A Business Owner's Guide to Complying with NH State

Drinking Water Rules

A "How-To-Guide" for transient non-community water systems

This booklet was developed for the New Hampshire Department of Environmental Services by the New England Interstate Water Pollution Control Commission

IMPORTANT CONTACT INFORMATION

Complete and keep information readily available.

System Owner_____ _____

Address _____

_____

Telephone _____

System Operator _____

Address _____

_____

Telephone _____

Certified Lab _____ _____

Address _____

_____

Telephone _____ _____

Pump Company_____ _____

Telephone _____

Treatment Equipment Repair _____

Telephone _____

IN CASE OF EMERGENCY

Police Department

Address _____

_____

Telephone _____

Fire Department

Address _____

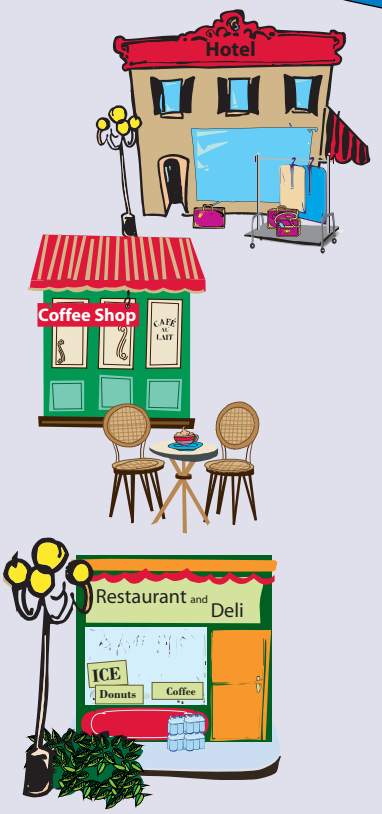
_____

Telephone _____

New Hampshire Department of Environmental Services
Drinking Water and Groundwater Bureau

29 Hazen Drive, P.O. Box 95
Concord, New Hampshire 03302-0095
(603) 271-2513
www.des.nh.gov/dwgb
dwgbinfo@des.state.nh.us

What's in this guide?



What is a TNC water system?

Providing drinking water means more than providing your customers with a cool beverage. Examples of drinking water uses include, but are not limited to drinking water faucets, bathroom facilities, bathing, ice production, making coffee, and food preparation. Your water system is considered a ***Transient Non-Community public water system (TNC***), even if you don't intend to provide water for drinking, and even if you provide bottled water instead of tap water.

A TNC is any publicly or privately owned establishment that provides water to 25 or more people per day for more than sixty days each year. If your business or facility has its own well and has the capacity to provide services for at least 25 people every day, you operate a TNC. Common examples of TNCs include restaurants, convenience stores, ski areas, campgrounds, and motels.

As an owner/operator of a public water system, it is your duty to ensure that your water system is operating in a way that protects the health of you, your employees, and your customers. This guide will help you provide safe potable water for your customers and keep your water system in compliance with state regualtions.

Where do I start?

Register

As an owner/operator of a public water system, you must register your water system contact information with the Department of Environmental Services (DES), and keep that information current. DES provides a secure application, "Update Public Water System Contacts," with complete instructions specifically for TNCs, available at:
https://www2.des.state.nh.us/OnestopDataProviders/DESLogin.aspx

The above link will bring you directly to the DES Onestop Data Provider Login screen where you must register to be a Data Provider. This is where you will apply for a PIN and PASSWORD. Eventually, the management of sampling sites, changes to system treatment and the submission of Monthly Operating Reports, Lab Analysis Reports and field data will need to be submitted through similar processes. Owners: please take time to familiarize yourself with this process or assign a designee (the primary contact) to manage your contact data.

Water Quality Testing

TNCs are required to test their water for three contaminants on a regular schedule. These contaminants are ***Coliform Bacteria***, ***Nitrate***, and ***Nitrite***. DES provides your system with a sampling schedule to help you meet all of the water quality monitoring requirements on time.

Once you have taken your samples, send them to a NH certified lab for analysis. Work with your lab to make sure that your sample has been taken properly and that you have submitted all required information to avoid delays in processing your sample.

A list of state approved labs is available at
http://www.des.nh.gov/asp/NHELAP/labsview.asp.

