

# Preparing a Coliform Monitoring Plan

For noncommunity systems that don't sample monthly

April 2016

***Includes Guidance on  
Triggered Source  
Monitoring***



DOH 331-240  
(Revised)

## Table of contents

COLIFORM MONITORING PLAN (CMP).....	1
What to include in your Coliform Monitoring Plan.....	1
COLIFORM MONITORING PLAN TEMPLATE.....	6
EXAMPLE COLIFORM MONITORING PLAN.....	14
Example: Clean Water Resort.....	14

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## COLIFORM MONITORING PLAN (CMP)

### For noncommunity systems that don't sample monthly

All Group A public water systems must collect samples for coliform bacteria analysis (*chapter 246-290 WAC*). This rule requires you to collect coliform samples from the distribution system and the source of supply. The specific basis for this monitoring is as follows:

- Distribution system monitoring requirements: The Revised Total Coliform Rule.
- Groundwater source monitoring requirements: The Groundwater Rule.
- Surface water source monitoring requirements: The Surface Water Treatment Rule.

**Use this manual to develop your coliform monitoring plan. Keep the plan on file at your system and make it available to us upon request. Revise or expand the plan when it no longer ensures the samples you take represent your system's water quality.**

**We developed this guidance manual for very small noncommunity groundwater water systems that serve fewer than 25 people at least one month of the year.** This document includes instructions, one blank CMP form, and an example. We also provide information to help you respond to an *E. coli*-present sample from your source of supply or your distribution system.

This manual provides guidance for your distribution system monitoring based on the Revised Total Coliform Rule.

### *What to include in your Coliform Monitoring Plan*

#### **A. System Information**

Include basic system information, including your Coliform Monitoring Population, which you can find on your *Water Facility Inventory* (WFI). Be sure to update your WFI if there is a change in the water system and submit it to us.

#### **B. Laboratory Information**

List the accredited laboratory that normally analyzes your coliform compliance samples. Include the contact information, hours of operation, and after-hours contact information. In addition, list the same information for another laboratory that could serve as a back up to your primary lab in case of an emergency.

#### **C. Routine, Repeat, and Triggered Source Sample Locations**

Choose good sample sites where you can collect water representative of the water system. An example of a good sample site is a cold-water faucet at a clean restroom sink. Do not select sites such as fire hydrants, frost-free faucets, or frost-free yard-hydrants. If possible, avoid swivel faucets, drinking fountains, faucets that leak or drip, or faucets close to the ground. See *Coliform Sampling Procedures* (DOH Pub. 331-225)\* for proper sample collection instructions. Contact our regional office if you need help choosing sample sites.

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- Include the specific location of all **routine sample sites**. The “specific location” should include the address and the specific tap or faucet used.
  - Include the specific location of all **repeat sample sites**. The repeat sample sites should include:
    1. The same tap as the original unsatisfactory routine sample.
    2. An active service within five active connections upstream from the original routine sample location.
    3. An active service within five active connections downstream from the original routine sample location.

You may propose repeat monitoring locations that better represent a pathway for contamination into the distribution system. With this approach in your CMP, you can specify either alternative fixed locations or a standard operating procedure (SOP) that defines criteria for selecting repeat sampling sites on a situational basis. You must design your SOP to focus the repeat samples at locations that best verify and determine the extent of potential contamination of the distribution system. You must submit the SOP to us for review and approval.

In addition to the three repeat samples, you must collect a source sample from a point prior to any treatment. Mark the sample type as “GWR” or “raw” to satisfy the **triggered source sample** requirement of the Groundwater Rule.

You must take repeat and triggered source samples within 24 hours after notification of an unsatisfactory routine sample. Repeat and triggered source samples will confirm the presence of contamination and help identify the source of contamination. **Do not batch or shock chlorinate before collecting the repeat samples without prior authorization from us.**

- Include the specific location of a **routine sample site** for the **following month**. You must collect a sample in the following month even if your normal sample requirement for the following month is zero. If that following month is a month with zero population, the requirement for a routine sample will move to the first month that your population is greater than zero.

