

CHAPTER 4

OPTIMIZING LEGAL AUTHORITY

Many municipalities have developed sewer use ordinances that improve performance and ensure proper maintenance of their wastewater collection system. The sewer use ordinance is a legal document that authorizes how the utility manages, operates and maintains its wastewater collection system. Establishing or strengthening sewer use ordinances is a means of improving collection system performance.

Information for this chapter was primarily obtained from the following sources: Parsons, Inc.'s *Municipal Ordinance Considerations and Suggested Language to Help Control Sewer System Overflows* (DRAFT), and the Water Environment Federation's *Control of Fats, Oil, and Grease (FOG)—Advanced Training Course*.

4.1 Sewer Use Ordinances

Despite unique community conditions, the following is a list of general performance-affecting issues that most collection system agencies face. These include:

- The need to control infiltration, inflow, and exfiltration.
- The need to ensure proper design, installation, and inspection of sewer lines.
- The need to maintain all sewer line components, including those owned by private and public entities.
- The need to reduce the disposal of substances into the sewer line that can cause performance problems.
- The need to find and eliminate illegal connections (sump pumps, roof leaders, foundation drains, etc.).

Recognizing the health and legal problems that can result from sanitary sewer overflows and backups, an increasing number of municipalities have enhanced their community's sewer use ordinance to address the collection system issues identified above.

A sewer use ordinance is a statute that is enacted by the legislative body of the municipal corporation for public purposes in that jurisdiction. Municipalities adopt ordinances for public or government purposes to facilitate the general administration and public welfare of the local community, within delegated authority provided by the State constitution or State statutes.

A statute must be enacted by being formally introduced, voted upon favorably, and adopted by the municipal legislative body (usually referred to as the city council, town council, village council, board of alderman, board of selectmen), and then signed into law by the municipal executive authority (e.g., mayor, city manager, commissioner, supervisor).

To be valid, a sewer use ordinance cannot conflict with the State's constitution, general statutes, or the charter or other special legislative acts under which the municipal corporation operates.

The ordinance may impose more vigorous or definite requirements, in addition to those imposed by the State legislature, provided that those requirements are consistent with and do not conflict with the governing State statute.

If there is an existing sewer use ordinance, it should be reviewed periodically to determine whether the ordinance's contents still meet the collection system's need (including issues such as enforceability). Where there is not an ordinance in place, one should be developed. System managers may wish to consider current and reasonably anticipated future challenges confronting their systems and how various changes to the ordinance might help meet challenges.

It is frequently useful to consult with legal/legislative counsel for the municipal corporation and/or a potential legislative sponsor to gain insights on the most effective form and contents for the prospective changes or new sewer use ordinance.

4.1.1 Suggested Language

The following information provides potential sewer use ordinance language options that may be appropriate to include in a municipal ordinance or amendment. The information presented contains examples of actual sewer use ordinances enacted to address specific collection system issues. They are not presented with the intention that all elements should be universally adopted. Since local conditions vary, consulting with local legal and legislative authorities to determine which ordinance language options, and exact statutory language, best meet the local need is advised.

Inflow Control

No person shall discharge or cause to be discharged, either by gravity drain or by force pump, any storm water, surface water, groundwater, roof runoff, subsurface drainage, cooling water, or unpolluted . . . process waters to any sanitary sewer. No person shall at any time make any connection of any source of storm runoff, ground water, or sources of uncontaminated water directly, or indirectly, to a sewer extension, existing public or private sewer, interceptor sewer. (Manhattan, Kan., Code of Ordinances ch. 32, art. III, div. 4, § 32-159 (1974))

Infiltration Control

The allowable infiltration for all existing sanitary sewers is hereby established at no more than two hundred (200) gallons/inch sewer diameter/day/mile for sewers twenty-four (24) inches in diameter and smaller. All new sewers shall be designed and constructed in accordance with State regulations and tested for infiltration in accordance with an acceptable testing method of the State Department of Public Health. (Edmond, Okla., Code of Ordinances tit. 13, ch. 13.16, 13.16.070 (1980))

