



## Drinking Water & Groundwater PROGRAM GUIDANCE

Wisconsin Department of Natural Resources  
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### **Guidance for Sanitary Survey Review and Documentation at Municipal Public Water Systems without Year-Round Continuous Disinfection**

June 20, 2023

*This document is intended solely as guidance and does not contain any mandatory requirements except where requirements found in statute or administrative rule are referenced. Any regulatory decisions made by the Department of Natural Resources in any matter addressed by this guidance will be made by applying the governing statutes and administrative rules to the relevant facts.*

# Sanitary Survey Review and Documentation at Municipal Public Water Systems (MCs) without Year-Round Continuous Disinfection

APPROVED BY DGMT 06/20/2022

**Purpose:** This document was generated by the MC Consistency Team. It is intended to be used as a resource for field staff during sanitary surveys to support consistent review and documentation at MCs without year-round continuous disinfection.

## 1. Recommend Continuous Disinfection.

Impacts to Wisconsin's water resources due to climate change are documented in the 2021 WICCI Assessment Report. Climate change impacts such as extreme weather events may adversely affect groundwater water quality. Public water systems without continuous disinfection may be particularly vulnerable to such effects of our changing climate.

Every sanitary survey report for an MC system that does not have year-round continuous disinfection should include a recommendation for continuous disinfection. An example is provided below:

The department recommends that [system name] conduct continuous disinfection of their water system. Continuous disinfection provides an effective barrier against bacteriological contamination. [Optional: Insert relevant historical bacteriological sample results.]

## 2. Verify Monitoring Site Locations & Rotation

Verify bacteriological monitoring site plan includes sites at the far ends of the system and that sample sites are rotated to ensure thorough system sampling over time. Monitoring site locations may be imported into Google Maps for this purpose.

- Google Maps Demo and Screen Shots:
- <https://sp.dnr.enterprise.wistate.us/org/em/Bureau-DG/layouts/15/DocIdRedir.aspx?ID=WDNREMSP-261931042-655>
- DWS "Monitoring Sites: General View" Report: [https://intranet.dnr.state.wi.us/dwsviewer/FLARE/View/Monitoring\\_Sites-General\\_View](https://intranet.dnr.state.wi.us/dwsviewer/FLARE/View/Monitoring_Sites-General_View)
- Demo Video: <https://youtu.be/TbKFShWZyyI>

## 3. Verify and Document Adequacy of Emergency Chlorination Plan and Chlorination Infrastructure

Verify compliance with emergency chlorination plan requirements of s. NR 810.26(8), Wis. Adm. Code. Document deficiencies and corrective actions to ensure the system is prepared to respond to a total coliform or an *E. coli* contamination event. Document the details of the chlorination infrastructure in the sanitary survey report.

**NR 810.26(8)** Emergency chlorination plans. An emergency chlorination plan is required for each community water system. Each municipal water system shall have appropriate chlorination infrastructure and chlorine available to obtain 0.5 mg/l free chlorine throughout its distribution system within 4 hours. A working chlorine meter shall also be available to measure chlorine

concentrations. To ensure water systems are capable of emergency chlorination, the department may ask that an emergency chlorination test be conducted by the water supplier for a municipal water system. At a minimum, the emergency chlorination plan shall include:

- (a) Location and description of chlorine pumps, solution containers, chemical, and chlorine test meter.
- (b) Procedures for adding chlorine to the water system, flushing the water system to move chlorine to extremities, and testing chlorine levels.
- (c) Example calculations for determining dosage requirements.

4. Verify Main Break Follow-Up Sampling

Verify compliance with water main break bacteriological sample requirements of s. NR 810.09(4)(b), Wis. Adm. Code. Specifically, when water main breaks are repaired in public water systems that do not maintain a detectable chlorine residual, a bacteriological sample shall be taken in the area of the break within one working day.

Document compliance determination with the highlighted sanitary survey question, below.

V. Is the distribution system adequate? (NA if no distribution system)	SS Template Language for "no" responses
X. Are water main breaks repaired promptly and correctly?	Water main breaks are not repaired promptly or correctly.
Y. When water main breaks are repaired in public water systems that do not maintain a detectable chlorine residual, is a bacteriological sample taken in the area of the break within one working day? (NR 810.09(4)(b))	When water main breaks are repaired in public water systems that do not maintain a detectable chlorine residual, a bacteriological sample is not taken in the area of the break within one working day.

The number of main breaks repaired, and the number of service line breaks repaired are reported on page W-15 of the annual PSC report.

Optional example tracking table for use in sanitary survey report:

Number/Year	2020	2021	2023
Main Break(s)			
Service Line Break(s)			
Bacti sample(s) collected within 1 day of main break			
Bacti results on file with system			