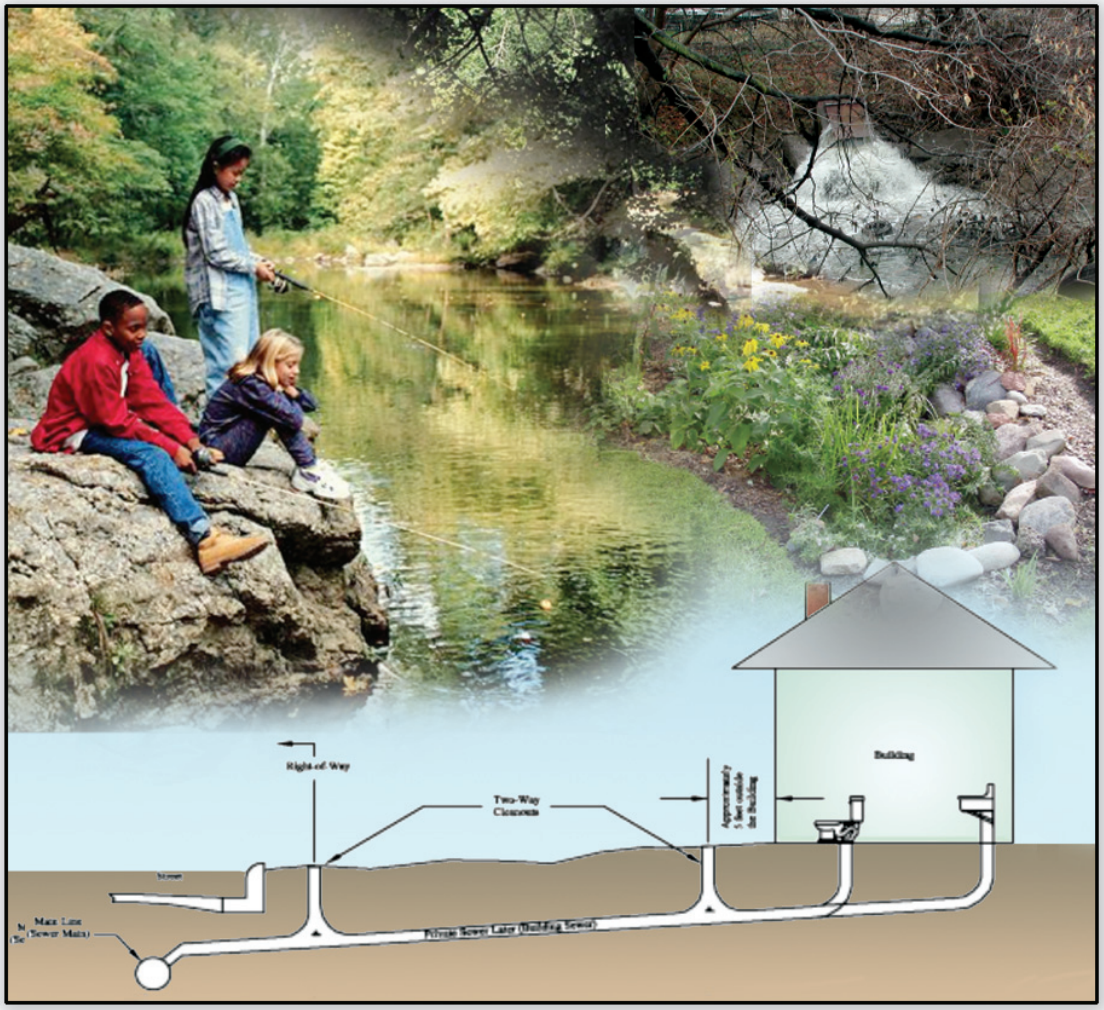
Delaware County Regional Water Quality Control Authority

PRIVATE LATERAL INFLOW AND INFILTRATION ELIMINATION PROJECT

SUMMARY REPORT



June 2010

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10P-0658

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DELAWARE COUNTY REGIONAL WATER QUALITY CONTROL AUTHORITY

Chester, Pennsylvania

June 2010

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ACKNOWLEDGEMENTS

The Delaware County Regional Water Quality Control Authority gratefully acknowledges the following individuals and organizations for their contribution of time, expertise, professionalism, video and still images, and funding that were integral to the development of the Summary Report, Video and Brochure for this project:

With special thanks, the funding for this Project was made possible through the:

Commonwealth of Pennsylvania—Department of Environmental Protection
Safe Water Fund Grant
Offices of Senator Dominic Pileggi

Offices of Senator Ted Erickson

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Yellow Springs Farm, LLC
Liz and Randy Dickinson
Nickie and Robert Melso
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Greg Lebold	Rutledge
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Ellie Dinneen, EIT	Weston
Steve Travers	Yeadon
Sabine Watson, P.E.	Yeadon/KCI
Joseph Salvucci	DELCORA
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Kevin McGarvey	DELCORA
John Pileggi	DELCORA
Robert Powell	DELCORA
Christine Volkay-Hilditch, P.E.	DELCORA
Joe Centrone	DELCORA
Mike Warholic	DELCORA
Nick McGonigle	DELCORA

Our sincere apologies to anyone who participated but is not named above. Thank you also for your assistance in this endeavor.

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EXECUTIVE SUMMARY

Excessive flows in a sanitary sewer system typically come from three sources: infiltration and inflow (I&I) into main pipelines; I&I into building laterals; and increased wastewater discharge from homes, businesses, and industries. Increased sewage flows from homes and businesses can be accommodated by increasing the capacity of collection systems and treatment plants. However, because I&I is clean water and would not require treatment if it were kept out of the collection system, increasing capacity to convey and treat I&I flows is not economically or environmentally prudent. Preventing the entry of I&I into the collection system can be more economical and environmentally sound. I&I costs Delaware County residents millions of dollars each year through increased treatment cost.

The most accessible I&I for a municipality to initially remove is the leaks in the public sanitary sewer collection system. Often, this does not always decrease I&I sufficiently to solve the problems caused by excessive flows. Often, the final step in decreasing excessive flows is to implement a private lateral I&I elimination program.

Although implementing a private lateral I&I elimination program may seem an unattainable goal to many municipalities, it can be done by first educating local decisionmakers and residents about current problems created by excessive flows, successfully implemented programs, potential institutional measures, and funding sources. The second step is to craft an I&I elimination program that addresses the concerns of the residents, the potential roadblocks to program implementation, and is based on locally relevant information, such as the greatest sources of I&I in the municipality. A program can then be developed, based on the experience of other communities that is tailored to specific local needs. Once a draft program has been established, community involvement is essential to ensure that residents will fully understand the need for the program.

Before a program can be implemented, a framework must be prepared including revising or instituting ordinances, procuring necessary instrumentation and tools, assigning and training employees, and educating the public. The program can then be implemented by selecting geographic focus areas, scheduling and performing inspections, processing and prioritizing

gathered information, selecting priority repair locations, scheduling repairs, and documenting the results.

This document presents information to use when deciding if and how to implement a successful private lateral I&I elimination program.

1. INTRODUCTION

1.1 BACKGROUND

As the wastewater collection systems in the United States age, the amount of rainwater and groundwater that penetrates the collection pipelines increases, adding to the wastewater flows. This infiltration and inflow (I&I) becomes an increasingly significant problem by limiting collection and treatment system capacity. When peak flows exceed a sanitary sewer system's transport capacity, the wastewater can flow out of the system by overflowing manholes or backing up into basements. Such events are called sanitary sewer overflows (SSOs). Nationally, it is estimated that 27% of all SSOs are caused by I&I from public and private sources (as shown in Figure 1-1) (USEPA, 1996). The United States Environmental Protection Agency (USEPA) estimates that "between 23,000 and 75,000 SSO events occur per year in the United States, discharging a total volume of 3 to 10 billion gallons per year" to our rivers and streams (USEPA, 2004).

Public-source I&I occurs in the publicly-owner infrastructure (sewer mains, manholes, etc) and is caused by leaks in manhole walls, leaks in sewer mains cracks and joints, and cross connections with storm sewers. Private lateral I&I differs from public in that it typically comes from sources such as crack and separated joints in building laterals, downspouts, area drains, sump pumps, and uncapped cleanouts. Some cities estimate that as much as 60% of the flow that overfills their sanitary sewers comes from leaking service connections (USEPA, 1996). Private lateral I&I sources and lateral maintenance have been identified as some of the most difficult issues for municipalities to address. Figure 1-2 depicts examples of the types of defects and problems common in aging laterals that contribute to excess flows.

Figure 1-3 on page 1-4 shows a graph of the impact of I&I on the flow in a collection system. The green line illustrates the normal flow in a sewer (average in the 8-10 million MGD range). When rainfall occurs (represented by the light blue bars), total flow greatly increases in a sewer prone to I&I (represented by the black line) to the 40 to 50 MGD range. The estimated I&I flow (represented by the red line), which should have been kept out of the sanitary sewer, must now be treated. This example shows an increase in flow of over 400% that must now be treated.

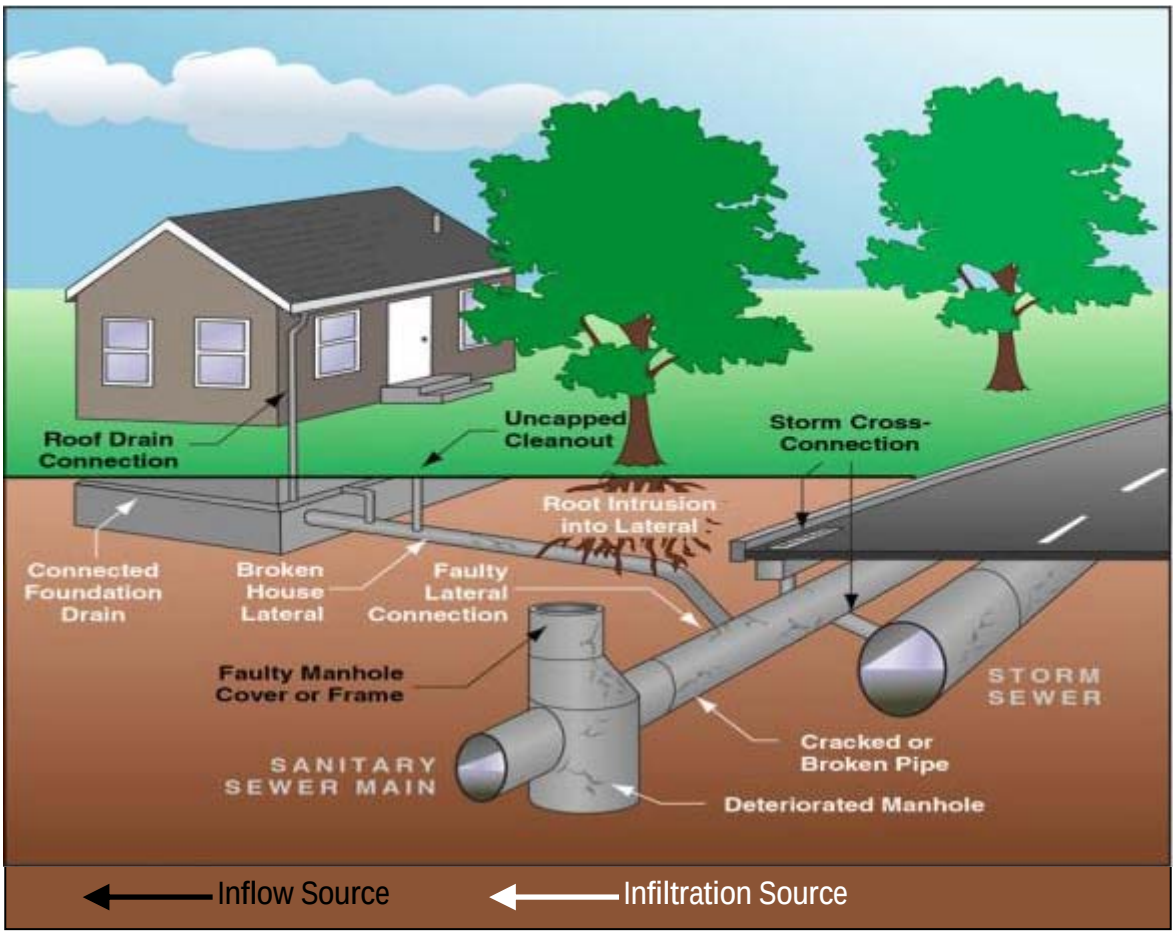

Figure 1-1 Typical Sources of I&I

(Source: City of Lakeport, "*Inflow and Infiltration (I&I) Summary*," http://www.cityoflakeport.com/img/photos/i-and-i-lg.jpg)