**This section should also include advice on sample collection technique. For example:**

- Remind sample collectors to **evaluate the representative status of each sample site every time they collect a sample**. This includes authorizing sample collectors to choose NOT to sample from a scheduled site if the evaluation reveals current or recent off-normal events at the sample site. Off-normal events include construction at the facility where the sample site is located, modification to the plumbing at the sample site, or an activity at the sample site that may have compromised the sanitary integrity of the sample faucet. Sample collectors should have the knowledge and authority to choose a different site when circumstances at a scheduled site make the site unsuitable to give a sample that represents the distribution water quality.

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- Avoid collecting routine coliform samples during weeks that contain major holidays and vacations unless you know trained staff and lab capacity are available to respond to unsatisfactory sample results.
  - Chlorinated systems should remind sample collectors to measure the free chlorine residual when they collect the sample. Collectors should note the measurement on the sample form they will submit to the lab with the sample.

#### **D. Routine Sample Rotation Schedule**

You should rotate routine sample sites each month that a routine sample is required. For example, if there are two routine sites, you should sample one site one month and the other site the next month that a sample is required.

#### **E. Level 1 and Level 2 Assessment Contact Information**

The Revised Total Coliform Rule includes several triggers that require you to assess your water system.

- **Level 1 Assessment:** Anyone familiar with your water system can do a Level 1 assessment
- **Level 2 Assessment:** Only a person we consider qualified can do a Level 2 assessment. This would include a professional engineer, water distribution manager 2 or above, or qualified staff from your local or state health department. Just because someone is qualified doesn't mean that he or she will perform the work. You should contact two or more individuals in advance to see if they are willing to do the work and then include their names and contact information in your plan.

#### **F. *E. coli* Response Plan**

Your lab analyzes groundwater source samples and all unsatisfactory total coliform samples collected from the distribution system for the presence of *E. coli* bacteria. You should develop two *E. coli*-present response plans:

1. *E. coli*-present in a distribution system sample
2. *E. coli*-present in a groundwater sample

The checklists in this manual ask a series of questions to help you tailor a response plan to your water system. If the topic of a question requires more work for your water system, we suggest that you include the topic on a water system “to do” list. You should file the checklists with your Coliform Monitoring Plan (CMP). If you submit your CMP to us, you can choose whether to submit the checklists.

#### ***E. coli*-present in a distribution system sample**

The Revised Total Coliform Rule only requires immediate public notification (within 24 hours) when two related samples (a routine and one or more corresponding repeat samples) test positive for total coliform bacteria—and there is *E. coli* bacteria in one or more of the samples. In our experience, many customers appreciate it when their water system tells them about the presence of *E. coli* bacteria in a routine sample even when the rules do not require a notice. Early notification gives customers the opportunity to choose whether to consume the

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Preparing a Coliform Monitoring Plan:

For noncommunity systems that don't sample monthly

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water before they boil it. There are pros and cons associated with early notification that your policy-makers should discuss while your CMP is under development; that is, before you discover *E. coli* bacteria in the drinking water.

**The checklist helps you consider the following when developing your response plan:**

**Background Information**

- Water system records detailing information such as new construction, water main breaks, and other off-normal events
- Status of Cross-Connection Control Program
- Status of treatment operation (if treatment present)
- Possibility of batch or temporary disinfection
- Availability of alternate water supply
- Map to help individuals know whether they are customers of your water system
- Details about water users: Type, location, accessibility to bottled water
- Logistics of message production: Language, necessary translations, printing

**Policy Direction**

Discussion with water system governing body  
Governing body decision on timing of notice distribution

**Potential Public Notice Delivery**

Available methods for notice delivery  
News release

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## Immediate Follow-up Action

### ***E. coli*-present in a groundwater source sample**

If your source contains *E. coli* bacteria, your response to the corrective action requirements of the Groundwater Rule may take considerable time. Your *E. coli*-Present Response Plan should identify one or more steps you will take if the lab notifies you of an *E. coli*-present triggered source sample. Preparing a response plan *before* an *E. coli*-present sample result occurs should reduce the effect that an inadequately treated source will have on your water users.

