



RTCR Sample Instructions

Selecting Sample Locations

Contaminants like coliform bacteria may not be uniformly distributed, so it is critical that the location(s) selected provide samples that are most representative of the water served to customers in the PWS's entire distribution system. It is especially important to identify and include in the sample siting plan those features of the system that may affect the microbiological quality of the water. **PWSs should consider varying sample site locations throughout the year to better characterize water quality throughout the distribution system.**

When selecting sample locations, PWSs should consider:

- Sites that best represent water served to customers throughout the distribution system;
- Proximity to main transmission lines, pressure zones and storage tanks;
- Locations of dead-end pipes, loops and other areas of the piping system's configuration;
- Pressure zones that are upstream and downstream of all storage tanks;
- Cross-connection hazards;
- Seasonal customers or locations with inconsistent water use;
- Areas of the distribution system delivering water from different sources;
- Areas of the distribution system with longer retention times; and
- Areas of the distribution system with low water pressure and slow water movement.

Generally, sample locations should be:

- At a mid-distribution system point;
- Not on the transmission lines (e.g., the distribution system's largest pipes);
- Directly after the storage tanks, specifically for tanks with direct or flow through design (e.g., separate pipe for inlet and outlet); and
- Multipurpose sample locations.
 - If consistent with each rule, sample locations can be used for compliance with multiple drinking water regulations. For example, compliance monitoring for Total Trihalomethane and Haloacetic Acid under the Disinfectants and Disinfection Byproduct Rules.

Repeat Sample Actions

Within 24 hours (unless an extension is granted by the primacy agency) of notification of a total coliform-positive (TC+) sample result, a PWS must:

- Collect 3 repeat samples for each TC+ routine sample, even if a Level 1 or Level 2 Assessment is triggered.
- Continue collecting a set of 3 repeat samples until, either TC is not detected in one complete set or the system triggers a Level 1 or Level 2 Assessment.

PWS's must collect at least 3 repeat samples at the locations described in their sample siting plan that include:

- One (1) at the same sample tap where the original TC+ sample occurred,
- One (1) at a tap within five (5) service connections upstream of the original TC+ site, and
- One (1) at a tap within five (5) service connections downstream of the original TC+ site.

Selecting Sampling Taps

Faucets and specially installed sampling taps are the two most common types of sampling sites. If faucets are to be used, each faucet should be examined carefully to ensure its suitability. Some examples of potentially unsuitable faucets are:

- Swivel-type faucets because they are difficult to disinfect;
- Faucets with a single valve for hot and cold water;
- Faucets or taps with leaky packing material around the stem;
- Faucets that supply areas, such as janitorial or commercial sinks, where bacterial contamination is likely;
- Faucets or taps close to or below ground level;
- Faucets that point upward;
- Faucets that have threads on the inside of their spouts because they are difficult to disinfect;
- Outdoor faucets; and
- Faucets with aerators because they may harbor bacteria. If such faucets are used, it is recommended that the aerator should be removed before a sample is collected and disinfected before replacing it.