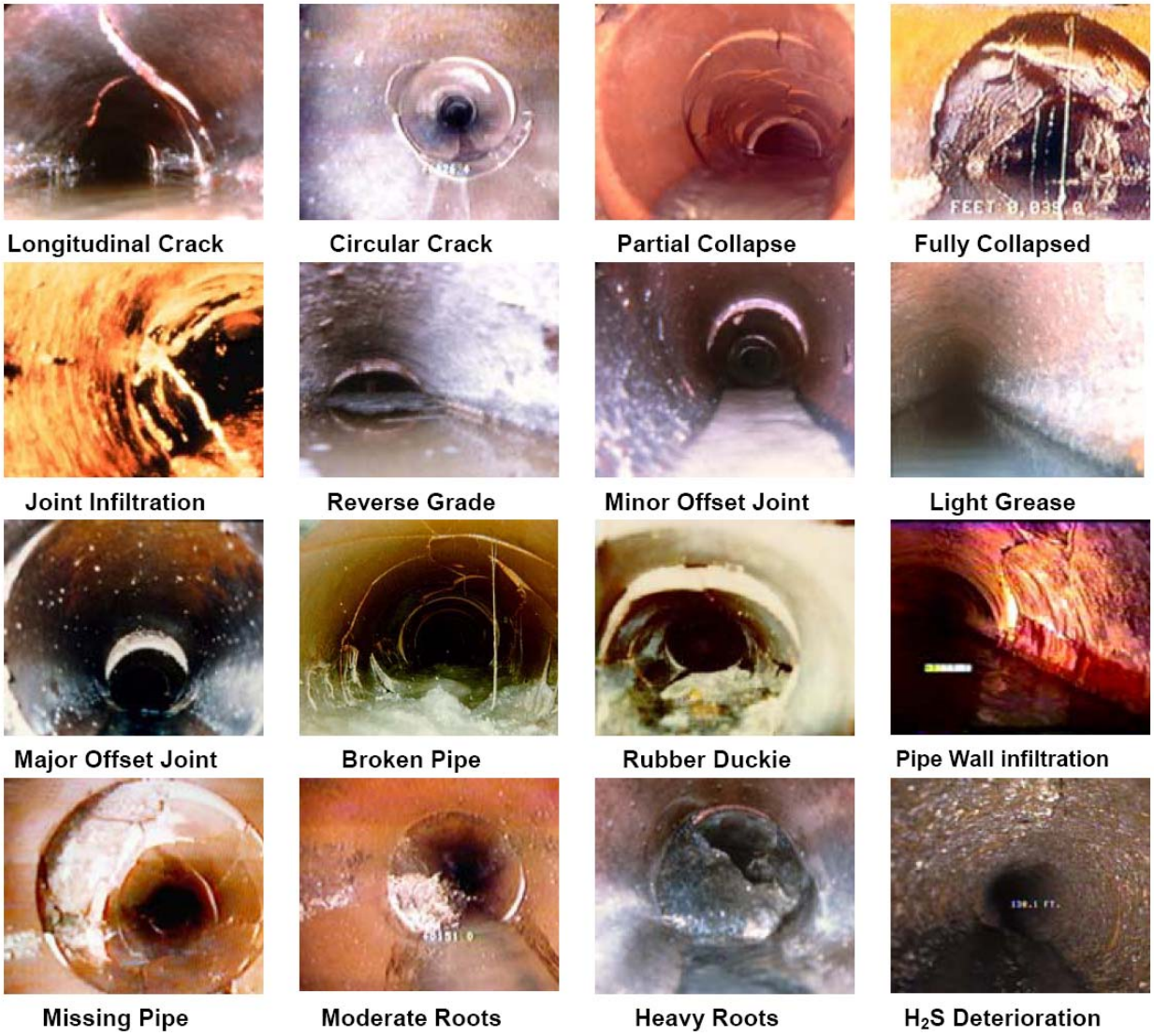

Figure 1-2 Laterals in Need of Maintenance

(Source: "Private Lateral Rehabilitation: Is This a Silver Bullet?" by the North American Society for Trenchless Technology, 2005.)

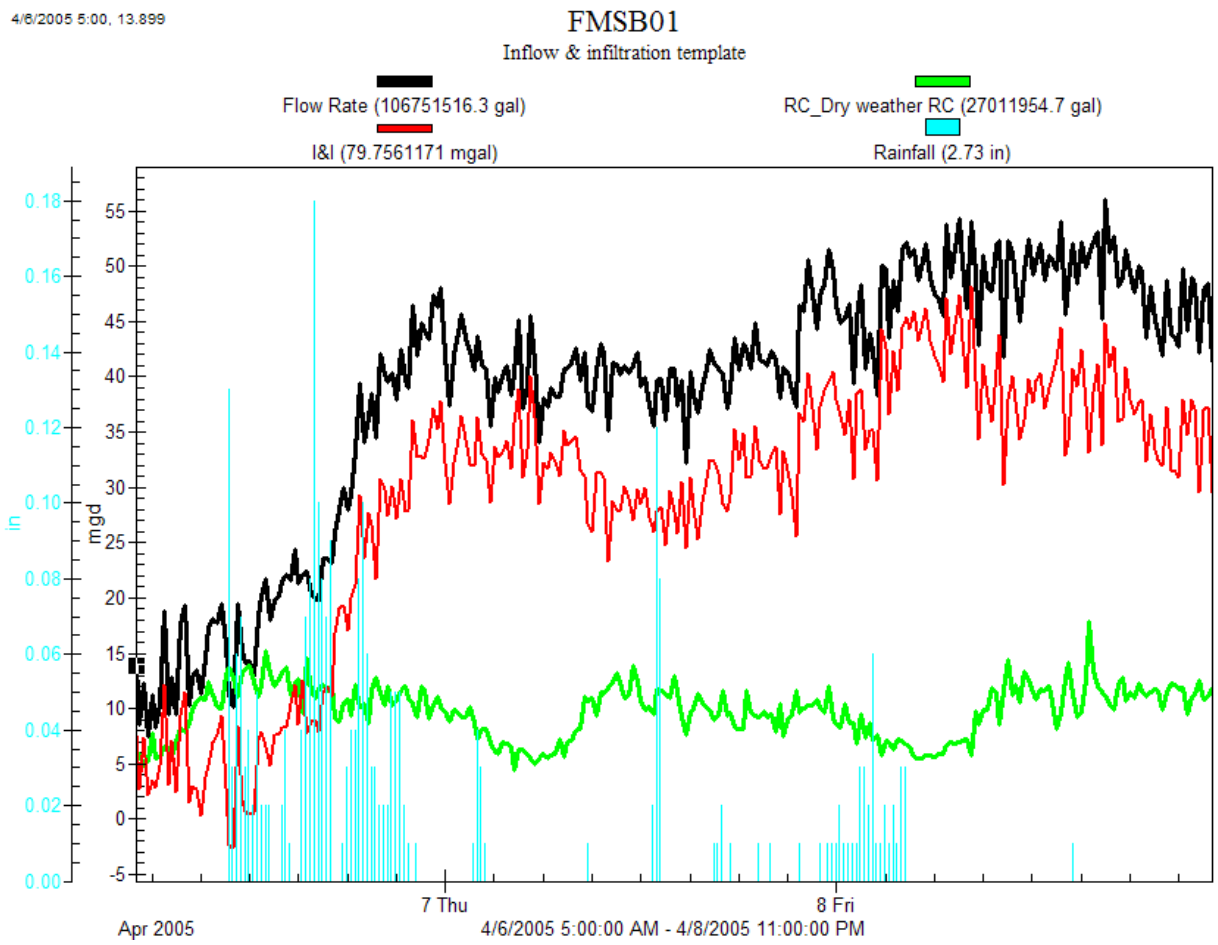

Figure 1-3 Graphic Identification of Infiltration/Inflow
(Source: Flow Assessment Services, LLC)

Additionally, excess flows in a treatment system can also impose a significant financial burden on the treatment system's operations and finances. A reduction in flow can reduce operating and maintenance costs and costs associated with managing peak flows. Other costs that can be associated with higher-than-expected peak flows, include potential surcharge penalties and fines for SSOs.

I&I is an acknowledged problem in Delaware County and, in recent years, I&I is estimated to account for nearly one-third of the flow in the Delaware County Regional Water Quality Control Authority's (DELCORA's) eastern conveyance system. Table 1-1 presents an estimate of I&I flow discharged to DELCORA for treatment from 2007 to 2009 and an estimate of the cost to transport and treat this flow. This information is based upon daily flows recorded at each of

DELCORA's main pump stations serving eastern Delaware County. The dry-weather base flow was estimated to be the lowest 7-day average flow over the 3-year period. The treatment costs are actual audited DELCORA blended rates and include penalty charges for excess flow beyond contract limits.

Table 1-1
Estimated I&I and Cost of Treatment

	Annual Flow (MG)	Annual Dry-Weather Flow [a] (MG)	Annual I/I Flow Estimate (MG)	Percent of Flow Composed of I/I	Estimated Cost of I/I Flow Treatment [b]
Muckinipates Authority					
2007	1,640.9	1,132.5	508.3	31%	$713,183
2008	1,504.3	1,135.6	368.6	25%	$562,183
2009	1,731.4	1,132.5	598.8	35%	$940,190
Central Delaware County Authority					
2007	3,765.4	2,419.4	1,346.0	36%	$1,888,412
2008	3,218.8	2,426.1	792.7	25%	$1,208,872
2009	3,662.3	2,419.4	1,242.9	34%	$1,951,355
Darby Creek Joint Authority (incl Radnor-Haverford-Marple Authority)					
2007	7,635.2	5,130.9	2,504.3	33%	$3,513,593
2008	7,186.8	5,144.9	2,041.9	28%	$3,113,883
2009	7,583.0	5,130.9	2,452.1	32%	$3,849,864
Eastern Delaware County					
2007	13,041.5	8,682.8	4,358.7	33%	$6,115,188
2008	11,909.9	8,706.6	3,203.2	27%	$4,884,938
2009	12,976.7	8,682.8	4,293.9	33%	$6,741,410

Assumptions:
[a] Dry-weather flow based on lowest 7-day average 2007–2009.
[b] Based on treatment costs of 2007-$1,403; 2008-$1,525; 2009-$1,570 per million gallons.