## When you develop your plan, you should consider:

### **Background Information**

- DOH sanitary surveys
- Activities within wellhead protection area
- Staff well-site inspections
- Best practices used relative to work on well

### **Alternate Sources**

- Discontinue use of source
- Intertie with adjacent system
- Provide bottled water to all or part the distribution system
- Construct a replacement source

### **Temporary Treatment**

- If continuous treatment exists, alter dose to provide 4-log virus treatment
- Introduce chlorine at the source
- Reduce pumping production and/or reconfigure operational storage
- Alter consumption patterns
- Alter the demand through conservation messages

### **Public Notice**

- Discuss content and distribution methods with policymakers and wholesale customers
- Prepare templates

### **Immediate Follow-Up Action**

The checklist for the *E. coli*-present groundwater sample asks you to evaluate the corrective action alternatives available to you under the Groundwater Rule to select the option that best fits your system. You may find out that you can chlorinate your source to provide adequate treatment to a large part of your service area, while the customers close to the source rely on boiling their water prior to consumption or using bottled water.

## **G. Attach a simple map or drawing of your water system**

As appropriate for your system, show the source, pressure tank(s) and/or storage tank, treatment system, booster pumps, building(s), sample tap locations, and so on. Number each of the routine sites starting with X, for example X-1 or X2.

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Preparing a Coliform Monitoring Plan:

For noncommunity systems that don't sample monthly

# COLIFORM MONITORING PLAN TEMPLATE

## For a Small Noncommunity Water System

### A. System Information

Plan Date: \_\_\_\_\_

<b>Water System Name</b>	<b>County</b>	<b>System I.D. Number</b>
<b>Name of Plan Preparer</b>	<b>Position</b>	<b>Daytime Phone # Email</b>
<b>Coliform Monitoring Population (January through December)</b>		
<b>Source:</b> DOH source number, Source name, Well depth, Pumping Capacity		
<b>Storage:</b> List and describe		
<b>Pressure zones:</b> Number and name		
<b>Population by pressure zone</b>		
<b>Number of routine samples required monthly:</b>	<b>Number of sample sites needed to represent the distribution system:</b>	

### B. Laboratory Information

<b>Laboratory Name</b>	<b>Office Phone # Email</b>
<b>Address</b>	<b>After Hours #</b>
<b>Hours of Operation</b>	
<b>Contact Name</b>	
<b>Emergency Laboratory Name</b>	<b>Office Phone # Email</b>
<b>Address</b>	<b>After Hours #</b>
<b>Hours of Operation</b>	
<b>Contact Name</b>	



**C. Routine, Repeat, and Triggered Source Sample Locations**

Location/Address for <u>Routine Sample Sites</u>	Location/Address for <u>Repeat and Triggered Source Sample Sites</u>	<u>Sample Location for Month Following an Unsatisfactory Sample</u> when the following month normally doesn't have a sample requirement
<b>X1.</b>  	<b>1-1.</b> <hr/> <b>1-2.</b> <hr/> <b>1-3.</b> <hr/> <b>S0_ - well</b> <hr/>	<hr/> <hr/> <hr/> <hr/>
<b>X2.</b>  	<b>2-1.</b> <hr/> <b>2-2.</b> <hr/> <b>2-3.</b> <hr/> <b>S0_ - well</b> <hr/>	<hr/> <hr/> <hr/> <hr/>
<b>X3.</b>  	<b>3-1.</b> <hr/> <b>3-2.</b> <hr/> <b>3-3.</b> <hr/> <b>S0_ - well</b> <hr/>	<hr/> <hr/> <hr/> <hr/>

If you need more than three routine sample sites to cover the distribution system, attach additional sheets as needed.

