource-center/publications?keys=efficiency&purpose=&subcategory=Water+Conservation) or [EPA WaterSense materials](http://www.epa.gov/watersense/).

**(2)** No later than the source activation date, 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/).

**(3)** No later than the source activation date, the system will hold a yearly water efficiency event. The event will be **INSERT DESCRIPTION (Examples: offering rebates on water efficient fixtures, holding a water efficient showerhead sale, holding a water efficiency-related workshop, or promoting water efficiency at a water system open house.)**

**(4)** No later than the source activation date, the following informative billing practices will be used:

* + - 1. Usage will be represented in gallons on water bills; and

##### At least 13 months of historical usage will be included in a table or in a graph with the bill for comparison; and

##### A link to the [WaterSense program’s website](http://www.epa.gov/watersense/) or other water efficiency website will be included on the bill with a tip for saving water.

* + 1. The system will maintain a log indicating how the system has complied with III. A.1., above. The log will include the dates that outreach and education actions were taken and what was done.

# Reporting and Implementation

## 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 this water conservation plan and Env-Wq 2101, Water Conservation rules, is being achieved.

* 1. **PICK:** **(1) FOR SERVICE METERING, BILLING, AND WATER BALANCE REPORTING:** 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. **(2) FOR LEAK DETECTION SURVEY:** A report for each leak detection survey conducted over the previous three years will be submitted with the report form in IV.A., above. **(3) FOR NIGHT FLOW ANALYSIS:** The data collected with each night flow analysis from the previous three years, as well as a statement for each night flow analysis as to whether a leak was suspected or not, will be submitted with the report form in IV.A., above.

## 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.

**Existing Large Community Water Systems**

WATER CONSERVATION PLAN: **INSERT NAME OF WATER SYSTEM**

A community water system seeking authorization for a new source of water must submit a water conservation plan (WCP) to the New Hampshire Department of Environmental Services (NHDES) for approval. The WCP must demonstrate how the water system proposes to comply with water conservation standards pursuant to Env-Wq 2101, *Water Conservation* rules. **INSERT NAME OF WATER SYSTEM** is an existing large community water system.

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

1. Introduction
	1. Contact Information
		1. Name and location of system:

**INSERT**

* + 1. Current owner of system and mailing address:

**INSERT**

* + 1. Name and mailing address of preparer of WCP:

**INSERT**

* 1. System Overview

### Description of the community being served:

### INSERT DESCRIPTION

### Description of water sources, including water sources to be developed for non-potable uses such as irrigation:

### INSERT DESCRIPTION

* + 1. Name designation of each proposed water source and any existing sources:

**INSERT**

* + 1. Number of existing connections for each of the following classes:
			1. Residential: **INSERT NUMBER**
			2. Industrial/Commercial/Institutional: **INSERT NUMBER**
			3. Municipal: **INSERT NUMBER**
		2. **PICK: (1)** Names of any consecutive water systems or privately owned redistribution systems that receive water from the water system: **INSERT NAMES**. **(2)** The water system does not provide water to any consecutive water systems or privately owned redistribution systems.
		3. **PICK:** **(1)** Description of any connections that receive more than 20,000 gallons per day (gpd): **INSERT** **DESCRIPTION**. **(2)** There are no connections that receive more than 20,000 gallons per day (gpd).

### The following information is based on metered source withdrawal volumes from the last complete year.

Year: **INSERT YEAR**

Average daily use (ADU): **INSERT NUMBER** gpd

Lowest ADU in the winter: **INSERT NUMBER** gpd

Highest ADU in the summer: **INSERT NUMBER** gpd

* 1. Transfer of Ownership
		1. **PICK: (1)** The ownership of the water system is proposed to be transferred to a private utility company. **(2)** The ownership of the water system is proposed to be transferred to a homeowner’s association. **(3)** The system ownership is not proposed to be transferred.
1. System Side Management
	1. Water Meters
		1. Source, Distribution, and Zone Meters
			1. No later than the source activation date, a meter will be installed on each new and any existing water source.
			2. No later than the source activation date, **PICK:** **(1)** a distribution meter will be installed to measure flow at the point of entry into the water system. **(2)** all water-consuming processes prior to distribution, such as backwash, treatment process water, and continuous analyzers, will be metered.
			3. **PICK:** **(1)** No later than the source activation date, a meter will be installed on the irrigation well(s). **(2)** An irrigation well is not proposed.
			4. Meter information for each proposed and existing water source, other meters in the pump house, and zone meters (if applicable):