In 2004, as a first step to address the growing I&I problem, DELCORA initiated a Flow Monitoring and Metering Program in eastern Delaware County. This program has successfully deployed 113 flow meters that collect sewage flow volume information from 21 eastern Delaware County municipalities. The flow information is updated daily and is available to those municipalities on the Internet. These data are intended to be used as a tool for each municipality

to evaluate locations of I&I sources in their respective collection systems and to effectively direct public sewer rehabilitation efforts. This program has already encouraged some municipalities to implement sanitary sewer I&I corrective action plans before complete phase-in of the flow-based billing from the old equivalent dwelling unit (EDU) based billing.

In November 2008, DELCORA received a Pennsylvania Department of Environmental Protection (PADEP) Safe Water Grant to develop a project to demonstrate the complex private property I&I issues to Delaware County municipalities and present possible solutions.

1.2 PROJECT OBJECTIVES/GOALS

Unlike public I&I reduction techniques, private lateral I&I reduction options are not widely understood. A lack of information about the legality of private lateral I&I elimination program options in the Commonwealth hinders local decisionmakers in their efforts to effectively address I&I problems in their community. To address this need, DELCORA initiated a project designed to provide municipalities with the necessary knowledge, methods, techniques, best practices, and public education material to initiate their own private lateral I&I elimination program.

The project was composed of the following elements:

A. Steering Committee to direct the project effort. The committee was composed of municipal officials, including elected officials, engineers, and municipal managers from Delaware County. As successfully demonstrated in the past with the eastern Delaware County Metering Program, a Steering Committee enabled a better understanding of the needs involved and wide-ranging solutions. The involvement of municipal officials is essential to the successful implementation of any program that involves multiple communities.

B. An in-depth study of private lateral evaluation and rehabilitation techniques includes identification of the contemporary and state-of-the-art evaluation, inspection, and rehabilitation techniques for private laterals.

C. A summary report on the findings of the evaluation of private lateral inspection and rehabilitation techniques that includes:

- A compendium of the existing implementation methods (type of program) available to communities under which a private lateral I&I elimination program can operate.

  The compendium included detailed information about each method such as sample ordinances and resolutions that were tailored to Pennsylvania legal requirements, public education material, and a CD with electronic copies of files.

- A public education video and brochure that describes the private lateral I&I problem, presents the various options for repair, and discusses the necessity and benefits of private lateral repair.

  The video and the brochure are the core education pieces for both public officials and residents. Using this education material to inform residents allows officials to present a solid case to the public for the necessity of making lateral repairs on private property. The intent is for officials to show this video on community television channels and at municipal or community meetings. The accompanying brochure should be distributed at meetings or mailed to residents. Two video copies are provided to each municipality. A total of approximately 200,000 brochures were produced for distribution by municipalities to their residents (approximately one for each household in Delaware County). The video and brochure were placed on DELCORA's Web site (www.DELCORA.org) and are available for online viewing. Participating municipalities should likewise place the video and brochure on their Web sites.

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2. PRIVATE LATERAL I&I ELIMINATION PROGRAM

2.1 PROGRAM PURPOSE

The purpose of a private lateral I&I elimination program implemented by a municipality is reduce the volume of clear water being put into the sanitary sewer system. A program is implemented by a municipality for a variety of public health, environmental, property and financial reasons including eliminating basement backups, preventing SSOs, reducing the number of overloaded pump stations, managing costs, and avoiding costs to increase sewer capacity, or for external purposes. Avoiding treatment surcharge penalties, high operating costs, and fines for SSOs are examples of financial incentives for reducing I&I. External motivators may include avoiding consent decrees and connection bans as well as community opposition to overflows.

2.2 BACKGROUND

In Pennsylvania, PADEP assesses fines for violations of the Clean Water Act caused by SSOs. During the state fiscal year 2006–07, approximately $3.225 million in penalties were imposed on industrial or sewage dischargers for violations of standards (PADEP, 2008).

A municipal surcharge penalty may be imposed when flows from the collection system exceed the planned maximum flow rate. The agency operating the treatment plant may levy a large surcharge on the collection system operator any time the flow to the plant exceeds the agreed-upon limit. In December 2009, a steady precipitation event occurred beginning late on the 25th and extending well into the 26th. Precipitation varied in eastern Delaware County from 1.75 inches at the Darby Creek Pumping Station to 1.83 inches at the Central Delaware Pumping Station. (Data obtained from rain gauges maintained as part of the Flow Monitoring and Metering Program.) The frozen ground led to large runoff volumes and total flows to the City of Philadelphia's Southwest Water Pollution Control Plant that exceeded DELCORA's current limits. This resulted in a surcharge of $136,965 from the City of Philadelphia in accordance with the terms of the DELCORA – Philadelphia Water Department (PWD) agreement. Figure 2-1 is a photo of a high-flow SSO bypass in Delaware County.

Figure 2-1 High-Flow Bypass in Delaware County

In addition to the direct impact of sewage being discharged to a river or stream, SSOs can also cause financial or legal impacts. If PADEP believes that a particular waterway could be in environmental jeopardy or could be a danger to public health due to repeated SSOs, the state may issue a consent decree in concert with the USEPA. A consent decree is a legally binding commitment between PADEP, USEPA, and the consenting sanitary sewer operator to reduce or eliminate SSOs within a specified period. Failure to eliminate overflows within the specified period leads to severe penalties. SSOs have always been prohibited under the Clean Water Act. Table 2-1 shows the typical pollutants of concern in SSOs for various designated uses.

Negative reports in the media can also motivate a municipality or community to reduce overflows. When a community group believes that public health could be in danger due to repeated SSOs, the group can hold a protest or publish articles in the media, attacking the sanitary sewer system operator.

Table 2-1
Pollutants of Concern in SSOs

Pollutants of Concern on SSOs Likely to Cause or Contribute to Impairment	Designated Uses				
	Aquatic Life Support	Drinking Water Supply	Fish Consumption	Shellfish Harvesting	Recreation
Oxygen-demanding substances	•				
Sediment (Total Suspended Solids)	•				
Pathogens		•	•	•	•
Toxics	•		•	•	
Nutrients	•	•			
Floatables					•

(Source: USEPA, 2004)

Besides SSOs, excessive I&I can cause problems at treatment plants. Potential problems include increased treatment, operation and maintenance costs as well as incomplete treatment of the flow passing through the plant if the flow rate is higher than the plant's design capacity. Treatment plant flows in excess of the capacity allowed by the National Pollutant Discharge Elimination System (NPDES) permit will require action on the part of the permit holder to expand the treatment facility or reduce flows. Failure of the permit holder to act will result in a consent decree issued by a federal judge. The NPDES permit program (authorized by the Clean Water Act) controls water pollution by regulating the discharge of pollutants into waters of the United States. Individual homes that are connected to a municipal wastewater collection system, use a septic system, or do not have a surface discharge do not need an NPDES permit; however, industrial, municipal, and other facilities must obtain permits if their discharges go directly to surface waters.

Often, the first step a municipality will take to address excessive I&I in a treatment system is locating and repairing any leaking public sewer mains in the system. Leaking public sewer mains can greatly increase the flow to a treatment plant and they are the responsibility of the treatment plant or collection system owner. If municipalities cannot achieve flow reduction requirements by addressing public I&I sources alone, they face the challenge of attempting to reduce I&I from private sources. In this case, a lateral repair program should be considered.

An example of this occurred in East Norriton Township, PA. PADEP required East Norriton Township, through a consent decree, to reduce flow to its wastewater treatment plant. The

township could not sufficiently reduce flows in the public portions of the system and had to address private property I&I to meet the necessary flow reductions. East Norriton implemented a mandatory private lateral I&I elimination program in order to meet the consent decree.

2.3 UNDERSTANDING THE PRIVATE LATERAL I&I ELIMINATION PROGRAM PROCESS

Many municipalities are reluctant to implement a private lateral I&I elimination program due inherent challenges. Municipalities may be intimidated by the task due to the legal ramifications of working on private property or due to difficulties defining easements and ownership. Obtaining financing to undertake the necessary repairs may also be a hindrance to program development and acceptance. Additionally, spending public money on private property can be complex.

Although implementing a private lateral I&I elimination program may seem difficult to many municipalities, it is easier to understand when it is divided into the following steps:

1) Educate local decisionmakers about:
    a) Current flaws in the sewer system
    b) Successfully implemented I&I reduction programs
    c) Local legal issues
    d) Funding sources

2) Discuss program implementation, considering locally relevant criteria such as:
    a) Greatest sources of I&I in the municipality
    b) Potential roadblocks to program implementation
    c) Public mindset

3) Chose a proven program type that addresses local concerns such as:
    a) Who is responsible for the work
    b) Who pays for the inspection / repair work
    c) What triggers the program to be implemented
    d) What repair technique is used

4) Prepare the framework for a program by:
    a) Altering laws if needed to allow access to private sewer laterals
    b) Writing an ordinance to support the program
    c) Procuring necessary instrumentation and tools
    d) Assigning and training employees

5) Educate the public by:

   a) Determining the most effective education methods
   b) Developing educational material
   c) Distributing written information, holding meetings, and launching a Web site

6) Implement the program using the following basic steps:

   a) Select geographic focus areas, and schedule and arrange inspections
   b) Perform inspections
   c) Process and prioritize gathered data
   d) Use data to prioritize repair locations, and schedule and arrange for repairs
   e) Document the results (post-repair inspection, flow monitoring, etc.)

These steps are presented in greater detail in the following sections.

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3. PROGRAM FORMULATION

A successful private lateral I&I elimination program is comprised of many components. Some components, such as a funding source, are clear and are often the focus of discussion during program development. Less obvious components are also very important to program formulation and should not be neglected. These components, which are detailed below, include stakeholders' responsibility, program triggers, and information analysis.

3.1 STAKEHOLDERS' RESPONSIBILITY

Typically, two primary stakeholder groups have direct responsibility for sewer systems—the municipality and the property owners. It is important for any program to clearly define all parts of the sewer system including building laterals and to specify who has responsibility for each part. For example, some municipalities are responsible for the portion of the lateral within the road right-of-way or easement (sometimes called the lower lateral), while the property owner is responsible for the remaining portion to the building (known as the upper lateral). Other municipalities, however, require the property owner to be responsible for the entire lateral—from the building to the public sewer.

Stakeholders who do not have a direct responsibility also may influence the program. These indirect stakeholders include realtors, mortgage lenders, plumbers, and contractors. Communication of responsibilities to these parties is important as well as encouraging their active participation in the program process. For example, many property owners may not realize a lateral inspection is require before closing on a property sale if their municipality has enacted a Time-of-Sale inspection program. Requiring realtors to ask property owners, early in the property listing process, whether a lateral inspection has been performed will prevent problems during the selling process.

3.2 PROGRAM TRIGGER(S)

Program triggers are events or situations that initiate the implementation of procedures outlined in a private lateral I&I elimination program. For example, a Time-of-Sale program would be initiated upon the decision of the owner to sell the property. In the case of a community-wide

inspection program, the trigger for a neighborhood would be the date when that area is scheduled for inspections. Defects identified while a municipality is inspecting the public sewers can also trigger the commencement of a program. The program triggers for various program types are discussed in more detail in Section 4 – Program Types.