Report

The laboratory that performs your water quality testing will report the results of their analysis directly to DES. To ensure that the proper reporting occurs, you must enter into a written agreement with an accredited laboratory to process your samples. This written agreement requires that the lab submit the results of all water quality analyses, along with your system identification, to DES. They must do this within two business days of completing the analysis, and within 24 hours if the analysis detects any contamination.

Inspect

Every five years, DES will contact you to schedule an appointment for a site visit, referred to as a "sanitary survey." This site visit is completed by a DES employee with your cooperation. During this detailed field inspection, you (or the operator of the system) must be present to provide the DES employee with the access they need to complete the survey, answer any questions they have, and provide any records they request.

Record

You are required to keep a copy of all official monitoring reports, survey records, and violation reporting related to your system on file for a certain amount of time. (See table.)
After the given amount of time has passed, you may dispose of the records.

Note: If you sell the property/water system you must transfer all records to the new owner and notify DES.

Record Type	Keep on File For:
Bacteria Monitoring Results	5 years
Nitrate/Nitrite Monitoring Results	10 years
Sanitary Survey Records	10 years
Public Notices Issued & DES Certification	3 years

Where can I find additional assistance?

NH DES, Drinking Water and Groundwater Bureau

Your first stop for additional information or technical assistance should be the Drinking Water and Groundwater Bureau. They can provide you with advice specific to your system and work with you to solve any problems that you might encounter.

Mail: 29 Hazen Drive, P.O. Box 95
Concord, New Hampshire 03302-0095
Phone: (603) 271-2513
Web: www.des.nh.gov/dwgb
Email: dwgbinfo@des.state.nh.us

NH Sample Collection & Preservation Manual for Drinking Water

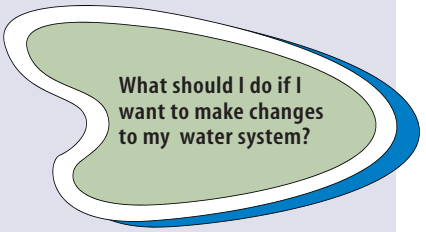
This guide was created to assist people who collect public drinking water samples. It explains all aspects of the sampling process, and provides detailed instructions on how to perform standard sampling procedures for ground water and surface water. Instructions comply with New Hampshire and federal guidelines.

Download a free copy online at:
www.des.state.nh.us/lab/dwmanual.pdf

The Small Water Systems Manual

This easy-to-read primer for the drinking water novice is geared to systems that use groundwater and serve fewer than 500 people. From pumps to public health protection, it covers the scientific, regulatory, and engineering technical details that you should be familiar with as an owner or operator of a small public water system.

A copy can be purchased from the DES.



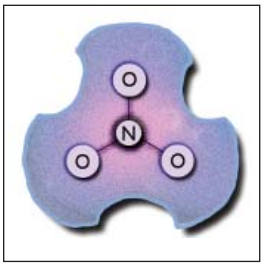
Most routine maintenance, including repairs and piping or valve replacements, can be completed without any design oversight or approval from DES. However, changes such as changing sampling sites, adding or removing treatment, extending pipes, or drilling a new well may require state review and approval. You should contact DES for a full description of these requirements and any further instructions before you make any changes to your system.

What testing is required?

The DES prepared ***sampling schedule*** is the most important document that describes testing requirements for your public water system. *(An example of this sampling schedule is on the following page.)* Consider it your ticket to regulatory compliance. It lets you know exactly when to conduct each water quality test. It also describes where the sample(s) should be taken (the sampling point). Your sampling schedule can be obtained online at: ***www2.des.nh.gov/OneStop/Public_Water_Systems_Query.aspx***

BACTERIA

Coliform bacteria are common in the natural environment. They are found in the intestines of warm-blooded animals (including humans), and in plants, soil, air, and water. Coliform bacteria are usually not harmful, however their presence in water may indicate that the water is polluted and may contain more serious disease-causing organisms. TNCs must monitor for coliform bacteria every three months the system is in operation. Additional testing may be required depending on the type and size of your system. Consult your sampling schedule for your system's monitoring requirements and sampling location for coliform bacteria.