Responsibility for Inspections of Existing Lines

Any person owning or occupying a tract or parcel of land upon which sanitary sewer service lines are located which flow into public lines in city streets, alleys and easements (including, but not limited to, single-family or duplex residences, mobile homes and/or trailer parks, apartments, places of business, schools, hospitals, churches, structures of any kind, vacant buildings, or vacant land) shall be responsible for the inspection, maintenance, repair and operational integrity of such private sanitary sewer service line. (Friendswood, Tex., Code of Ordinances pt. II, ch. 78, art. III, div.3, subdiv. II, § 78-147.(a) (1992))

Time of Transfer Inspection Programs

Prior to the original connection, reconnection or transfer of water and/or sewer service to a tenant or property owner, the city may inspect or require the inspection of private sanitary sewer service lines thereon for the purpose of determining the amount of infiltration and inflow into such lines, if any. Inspections shall be made or required when, based upon local infiltration and inflow conditions and experience, the director of public works has determined that such inspections are necessary to effectuate the purposes of this subdivision. Any conditions discovered in such line inspections causing or allowing infiltration or inflow shall be repaired by the property owner or tenant, or agent thereof, prior to such original connection, reconnection or transfer of city water and/or sewer service, as applicable. Where conditions have been discovered on existing private service lines but for which no application for reconnection or transfer to city service has been sought, the property owner or tenant shall cause such repairs and maintenance to be performed in accordance with sections 78-150 and 78-151. (Friendswood, Tex., Code of Ordinances pt. II, ch. 78, art. III, div. 3, subdiv. II, § 78-148 (1992))

[**Note:** Time of transfer inspection programs are also effective for eliminating illicit connections to the municipal stormwater collection system and identifying sources of private infiltration.]

Inspection Programs – Power and Authority of Inspectors

The City shall be permitted to enter all properties for the purposes of inspection, observation, measurement, sampling and testing in accordance with the provisions of this chapter. (Edmond, Okla., Code of Ordinances tit. 13, ch. 13.16, 13.16.090 (1980))

Main, Trunk and Lateral Extensions – Permit Required to Connect with Sewers

Any project which is of sufficient discharge capacity and requires a state sewer extension permit pursuant to Massachusetts Sewer System Extension and Connection Permit Program . . . must contribute to the reduction of infiltration and inflow to the public sewer system. This may be in the form of a limited inflow/infiltration study, actual removal of inflow/infiltration by pipeline rehabilitation, combined sewer separation, storm drain installation, specific pipeline maintenance projects, a permit fee or other method as approved by the sewer commission and department of public works.

Such inflow/infiltration reduction must establish an effective removal or planned removal of five times that volume proposed to that which is being introduced [by the sewer line extension]. (Fall River, Mass., Revised Ordinances pt. II, ch. 74, art. III, div. 2, § 74-202 (1988))

Private Line Specifications/Standards for Sewer Connections

The building sewer shall be connected into the public sewer at the property line by the City, subject to fee outlined in section . . . of this article. Direct stub-ins through the wall of the sewer pipe shall not be permitted. Whenever possible, the connection shall be made at the top of the pipe and smooth bends not exceeding forty-five (45) degrees shall be used in the service pipe to prevent clogging. A neat workmanlike connection shall be made. (Alexandria, La., Code of Ordinances pt. II, ch. 27.5, art. I, § 27.5-4(1) (1980))

Inspection and Testing of New Sewers

4.2. Testing. The developer or contractor under the supervision of the city engineer will test all sewers constructed for city acceptance as follows:

4.2.1. Infiltration-exfiltration test.

Where the groundwater table is more than four feet above the average invert of the sewer being tested, or less than four feet below the average ground surface, an infiltration test will be conducted. Where the groundwater table is not within the limits above, an exfiltration test will be conducted.