3.3 INFORMATION ANALYSIS

Analysis is a key component in identifying the extent of I&I in the collection system and assuring that I&I reductions meets to needs of the community. Recommendations for information analysis component are described below.

- Develop a standardized inspection program to insure that all relevant information is submitted to the municipality as the input for analysis. Clear and concise inspection reports are essential to good analysis, so it is important that inspectors closely follow protocols. This can be especially critical if multiple contractors/plumbers are used to conduct the inspections. Comparing inspection results will yield more useful information if the inspection formats are uniform.

- Create a decision tree to assess lateral investigation results and rank laterals in order of urgency (see Figure 3-1 as an example of a decision tree). The decision tree should consider the status of the individual lateral as well as that of the surrounding area. The focus should be on geographic areas where pump stations are running at or near capacity, or where flow meters indicate flow greater than should be expected based on the population. Also, laterals that cause frequent basement backups, that have multiple illicit connections, or that have large breaks detected during inspection, should be a focus, and the most urgent locations repaired first.

- Perform follow-up inspections to ensure that repairs have been completed satisfactorily. Once many repairs have been completed in an area, compare flowrates recorded prior to repairs to those recorded after. Determine whether volume has been substantially reduced. Categorize and store the inspection reports and records of corrective actions, preferably electronically.

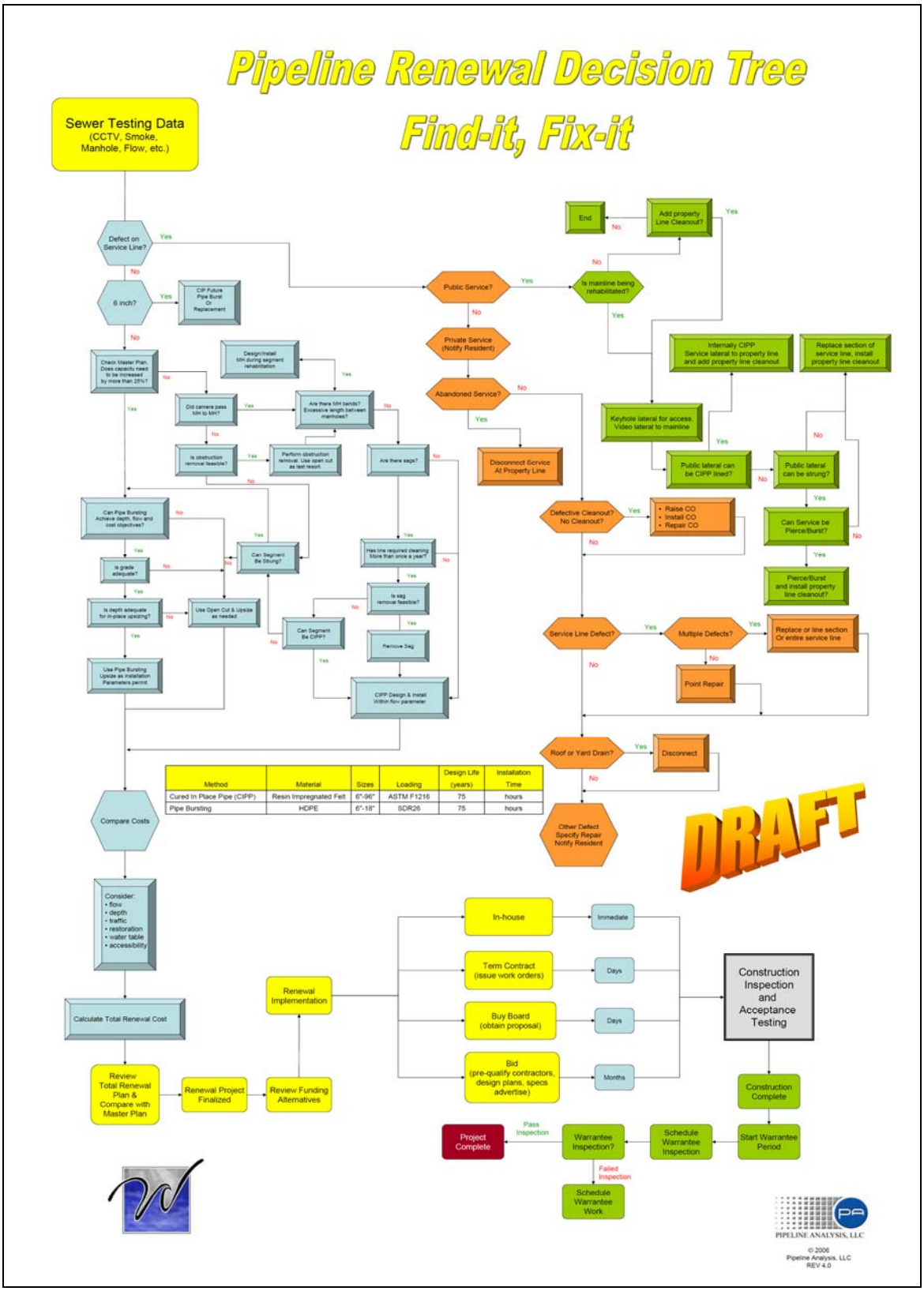

Figure 3-1 Example Sewer Repair Decision Tree

(Source: Pipeline Analysis, LLC)

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4. PROGRAM TYPES

4.1 INTRODUCTION

The effectiveness of lateral rehabilitation programs has been proven in many communities. For example, New Castle County Delaware recorded an 86% reduction in I&I for a sewer basin that implemented a combination of public and private I&I elimination projects. Numerous examples of successful programs are available to aid in the formulation of a custom program. The Private Property Virtual Library developed and maintained by Water Environment Federation (WEF) is a good starting point for information on successful programs and can be found at http://www.wef.org/PrivateProperty/. Although each program should be tailored to its municipality, program formulation can be made easier by borrowing from past successes. This section includes examples of popular program types that can be used as the basis for a custom program for communities within the DELCORA service area.

4.2 VOLUNTARY LATERAL MAINTENANCE PROGRAM

A voluntary lateral maintenance program allows property owners to opt into a maintenance program for their private lateral. For an annual fee, the municipality will maintain or repair the building lateral up to a certain monetary amount. Often, these programs cover only the lateral repair; aesthetic restoration of excavated areas beyond backfilling is the responsibility of the owner. If a lateral needs repairs with costs that exceed the program's cost limit, the property owner is responsible for paying the balance to implement corrective actions.

The advantages of this type of program are that residents have the option to participate or decline, and any funds exceeding immediate (the current fiscal year's) needs can be rolled over to future years.

Disadvantages include the possibility that funds generated will be insufficient to address all problem laterals identified. Additionally, unless this type of program is coupled with a lateral investigation program, only those problems reported by homeowners will be corrected.

4.3 SEWER LATERAL INSURANCE PROGRAM (SLIP)

A sewer lateral insurance program mandates participation by all property owners in a maintenance program run by the municipality. As with the voluntary program, a fee will be assessed to cover the costs of repairing and maintaining all building laterals. Often, these programs cover only the lateral repair; restoration of excavated areas beyond backfilling is the responsibility of the owner.

The advantage of this type of program is that no individual property owner has to pay the sometimes high cost of repairs out of pocket. Repair costs are instead covered by the pool paid into by the entire service area. This is a sensible solution because each homeowner in a service area benefits from reduced flows to the treatment system. Also, any funds exceeding immediate needs can be rolled over for future use.

The disadvantages include the necessity to create a municipal staff to manage the program and the possibility that repair needs may exceed annual funding. Concerns were raised about communities where building lateral lengths vary greatly. One way to overcome this hurdle is to have a tiered fee structure based upon the length of the building lateral. To prevent an owner from dropping out of the program after their building lateral is repaired is to require that the building once enrolled is either permanently enrolled or is enrolled for a fixed number of years. This enrollment would need to be structures such that it would pass to subsequent owners until the enrollment period has been completed.

4.4 MANDATORY INSPECTION

A mandatory inspection program requires that all properties be inspected for sources of lateral I&I. For this type of program, all inspections are typically conducted by a municipal crew, a municipality-hired contractor, or an inspector selected by an individual property owner from a list of approved vendors. Municipality-conducted inspections are funded by each municipality, and owner-led inspections are funded by the individual property owners.

The advantage of a mandatory inspection is that all potential I&I sources are identified in a short period as well as the consistency and accuracy of inspections is improved. The disadvantage is a potentially high initial cost to mobilize an inspection crew, although the cost per inspection

should be lower because of scale. Municipality-funded programs realize cost savings because of the scale of a bid, which includes numerous inspections. Owner-funded programs may not realize the same savings even if homeowners have selected from a pool of municipality-approved contractors.

4.5 TIME OF SALE INSPECTION

A Time-of-Sale program uses the sale of a property to trigger the inspection process. This program type can vary based on the party responsible for performing and financing the inspections and repairs. Often, the seller is required to fund inspection/repairs, with the cost being wrapped into the mortgage. If the work is performed by a non-municipal contractor/plumber, inspection results must be reported to the municipality to ensure that, if repairs are needed, a proper rehabilitation method is selected and work is completed in a timely manner. A time limit on the validity of the inspection is often associated with this type of program. For instance, no new inspection is required if an inspection was performed and results were submitted and approved within 5 years prior to the current date of sale.

The advantages of this type of program include limited costs to the municipality if the property owners are required to fund inspections and corrective actions. The cost of the repair can be included in the mortgage to limit immediate impact on the property owner. Additionally, the number of inspections and repairs from year to year would be relatively consistent, preventing municipal staff from being overwhelmed with an influx upon program commencement.

4.6 TIME OF REFINANCE INSPECTION

A Time-of-Refinance program uses the refinancing of a property to trigger the inspection process. This program type can vary based on the party responsible for performing and financing the inspections and repairs. The owner is required to fund inspection/repairs, with the cost being wrapped into the mortgage. If the work is performed by a non-municipal contractor/plumber, inspection results must be reported to the municipality to ensure that, if repairs are needed, a proper rehabilitation method is selected and work is completed in a timely manner. A time limit on the validity of the inspection is often associated with this type of

program. For instance, no new inspection is required if an inspection was performed and results were submitted and approved within 5 years prior to the current date of refinance.

The advantages of this type of program are the same as a Time-of-Sale program. Some communities have coupled to both Time-of-Sale and Time-of-Refinance programs to ensure that over a reasonable period of time, the majority of the building laterals in the community are evaluated and repaired.

4.7 SUMP PUMP INSPECTION

A sump pump inspection program requires an inspector to verify that building sump pumps are permanently connected to an outside discharge line and not to a sewer lateral. In some cases, property owners will ensure the disconnection is completed before the initial inspection. Most programs require a follow-up inspection to ensure that the disconnection work is completed and that the sump pump has not been reconnected to the sewer.

This type of program is very effective at eliminating sump pump discharges, but it requires a high level of coordination with the property owners because an inspector must enter each privately owned building. This type of program can incur higher-than-expected costs because it may require evening and Saturday inspections to accommodate the schedules of property owners.

4.8 DOWNSPOUT/AREA DRAIN INSPECTION

A downspout/area drain inspection program focuses solely on eliminating inflow from these sources. Each lateral is inspected using one or more of a variety of techniques including property inspection, smoke testing, dye testing, or push cameras to ensure that no roof leaders or area drains are connected to the sanitary sewer. If a connection is identified and documented, the property owner is issued a notice to correct the problem within a specified period. A follow-up inspection is required to ensure compliance.