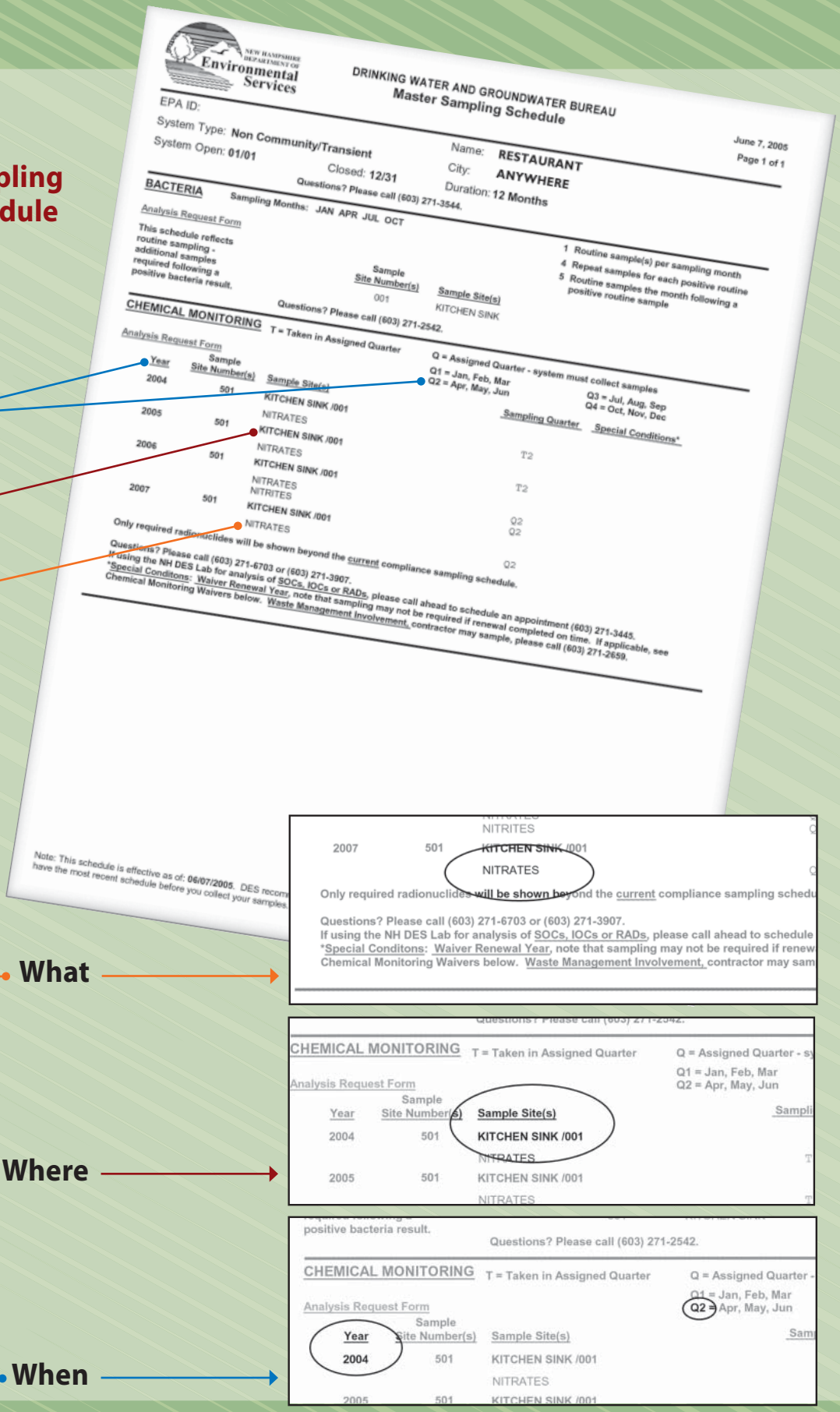
NITRATE/NITRITE

Nitrate and nitrite are inorganic chemicals found in fertilizer, sewage, and wastes from animals. High levels of nitrate and/or nitrite in drinking water have caused serious illness and sometimes death in infants less than six months of age. Increasing levels can indicate problems in your wellhead area and require further investigation. TNCs are required to monitor for nitrates every year, and nitrites every three years. Consult your sampling schedule for your system's monitoring requirements and sampling location for nitrate and nitrite.

Did you miss a scheduled sampling deadline?

If you miss a sampling deadline, it is important that you call and notify DES of the oversight as soon as you become aware of the problem. Complete your required testing as soon as you can, and within thirty days, issue a public notice informing customers that you have missed a required sampling deadline. DES will help guide you through this process.

