

SDSU | Environment, Health, and Safety

SDSU Environment, Health, and Safety Water Main Disinfection and Testing Procedures

A. Purpose

The purpose of this document is to explain the procedures for the disinfection of water mains and the subsequent biological sampling of the treated water. The processes described in this document are in alignment with the [American National Standards Institute/American Water Works Association \(ANSI/AWWA\) Standard for Disinfecting Water Mains, edition C651-23](#) (hereafter referred to as ANSI/AWWA Standards). Compliance with these standards assures that safe drinking water is available to the SDSU community.

B. Scope

These procedures apply to all newly-constructed and reintroduced potable water lines.

C. Responsibilities

For new construction projects, it is the responsibility of the general building contractor (or an entity sub-contracted by general building contractor) to ensure that appropriate sanitation and chlorination procedures are followed and in compliance with ANSI/AWWA Standards.

For repair projects, it is the responsibility of SDSU Facilities Services (or an entity sub-contracted by SDSU Facilities Services) to ensure that appropriate sanitation and chlorination procedures are followed and in compliance with ANSI/AWWA Standards.

Biological testing after the chlorination treatment process is the responsibility of the project managers. A water sample is to be collected and submitted to an accredited water testing laboratory by the California Water Board that can be found at the following link https://www.waterboards.ca.gov/drinking_water/certlic/labs/index.html. The results are to be submitted to SDSU Environmental Health and Safety (EHS).

Please notify SDSU EHS at least one week before the chlorination process, at the following contact: ehswatersupply@sdsu.edu. Fill out the Chlorination Process forms and submit for approval.

D. Procedures

All underground and above-ground potable water lines shall be disinfected and chlorinated in accordance with the procedures laid out by ANSI/AWWA Standards. The basic steps are as follows:

1. Installation or repair of the water main

Special care should be taken to prevent contamination of the water main during the construction, installation or repair process. New pipes should be examined for cracks and kept clean and dry. Existing pipes that require repair should be treated through chlorination and/or flushing. If contamination is suspected, the pipe should be treated in accordance with ANSI/AWWA Standards.

2. Preliminary flush

A preliminary flush of the water main should be conducted prior to chlorination to remove any excess dirt or debris and to test hydrostatic pressure. The flush should run until the water runs clear and a pressure of 120 psi shall be maintained. Additional guidance can be found in the ANSI/AWWA Standards.

Complete the [EHS Chlorination Notification Form](#) once the preliminary flush has been completed and **at least one week before the chlorination process.**

3. Chlorination

The ANSI/AWWA Standards for Disinfecting Water Mains describes the acceptable initial chlorine concentrations, required contact time, and final chlorine concentrations that should be followed. These are dependent upon the type of project and which method of chlorination has been used.

4. Final flush

Once acceptable test chlorine concentrations have been reached and held for a period of time, a final flush must be conducted to lower the high chlorine concentration and reach an acceptable chlorine concentration for drinking water. If highly chlorinated flush water discharge is likely to cause any downstream harm (e.g., plants, animals, or structures), steps must be taken to mitigate the impact such as dilution or neutralization of the highly chlorinated water.

Complete the [EHS Chlorination and Biological Sampling Test Results Form](#) **immediately following the final flush.**

5. Biological sampling

The absence of coliform bacteria and an acceptable level of heterotrophic plate

count (HPC) is the basis for approval of a water system. Acceptable minimum standards are as follows:

- Total Coliform Count: **0**
- Heterotrophic Plate Count (HPC): **≤500 CFU/ml**

6. Additional treatment (if applicable)

If minimum standards are not met, additional treatment and re-chlorination of the water system is required until the minimum standards can be met.

7. Approval and final connection to main water line

Upon receipt of acceptable biological testing results, email a copy of the testing analysis report to ehswatersupply@sdsu.edu. EHS will provide written approval to the responsible party and the water main can be connected to the existing active water distribution system.