Meter Type Description: **INSERT (ex. Source, Distribution, Process)**

Meter Size: **INSERT**

Meter Make: **INSERT**

Meter Model: **INSERT**

Meter Flow Range: **INSERT**

Meter Installation Date: **INSERT**

Last Meter Test Date: **INSERT**

* + - 1. No later than the source activation date, source meters, distribution meters, pump house meters, and zone meters will be read **INSERT HOW OFTEN (at least monthly)**.
		1. Service Meter Installation, Reading, and Maintenance
			1. **PICK: (1)** Within three years of source approval, service meters will be installed on all service connections, including all public sector service connections. No later than the source activation date, service meters will be installed on all points of transfer to consecutive water systems and privately owned redistribution systems. **(2)** Service meters are already installed on all service connections, including public sector service connections and all points of transfer to consecutive water systems and privately owned redistribution systems.
			2. Summary of service meter makes, models, sizes, and dates of installation (or age):

**INSERT**

* + - 1. Service meters will be read **INSERT HOW OFTEN** **(at least quarterly)**.
			2. Service meters will be read by **PICK: (1)** manual read. **(2)** touch pad read. **(3)** walk-by read. **(4)** drive-by read (AMR). **(5)** automatic (AMI). **(6)** The reading method is not yet known, but the service meters will be equipped with some type of remote read system.
			3. It is expected it will take **INSERT NUMBER** days to read all service meters.
			4. **PICK:** **(1)** Service meters will be maintained in accordance with II.A.3.d),below. **(2)** Service meters will be tested using a statistical method to determine the rate of change-out.The details of the method are as follows: **INSERT** **AN EXPLANATION OF THE STATISTICAL METHOD THAT WILL BE USED TO TEST METERS, INCLUDING TESTING RATE, STATISTICAL SAMPLE SIZE, CALCULATED CONFIDENCE LEVEL, CRITERIA FOR TESTING, AND CRITERIA FOR REPLACEMENT.**
		1. Meter Selection, Installation, and Maintenance
			1. All meters will meet the American Water Works Association (AWWA) standards.
			2. The selected size of the meters will be based on projected flow rates.
			3. 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).
			4. 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)** |
| Less than 1 | 10 |
| 1 to 2 | 4 |
| 3 | 2 |
| Greater than 3 | 1 |

* + - 1. A log of the dates that meters were installed, tested, calibrated, repaired, and replaced will be maintained. Testing reports and calibration certificates will be kept on file.
	1. Water Balance and Water Audit
		1. **PICK: (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 system currently has service meters installed. The previous year’s water balance (system input volume – authorized metered consumption) is attached to this WCP and will continue to be reported to NHDES annually.
		2. 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 form. The link to the electronic reporting form is on the [NHDES Water Conservation website](https://www.des.nh.gov/climate-and-sustainability/conservation-mitigation-and-restoration/water-conservation).
		3. If the water balance calculated in II.B.2., 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 will reduce the water balance to below 15% within two years.
	2. Leak Detection and Repair
		1. A leak detection program will be implemented within one year of source approval. The leak detection program will be as follows:

**INSERT DESCRIPTION (ex. leak detection surveys, zone meters, night flow analyses)**

* + 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 during new installation.
		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.
	1. Pressure Management
		1. The design pressures of the system are from **INSERT LOW PRESSURE** psi to **INSERT HIGH PRESSURE** psi.
		2. **(Delete if pressures are below 100 psi.)** The system was designed with pressures over 100 psi because **INSERT EXPLANATION AND INCLUDE A DESCRIPTION OF THE METHODS THAT WILL BE USED TO REDUCE PRESSURES WHERE FEASIBLE (PLEASE INCLUDE INFORMATION ABOUT BEST MANAGEMENT PRACTICES WITHIN THE DISTRIBUTION SYSTEM, NOT JUST PRESSURE REDUCING VALVES AT EACH SERVICE CONNECTION)**.
1. Consumption Side Management
	1. 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 actual usage, and the cost per unit of water for residential connections will be uniform (ex. $4.00/1,000 gallons of water) or increase with usage (ex. $4.00/0-500 gallons of water, $4.50/501-1,000 gallons of water).
		2. **PICK: (1)** The rate structure will be as follows: **INSERT RATE STRUCTURE**. **(2)** The rate structure will be submitted to NHDES prior to implementation.
		3. **PICK: (1)** Irrigation water will be billed at the same rate. **(2)** Irrigation water will be billed at a different rate. **(3)** Irrigation water will not be billed separately.
		4. **(Delete if not applicable.) PICK: (1)** The irrigation rate structure will be as follows: **INSERT RATE STRUCTURE**. **(2)** The irrigation rate structure will be submitted to NHDES prior to implementation.
		5. Upon implementation of the rate structure, customers will be billed **INSERT FREQUENCY (minimum is quarterly)**.
	2. Educational Outreach Initiative
		1. **PICK:**

**(1)** No later than the source activation date, the system will distribute water efficiency outreach materials to residents twice a year with **PICK:** **(a)** bills. **(b)** Consumer Confidence Reports. **(c)** Other: **INSERT DESCRIPTION**. The materials distributed will be either [NHDES Water Efficiency Fact Sheets](https://www.des.nh.gov/resource-center/publications?keys=efficiency&purpose=&subcategory=Water+Conservation) or [EPA WaterSense materials](http://www.epa.gov/watersense/).

**(2)** No later than the source activation date, 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/).

**(3)** No later than the source activation date, the system will hold a yearly water efficiency event. The event will be **INSERT DESCRIPTION (Examples: offering rebates on water efficient fixtures, holding a water efficient showerhead sale, holding a water efficiency-related workshop, or promoting water efficiency at a water system open house.)**

**(4)** No later than the source activation date, the following informative billing practices will be used:

* + - 1. Usage will be represented in gallons on water bills; and

##### At least 13 months of historical usage will be included in a table or in a graph with the bill for comparison; and

##### A link to the [WaterSense program’s website](http://www.epa.gov/watersense/) or other water efficiency website will be included on the bill with a tip for saving water.

* + 1. The system will maintain a log indicating how the system has complied with III. B.1., above. The log will include the dates that outreach and education actions were taken and what was done.
1. Reporting and Implementation
	1. Upon installation of all service meters, the water system will submit a water balance for the previous year by no later than March 1 of each year using the electronic reporting form.
	2. **PICK: (1)** Upon source approval and receiving a Water Use Identification Number from NHDES, the water system will 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. **(2)** 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.
	3. 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 this water conservation plan and Env-Wq 2101, *Water Conservation* rules, is being achieved.

**Existing Small and Existing Landlord Owned Community Water Systems**

WATER CONSERVATION PLAN: **INSERT NAME OF WATER SYSTEM**

A community water system seeking authorization for a new source of water must submit a water conservation plan (WCP) to the New Hampshire Department of Environmental Services (NHDES) for approval. The WCP must demonstrate how the water system proposes to comply with water conservation standards pursuant to Env-Wq 2101, *Water Conservation* rules. **INSERT NAME OF WATER SYSTEM** is anexisting **PICK: (1)** small community water system. **(2)** landlord owned community water system.

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

# Introduction

## Contact Information

### Name and location of system:

### INSERT

### Owner of system and mailing address:

### INSERT

### Name and mailing address of preparer of WCP:

### INSERT

## System Overview

### Description of the community being served:

### INSERT DESCRIPTION

### Description of water sources, including water sources to be developed for non-potable uses such as irrigation:

### INSERT DESCRIPTION

### Name designation of each proposed water source and any existing sources:

### INSERT

### Number of existing connections for each of the following classes:

#### Residential: INSERT NUMBER

#### Industrial/Commercial/Institutional: INSERT NUMBER

#### Municipal: INSERT NUMBER

### PICK: (1) Names of any consecutive water systems or privately owned redistribution systems that receive water from the water system: INSERT NAMES. (2) The water system does not provide water to any consecutive water systems or privately owned redistribution systems.