Sampling Schedule



NEW HAMPSHIRE DEPARTMENT OF Environmental Services

DRINKING WATER AND GROUNDWATER BUREAU
Master Sampling Schedule

June 7, 2005
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EPA ID:
System Type: Non Community/Transient
System Open: 01/01
Name: RESTAURANT
City: ANYWHERE
Closed: 12/31
Duration: 12 Months
Questions? Please call (603) 271-3544.

BACTERIA
Sampling Months: JAN APR JUL OCT
Analysis Request Form
This schedule reflects routine sampling - additional samples required following a positive bacteria result.

Sample Site Number(s)	Sample Site(s)
001	KITCHEN SINK

1 Routine sample(s) per sampling month
4 Repeat samples for each positive routine
5 Routine samples the month following a positive routine sample

CHEMICAL MONITORING
T = Taken in Assigned Quarter
Q = Assigned Quarter - system must collect samples
Q1 = Jan, Feb, Mar
Q2 = Apr, May, Jun
Q3 = Jul, Aug, Sep
Q4 = Oct, Nov, Dec
Questions? Please call (603) 271-2542.
Analysis Request Form

Year	Sample Site Number(s)	Sample Site(s)	Sampling Quarter	Special Conditions*
2004	501	KITCHEN SINK /001		
		NITRATES	Q2	
2005	501	KITCHEN SINK /001		
		NITRATES	Q2	
2006	501	KITCHEN SINK /001		
		NITRATES	T2	
		NITRITES	T2	
2007	501	KITCHEN SINK /001		
		NITRATES	Q2	
		NITRITES	Q2	

Only required radionuclides will be shown beyond the current compliance sampling schedule.
Questions? Please call (603) 271-6703 or (603) 271-3907.
If using the NH DES Lab for analysis of SOCs, IOCs or RADs, please call ahead to schedule an appointment (603) 271-3445.
*Special Conditons: Waiver Renewal Year, note that sampling may not be required if renewal completed on time. If applicable, see Chemical Monitoring Waivers below. Waste Management Involvement, contractor may sample, please call (603) 271-2659.

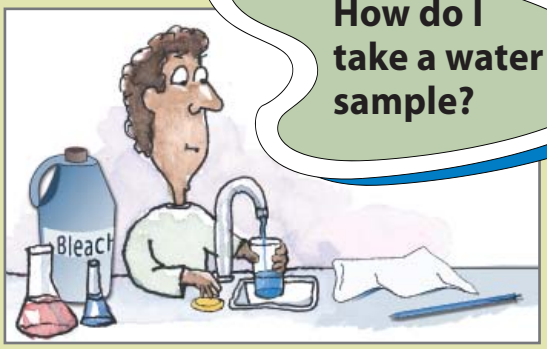
Note: This schedule is effective as of: 06/07/2005. DES recommends that you have the most recent schedule before you collect your samples.

What

Where

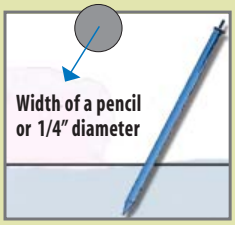
When

How do I take a water sample?



1. Obtain sample bottles from your laboratory.
2. Collect all materials you'll need, including a cloth and bleach solution, and a waterproof pen to label your bottles.
3. Choose the tap to sample from. If the location is not designated on your sampling schedule, choose a location that is representative of your system, like a bathroom or kitchen faucet or drinking water bubbler and notify DES of the change.
4. Avoid using swivel taps or mixing valves.
5. Remove all devices from the tap, including, aerators and screens. They may contaminate the sample. If they can't be removed, it is best to choose another tap.

6. If you are collecting a bacteria sample, sterilize the faucet rim with a cloth dampened with bleach and water.
7. Turn the cold water on vigorously and let it run for 4 or 5 minutes. Reduce the flow to eliminate splashing and air bubbles. The stream of water should be no greater than the width of a pencil.



8. Complete the label on the bottle, using a waterproof pen, including all information required by the lab.
9. Remove the cap of your sample bottle and hold it to prevent it from becoming contaminated.
10. Fill the container to just below the neck of the bottle, leaving airspace. Do not rinse the container or fill a second time, and do not remove anything that is already in the bottle. There may be a liquid or solid preservative already in the bottle.