**Important notes for sample collector:**

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**D. Routine Sample Rotation Schedule**

Month	Routine Site(s)	Month	Routine Site(s)
January		July	
February		August	
March		September	
April		October	
May		November	
June		December	

**E. Level 1 and Level 2 Assessment Contact Information**

<b>Name and Address</b>	Office Phone ( ) -	<b>Qualified for Level 2?</b> <input type="checkbox"/> Yes <input type="checkbox"/> No
	After Hours ( ) -	
	Cellphone ( ) -	
Email		
<b>Name and Address</b>	Office Phone ( ) -	<b>Qualified for Level 2?</b> <input type="checkbox"/> Yes <input type="checkbox"/> No
	After Hours ( ) -	
	Cellphone ( ) -	
Email		

## F. *E. coli*-Present Sample Response

<b>Distribution System <i>E. coli</i> Response Checklist</b>				
<b>Background Information</b>	<b>Yes</b>	<b>No</b>	<b>N/A</b>	<b>To Do List</b>
We inform staff members about activities within the distribution system that could affect water quality.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
We document all water main breaks, construction and repair activities, and low pressure and outage incidents.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
We can easily access and review documentation on water main breaks, construction and repair activities, and low pressure and outage incidents.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Our Cross-Connection Control Program is up-to-date.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
We test all cross-connection control devices annually as required, with easy access to the proper documentation.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
We have identified one or more individuals who are able to conduct a Level 2 assessment of our water system.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
We have procedures in place for disinfecting and flushing the water system if it becomes necessary.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
We can activate an emergency intertie with an adjacent water system in an emergency.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
We have a map of our service area boundaries.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
We have consumers who may not have access to bottled or boiled water.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
There is enough bottled water immediately available to our customers who are unable to boil their water.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
We have identified the contact person at each day care, school, medical facility, food service, and other customers that may have difficulty responding to a Health Advisory.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
We have messages prepared and translated into different languages to ensure our consumers will understand them.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
We have the capacity to print and distribute the required number of notices in a short time period.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<b>Policy Direction</b>				
We have discussed the issue of <i>E. coli</i> -present sample results with our policy makers.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
If we find <i>E. coli</i> in a routine distribution sample, the policy makers want to wait until repeat test results are available before issuing advice to water system customers.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

<b>Distribution System <i>E. coli</i> Response Checklist (continued)</b>				
<b>Potential Public Notice Delivery Methods</b>	<b>Yes</b>	<b>No</b>	<b>N/A</b>	<b>To Do List</b>
It is feasible to deliver a notice going door-to-door.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
We have a list of all of our customers' addresses.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
We have a list of customer telephone numbers or access to a Reverse 9-1-1 system.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
We have a list of customer email addresses.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
We encourage our customers to remain in contact with us using social media.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
We have an active website we can quickly update to include important messages.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Our customers drive by a single location where we could post an advisory and expect everyone to see it.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
We need a news release to supplement our public notification process.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

<b>Distribution System <i>E. coli</i> Response Plan</b>
<p><b>If we have <i>E. coli</i> in our distribution system we will immediately:</b></p> <ol style="list-style-type: none"> <li>1. Call DOH.</li> <li>2.</li> <li>3.</li> <li>4.</li> <li>5.</li> <li>6.</li> <li>7. Discuss with DOH whether to issue a Health Advisory based on the findings of steps 2-6.</li> </ol>