This type of program is very effective at eliminating inflow sources. An issue to consider, however, is that the cost of the work can vary greatly depending upon the means for disconnection specified by the municipality. For instance, in a downspout-disconnect scenario,

the downspout drain could be plugged at the ground surface and the leader diverted, which many homeowners could accomplish given detailed instructions. However, if the disconnection is required at the lateral, a contractor would likely be required at increased expense.

4.9 VENT CAP/CLEANOUT COVER REPLACEMENT

A vent cap or cleanout cover replacement program involves a municipality-funded crew inspecting properties to ensure that all cleanout covers and vent caps are in place and functioning. If a cleanout cover or vent cap is damaged or missing, the crew would repair or replace it.

The advantage of this type of program is that it is comparatively inexpensive. The disadvantages are that it requires some investment of staff and that it may not produce a noticeable reduction in I&I flows.

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5. PROGRAM FINANCE

In many communities, the municipality is responsible for the section of the lateral within the public right-of-way to the sewer main and the property owner is responsible for the section of the lateral on their property boundary. Unfortunately, many property owners may not know whether their lateral needs repairs or are reluctant to perform repairs because of the sometimes high cost. Progress has been made by developing programs that encourage each property owner to repair their lateral to eliminate I&I. Although the outset cost of programs may seem high, the long-term financial, environmental, and health benefits derived should outweigh the program costs.

5.1 FUNDING SOURCES

Whether a private company or a municipality operates the private lateral I&I elimination program, inevitably, funding sources must be identified. Some potential sources of funding are discussed below.

5.1.1 Sources for Municipalities

A municipality can often cast a wider net than a private company when searching for a funding source for a lateral repair program. Potential municipal funding sources include the following:

Existing funds – Unclaimed money from an environmental fund or another pertinent fund could be sourced for a private lateral inspection/repair program. This use of funds could be justified by the environmental, health, and financial benefits resulting from a properly functioning sanitary sewer collection system. In most cases, however, using existing funds means curtailing other programs.

General Obligation Bonds (GOBs) – A municipality could potentially secure a GOB, but that money must be fully repaid to bond holders as if it were a loan. Capital raised from selling bonds could cover initial program expenses but provisions to generate revenue would be needed to repay the bond holders. Increases in sewer bills, or savings resulting from reduced operating costs at a treatment plant due to reduced flow volume could be used to repay bond holders.

Property taxes – Property taxes may be raised to fund a private lateral repair program.

Special assessments – A special assessment is a charge placed on property owners in a certain area who are benefiting from an investment (often in infrastructure) in that area. The municipality could levy these charges and use the resulting funds to pay for improvements in private laterals.

Service charges – The municipality may perform services including inspection, cleaning, or repairs on private laterals and charge the property owner for those services.

Flat fee for all property owners – A flat fee could be added to each property owner's sewer bill to fund inspection and/or repair of private laterals.

Fee as an added percentage of a sewer bill – A fixed percentage could be added to each property owner's sewer bill to fund inspection and/or repair of private laterals.

Grants – Funds may be available from federal and state grant sources such as the Pennsylvania Infrastructure Investment Authority (PENNVEST) for the repair of private laterals.

Low-interest loans – East Norriton Township arranged for property owners to access low-interest loans from local lenders to fund their repair work. Some municipalities have provided low-interest loans in the form of a property lien to pay for private lateral repairs (see program information for Aberdeen, WA, in WEF's Private Property Virtual Library).

5.2 FUNDING RESPONSIBILITIES

I&I sources in public sewers can be identified through scientific analysis of flow rates over time, nonintrusive tests (i.e., smoke testing), or intrusive tests (i.e., using a push camera in a sewer line). Repairs can involve varying amounts of excavation, high-tech tools, and expensive machinery. All of these inspection and repair procedures require staff and equipment, and costs can be substantial. In some cases, the municipality funds all or part of inspection and/or repair costs. Listed below are some options for funding lateral investigation and/or repair. Care should be taken to decide whether to make funding available only to homeowners, or to include commercial and industrial properties.

5.2.1 Municipal Financing of Repair/Inspection (Full)

The municipality would fund or reimburse the full cost of repair/inspection regardless of whether its crew performs the work.

5.2.2 Municipal Financing of Repair/Inspection (Split-Cost)

Responsibility for the repair/inspection cost would be delegated based on the location of the flaw in the lateral. For instance, if inspection indicates that the only flaw is a break in the upper portion of the lateral, the property owner would be required to pay the costs of inspection and repair. However, if the break is located in the lower lateral (outside the property boundary), the repair costs would be the responsibility of the municipality.

5.2.3 Municipal Financing of Repair/Inspection (Deductible)

The municipality would pay a portion of the repair/inspection costs incurred, based either on a percentage (15%, for example) or a maximum fixed amount (up to $2,000, for example) of the total costs. Also, the municipality could pay a portion of the costs based on the type of repair/inspection needed. For instance, if the entire lateral must be repaired, the municipality would pay the cost to excavate and repair all public property (e.g., sidewalks or roadways) but would not pay the cost to excavate the upper lateral and reseed the lawn.

5.2.4 Property Owner Financing of Repair/Inspection

Regardless of who executes the repair/inspection, the property owner would cover the full cost.

5.2.5 Special Programs for Low-Income/Senior Citizens

When a property owner meets certain qualifications, the municipality would fully or partially pay for repair costs. For example, homeowners in need of repairs who prove that they are at least 65 years old and live on a fixed income would be eligible for reimbursement of 50% of the repair costs.

5.2.6 Insurance-Type Program

Homeowners would contribute to an insurance plan at certain intervals (e.g., monthly, yearly, etc.) to fund private lateral repairs. If the fund were operated by the municipality, contributors would be assessed a fee on their taxes or on their sewer bill.

6. PROGRAM INCENTIVES/PENALTIES

Incentives are useful tools for achieving program goals. They encourage participation from the public while demonstrating to citizens that the municipality is invested in the success of the program. Program incentives typically assist low- or fixed-income residents, subsidize certain repair or inspection costs, or can be used to penalize noncompliance. Incentives can be differentiated from general program funding because they include restrictions such as time limits for work completion or income restrictions to ensure that funding goes to those who need it and/or those who are most proactive. Incentives help programs to function; however, it is important to consider their legal implications because all financial transactions have some degree of liability.

6.1 LOW-INCOME/SENIOR CITIZEN SPECIAL PROGRAMS

Income-based programs are specifically designed to assist residents who need to repair their private lateral but do not have the financial ability to do so. Low-income or senior citizen programs can offer full or partial fee- or cost-coverage options based on income or the condition of the lateral. Instituting this type of program requires establishing participation guidelines, application requirements, application processing procedures, and a funding source. Some municipalities already have a fund for emergency home repairs for low-income households.

> In Lima, OH, emergency lateral repairs are treated as emergency home repairs if the faulty lateral presents a health and safety concern. All emergency repair work is based on on-site assessments conducted by the city's housing rehabilitation staff, with detailed specifications prepared for eligible repairs. The funding available to a qualified homeowner is no more than what is necessary to address health and safety concerns, up to $5,000. If the extent and number of issues are greater than what can be addressed with the maximum amount, the emergency program may not be able to assist. The household income of an eligible homeowner cannot exceed 50% AMI (Area Median Income) for the Lima area. All financial information provided by applicants is verified with written consent from the applicant. Further information is available at: http://www.cityhall.lima.oh.us/dept/community/EmerRepair.pdf.

6.2 REDUCED OR WAIVED FEES

To encourage property owners to make repairs in a timely manner, some communities have waived different types of fees that would ordinarily be assessed for replacement of private laterals. For instance, replacing a lateral may require excavation, reconnection with the sewer main, and/or inspection upon completion. All of these activities may entail a fee imposed by the municipality under normal circumstances. While these fees are typically small when compared to the total replacement/repair cost, waiving of the fee demonstrates to residents that the municipality is committed to the public benefit that private lateral and I&I elimination programs provide.

> Santa Barbara, CA, has an effective lateral repair program with many benefits for homeowners, including the waiving of fees for those who meet program requirements. Under normal circumstances, a Building Division Sewer Line Construction Permit costs $253.28. Eligible property owners receive a transfer slip that allows the Wastewater Fund to be charged for the amount of this fee. For work in the public right-of-way, Public Works Trench Inspection Permits are required. The amount of the Inspection Permit fee is currently at least $313. Eligible property owners who are required to make repairs in the public right-of-way receive a form waiving this fee. When replacement of the lower lateral and reconnection to the sewer main is required, the work is completed by the City of Santa Barbara or a city contractor. The $601 sewer connection fee is waived for eligible property owners. Further information is available at: http://www.santabarbaraca.gov/Resident/Licenses_Permits/SLIP/Section_5.htm.

6.3 REBATE

In a rebate incentive system, the property owner is notified of the repairs he or she must perform. If the repairs are completed within a certain period, the homeowner is reimbursed a percentage of the costs to a maximum amount. Instituting this type of program requires developing a notification and enforcement system, establishing a funding source, and developing the capability to inspect the lateral line to ensure that repairs were completed as required.

The City Council of McMinnville, OR, has a private lateral replacement program with a monetary incentive. Eligible property owners are reimbursed 10% of their construction cost, up to $250. To be eligible, property owners must have an acceptable lateral replacement complete within the 90-day grace period, then submit a written request as an application for reimbursement within 60 days of the City Building Division's acceptance of the private lateral replacement. The application is reviewed and processed, typically within 3 or 4 weeks from receipt, and the city issues to the property owner a check for the eligible amount. Further information is available at: http://www.ci.mcminnville.or.us/city/departments/sewer-lateral-faq/.

6.4 PENALTIES FOR NONCOMPLIANCE WITH AN INSTITUTED PROGRAM

Penalties can be instituted in several ways. To encourage prompt repair, the municipality can impose a fee or increase the monthly bill until the cited repairs are made. Often these surcharges are refunded if repairs are made within a specified period. Another option is to refund only a portion of the surcharge if repairs are not made within the specified period. Although penalties do not require additional funding, they can harm public relations.

The City of El Cajon, CA, has a lateral repair program that includes penalties. When the city determines that a building sewer requires a health and safety inspection, the property owner is notified that a diagnostic video inspection is required. Following receipt and review of the video inspection results, the city may issue a Notice to Repair. The owner may be required to obtain a plumbing permit and/or an encroachment permit to complete the repairs. If inspection and/or repairs are not completed and/or certification forms are not submitted within the required period, a Notice of Administrative Citation is issued, with a directive to complete the required inspection or repairs within 10 days or face an additional Administrative Penalty of $200, and referral to the city attorney's office for enforcement. Further information is available at:
http://www.ci.el-cajon.ca.us/dept/works/Forms/1%20Lateral%20Inspection%20Policy.pdf.

6.5 SEWER BILL CREDIT INCENTIVE

A sewer bill credit incentive would be open to a fixed number of homeowners (i.e., the first 100 homeowners to successfully apply to the program) or could be open for a certain period (i.e., any homeowner may apply from July 2010 through September 2010).

The municipality would develop a program application whereby a homeowner or the homeowner's contractor would submit inspection results from the homeowner's damaged lateral. After review of the inspection results, the municipality would determine whether the lateral is allowing substantial I&I and, if so, the municipality would accept the homeowner into the program.