11. Carefully replace the cap on the bottle and tighten securely.
12. Refrigerate the sample, but do not freeze it.
13. If possible, it is best to take the sample to the lab the same day. **Bacteria samples must be delivered to the lab within 30 hours after collection, and nitrate samples must be delivered within 48 hours to be valid.**
14. When you are ready to take the sample to the lab, place it in a cooler with ice to keep it cool. **Bacteria samples should be kept at 50 degrees F and nitrate samples should be kept at about 40 degrees F.**

How do I protect my well from contamination?

Taking action to protect your drinking water source is your responsibility as a public water supply owner. Many land use activities can pollute a drinking water supply, so protecting the land around your water source is your first line of defense against contamination. Identifying what the potential sources of contamination are in your area, and eliminating those that you can control are two ways that you can protect your water supply.

- Know exactly where your well is located;
- Avoid excessive use of pesticides, fertilizers, and other chemicals on your property, especially near the wellhead;
- Dispose of hazardous chemicals and wastes properly, never dumping them down drains, or on your property;
- Make sure your septic system is maintained in good operating condition;
- Slope the area around the well to keep surface runoff drained away from the well;
- Keep a careful watch of activities around your well area;
- Identify potential sources of contamination nearby, such as gas stations, manufacturing facilities, livestock pens/ pastures, and dry cleaners, and test for contaminants that are associated with these activities.

How do I respond to a water sample that tests positive?

If your water quality samples test positive for bacteria, your lab will notify DES, and DES will let you know what you need to do to fix the problem.

Some water quality violations are more serious than others. If nitrate (concentration over 10mg/L) or E. Coli or Fecal coliform bacteria are found DO NOT DRINK THE WATER. Immediately notify your employees and customers that the water is not safe to drink.

Call DES for FURTHER INSTRUCTIONS. While you may boil the water for at least 2 minutes to kill the bacteria, boiling does not remove nitrate contamination.

After you find out that contamination has been found in your system, there are several things DES will require you to do.

- You must let your customers and employees know of the problem as soon as possible, and issue a public notice to spread the word to anyone who may have recently used your facility.
- You must gather more water quality samples to confirm that the contamination exists.
- You should immediately find and eliminate the source of the contamination.

DES will work closely with you to make sure you complete all of these steps correctly. They will help you to protect your own health, and that of your employees, and your customers. Once you've eliminated contamination from your system and completed all public notice requirements, DES will consider your system in compliance.

How do I disinfect my water system?

When to disinfect your water system:

- After construction
- After repairs
- When water tests show contamination
- For seasonal systems, before opening and after closing for the season

How to disinfect your water system:

1. Disconnect, remove, or bypass all water treatment devices such as activated carbon filters and water softeners.
2. Fully open all the faucets. Run the water vigorouly for several minutes to flush out any sediment in the plumbing.
3. If you have a dug well, scrub the inside of the well with a brush and chlorine bleach solution (one part bleach to four parts water).
4. Add chlorine bleach directly into the well to achieve 50 ppm in dose. Check the table below to find the right amount of store-bought chlorine bleach for your well's depth and diameter. ***Do not over chlorinate*** or the chlorine will be difficult to remove.
5. Run the chlorinated water through a garden hose back into the well for an hour so the chlorinated water washes down the inside of the casing.
6. Recap the well.
7. Open one faucet at a time throughout your facility. Run the water until you smell a strong chlorine odor, then turn the tap off. Repeat for all faucets. Don't forget bathtubs, showers, washing machines, and toilets (one flush is enough). Do not consume the chlorinated water.
8. Allow the chlorinated water to sit in the entire system for at least 12 hours, and preferably 24 hours. This is the amount of time that chlorine must be in contact with your system to kill all bacteria. Minimal toilet flushing is allowed.
9. After waiting for the chlorine to disinfect the system, connect a hose to a tap or outside faucet and drain the chlorinated water to a safe, outdoor location. Do not drain the water into a septic system, a lake or stream, or a storm drain. A gravel driveway or brushy area may be a good place to drain the water.
10. Continue draining your system until the chlorine odor is gone from the water.

WELL DIAMETER

DEPTH	6 in.	8 in.
50 ft.	1 cup	2 cups
100 ft.	2 cups	1 qt.
150 ft.	1 qt.	1/2 gal.

DUG WELL DIAMETER

DEPTH	3 ft.	4 ft.
5 ft.	1 qt.	1/2 gal.
10 ft.	1/2 gal.	1 gal.
20 ft.	1 gal.	1-3/4 gal.