### PICK: (1) Description of any connections that receive more than 20,000 gallons per day (gpd): INSERT DESCRIPTION. (2) There are no connections that receive more than 20,000 gallons per day (gpd).

### The following information is based on metered source withdrawal volumes from the last complete year.

Year: **INSERT YEAR**

Average daily use (ADU): **INSERT NUMBER** gpd

Lowest ADU in the winter: **INSERT NUMBER** gpd

Highest ADU in the summer: **INSERT NUMBER** gpd

## Transfer of Ownership

### PICK: (1) The ownership of the water system is proposed to be transferred to a private utility company. (2) The ownership of the water system is proposed to be transferred to a homeowner’s association. (3) The system ownership is not proposed to be transferred.

# System Side Management

## Water Meters

### Source Meters

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

#### PICK: (1) No later than the source activation date, a meter will be installed on the irrigation well. (2) An irrigation well is not proposed.

#### Meter information for each proposed and existing water source:

Source Name: **INSERT**

Meter Size: **INSERT**

Meter Make: **INSERT**

Meter Model: **INSERT**

Meter Installation Date: **INSERT**

Last Meter Test Date: **INSERT**

#### No later than the source activation date, source meters will be read INSERT HOW OFTEN (at least monthly).

### Meter Selection, Installation, and Maintenance

#### All meters will meet the American Water Works Association (AWWA) standards.

* + - 1. The selected size of the meters will be based on projected flow rates.

#### 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).

* + - 1. 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) |
| Less than 1 | 10 |
| 1 to 2 | 4 |
| 3 | 2 |
| Greater than 3 | 1 |

* + - 1. A log of the dates that meters were installed, tested, calibrated, repaired, and replaced will be maintained. Testing reports and calibration certificates will be kept on file.

## Pressure Management

### The design pressures of the system are from INSERT LOW PRESSURE psi to INSERT HIGH PRESSURE psi.

### (Delete if pressures are below 100 psi.) The system was designed with pressures over 100 psi because INSERT EXPLANATION AND INCLUDE A DESCRIPTION OF THE METHODS THAT WILL BE USED TO REDUCE PRESSURES WHERE FEASIBLE (PLEASE INCLUDE INFORMATION ABOUT BEST MANAGEMENT PRACTICES WITHIN THE DISTRIBUTION SYSTEM, NOT JUST PRESSURE REDUCING VALVES AT EACH SERVICE CONNECTION).

## Leak Detection and Repair

### 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 during new installation.

### Leak detection will be conducted in accordance with the “Manual of Water Supply Practices M36, Water Audits and Loss Control Programs” (AWWA, 2016).

### Leaks will be repaired within 60 days of discovery unless a waiver is obtained in accordance with Env-Wq 2101.23.

### 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.

* 1. Water Loss Minimization

**DELETE AFTER READING: THE SYSTEM HAS THE CHOICE OF IMPLEMENTING ONE OF THE THREE WATER LOSS MINIMIZATION APPROACHES LISTED BELOW. PLEASE PICK ONE APPROACH AND DELETE THE OTHER TWO APPROACHES.**

**PICK 1:** Service Metering, Billing, and Water Balance Reporting

* + 1. Distribution Meter
			1. **PICK:** **(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. **(2)** 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. **(3)** A distribution meter is already installed to measure flow at the point of entry into the water system. Distribution meter information:

Meter Size: **INSERT**

Meter Make: **INSERT**

Meter Model: **INSERT**

Meter Flow Range: **INSERT**

Meter Installation Date: **INSERT**

Last Meter Test Date: **INSERT**

* + 1. Service Meter Installation, Reading, and Maintenance
			1. **PICK: (1)** Within three years of source approval, service meters will be installed on all service connections, including all public sector service connections. No later than the source activation date, service meters will be installed on all points of transfer to consecutive water systems and privately owned redistribution systems. **(2)** Service meters are already installed on all service connections, including public sector service connections and all points of transfer to consecutive water systems and privately owned redistribution systems.
			2. Summary of service meter makes, models, sizes, and dates of installation (or age):