The homeowner would then have the lateral repaired and would provide new inspection results documenting the repairs within a set period (for example, 6 months). Upon receipt and assessment of the new results, the municipality would remove a set amount from the homeowner's quarterly sewage bill for a set period (for example, $20 subtracted from each quarterly sewage bill for 5 years).

There is no known use of this incentive. However, if it were effective, it would present the benefit of encouraging homeowners to repair their laterals without the municipality or treatment plant operator being required to procure a funding source.

7. LEGAL ISSUES

Complex legal issues are often associated with private lateral I&I elimination programs because the sources of I&I are not publicly owned. They are located on private property and provisions in municipal, state, and federal laws protect an individual's private property. Most people understand the importance of resolving public health problems, and legal challenges can often be avoided when due consideration and planning are undertaken. An overview of potential issues to consider when developing a program follows. This overview should not be considered a comprehensive guide. The municipal solicitor must be consulted before enacting a private lateral I&I elimination program or before altering any laws or ordinances.

7.1 ACCESS

Property access presents a legal issue to municipalities only if a utility company or municipal employee is performing the inspection or repair instead of a private contractor hired by the homeowner.

To inspect for private I&I sources effectively, the utility company or municipal employees must gain access to the private land under which the source lies. Water Environment Research Foundation's (WERF) "Legal and Funding Issues During Private Lateral Rehabilitation" suggests the actions including the following (WERF, 2009):

- The best option is to work with the homeowner. If the utility company can demonstrate to the homeowner why it is important to perform an inspection or a repair, the homeowner will be more willing to grant access to their property. If access is granted, the homeowner should be presented with a waiver to sign as documentation of his agreement.

- If the homeowner is resistant to granting access, the utility company should review existing laws and ordinances and determine whether they provide the legal right to access a homeowner's property. If they do not, new ordinances/laws must be developed to allow entry to private property. When altering laws, a municipality must document why new regulations are in the best interest of the public. Public health concerns, increased

taxes due to rising sewer costs, and harm to the natural environment can all be cause to enact legislation.

7.2 PUBLIC MONEY/PRIVATE PROPERTY

Certain regulations apply if program funding comes from a governmental organization (e.g., municipality or municipal authority). If the funding comes from a private utility company, the utility company has the right to use the money as it chooses.

Ordinarily, public monies are required to aid a public purpose. At first appearance, using public money to repair laterals on private property seems to violate this rule. However, local governments are often able to justify the use of public monies on private lateral rehabilitation programs because of the overarching public health and environmental benefits that result when a community has a functional wastewater treatment system.

Laws in the Commonwealth of Pennsylvania are vague with regard to this issue. They do not specifically prohibit or specifically grant permission for the use of public funds on private property. Legislation was introduced in 2009 to address these issues and it was referred to committee (Senate Bill 205, Regular Session 2009–2010).

7.3 LIABILITY

Liability is a concern when work is performed on a sewer lateral because of the potential for installation of a faulty product, inferior workmanship, or damage to private property during or resulting from repair work. A waiver defining the extent of financial and legal responsibility of the homeowner and of the utility is effective in preventing legal complications. When a municipality employee requires a homeowner to sign a waiver prior to commencement of work, the municipality has documentation that the homeowner understands the potential problems that could arise as a result of the work being performed.

The municipality or utility company would be liable for damages if municipal employees or utility company employees are performing repairs or maintenance instead of a private contractor. If a private contractor performs repair or maintenance work, the contractor assumes the burden of liability through a guarantee/warranty period.

All of these agreements need to be reviewed by the municipal solicitor to ensure compliance with current laws.

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8. TYPES OF INSPECTION

8.1 INSPECTION TECHNIQUES

Lateral inspection can be reactive or proactive. Proactive inspection includes the following: inspection triggered by the sale of a building, a significant expansion of a building, a new lateral connection, periodic investigation (every 10 years, for example), and other scheduled reasons for inspection such as a private lateral inspection program. Proactive inspections may sometimes be postponed if the property owner can prove that the lateral was inspected within a certain recent period. Reactive investigations occur in response to an observed or potential problem such as visible breaks in a lateral, sewage blockages, or a basement backup and they are often undertaken with urgency. Many inspection techniques exist, all of which have advantages and disadvantages. The data produced from inspections are valuable and should be analyzed and recorded. In-depth analysis can greatly aid selecting repair methods, arranging for repairs, and prioritizing urgency.

8.1.1 Smoke Testing

Smoke testing of laterals is done by blowing smoke mixed with large volumes of air into the sanitary sewer line and lateral, typically from an entry manhole. The smoke is nontoxic, odorless, and non-staining. Because the area of interest is temporarily sealed off, the smoke follows the path of least resistance and quickly appears at sites that allow surface water to enter the sanitary sewer system. The only places where smoke should be seen escaping are the sewer vents on the roofs of the houses (if there is no house trap). Any other plumes of smoke indicate a source of inflow.

Pros:

- Very effective
- Low cost
- Multiple properties can be tested at one time.

Cons:

- Misperception by the public
- Significant effort required for effective public notification
- Difficult to test only one property at a time.

Figure 8-1 Smoke Escaping From an Uncapped Lateral Cleanout
(Source: City of Alexandria, Virginia, Web site http://alexandriava.gov/tes/info/default.aspx?id=3536)

8.1.2 Dye Testing

During dye testing, a fluorescent, non-toxic, non-staining, biodegradable dye is inserted into certain locations around a house, including area drains, downspouts, and the earth near the foundation of the house. After the fluorescent dye is inserted, a downstream manhole is opened and observed. If dye is observed in the manhole, it has penetrated the sewer collection system, which indicates breaks in or illegal connections to the sewer lateral.

Pros:

- Effective
- Low cost

Cons:

- Notification of the public required
- Labor intensive

8.1.3 Visual Inspection

Visual inspection is a very effective lateral inspection technique. A visual inspection system consists of a lighted camera on the end of a cable "push rod." The camera can be pushed into a lateral using the cable or it can be lowered into the lateral and transported by a small tractor. Images from the camera are conveyed back to a display screen and/or recorder, in real-time,

through the cable. This technique enables the camera operator to inspect the interior of the pipe along its length.

Pros:

- Very detailed images
- Easier to diagnose problems

Cons:

- Camera cannot pass house or curb trap
- Equipment can be expensive
- Requires specially trained crew

8.1.4 Property Inspection

The intent of a property inspection is to identify inflow sources such as sump pumps, roof drains, or other illicit connections. Property inspection can sometimes be difficult because the inspector needs access to the interior as well as exterior of the house and requires cooperation of the property owner. The inspector will search the interior and exterior for signs of illegal connections to the sewer main. Illegal connections are often made to provide drainage for downspouts, area drains, foundation drains, or sump pumps.

Pros:

- Detailed view at the root of the problem

Cons:

- Must obtain access to the building interior
- Requires a high level of coordination with owner
- Some problems are not easily visible

8.2 TYPES OF INSPECTORS

8.2.1 Introduction

A municipal crew, a crew of approved contractors, or a crew of licensed plumbers can investigate private sewer laterals. One major difference between crew types is whether a municipality has dedicated inspectors on staff or whether outside plumbers and contractors are used. Liability concerns should be considered when sending out a crew. Regardless of the type of crew chosen, the crew should be insured to protect against financial losses as a result of accidental damage to private or public property. Other issues to consider include cost of equipment, cost of labor, control over and consistency of reporting, and availability of staffing. An analysis of different types of inspectors should be done to determine the most efficient and cost-effective inspection crew to use.

8.2.2 Municipal Crew

A municipal crew consists of dedicated municipal staff performing investigations using equipment owned by the municipality. The municipality would have to hire new employees to staff the crew or would have to reallocate qualified staff already under employment. The municipality would need to procure all inspection equipment and any vehicles needed. A detailed crew training program would need to be developed covering inspection techniques, inspection equipment, reporting requirements, and possibly public relations. Strategies or guidelines regarding care of the equipment, analysis of gathered information, and responses to information gathered must be formulated.

Pros:

- Dedicated and efficient
- The municipality may be aware of problem areas or older sewer laterals
- The municipality can schedule inspections based on perceived urgency
- Data are recorded by the same systems every time to enable uniform analysis

Cons:

- Hiring and training is time-consuming
- Limited, dedicated staff is more sensitive to ebbs and flows in demand
- The municipality must purchase and maintain inspection equipment

8.2.3 Municipality-Approved Inspection Contractor

The municipality would determine the requirements that a contractor must meet to be approved. Some municipalities currently require the completion of a municipality-run education program while others only require the contractor to possess a valid business license. The contractor would be required to possess insurance to protect both the municipality and the property owner. The municipality would provide property owners with a list of approved contractors. Once a property owner selects a contractor, the contractor would perform an inspection and submit the inspection results to the municipality. Contractors whose work does not meet municipality standards will be removed from the recommended contractor list.

Pros:

- Limited capital expense for equipment
- Contractor maintains equipment
- Municipality does not have to schedule inspection
- Can hire multiple contractors for schedule flexibility
- Contractor provides insurance

Cons:

- Municipality must develop and maintain a list of approved contractors including audits
- Difficult to follow up with contractor if an issue is uncovered
- Difficult to uniformly analyze data from many sources

8.2.4 Municipal-Licensed Plumbers

Municipal-licensed plumbers would be certified after attending a course held by the municipality. The course would cover the municipality's lateral inspection program, instructions on completing the lateral inspection forms, description of what is expected from visual inspection, education about types of lateral defects, and education on general repair methods. The plumbers would be required to take and pass a test on what they have learned and to prove that they possess a valid business license. After the plumber is certified and begins work, the plumber's inspection submissions would need to be periodically reviewed for quality and the municipality would follow up on deficiencies. If major deficiencies were noted or unnecessary repair recommendations are found, the plumber's municipal license would be revoked.

Pros:

- Limited capital expense for equipment
- Municipality does not have to schedule inspection
- Multiple approved plumbers will improve schedule flexibility
- Municipality can have a degree of trust in plumbers it has trained
- Plumber supplies insurance

Cons:

- Municipality must develop and run a licensing program
- Municipality must maintain a list of licensed plumbers including audits
- Difficult to follow up with contractor if an issue is uncovered
- Difficult to uniformly analyze data from many sources

8.3 INSPECTION TECHNOLOGY

The level of inspection technology required depends greatly upon the chosen program type. Smoke testing and dye testing can indicate a problem in a sewer lateral, but to determine the

cause and location of the problem, visual inspection is often required. The following tool types are presented to characterize general classes of technology available to inspect private laterals. Table 8-1 presents a list of relevant companies and the type of products they offer.

8.3.1 Push Camera

A push camera system consists of a small, lighted camera head attached to a semi-rigid cable that can be pushed into a sewer lateral (see Figure 8-2). The cable conveys the camera images back to a display screen and/or recorder. The cable is resistant to compression forces (i.e., the cable is flexible, but will not shorten or lengthen when pushed or pulled), so as an operator advances it through a cleanout or manhole into a sewer main or lateral, the camera will move down the pipeline. The camera sends real-time video to the display, enabling the operator to inspect the interior of a pipe along its length. Push camera systems include a display and a method to transfer recorded images to a computer. These types of systems are portable and do not require a dedicated support vehicle.

