



Massachusetts Department of Environmental Protection
Wastewater Management Program
One Winter Street – Boston, MA 02108
Web: <http://www.mass.gov/eea/agencies/massdep/water/wastewater/>

Fact Sheet – Sewer Systems

Regulatory Requirements for Infiltration & Inflow (I/I) Removal Programs

May 2017

2014 Changes to I/I Regulatory Requirements

In April 2014, MassDEP promulgated changes to its regulations for Operation, Maintenance, and Pretreatment Standards for Wastewater Treatment Works and Indirect Dischargers (314 CMR 12.00). These regulations require all sewer system authorities to develop and implement an ongoing plan to control infiltration and inflow (I/I) to their sewer systems. Infiltration is water other than sanitary flow that enters a sewer system from the ground through defective pipes, pipe joints, connections, and manholes. Inflow is water other than sanitary flow that enters a sewer system from sources such as roof leaders, cellar drains, manhole covers, cross connections between storm sewers and sanitary sewers, storm waters, surface runoff, and sump pump discharges. Controlling I/I is important because a significant number of the Sanitary Sewer Overflows (SSOs) that occur in wet weather are due to excessive I/I.

The most significant changes made to the regulations in 2014 pertaining to I/I were:

- Prohibition of inflow into a sewer system, unless such removals are technically infeasible;
- Requirement for assessing the risk of Sanitary Sewer Overflows (SSOs) from the 5-year, 24-hour storm event (previous guidance specified a 1-year, 6-hour storm); and
- Requirement to submit an I/I analysis to MassDEP by December 31, 2017.

Revised Guidelines

To assist sewer authorities in meeting the new regulatory requirements, MassDEP issued Guidelines for Performing Infiltration/Inflow Analyses and Sewer System Evaluation Surveys (<http://www.mass.gov/eea/agencies/massdep/water/wastewater/sewer-systems.html#5>) in May 2017. This document is a revision to guidelines previously issued in 1993. The Guidelines lay out a four-step approach:

- Infiltration and Inflow Analysis
- Sewer System Evaluation (SSES)
- Sewer System Rehabilitation
- Post-Construction Monitoring

MassDEP's I/I Guidelines explicitly indicate that sewer authorities can develop alternative approaches to identifying and removing I/I. However, such approaches must have the same goal of identifying and removing *excessive* infiltration and inflow. For example, where a sewer authority wishes to forego system-wide flow metering, there must be sufficient information (e.g., sewer system studies, pump station data, existing flow

meter data) upon which to base an approach to prioritize subareas for further I/I investigations. Properly installed and maintained flow metering equipment remains the optimal way of generating the best account of I/I flows. Any alternative approach must have a component that includes a program for identifying and removing inflow sources, targeting subareas shown to have higher inflow volumes and/or SSO locations.

Meeting the December 31, 2017 Deadline

MassDEP regulations require all sewer authorities to submit an I/I Analysis or I/I Plan on or before December 31, 2017. Sewer authorities seeking up to a one-year extension of time to develop and submit an I/I Analysis or Plan should submit a written request for an extension on or before the December 31, 2017 deadline. The request should include, at a minimum, information on sanitary sewer overflows (SSOs) and past I/I studies, and a schedule for completing the I/I analysis or plan by December 31, 2018, including:

- A summary of past I/I or sewer system studies/reports;
- A summary of the municipality's I/I abatement efforts over the last 5-10 years (funding, work performed);
- A summary of the authority's historical wet weather SSO events (for at least the past 10 years), including dates, locations, and an estimate of SSO volumes;
- Where required under 314 CMR 12.04(2)(d), for CSO permittees and tributary communities, a description of the municipality's program to provide for 4:1 I/I removal for any new connections for which design flows exceed 15,000 gpd; and
- A plan and schedule to undertake the work to comply with the requirements for an I/I Analysis in accordance with 314 CMR 12.04(2) by December 31, 2018.

For sewer authorities that submit an I/I Plan or a request for an extension with the elements noted above, MassDEP will not take enforcement action for failure to submit the I/I Analysis or Plan by December 31, 2017. MassDEP will review and respond on the scope and schedule of the I/I Plans received. Sewer authorities that fail to submit any I/I Plan or extension request containing the minimum elements outlined above may be subject to enforcement action for failure to meet the deadline.

Funding for I/I Analyses, SSES, and Implementation

State Revolving Fund (SRF) low-interest (2%) loans are available through MassDEP for I/I analyses and SSES ("planning" loans) and I/I-related construction work. Loans are offered through a competitive process. MassDEP expects to send out the solicitation for calendar year 2018 SRF projects in June 2017, which will detail the process for pursuing SRF funding.

Additional Information

Guidelines for Performing Infiltration/Inflow Analyses and Sewer System Evaluation Surveys, as well as an informational PowerPoint presentation and Frequently Asked Questions document are available on MassDEP's website at <http://www.mass.gov/eea/agencies/massdep/water/wastewater/sewer-systems.html#5>. Specific questions about I/I analyses should be directed to the appropriate MassDEP Regional office.