



## Standard Operating Guidelines Bacteria Testing/Sampling of New/Replacement Water Mains

Guidelines are intended to give direction on water mains owned and operated by the City of East Moline.

New/Replacement water main projects – after required pressure tests, disinfection, and flushing:

Bacteria samples are required and must be scheduled with the Water Filtration Plant laboratory. Bacteria samples require 24 to 72 hours for results; therefore, **bacteria samples shall be scheduled so that the first sample is taken no later than Thursday of any given week.** Holidays may require adjustments to this schedule.

Per I-EPA requirements there shall be a minimum of one (1) bacteria sample per 1,200 feet of new/replacement water main pipe. One (1) bacteria sample will also be required from each branch of the new/replacement water main that is 20 ft in length or longer. Additional samples may be required depending on design and I-EPA requirements.

Actual number of bacteria samples and location of sample sites will be determined by East Moline Water Filtration Plant personnel.

Bacteria samples will be taken directly off the new/replacement water main from a 3/4" or 1" tap, preferably with a short piece of copper pipe (12" to 24" long) attached. **Contractor must furnish tap, copper pipe, bleach and torch to disinfect the copper pipe, as well as access to the sample tap. Backfilling over sample taps is not advised, as this can harbor and promote bacterial growth at the connection.** It is strictly forbidden to pull bacteria samples from fire hydrants.

If possible, taps used for bacteria sampling will be located so the same tap can be used for a customer service line. **It is recommended that the threads of both the tap and copper sampling pipe be disinfected with bleach before connecting to each other. The use of pipe tape or pipe lube is not recommended on bacteria sample tap connections, as these materials harbor and promote bacterial growth.**

On the day of bacteria sampling, prior to bacteria sample collection, the sample tap(s) and nearby hydrants shall be flushed for 15 minutes or until the chlorine residual corresponds to normal system chlorine residual levels. Excessive flushing (due to over-chlorination by the contractor during the disinfection process) performed to bring the chlorine level down to acceptable normal system chlorine



residual levels may result in the contractor receiving a bill for excessive water usage during the flushing process.

**All water discharged from sample tap(s) and/or hydrants during the flushing process must be de-chlorinated**, regardless of where the water is being discharged to.

Bacteria samples from each sample site are required to demonstrate the absence of coliforms on two consecutive samples taken 24 hours apart to pass bacteria test(s).

If coliforms are present, repeat disinfection and flushing will be required. Once this is completed, per I-EPA requirements, two bacteria samples 24 hours apart (from each sample site) will be required. All samples must show the absence of coliform bacteria.

This process must be repeated until two bacteria samples, taken 24 hours apart, show the absence of coliform bacteria.

Once the new/replacement water main has passed bacteria testing, services and additional connections can be completed.

When making additional connections to the new/replacement water main, use less than 20' of pipe where possible. Water shutdown will be required when making these connections. When water is shutdown, or falls below 20 psi, a boil order for affected customers is required, and bacteria samples must be obtained. One bacteria sample is required for every 25 taps (customers), so affected areas shall be kept to a minimum.

These are meant to be guidelines. Under certain circumstances there may be some variation from these guidelines. All variations must be approved by Water Filtration Plant personnel and there will be no variance allowed for I-EPA requirements.

## **Private Water Lines –**

Private water lines, no matter what size, are the responsibility of the property owner. If a private water line loses pressure or falls below 20 psi, it is the property owner's responsibility to establish protocol for their property or customers/occupants.

If this situation arises – East Moline Water Filtration Plant will provide bacteria sampling and testing, at the customer's request, at no charge to **East Moline water customers only**.

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