Pros:

- Easy to use
- Lower relative cost

Cons:

- Requires a cleanout to access lateral

Figure 8-2 Example of a Push Camera

(Source: Alpha SAT45H by Rausch Electronics http://www.rauschtv-usa.com/products/tv_inspection/tv_alpha_sat45h.htm)

8.3.2 Mainline-Launched Lateral Camera

A mainline-launched lateral camera is a self-propelled tractor carrying two cameras (Figure 8-3). The mainline-launched lateral camera is placed in a sewer main through a manhole. Cables trail from the machine that connect it to a power source and a controller mechanism, and transmit the live camera images to a display above ground. The two cameras on the machine consist of a primary camera mounted on the front of the moving tractor used to observe the mainline sewer and a secondary camera on a push cable inside the machine used to visually inspect the lateral. The video feed from the primary camera shows images from the interior of the sewer mainline. Once a sewer lateral is spotted by the primary camera, the controller can be used to launch the second camera into the lateral, like a push camera.

Pros:

- Does not require cleanout to access lateral

Cons:

- Relatively expensive
- Often requires dedicated support vehicle
- Requires trained personnel to operate

Figure 8-3 Example of a Mainline-Launched Lateral Camera
(Source: Lateral and Mainline Probe by CUES Inc. http://cuesinc.com/pdf%20docs/LAMP.pdf)

8.3.3 Lateral Locators and Sonde Devices

A locator uses radio signals to detect pipelines underground (see Figure 8-4). First, a transmitter must be attached to an exposed portion of a conductive pipe. The transmitter emits a signal along the length of the pipe, which the receiver can detect from above ground. If the pipe is nonconductive, a sonde is required. A sonde is a transmitter that may be built into a push camera or a mainline launch camera. The sonde emits a point-source signal that the receiver can detect above ground. This allows the operator to compare the video feed from a camera with an exact

location above ground. Many locators and sondes can be used with a GPS unit to record specific locations, such as a root intrusion or a large crack.

Figure 8-4 Example of a Lateral Locator and Sonde Device
(Source: Locator 8872 by InsightVision http://insightvisioncameras.com/LOCATORS.html)

8.3.4 Inspection Vehicles

Several companies make inspection vehicles built to a client's specifications (see Figure 8-5). Most vehicles have three internal sections—for driving, data processing, and accommodating sewer inspection equipment such as cameras.

Pros:

- All equipment needed to conduct work is readily available

Cons:

- Expensive
- Vehicle is not multi-purpose

Figure 8-5 Example of a Inspection Vehicle
(Source: Custom Sprinter Van Conversion by RapidView/IBAK http://rapidview.com/sprinter.htm)

Table 8-1
Inspection Technology Vendors

Company Name	Web Site	Push Camera	Mainline Launch	Vehicle	Lateral Locator
Amazing Machinery	http://www.amazingmachinery.com	✓			✓
Aries Industries	http://www.ariesindustries.com/	✓	✓	✓	
CUES Inc.	http://www.cuesinc.com/	✓	✓	✓	✓
Cyclops Electronics	http://www.cyclopstv.com	✓		✓	
Easy Cam LLC	http://www.easycamllc.com	✓			✓
Electric Eel Manufacturing Co. Inc.	http://www.electriceel.com	✓			✓
Empire Industries (Sewer Rat)	http://www.sewerrat.com/default.htm	✓			
Envirosight	http://www.envirosight.com/	✓	✓	✓	✓
Forbest Products Co.	http://www.forbestusa.net	✓			
General Pipe Cleaners	http://www.drainbrain.com	✓			✓
Image Inspection Services Ltd.	http://www.image-inspect.com	✓			✓
Insight Vision	http://insightvisioncameras.com/	✓			✓
Inuktun Services Limited (ISL)	http://www.inuktun.com/	✓			
IPG	http://www.imagingproductsgroup.com	✓			✓
MyTana Manufacturing	http://www.mytana.com/	✓			✓
Pearpoint	http://www.radiodetection.com	✓		✓	
RapidView IBAK	http://rapidview.com/	✓	✓	✓	✓
Ratech	http://www.ratech-electronics.com/	✓		✓	✓
Rausch	http://www.rauschtv-usa.com/	✓	✓	✓	
RIDGID (SeeSnake)	http://www.ridgid.com/Tools/SeeSnake	✓			
Rothenberger USA	http://www.rothenberger-usa.com	✓			
RS Technical Services	http://www.rstechserv.com/	✓		✓	
Scooter Video Inspection Systems	http://www.tvinspection.com	✓			
South Coast Sewer Equipment, Inc.	http://www.southcoastequipment.com	✓			✓
Spartan Tool LLC	http://www.spartantool.com	✓			✓
Speedway Drain Cleaning Products	http://www.speedway-tools.com	✓			✓
Televiewer	http://pipecctv.com/	✓		✓	
Triple R Specialty	http://www.triplerspecialty.com	✓			✓
UEMSI	http://www.uemsi.com	✓			✓
Vivax-Metrotech	http://www.metrotech.com	✓			✓

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9. INFLOW ELIMINATION TECHNIQUES

In undeveloped areas, stormwater percolates through soil and earth, replenishing groundwater sources such as river and aquifers. Unfortunately, improper sewer lateral connections often divert stormwater into wastewater collection systems. Stormwater entering sewer laterals may overload collection systems and treatment plants while also preventing the replenishment of groundwater sources. Figure 9-1 shows an example of incorrect and correct methods of managing stormwater.

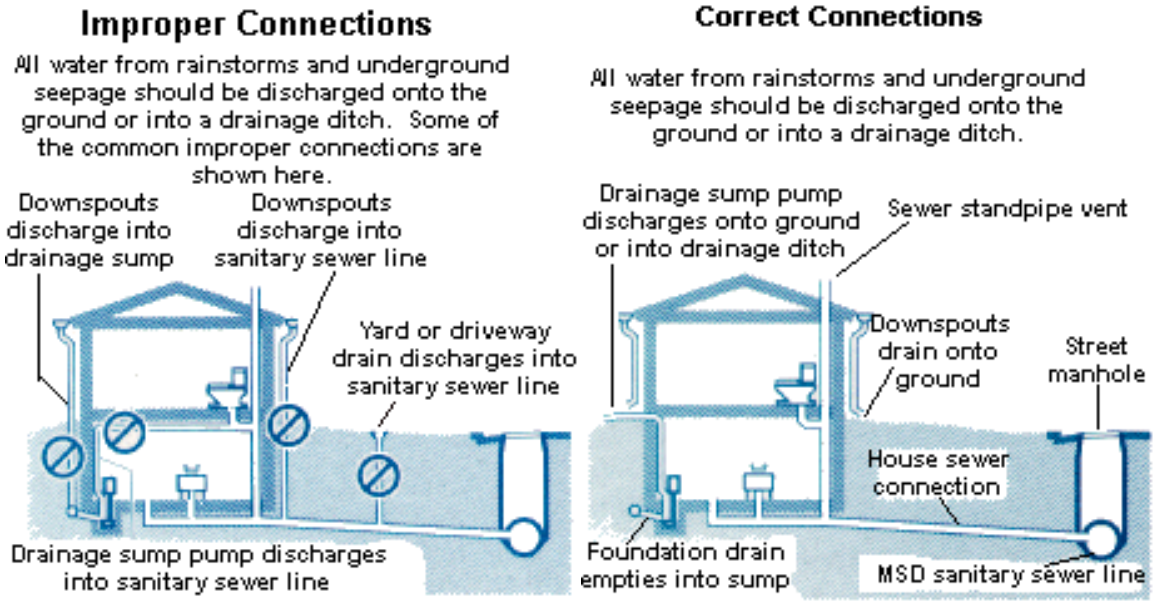

Figure 9-1 Improper and Correct Building Connections
(Source: Louisville, Kentucky Metropolitan Sewer District Web site http://www.msdlouky.org/programs/ii.htm)

Common sources of inflow can vary by area and by climate. For instance, if a municipality has a rainy climate, many homes with basements, and a high water table, it is likely that some homes would have sump pumps improperly connected to sewer laterals. Sump pumps, foundation drains, other area drains, or downspouts are often purposely connected to laterals, while inflow from open vent caps or broken cleanout caps is usually accidental.

All of these sources of inflow can contribute large volumes of water to a sanitary sewer collection system. Inflow elimination techniques are often not complex, and can be very effective. To eliminate inflow from an improper connection, inspection must be performed to

determine inflow locations, and then flow must be diverted away from the wastewater collection system and any inlets into the sewer lateral plugged.

To divert the flow from improper connections, a location must be found that can provide the area for water to infiltrate the soil without being an inconvenience. A downspout that is connected to a sewer lateral can easily be diverted to drain onto a lawn or into a ditch, and the former connection point must then be blocked off. Also, a foundation drain can be diverted to the sump pump, and then the sump pump may be diverted in the same fashion as the downspout. Landscape features such as rain gardens (see Figure 9-2) provide an attractive location for stormwater to pond and infiltrate into the ground.

Figure 9-2 Example of a Rain Garden
(Source: Master Gardeners of Adams County, PA, and Frederick, MD, Web site http://www.emmitsburg.net/gardens/articles/adams/2008/rain_garden.htm)

Another excellent option to divert rainwater from roof gutters is to capture the water in a rain barrel, where the rain can be stored for several days awaiting use to irrigate a lawn or garden. A rain barrel saves the steps of treating and distributing potable water to homes only to have that

drinking water used for irrigation. Also, diverting roof gutters away from illicit connections prevents the rainwater from mixing with wastewater, then being collected and treated. Using a rain barrel for irrigation can save substantial amounts of water and energy: "Lawn and garden watering make up nearly 40% of total household water use during the summer" (USEPA, 2009).

Remedying unintentional sources of inflow, such as uncovered vents or broken cleanout caps, is often straightforward. This type of inflow elimination frequently involves installing a cap on a cleanout or placing a hood over a sewer standpipe vent. Eliminating both intentional and accidental sources of inflow can significantly reduce I&I.

Figure 9-3 Example of Rain Barrels
(Source: Central Wisconsin Sustainability Newsletter September 2008. http://www.uwsp.edu/cnr/landcenter/cweco-news/images/rain-barrels-01.jpg)

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10. LATERAL REPAIR TECHNIQUES

There are several viable techniques for repairing sewer laterals that allow excessive I&I to enter sanitary sewer systems. Two general classes of remedy exist: replacement and point repair. Whether a lateral requires only a point repair or whether it needs a full replacement depends on the severity of the infiltration problem.

10.1 SEWER LATERAL REPLACEMENT METHODS

If the sewer lateral is in such poor structural condition that complete replacement is the only viable option, the methods described below may be used.

10.1.1 Open-Cut Excavation

Open-cut excavation is a traditional method used to replace failing sewer laterals. The soil above and around the lateral is removed with conventional technology (i.e., backhoe). The problematic segment of existing sewer lateral pipe is cut and removed from the trench. The replacement pipe section is placed into the trench and is connected to the building and the mainline sanitary sewer. If the mainline is located in the street, this method will require cutting into the roadway to replace the connection.