<b><i>E. coli</i>-Present Triggered Source Sample Response Checklist</b>				
<b>Background Information</b>	<b>Yes</b>	<b>No</b>	<b>N/A</b>	<b>To Do List</b>
We review our sanitary survey results and respond to any recommendations affecting the microbial quality of our water supply.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
We address any significant deficiencies identified during a sanitary survey.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
There are contaminant sources within our Wellhead Protection Area that could affect the microbial quality of our source water, and If yes, we can eliminate them.	<input type="checkbox"/> <input type="checkbox"/>	<input type="checkbox"/> <input type="checkbox"/>	<input type="checkbox"/> <input type="checkbox"/>	<input type="checkbox"/> <input type="checkbox"/>
We routinely inspect our well site.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
We have a good raw-water sample tap installed at our well.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
After we complete work on our well, we disinfect the source, flush, and collect an investigative sample.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<b>Alternate Sources</b>	<b>Yes</b>	<b>No</b>	<b>N/A</b>	<b>To Do List</b>
We can stop using this source and still provide reliable water service to our customers.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
We have an emergency intertie with a neighboring water system that we can use until corrective action is complete (perhaps for several months).	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
We can provide bottled water to all or part of our distribution system for an indefinite period.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
We can quickly replace our existing supply source with a more protected new source of supply.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<b>Temporary Treatment</b>	<b>Yes</b>	<b>No</b>	<b>N/A</b>	<b>To Do List</b>
We can quickly introduce chlorine into the water system and take advantage of the existing contact time to provide 4-log virus treatment to a large part of the distribution system.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
We can reduce the production capacity of our pumps or alter the configuration of our storage quantities (operational storage) to increase the amount of time the water stays in the system before the first customer to achieve CT = 6.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
We can alter the demand for drinking water (maximum day or peak hour) through conservation messages to increase the time the water is in the system prior to the first customer to achieve 4-log virus treatment with chlorine.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

<b><i>E. coli</i>-Present Triggered Source Sample Response Checklist (continued)</b>				
<b>Public Notice</b>	<b>Yes</b>	<b>No</b>	<b>N/A</b>	<b>To Do List</b>
We discussed the requirement for immediate public notice about an <i>E. coli</i> -present source sample result with our water system's governing body (board of directors or commissioners) and received direction from them on our response plan.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
We have prepared templates and a communications plan that will help us quickly distribute our messages.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

<b><i>E. coli</i>-Present Triggered Source Sample Response Plan</b>
<p><b>If we have <i>E. coli</i> in our source water we will immediately:</b></p> <ol style="list-style-type: none"> <li>1. Call DOH.</li> <li>2.</li> <li>3.</li> <li>4. ...</li> </ol>

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## G. System Map

## EXAMPLE COLIFORM MONITORING PLAN

*Example: Clean Water Resort*

### COLIFORM MONITORING PLAN (CMP)

**System Information**

**Plan Date: 3/31/16**

<b>Water System Name</b> Clean Water Resort Grocery Store	<b>County</b> Pierce	<b>System I.D. Number</b> AA010D									
<b>Name of Plan Preparer</b> Josephine Operator	<b>Position</b> Manager	<b>Daytime Phone #</b> 253-987-6543									
<b>Coliform Monitoring Population (January through December)</b>											
5	5	5	300	350	500	500	500	400	100	5	5
<b>Coliform Monitoring Schedule (January through December)</b>											
1	0	0	1	1	1	1	1	1	1	0	0
<b>Sources:</b> DOH Source Number, Source Name, Well Depth & Pumping Capacity			S01/well 1, 85', 12 gpm								
<b>Storage:</b> Number and List			None								
<b>Pressure Zones:</b> Number and name			One, entire system								
<b>Population by Pressure Zone</b>			5 - 500								
<b>Number of Routine Samples Required Monthly by Regulation: 1</b>			<b>Number of Sample Sites Needed to Represent the Distribution System: 2</b>								

#### A. Laboratory Information

<b>Laboratory Name</b> Perfect Analysis Every Time	<b>Office Phone #</b> 253-123-4567
<b>Address</b> 999 99 <sup>th</sup> Ave E Tacoma WA	<b>After Hours #</b> 253-951-3578
<b>Hours of Operation</b> Mon-Friday 8 to 5, Sat. 8-12	
<b>Contact Name</b> Jane Micro	
<b>Emergency Laboratory Name</b> Clean Beaker Laboratory	<b>Office Phone #</b> 206-852-1397
<b>Address</b> 111 11 <sup>th</sup> Ave W Seattle WA	<b>After Hours #</b> 206-456-9871
<b>Hours of Operation</b> Monday – Friday 7:30-5:30, Sat. 8-4	
<b>Contact Name</b> John Scope	



