

Long Term Operation and Maintenance of Sanitary Sewer Systems

Reporting of Sanitary Sewer Overflows and Basement Backups

It is recommended that Article 6-5, Correction of Existing Deficiencies in Separate Sewered Areas, of the Manual of Procedures for the Administration of the Sewer Permit Ordinance be amended as described below.

1. "b. Applicability" shall be replaced with the following: "b. Applicability: This Article applies to all tributary communities which own and/or operate a sanitary sewer system which discharges directly or indirectly to the MWRD system. As used herein, the term "tributary community" shall include municipalities, townships, private utility companies, school and sanitary districts, homeowners associations and any other permittee or entity. Tributary communities that have achieved compliance under the I/I Corrective Action Program (ICAP), or under any other previous I/I control program of the MWRD are subject to the program requirements described herein.
2. "c. Compliance Criteria" shall be replaced with the following:

"c. Program Requirements: Each tributary community shall undertake a program for assessment of the condition of the sanitary sewer system, for removal of I/I and for rehabilitation of the sanitary sewer system. The program shall include the following elements:

 - (1) Flow monitoring program for sewer segment(s)'s capacity evaluation; & Overall goals for I/I control performance;
 - (2) Each tributary community shall perform a condition assessment of the entire public sanitary sewer system. The assessment shall consist of televising sewer main lines, identifying all defects on public main lines, identifying illegal connections to the public sewer, assessing the condition of connections of laterals to the public sewer, and visually inspecting manhole barrels, frames and covers. All defects within the public sewer system shall be inventoried. A log of the condition of each point of connection of the private lateral to the public main shall be developed.
 - (3) Each tributary community shall perform smoke testing and an external visual inspection of all private properties to identify private sector sources of I/I including directly connected downspouts, open/defective cleanouts, area drains, driveway drains, and window well drains. Each tributary community shall adopt an ordinance under which directly connected downspouts are disconnected and open/defective cleanouts are covered and/or repaired within 30 days. The tributary community shall keep a record of any area drains, driveway drains, sump pump, footing drain and/or window well drains identified for their eventual removal under a long-term correction program.
 - (4) Each tributary community shall update their sewer atlas and migrate the information to a GIS platform.

- (5) Following the condition assessment described in paragraph (1), each tributary community shall classify components of its system into high, medium, or low priority groups based upon the probability of and anticipated impact of a failure within these areas.
- a. At a minimum, high priority sewers include those larger than 24", or sewers built before 1964 that have not been rehabilitated since January 1, 1974 (could also be driven by site specific conditions [soil types and stability; etc.; how well sewers were initially installed, depth of groundwater, etc]) . All sanitary lift stations are considered high priority.
 - b. Low priority sewers may include those that have been installed or lined since January 1, 1999, those that have been grouted since January 1, 2004 (see note above), but otherwise should not include sewers that are larger than 10". Tributary communities with sewers meeting these descriptions may classify such sewers as high or medium priority based upon other factors, such as the critical nature of facilities served by the sewer.
- (6) Tributary communities shall determine target annual expenditures (in 2013 dollars) required to maintain and rehabilitate their sanitary sewer system. A cost estimate of the target annual expenditures shall be submitted for review to the MWRD, and shall include unit costs, quantities, equipment and labor costs and shall be based upon the following:
- a. Complete rehabilitation of high priority sewers and manholes that have not yet been rehabilitated within 10 years of the effective date of this amendment. Televised inspection of high priority sewers every 3 years.
 - b. Complete rehabilitation of medium priority sewers and manholes that have not yet been rehabilitated within 25 years of the effective date of this amendment. Televised inspection of medium priority sewers every 7 years.
 - c. Complete rehabilitation of low priority sewers that have not yet been rehabilitated within 40 years of the effective date of this amendment. Televised inspection of low priority sewers every 12 years.
 - d. Televised inspection and rehabilitation activities include required sewer cleaning, and root removal.
 - e. Removal of all illegal connections identified in (1) over the 10 year period following the effective date of this amendment. However, all storm-sanitary cross-connections shall be removed within 30 calendar days of their being discovered.
 - f. Repair of defective lateral connections identified in paragraph (1) in conjunction with municipal street repair projects.
- (7) The MWRD shall review each tributary community's target annual expenditures submittal to ensure the required program components have been addressed. The MWRD will notify each tributary community in writing of deficiencies with the submittal, and the tributary community shall make appropriate modifications to the submittal and resubmit. Once no

deficiencies are noted, the MWRD will issue an acceptance letter. Sixty calendar days prior to the 5-year anniversary of the acceptance letter, the tributary community must submit an updated estimate of target annual expenditures, which should reflect current costs for labor, material, equipment, etc. Expenditure updates will be subject to review by the MWRD to ensure the required program components have been addressed.