4.2.2. Television inspection.

In addition to the infiltration and exfiltration testing, the sewer will be examined by the city's sewer television truck. Any significant defects of any nature observed by the television technician will be required to be repaired and reinspected. Breaks, separations, improper lateral connections, and deviation from proper grade resulting in standing water are examples of defects found by this method. (Slidell, La., Code of Ordinances app. B, div. II, sec. 5, 4.2 (2000))

Private Line Specifications/Standards for Sewer Connections

The applicant for the building sewer permit shall notify the plumbing inspector when the building sewer is ready for inspection and connection to the public sewer. The connection shall be made by the city wastewater department. The connection of the building sewer into the public sewer shall conform to the requirements of the building and plumbing code or other applicable rules and regulations of the city, or procedures set forth in appropriate specifications of the ASTM and the WPCF Manual of Practice No. 9. All such connections shall be made gastight and watertight. The plumbing inspector before installation must approve any deviation from the prescribed procedures and materials. (Alexandria, La., Code of Ordinances pt. II, ch. 27.5, art. I, § 27.5-4(m) (1980))

Connection to Public Sewers Required

The owner(s) of all houses, buildings, or properties used for human occupancy, employment, recreation, or other purposes, situated within the (-CVT), and abutting any street, alley, or right-of-way in which there is now located or may, in the future, be located a public sewer, is hereby required, at the owner's expense to install suitable sanitary facilities therein, and to connect such facilities directly with the proper public sewer, in accordance with the provisions of this law, within ninety (90) days after official notice to do so, provided that said public sewer is within one hundred feet (30.5 meters) of the property line. (New York State Department of Environmental Conservation—Model Sewer Use Law. 1994 Revision)

4.1.2 Design Standards

Quality sanitary sewer designs keep costs and problems associated with construction, operations, and maintenance to a minimum. Design flaws are difficult to correct once construction is complete. For this reason design standards should be incorporated into the community sewer use ordinance. Ideally, the sewer use ordinance should contain standards for new construction, procedures for reviewing designs and protocols for inspection, start up, testing and approval of new construction. The procedures should provide for documentation of all activities, especially inspection.

4.2 Fats, Oil, and Grease Control

Fats, oil, and grease (FOG), primarily generated from restaurants and other institutional food service establishments, are major contributors to collection system blockages and overflows. Institutional food service establishments include, but are not limited to: mall food courts, food manufacturers, food packagers, restaurants, grocery stores, bakeries, lounges, hospitals, hotels, nursing homes, churches, and schools. Apartment and condominium complexes can also be major sources of FOG.

The effective management of FOG in sanitary sewer collection systems requires a strong legal foundation. This foundation is often manifested in a municipality's sewer use ordinance or a separate FOG management ordinance. The management ordinance should be a complete outline of the FOG management program. The program's legal ordinance should refer to all of the basic requirements of the program and leave the details of the implementation to rules and regulations that can be developed and changed, as needed. One common practice is to develop a FOG Best Management Practices Manual and incorporate the manual by reference into the ordinance.

An effective grease control ordinance should establish the authority to:

- Establish who is regulated under the ordinance.
- Require grease interceptors, which are more effective than grease traps.
- Establish interceptor and/or trap design, construction, and inspection standards.
- Establish management, operation, and maintenance standards.
- Establish record keeping and reporting requirements.
- Regulate additives and alternative grease control devices.
- Issue individual/tailored permits or set a performance standard.
- Regulate grease haulers and establish fees.
- Regulate the proper disposal of FOG removed from grease traps and interceptors.

Establishing a local FOG management program is a resource-intensive undertaking. The resource requirements must be carefully considered when establishing a new program and municipal management authorities should be made aware of the required resource commitment early in the planning stages.

4.3 Private/Satellite Systems

A large number of public and private entities may own different pipes and other components of the entire municipal sanitary sewer collection system. In some situations, the municipality that owns the collector sewers may not provide treatment of wastewater, but only convey its wastewater to a collection system that is owned and operated by a different municipal entity. In addition, private satellite collection systems are associated with a wide range of entities such as trailer parks, residential subdivisions, apartment complexes, commercial complexes such as shopping centers, industrial parks, college campuses, military facilities, hospitals, and prisons.