## B. Routine, Repeat, and Triggered Source Sample Locations

Location/Address for <u>Routine Sample Sites</u>	Location/Address for <u>Repeat and Triggered Source Sample Sites</u>	Sample Location for <u>Month Following an Unsatisfactory Sample(s) when the following month normally doesn't not have a sample requirement</u>
<b>X1.</b>	1-1.Cabin 105	<b>X2</b>
Cabin 105	1-2. Cabin 102	
	1-3. Cabin 107	
	<b>S01</b>	
<b>X2.</b>	2-1. Cabin 110	<b>X1</b>
Cabin 110	2-2. Cabin 107	
	2-3. Cabin 113	
	<b>S01</b>	

If you need more than three routine samples to cover the distribution system, attach additional sheets as needed.

### Important notes for Sample Collector:

1. **Sample early in the month and early in the week.**
2. **Do not sample in a week when experienced staff are on vacation or a holiday may create schedule conflicts.**
3. **Check the sample tap before filling the bottle to make sure that everything is normal, so that the sample will be representative of the water in the system.**

**C. Routine Sample Rotation Schedule\***

Month	Routine Site(s)	Month	Routine Site(s)
January*	X-1	July	X-1
February		August	X-2
March		September	X-1
April	X-2	October**	X-2
May	X-1	November	
June	X-2	December	

\* If January sample is Total Coliform-Present, a February sample is required. If February sample is Total Coliform Present, a March sample is required.

\*\*If October sample is Total Coliform-Present a November sample is required. If November sample is Total Coliform Present, a December sample is required.

**D. Level 1 & Level 2 Assessment Contact Information**

<b>Name</b> John Smith	<b>Office Phone #</b>
<b>Address</b>	<b>After Hours #</b>
<b>Name</b> Sam Jones	<b>Office Phone #</b>
<b>Address</b>	<b>After Hours #</b>

**E. *E. coli* Present Sample Response Plan**

<b>Distribution System <i>E. coli</i> Response Checklist</b>				
<b>Background Information</b>	<b>Yes</b>	<b>No</b>	<b>N/A</b>	<b>To Do List</b>
We inform staff members about activities within the distribution system that could affect water quality.	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
We document all water main breaks, construction & repair activities, and low pressure and outage incidents.	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
We can easily access and review documentation on water main breaks, construction & repair activities, and low pressure and outage incidents.	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Our Cross-Connection Control Program is up-to-date.	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
We test all cross-connection control devices annually as required, with easy access to the proper documentation.	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
We have identified one or more individuals who are able to conduct a Level 2 assessment of our water system.	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
We have procedures in place for disinfecting and flushing the water system if it becomes necessary.	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
We can activate an emergency intertie with an adjacent water system in an emergency.	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
There is enough bottled water immediately available to our customers who are unable to boil their water.	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
We have messages prepared and translated into different languages to ensure our consumers will understand them.	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<b>Policy Direction</b>	<b>Yes</b>	<b>No</b>	<b>N/A</b>	<b>To Do List</b>
If we find <i>E. coli</i> in a routine distribution sample, the policy makers want to wait until repeat test results are available before issuing advice to water system customers.	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<b>Potential Public Notice Delivery Methods</b>	<b>Yes</b>	<b>No</b>	<b>N/A</b>	<b>To Do List</b>
Our customers pass by a single location where we could post an advisory and expect everyone to see it.	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
We need a news release to supplement our public notification process.	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