- (8) Tributary communities shall prepare a comprehensive long term operation and maintenance program for the public and private sanitary sewer system which shall include a schedule for eliminating sources of I/I identified under (1), and in accordance with the target times described in (5).
- (9) Tributary communities shall submit annual reports to the MWRD detailing maintenance activities and I/I source reduction performed per parts (5) and (6) . Annual reports submitted before parts (1)-(6) are completed shall report maintenance activities performed under Long Term Operation and Maintenance Programs approved under ICAP or previous sanitary sewer rehabilitation programs of the MWRD and shall include status reports on progress made towards completing parts (1)-(6). Annual reports shall be due by March 15 of each year.
- (10) Any of the following constitute a violation of this ordinance and will be subject to the MWRD's enforcement proceedings:
 - a. Failure of a tributary community to submit an annual report
 - b. Failure to perform the I/I elimination activities identified in the schedule described in (7)
 - c. Failure to update the estimate of annual expenditures as described in (6).

NOTE: Condition Assessments which are accompanied by some form of flow monitoring which would be designed to identify and isolate sources of excessive I/I flows within collection system watersheds would be the most efficient method to determine the "higher priority" (excessive I/I) contributions. There may be cases where extreme I/I, if not listed as such since it may not cause SSOs or basement backups in the immediate community, but rather may still be transported further downstream to cause SSOs or basement backups in a community further downstream, needs to be quantified; it also may be excessive I/I for transport and treatment (\$\$) at MWRD wastewater treatment plants. EPA believes it is essential that the ordinance have provisions that require systematic flow monitoring, assessment and action levels to effectively implement a successful excessive flow reduction program.

3. "d. Private Sources of I/I" shall be replaced with the following:
 - d. Reporting of Basement Backups (BB) and Sanitary Sewer Overflows (SSO) (This will help to identify the frequency and durations of surcharges which occur in the satellite communities' collection systems which result in SSOs or basement backups. It should be

able to provide an annual snapshot where SSO and backups occur in the MWRD satellite service area)

Each tributary community shall report all SSOs and BBs to IEPA, using Illinois Environmental Protection Agency's (IEPA) forms. Tributary communities shall keep copies of these reports on file. The following requirements apply to all tributary communities:

- (1) Upon written request, each sanitary sewer system owner shall produce copies of the reports for review by the MWRD within 5 working days.
- (2) Each year, each system owner must submit a report to the MWRD listing the SSOs and BBs by address/cross street location and date. The report must also include an analysis summarizing the past five years of BBs and SSOs within the system. The report must include the following:
 1. Identification of patterns of areas prone to such incidences
 2. Documentation of measures taken to reduce incidences in these areas
 3. Proposed actions to be taken to reduce SSOs and BBs in areas prone to these incidences and in other locations
 4. Summary of investigations undertaken to determine causes of SSOs/BBs when a pattern of incidences occurs
- (3) Tributary communities that fail to demonstrate progress towards reducing BBs and/or SSOs when a portion of the system is shown to be susceptible to such problems over the course of 2 reporting cycles will be subject to an investigation by the MWRD which may lead to violation proceedings. The MWRD will notify IEPA of its investigation.
- (4) Progress towards reducing BBs and/or SSOs can be demonstrated by:
 - a. Undertaking a study to investigate the causes of SSOs and/or BBs within the portion of the system that is affected
 - b. Increasing maintenance activities and/or focusing appropriate maintenance activities within the portion of the system prone to SSOs and/or BBs
 - c. Performing rehabilitation work within the portion of the system prone to SSOs and/or BBs
 - d. Increasing the frequency of private sector inspections, re-inspections and enforcement actions for I/I source removal
 - e. If so warranted, establishing a private-public cost-share program for elimination of private sector I/I sources
- (5) In determining whether an area is susceptible to BBs and/or SSOs, the MWRD will rely on information received from the tributary community as well as from other sources including the general public. When reports of BBs and/or SSOs are reported by sources other than the tributary community, the MWRD may perform an investigation and will inform the tributary community of the reported incident. If the MWRD and/or tributary community verifies that a BB or SSO occurred, a copy of the IEPA report shall be submitted to the MWRD within 30 days of the incident. The

tributary community will be required to address these SSO and /or BB occurrences in their annual report to the MWRD.

5. “e. Semi-annual Reports” shall be replaced with the following:

e. Compliance Schedule: The program requirements shall be completed by the dates indicated below:

- (1) Comprehensive condition assessment of public sector sanitary sewer system and inventory of I/I sources shall be completed and submitted to the MWRD in the form of a report within 2 years of the date of adoption of this amendment.
- (2) Investigation of all private properties served by separate sanitary sewer system for I/I via smoke testing and external inspection shall be completed and submitted to the MWRD in the form of a report within 3 years of the date of adoption of this amendment.
- (3) Update sewer atlas and migrate to GIS platform within 5 years of the date of adoption of this amendment.
- (4) Complete comprehensive long term operation and maintenance program and expenditure plan, incorporating steps described in c.4-c.7, within 3.5 years (42 months) of the date of the adoption of this amendment.

Federal CMOM Listed Provisions: http://www.cmom.net/cmom_guide_for_collection_systems.pdf

Collection System Management:

organizational structure, training, communication, customer service, notifications, & legal authority.

Collection System Operation:

budgeting, monitoring; H₂S control, safety, emergency response, mapping, construction, & pump stations.

Equipment & Collection System Maintenance:

maintenance budgeting, planned and unplanned maintenance, cleaning schedules, & parts & equipment inventory.

Sewer System Capacity Evaluation: testing & inspection & flow monitoring.

Sewer System Rehabilitation: SSO elimination & I/I reduction.