The collection system authority should have a comprehensive program, which addresses flows from satellite communities. Satellite communities must not be allowed to contribute excessive flows that cause or may contribute to overflows, flooding or non-compliance at the wastewater

treatment plant. Should any of these situations exist, it is not sufficient that the authority merely charges the satellite community for the excess flow. The authority must be able to prohibit the contribution of the excess flow.

4.4 Private Inflow Control

Inflow is a system-wide problem, which, if not addressed, can result in SSOs and backups into buildings with significant adverse impacts to public health, welfare and the environment. Local projects to identify and remove inflow sources from private property (Private Inflow) are hindered on several fronts.

It is often difficult to convince local elected officials that the public health and environmental benefits of private inflow removal outweigh the potential local public outcry often associated with inspection/enforcement on private property. Also, local Sewer Use Ordinances often lack effective and employable measures for such enforcement.

There must be recognition that private inflow control is a complex issue and undertaking which requires a concerted and cooperative effort by a number of stakeholders, including homeowners, municipal officials and local agencies (including public works, building permits, plumbing inspector and board of health) and the State water pollution control agency.

Each wastewater system owner/operator should establish a Comprehensive Inflow Removal Program (Program). The Program should include a specific schedule for finding and redirecting all such sources unless the property owner can provide written documentation that the removal of the inflow source(s) will result in a severe financial burden. The Program should include procedures for periodic post-removal re-inspection to ensure that the inflow source(s) are not reconnected.

The wastewater system owner/operator should consider the following elements when designing its Program:

- Assess total system-wide costs to correct the problem and how corrective costs should be allocated.
- Inclusion of a one-time amnesty provision to get voluntary compliance.
- Consider financial assistance for building owners, such as providing homeowners with free technical assistance to design a fix, and an interest free loan to implement improvement.
- Assess local storm drainage system and its ability to provide a specific drain-connection to the property line to allow homeowners to disconnect/reconnect private inflow sources.
- Coordinate private source implementation work with other municipal utility and/or roadway reconstruction activities (e.g., integrate work into larger construction projects to minimize costs and inconvenience).
- Coordinate activities with building and plumbing permit and inspection programs.

Any program for removal of private inflow must specifically include a process for direct technical assistance to the property owner so that a viable and cost-effective alternative to continued connection to the wastewater system could be determined and implemented. It will be

difficult to implement a successful private inflow control program without the inclusion of such technical assistance; the property owner needs to see that a feasible cost-effective option actually exists.

The program must include outreach and education components to alert homeowners to the fact that their private inflow source(s) is contributing to problems in the wastewater system that could be causing specific local system overflows into nearby water bodies and/or backups into buildings, which could increase costs for all rate payers due to additional fees now and in the future.

WHAT ABOUT ILLICIT CONNECTIONS TO THE STORMWATER SYSTEM?

Municipal separate stormwater collection/conveyance systems frequently have illegal wastewater connections (e.g. illicit connections), or other contaminated discharges, which can pose significant threats to public health, welfare and the environment and severely restrict the beneficial uses of local waterways. Even a relatively small number of illicit connections can result in extensive degradation to the receiving water where the contaminated stormwater discharges.

Finding and eliminating illicit connections requires a series of concurrent and sequential actions that need to be carefully coordinated. Basic initial elements include:

- Preparation of maps showing the locations and size of each stormwater discharge pipe, and if possible, the tributary drainage area.
- Visual observation of each of the stormwater discharge pipes to determine whether the discharge is active during dry weather.
- Sampling of each of the active dry weather discharges from stormwater outfalls to determine whether the discharge contains pollutants that would indicate illicit connections to the system.
- Development of a plan to identify and eliminate illegal sewer connections to the storm drains for areas where sampling results indicate the presence of sanitary sewer flows.
- Update, as necessary, local sewer use ordinance and drain connection regulations relative to preventing and eliminating illicit connections and/or cross connections (e.g. common manholes) between separate sewerage and stormwater systems.