**INSERT**

* + - 1. Service meters will be read **INSERT HOW OFTEN** **(at least quarterly)**.
			2. Service meters will be read by **PICK: (1)** manual read. **(2)** touch pad read. **(3)** walk-by read. **(4)** drive-by read (AMR). **(5)** automatic (AMI). **(6)** The reading method is not yet known, but the service meters will be equipped with some type of remote read system.
			3. It is expected it will take **INSERT NUMBER** days to read all service meters.
			4. **PICK:** **(1)** Service meters will be maintained in accordance with II.A.2.d),above. **(2)** Service meters will be tested using a statistical method to determine the rate of change-out.The details of the method are as follows: **INSERT** **AN EXPLANATION OF THE STATISTICAL METHOD THAT WILL BE USED TO TEST METERS, INCLUDING TESTING RATE, STATISTICAL SAMPLE SIZE, CALCULATED CONFIDENCE LEVEL, CRITERIA FOR TESTING, AND CRITERIA FOR REPLACEMENT.**
		1. Water Balance and Water Audit
			1. **PICK: (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 system currently has service meters installed. The previous year’s water balance (system input volume – authorized metered consumption) is attached to this WCP and will continue to be reported to NHDES annually.
			2. 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 form. The link to the electronic reporting form is on the [NHDES Water Conservation website](https://www.des.nh.gov/climate-and-sustainability/conservation-mitigation-and-restoration/water-conservation).
			3. If the water balance calculated in II.D.3.b), 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 will reduce the water balance to below 15% within two years.
		2. 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 actual usage, and the cost per unit of water for residential connections will be uniform (ex. $4.00/1,000 gallons of water) or increase with usage (ex. $4.00/0-500 gallons of water, $4.50/501-1,000 gallons of water).
			2. **PICK: (1)** The rate structure will be as follows: **INSERT RATE STRUCTURE**. **(2)** The rate structure will be submitted to NHDES prior to implementation.
			3. **PICK: (1)** Irrigation water will be billed at the same rate. **(2)** Irrigation water will be billed at a different rate. **(3)** Irrigation water will not be billed separately.
			4. **(Delete if not applicable.) PICK: (1)** The irrigation rate structure will be as follows: **INSERT RATE STRUCTURE**. **(2)** The irrigation rate structure will be submitted to NHDES prior to implementation.
			5. Upon implementation of the rate structure, customers will be billed **INSERT FREQUENCY (minimum is quarterly)**.

**PICK 2:** Leak Detection Survey

* + 1. An acoustic leak detection survey of the entire distribution system will be completed within two years of the source approval date and every two years thereafter.
			1. Survey schedule: **PICK: (1)** Every other year, 100% of the system will be surveyed. **(2) INSERT NUMBER** percentage of the system will be surveyed in the first year, and **INSERT NUMBER** percentage of the system will be surveyed in the second year.
			2. The survey will be conducted by **PICK: (1)** a professional leak detection consultant retained by the system. **(2)** system staff. **(If system staff, please provide the make and model of the leak detection equipment to be used and the staff members’ experience with leak detection or proposed training.)**
		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).

**PICK 3:** Night Flow Analysis

* + 1. Night flow analysis will be implemented no later than one year from the date of source approval.
		2. The system will conduct a night flow analysis **INSERT RATE (at least twice a year)**.
		3. **PICK: (1)** A distribution meter capable of measuring flows less than 2 gallons per minute (gpm) will be installed on the distribution line and located after treatment, any other water-consuming processes, and storage. Distribution meter information: **(2)** A distribution meter is already installed to measure flow at the point of entry into the water system. Distribution meter information:

Meter Size: **INSERT**

Meter Make: **INSERT**

Meter Model: **INSERT**

Meter Flow Range: **INSERT**

Meter Installation Date: **INSERT (DELETE IF THE METER WILL BE INSTALLED LATER)**

Last Meter Test Date: **INSERT (DELETE IF THE METER WILL BE INSTALLED LATER)**

* + 1. See Appendix C for the night flow analysis methodology. **(GO TO APPENDIX C AND FILL IN THE INFORMATION)**

# Consumption Side Management

## Educational Outreach Initiative

* + 1. **PICK:**

**(1)** No later than one year from the date of source approval, the system will distribute water efficiency outreach materials to residents twice a year with **PICK:** **(a)** bills. **(b)** Consumer Confidence Reports. **(c)** Other: **INSERT DESCRIPTION**. The materials distributed will be either [NHDES Water Efficiency Fact Sheets](https://www.des.nh.gov/resource-center/publications?keys=efficiency&purpose=&subcategory=Water+Conservation) or [EPA WaterSense materials](http://www.epa.gov/watersense/).

**(2)** 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/).

**(3)** No later than one year from the date of final source approval, the system will hold a yearly water efficiency event. The event will be **INSERT DESCRIPTION (Examples: offering rebates on water efficient fixtures, holding a water efficient showerhead sale, holding a water efficiency-related workshop, or promoting water efficiency at a water system open house.)**

**(4)** No later than one year from the date of final source approval, the following informative billing practices will be used:

* + - 1. Usage will be represented in gallons on water bills; and

##### At least 13 months of historical usage will be included in a table or in a graph with the bill for comparison; and

##### A link to the [WaterSense program’s website](http://www.epa.gov/watersense/) or other water efficiency website will be included on the bill with a tip for saving water.

* + 1. The system will maintain a log indicating how the system has complied with III. A.1., above. The log will include the dates that outreach and education actions were taken and what was done.

# Reporting and Implementation

## 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 this water conservation plan and Env-Wq 2101, Water Conservation rules, is being achieved.

* 1. **PICK:** **(1) FOR SERVICE METERING, BILLING, AND WATER BALANCE REPORTING:** 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. **(2) FOR LEAK DETECTION SURVEY:** A report for each leak detection survey conducted over the previous three years will be submitted with the report form in IV.A., above. **(3) FOR NIGHT FLOW ANALYSIS:** The data collected with each night flow analysis from the previous three years, as well as a statement for each night flow analysis as to whether a leak was suspected or not, will be submitted with the report form in IV.A., above.

## PICK: (1) Upon source approval and receiving a Water Use Identification Number from NHDES, the water system will 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. (2) 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.

Appendix A

Definitions

**Authorized metered consumption**: the volume of consumption authorized by the water supplier that is metered. It consists of billed metered consumption plus unbilled metered consumption.

**Community water system (CWS):** a public water system that 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 that 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 that 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 persons or fewer.

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

**System input volume:** the volume of water input to the water supply system corrected for known errors, which is equal to the volume of water derived from the water system’s own sources, minus water consumed by treatment processes, plus water imported or purchased, minus water exported, plus or minus the net change in water storage (where applicable and significant).

**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 redistribution 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 either send a signature line to the applicant for addition to the plan or NHDES will insert the signature line into the final draft of the water conservation plan and send the plan to the applicant. NHDES will also send the applicant a [summary of the main requirements of Env-Wq 2101](https://www.des.nh.gov/sites/g/files/ehbemt341/files/documents/2020-01/water-conservation-summary-of-rules.pdf).

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(s) 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 (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 source approval, the system is required to notify any consecutive water systems or privately owned redistribution systems to which it delivers water of the following:

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

New Hampshire Department of Environmental Services

Drinking Water and Groundwater Bureau

Water Conservation Program

PO Box 95

Concord, NH 03302-0095

(603) 271-0659

waterconservation@des.nh.gov

(**DELETE IF IT ISN’T APPLICABLE)**

Appendix C

Night Flow Analysis Methodology

New Systems

1. Distribution Meter
	1. A meter capable of measuring flows less than 2 gallons per minute (gpm) will be installed on the distribution line and located after treatment, any other water-consuming processes, and storage.
	2. The meter make, model, and size will be forwarded to NHDES prior to purchase/installation for review and approval.
2. Determining Baseline Flow
	1. When the system is approved for operation and pressure tested to ensure for no leaks, the night flow analysis will be conducted as described in Section 3, below. The baseline flow will be the lowest flow recorded.
	2. The results of the initial night flow analysis and the proposed baseline flow will be submitted to NHDES for review.