<b><i>E. coli</i>-Present Triggered Source Sample Response Checklist</b>				
<b>Background Information</b>	<b>Yes</b>	<b>No</b>	<b>N/A</b>	<b>To Do List</b>
We review our sanitary survey results and respond to any recommendations affecting the microbial quality of our water supply.	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Preparing a Coliform Monitoring Plan:  
For noncommunity systems that don't sample monthly

We address any significant deficiencies identified during a sanitary survey.	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
There are contaminant sources in our Wellhead Protection Area that could affect the microbial quality of our source water, and If yes, we can eliminate them.	<input type="checkbox"/> <input type="checkbox"/>	<input checked="" type="checkbox"/> <input type="checkbox"/>	<input type="checkbox"/> <input checked="" type="checkbox"/>	<input type="checkbox"/> <input type="checkbox"/>
We routinely inspect our well site.	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
We have a good raw water sample tap installed at our well.	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
After we complete work on our well, we disinfect the source, flush, and collect an investigative sample.	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<b>Alternate Sources</b>	<b>Yes</b>	<b>No</b>	<b>N/A</b>	<b>To Do List</b>
We can stop using this source and still provide reliable water service to our customers.	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
We have an emergency intertie with a neighboring water system that we can use until corrective action is complete (perhaps for several months).	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
We can provide bottled water to all or part of our distribution system for an indefinite period.	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
We can quickly replace our existing supply source with a more protected new source of supply.	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<b>(Cont.)</b>				

<b><i>E. coli</i>-Present Triggered Source Sample Response Checklist</b>				
<b>Temporary Treatment</b>	<b>Yes</b>	<b>No</b>	<b>N/A</b>	<b>To Do List</b>
This source is continuously chlorinated, and our existing facilities can provide 4-log virus treatment (CT = 6) before the first customer. If yes, at what concentration? _____ mg/L	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
We can quickly introduce chlorine into the water system and take advantage of the existing contact time to provide 4-log virus treatment to a large part of the distribution system.	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
We can reduce the production capacity of our pumps or alter the configuration of our storage quantities (operational storage) to increase the amount of time the water stays in the system before the first customer to achieve CT = 6.	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
We can alter the demand for drinking water (maximum day or peak hour) by using conservation messages to increase the time the water is in the system prior to the first customer in order to achieve 4-log virus treatment with chlorine.	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<b>Public Notice</b>	<b>Yes</b>	<b>No</b>	<b>N/A</b>	<b>To Do List</b>
We will immediately post a public notice of an <i>E. coli</i> -present source sample result.	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
We have prepared templates and a communications plan that will help us quickly distribute our messages.	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

<b>Distribution System <i>E. coli</i> Response Plan</b>
<p><b>If we have <i>E. coli</i> in our distribution system, we will immediately:</b></p> <ol style="list-style-type: none"> <li>1. Issue a Health Advisory (HA)</li> <li>2. Call DOH and our local health department food permit contact</li> <li>3. Collect repeat samples per Part C. Collect additional investigative samples as necessary.</li> <li>4. Inspect our water system components for proper operation.</li> <li>5. Interview staff to determine whether anything unusual happened in or around the store recently.</li> <li>6. Review new construction activities, pipe breaks, and pressure outages that may have occurred during the previous month.</li> <li>7. Review cross-connection control status.</li> <li>8. Await repeat sample results and respond accordingly. If all repeats are OK, lift the HA. If at least one repeat is unsatisfactory, ask DOH for a system inspection and respond to inspection findings accordingly.</li> </ol>

<b><i>E. coli</i>-Present Triggered Source Sample Response Plan</b>
<p><b>If we have <i>E. coli</i> in our source water, we will immediately:</b></p> <ol style="list-style-type: none"> <li>1. Call DOH</li> <li>2. Post required notice</li> <li>3. Interview staff</li> <li>4. In concert with DOH, begin work on corrective action plan. Corrective action options: discontinue use of the contaminated source; provide 4-log virus treatment of the source.</li> </ol>

Preparing a Coliform Monitoring Plan:  
For noncommunity systems that don't sample monthly

## F. System Map