Even though a successful illicit connection program can remove significant sources of contamination, it comes with a cost, both political and financial. Since most illicit connections are from private buildings, the program will require the direct involvement of the public and will include such unpopular actions as access onto/into private property and often enforcement against individual building owners. The financial impacts can also be significant.

A major goal of an illicit connection program must be to develop a cost effective, systematic and expeditious approach for identifying illegal connections. Historically, illegal connection investigations are performed by visually inspecting manholes starting at the lower reaches of the drainage area, near the outfall. Once a source of sanitary influence is identified, further

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investigation of the drainage area would be suspended until the correction was made. After correction, follow-up inspections are performed. However, in many cases, there is still evidence of an upstream source of sanitary sewage and additional investigation is required.

A methodology recently developed by the Boston Water and Sewer Commission begins by defining smaller sub-areas. Visual inspections of storm drain manholes are performed starting at the upper reaches of the drainage area and working downstream. The inspections are performed only after 48 hours of dry weather. If flow is observed in a manhole, the flow is tested in the field for ammonia and surfactants using a field test kit. If no flow is observed, manholes at key junctions of the sub-drainage area are sandbagged for 48 hours to capture possible intermittent flow from upstream storm drains. Any flow that is captured is inspected for evidence of contamination. If evidence of contamination exists, upstream buildings are dye tested to determine the source of the contamination. Manhole inspections downstream of the suspected source of contamination are suspended until all upstream sources are identified and corrected. This way one can be almost assured that no illegal connections are missed.

Additional information on illicit connections is available in a NEIWPCC guidance document titled *Illicit Discharge Detection and Elimination Manual—A Guidebook for Municipalities*, which can be downloaded at: www.neiwpcc.org.

4.5 More Information

The New York State Department of Environmental Conservation has a web page containing information about sewer use and water efficiency, as well as fats, oil, and grease control. The web page is available at: www.dec.state.ny.us/website/dow/bwcp/seweruse_mp.html.

The New York State Department of Environmental Conservation has developed a Model Sewer Use Law that is intended to aid municipalities in developing or modifying their sewer use laws. The Model Sewer Use law is available at: www.dec.state.ny.us/website/dow/bwcp/seweruselaw.htm.

Additional information on successful fats, oil, and grease control programs is available from the following organizations.

- North Carolina Department of Environment and Natural Resources, Division of Pollution Prevention and Environmental Assistance. Oil and Grease Documents available at: www.p2pays.org/food/main/oil.htm.
- Georgia Department of Natural Resources, Pollution Prevention Assistance Division. Fats, Oils, and Grease Initiative Documents available at: www.dnr.state.ga.us/p2ad/h_fog_initiative.html.
- Oregon Association of Clean Water Agencies. Fats, Oil, and Grease Best Management Practices Manual available at: www.oracwa.org/.

CHAPTER 4 REFERENCES

Municipal Ordinance Considerations and Suggested Language to Help Control Sewer System Overflows (DRAFT). Parsons, Inc. 2002. EPA Contract No. 68-C-00-116, Work Assignment No. 1-03.

Control of Fats, Oil, and Grease (FOG)—Advanced Training Course. Water Environment Federation. July 2002.

Draft Notice of Proposed Rulemaking—NPDES Permit Requirements for Municipal Sanitary Sewer Collection Systems, Municipal Satellite Collection Systems, and Sanitary Sewer Overflows. U. S. Environmental Protection Agency. January 4, 2001.

Guide for Evaluating Capacity, Management, Operation, and Maintenance Programs for Sanitary Sewer Collection Systems (DRAFT). U. S. Environmental Protection Agency. 2000. EPA No. 300-B-00-014.

Model Sewer Use Law—Incorporating Federal Pretreatment Language. New York State Department of Environmental Conservation. 1994 Revision.

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