Frequently Asked Questions (FAQs) on Regulatory Requirements for Infiltration & Inflow (I/I) Removal Programs

1. A sewer authority won't be able to meet the requirement for submitting an I/I Analysis or Plan by the December 31, 2017 deadline in the regulations. How should they proceed?

   MassDEP regulations (314 CMR 12.00) require all sewer authorities to submit an I/I Analysis or I/I Plan on or before December 31, 2017, consistent with MassDEP's Guidelines for Performing Infiltration/Inflow Analyses and Sewer System Evaluation Surveys (Guidelines). Sewer authorities seeking an extension of time to develop and submit an I/I Analysis or Plan should submit a written request for an extension of time 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 compliance, 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).*

2. Will a sewer authority be subject to enforcement actions if they fail to submit an I/I Analysis or Plan or request an extension?

   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 in #1 may be subject to enforcement action for failure to meet the deadline.

3. A sewer authority has an interest in proceeding with an I/I abatement program that differs from the approach favored in the Guidelines. Can they develop their own approach?

   MassDEP's I/I Guidance explicitly indicates 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.

4. MassDEP regulations indicate that the I/I program must target excessive infiltration and inflow. When is I/I considered excessive?

   Excessive I/I is defined in the I/I Guidelines as:

   - *I/I sources directly or indirectly contributing substantial volumes to wet weather SSO events, as necessary to prevent SSO events for a five year storm event, or a twenty five year storm event to areas with sensitive uses, such as but not limited to public water supplies.*
   - *Infiltration sources that can be removed from the sewer system cost effectively, based on a comparison of the cost of removal to the cost of transporting and treating the flows.*
   - *All public and private inflow sources, unless existing conditions render such removal technically infeasible or cost-prohibitive.*

5. Inflow removal, especially private inflow removal, can be extremely challenging and costly. When are inflow sources "technically infeasible" to remove or "cost-prohibitive?"

   MassDEP acknowledges the difficulties in addressing private inflow sources to public sewer systems. While all sewer use regulations must prohibit connection of inflow sources as per 314 CMR 12.03(5), approaches to identifying and removing existing private inflow connections should be guided by:

   - *the significance of private inflow sources in creating SSO risks;*
   - *the costs to the utility and/or property owner of removing private inflow connections; and*
   - *the potential for any adverse impacts such as public safety concerns (e.g., increased flooding or icing of surfaces).*

   In addition, 314 CMR 12.03(5)c requires local sewer use ordinances provide authority to physically access properties connected to the sewer system to ensure compliance with sewer use regulations. The factors above will be considered in MassDEP's review of I/I abatement programs, and in determination if such removals are either technically infeasible or cost-prohibitive. Where frequent or serious SSO events have occurred,

sewer authorities must undertake an aggressive inflow removal program, which is essential to address the health risks associated with wet weather SSOs.

6. The regulations require that sewer authorities assess the risk of SSOs for a five-year, 24-hour storm event as an element of the I/I Analysis to be submitted. How is this to be done?

   Based on a review of NOAA Atlas 14 data, MassDEP has defined a five-year, 24-hour storm event as an event that produces a total depth of 4.61 inches of rain, a peak intensity of 0.73 inch/hour, and an average intensity of 0.19inches/hour. In order to evaluate the capacity of the sewer system under such an event, communities can use calibrated sewer system models when available, or in the absence of any system model, can review the history of wet weather SSO events and correlate them to the rain event associated with the overflow events. Table 6 in the I/I Guidelines presents depth-duration-frequency curves, which are useful in characterizing recurrence intervals for these storm events. This approach can be used to adequately demonstrate that the system has capacity to convey (at a minimum) a five year storm event.

7. For a sewer authority with no SSO events, why must they undertake an I/I abatement program?

   Infiltration and inflow into sewer systems reduces the useful life and capacity of a sewer system, and results in clean water being conveyed through sewers and pumping stations to treatment works. In some cases, I/I flows can account for as much 2/3 of the flow to treatment works, increasing the costs and stresses on vital elements of the treatment systems. Other adverse impacts of excessive I/I can occur through interbasin transfer of groundwater in already depleted watersheds, and contributions to surcharging and overflows in downstream communities in regional systems. A program to address excessive I/I flows is an element of a proper operation and maintenance program for all sewer authorities.

8. Do sewer authorities with NPDES-permitted CSO discharges need to submit an I/I Plan by December 31, 2017?

   Yes. MassDEP recognizes that many sewer system authorities in Massachusetts have combined sewer systems, and as such, have been designed to collect and convey stormwater flows in addition to sanitary flows. These systems in nearly every case also have combined sewer overflow structures included in their NPDES discharge permits. Communities with CSO discharges are subject to a separate regulatory framework, including the state and federal CSO Control Policies and Guidance. In these communities, the I/I control plan should be consistent with the Long-Term CSO Control Plan, which may supplant the I/I control plan in its entirety, and have approaches and recommendations that differ from approaches in separate sewer systems. These sewer authorities should submit an I/I Plan, which includes a summary of the status of CSO control efforts, and any work to address I/I in areas of the system with separate sewer and drain systems.

9. Is there funding available to assist sewer authorities in completing I/I work?

   Sewer authorities can apply to MassDEP for a State Revolving Fund (SRF) low-interest loan (2 %) to support I/I-related work. Loans are available for I/I Analyses and SSES ("planning" loans) and I/I-related construction work. The annual cycle for SRF funding is as follows:

   - *June – MassDEP initiates the annual procurement*
   - *August – Proposals due*
   - *Fall – MassDEP publishes the draft Intended Use Plans (IUPs)*
   - *January – MassDEP publishes final IUPs*
   - *Winter/Spring – Local funding appropriation*

   More information on SRF is available on MassDEP's website: http://www.mass.gov/eea/agencies/massdep/water/grants/clean-water-state-revolving-fund.html.