# Night Flow Analysis

## Night flow analysis will be conducted at least twice a year and no sooner or later than 6 months apart.

## Water usage will be recorded every minute for one hour during a period of anticipated low water demand using a distribution meter (between 1 am and 3 am is recommended). Prior to the night flow analysis, users of the system will be requested to refrain from using water during the date and time of the scheduled night flow analysis. Night flow analysis will be conducted prior to sprinkler season.

## If the lowest flow is above the baseline flow, then water usage will continue to be recorded every minute for an additional hour.

## If the lowest flow is more than PICK: (1) 2 gpm (2) INSERT OTHER GPM AND EXPLANATION OF WHY CHOSEN above the baseline flow, a leak will be suspected.

### All residents will be asked to check their homes for leaks, including running toilets and outdoor spigots. The previous steps will then be repeated in 3 days. If the lowest flow is still above the baseline flow, the actions in Steps 2 and 3 below will be taken.

### Select portions of the system will be isolated and evaluatedby closing valves while monitoring the change in flow as measured by the distribution meter. For example, when one valve is closed, the person in the field operating the valve will then communicate with a second person observing the distribution meter to monitor for a change in the background flow.

### No later than two weeks after isolating the leak to a branch of the system, a sub-contractor skilled in acoustic leak detection will be retained and will assist with pinpointing the leak.

* 1. Records will be maintained of each night flow analysis, including recorded flows and leak repair results.

(**DELETE IF IT ISN’T APPLICABLE)**

Appendix C

Night Flow Analysis Methodology

Existing Systems

1. Distribution Meter
	1. A meter capable of measuring flows less than 2 gallons per minute (gpm) will be installed on the distribution line and located after treatment, any other water-consuming processes, and storage.
	2. The meter make, model, and size will be forwarded to NHDES prior to purchase/installation for review and approval.
2. Determining Baseline Flow
	1. Baseline flow will be determined when the system is tight. The system will be considered tight when (this may vary based on the size and age of the system):
		1. A leak detection survey is conducted and all leaks discovered are repaired; or
		2. An initial night flow analysis is conducted and the lowest flow is less than 2 gpm.
	2. The results of the initial night flow analysis and the proposed baseline flow will be submitted to NHDES for review.

# Night Flow Analysis

## Night flow analysis will be conducted at least twice a year and no sooner or later than 6 months apart.

## Water usage will be recorded every minute for one hour during a period of anticipated low water demand using a distribution meter (between 1 am and 3 am is recommended). Prior to the night flow analysis, users of the system will be requested to refrain from using water during the date and time of the scheduled night flow analysis. Night flow analysis will be conducted prior to sprinkler season.

## If the lowest flow is above the baseline flow, then water usage will continue to be recorded every minute for an additional hour.

## If the lowest flow is more than PICK: (1) 2 gpm (2) INSERT OTHER GPM AND EXPLANATION OF WHY CHOSEN above the baseline flow, a leak will be suspected.

### All residents will be asked to check their homes for leaks, including running toilets and outdoor spigots. The previous steps will then be repeated in 3 days. If the lowest flow is still above the baseline flow, the actions in Steps 2 and 3 below will be taken.

### Select portions of the system will be isolated and evaluatedby closing valves while monitoring the change in flow as measured by the distribution meter. For example, when one valve is closed, the person in the field operating the valve will then communicate with a second person observing the distribution meter to monitor for a change in the background flow.

### No later than two weeks after isolating the leak to a branch of the system, a sub-contractor skilled in acoustic leak detection will be retained and will assist with pinpointing the leak.

* 1. Records will be maintained of each night flow analysis, including recorded flows and leak repair results.