Pros:

- Pipe realignment is possible
- Prior cleaning is not required

Cons:

- Extensive ground surface disturbance

Figure 10-1 Open Trench Lateral Repair
(Source: Town of Hobgood, North Carolina, Web site http://www.townofhobgood.com/toc.htm)

10.1.2 Pipe Bursting

Two small trenches are excavated at the extents of a broken/leaking section of pipe (see Figure 10-2). Segments are cut out of the pipe in both trenches, allowing access to the pipe's interior. In one trench is a steel cable on a pneumatic winch. The cable is fed from the trench with the winch, through the existing pipe into the other trench. There, the cable is attached to the pointed end of a conical bursting head. The bursting head is a metallic cone that has either a hydraulic expanding device or cutting blades. The circular end of the conical bursting head is attached to a high-density polyethylene (HDPE) pipe. The tip of the bursting head is then inserted into the pipe and pulled through by the winch. As it is pulled, the head bursts or cuts the existing pipe and pushes the pipe fragments into the surrounding soil. The trailing HPDE pipe is then pulled through the newly enlarged space in the ground until it reaches the trench with the winch. The new pipe is then bonded or otherwise attached to the intact sections of existing pipe to complete the repair. Minimal excavation is required for this method.

Pros:

- Minimal cleaning/root removal required
- Minimal excavation necessary
- Does not disturb surface features such as driveways, sidewalks, etc.

Cons:

- Some excavation required
- Realignment not possible

Figure 10-2 Bursting Head Attached to New HDPE Pipe
(Source: King County, Washington Web site
http://www.kingcounty.gov/environment/wtd/Construction/East/Completed/NMIIntEmergency.aspx)

10.1.3 Sliplining

Sliplining consists of a liner pipe that is slightly smaller than the existing lateral being inserted into the lateral (see Figure 10-3). To begin, two small pits are excavated at the extents of the problematic sewer lateral and segments are cut out of the pipe to allow access to its interior. In one pit is a steel cable on a pneumatic winch. The cable is fed from the trench with the winch, through the existing pipe into the other trench. There, the cable is attached to the pointed end of a conical pulling head. The circular end of the pulling head is attached to one end of the new, flexible liner pipe. The exterior of the new pipe is lubricated and pulled through the existing pipe by the winch so that the new pipe lines the existing pipe. The new pipe is then bonded or otherwise attached to the intact sections of existing pipe. Portions of the new liner pipe that cover required openings in the existing pipe, for instance where a cleanout departs from the lateral, are cut out and sealed to the new pipe. Minimal excavation is required for this method.

Pros:

- Minimal excavation necessary
- Quick process

Cons:

- Some excavation necessary
- Realignment not possible
- Slight reduction of cross-section area

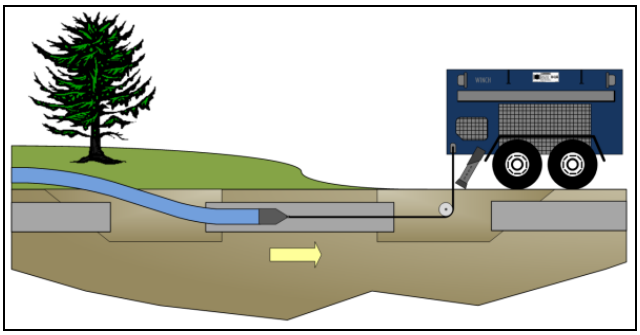

Figure 10-3 Schematic of Pipe Being Sliplined
(Source: Underground Solutions, Inc. http://www.undergroundsolutions.com/sliplining.php)

10.1.4 Full-Scale Cured-in-Place (CIPP) Pipe Lining

A tube of fabric with a circumference equal to that of the damaged pipe is cut to a length slightly greater than the length of pipe that needs to be repaired (see Figure 10-4). The fabric tube is then filled with a calculated amount of epoxy resin and rolled to ensure that the resin coats the entire interior of the fabric tube. Two small trenches are then excavated at the extents of the broken/ leaking section of the sewer lateral and segments are cut out of the pipe to allow access to its interior. One end of the coated fabric tube is then affixed onto one cut end of the damaged pipe and a bladder is inflated inside to invert and expand the tube. The epoxy resin then bonds with the existing pipe walls and is kept pressurized and allowed to set for several hours. Portions of the liner that are not bonded to the walls, for instance, in an area where a cleanout departs from the lateral, are cut out.

Pros:

- Little to no excavation required
- Quick process

Cons:

- Thorough cleaning required
- Does not repair major defects
- Slight reduction of cross-section area

Figure 10-4 CIPP Liner Being Blown Out the End of a Lateral
(Source: D&D Pipe Lining & Inspection, LLC http://www.danddpipelining.net/1894/1915.html)

10.2 SEWER LATERAL POINT REPAIR METHODS

Point repair technologies are used when the sewer lateral is in mostly good condition but some defects are present that need to be sealed to prevent excessive I&I. These methods require inspection and cleaning of the pipeline prior to repair. All are done in situ.

10.2.1 Cured-in-Place (CIPP) Pipe Lining

In much the same fashion as a full-scale CIPP pipe lining, a straight tube, or T tube (as seen below) of fabric is cut to a predetermined length based on the section of lateral pipe that needs to be repaired. The fabric is often specially shaped to seal joints from the lateral to the mainline sewer. The fabric tube is then filled with a calculated amount of epoxy resin and rolled to ensure that the resin coats the entire interior of the fabric tube. Point repairs for small sections of the lateral can also be pushed into the lateral through cleanouts. The liner is then inverted, inflated, and cured in the same manner as a full-scale CIPP liner.

Pros:

- No excavation required
- Quick process

Cons:

- Thorough cleaning required
- Does not repair major structural defects
- Slight reduction of cross-section area

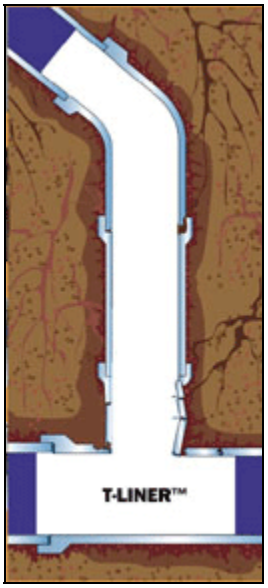

Figure 10-5 CIPP Liner for Lateral Connection to Mainline Sewer
(Source: Source Point Solutions, LLC, LMK Enterprises, Inc. http://www.sourcepointsolutions.com/pages/IPR_TLiner.html)

10.2.2 Pipe Joint Sealing or Lateral Grouting

Access to the mainline is gained through a manhole and a push camera is used to locate the joint with the lateral (see Figure 10-6). With the camera conveying images of the mainline interior to the operator above ground, the deflated grout packer is pushed into place in the lateral joint. The grout packer is then expanded fully against the pipe wall at the extents of the leaking section to completely seal it off. In the interior of the leaking section, the device is expanded just shy of the inner pipe diameter to create a narrow space against the inner wall of the existing pipe. Grout is pumped into the small area between the device and the existing pipe wall. As pressure forces the grout into the void space, some grout is expelled from the leaking joints in the pipe. The grout is allowed to cure, then the repair is pressure tested and the grout packer is removed.

Pros:

- No excavation required
- Quick process

Cons:

- Cannot repair cracks
- Only a spot repair
- Nonstructural repair

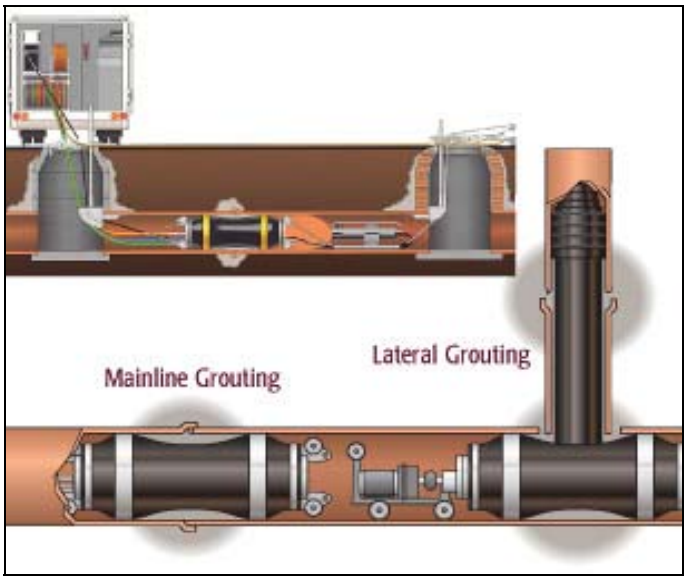

Figure 10-6 Diagram of Mainline and Lateral Grouting
(Source: Lake County Sewer Company, Inc. http://www.lakecountysewer.com/rehab.html)

10.2.3 Fill and Drain, Chemical Stabilization, or Flood Grouting

Flood grouting involves a chemical reaction between two liquids, causing a solid to form in breaks or cracks in a pipe. First, the broken pipe segment is isolated using sealing balloons or sealing disks inserted via cleanouts or manholes. Then, that pipe segment is filled with a safe,

nontoxic liquid chemical solution and that solution is allowed to penetrate cracks or leaking joints into the surrounding earth. The solution is then pumped out of the pipe and the pipe is cleaned so that the only remnants of solution are what have penetrated any cracks. Then, a second solution is poured into the pipe and also allowed to penetrate through the cracks. In areas around cracks, the remnants of the first solution react with the second solution, forming a solid that seals the cracks. The second solution is then pumped out of the pipe, the pipe is again cleaned, and the sealing balloons are removed.

Pros:

- No excavation is necessary

Cons:

- New technology
- Does not repair major defects
- Nonstructural repair

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11. ORDINANCES

11.1 SAMPLE ORDINANCE

In an effort to encourage lateral I&I elimination programs, a sample ordinance has been provided in Appendix A that prohibits certain discharges into the sanitary sewer system, mandates inspection of sanitary sewer laterals, and mandates the repair of any defect in such laterals prior to the issuance of a certificate of occupancy. This is intended to provide a place for municipalities to begin in developing the ordinances necessary to successfully implement a lateral I&I elimination program.

11.2 EXAMPLE ORDINANCES

Many communities in Pennsylvania and across the United States operate private lateral I&I elimination programs. These programs are supported and legally defended by ordinances promulgated by the local government. Paraphrased or quoted below are examples of ordinances that support lateral repair programs in Pennsylvania and other states. Appendix B contains copies of the ordinances summarized in the following sections.

11.3 PROGRAMS IN PENNSYLVANIA

11.3.1 Fox Chapel Borough – Time-of-Sale Inspection Program

The property owner must hire a registered plumber to perform an inspection before a home is sold. Inspection results must be submitted to the municipality. The municipality will issue a Document of Certification if the property is compliant with regulations. The property may not be sold/transferred without the certification. Fines will be imposed if the property is not compliant.

11.3.2 City of York – Ordinance Allowing Inspection of Private Laterals

“The General Manager and other duly authorized employees of the City bearing proper credentials and identification shall be permitted to enter upon all properties for the purposes of inspection, observation, measurement, sampling and testing, and to examine and copy records of

operation required by the City, Federal or State agencies in accordance with the provisions of this article" (City of York, PA, 2009).

11.3.3 Middletown Borough – Time-of-Sale Inspection Program

The borough will perform an inspection. The property owner is responsible for any repairs prior to a property transfer. Repairs must be inspected to ensure compliance. Noncompliance will result in increasing fines. (A copy of this ordinance was not available for inclusion in Appendix A.)

11.3.4 City of Lock Haven – Ordinance Prohibiting Stormwater in Lateral and Delegating Responsibility

"The discharge of stormwater runoff to sanitary sewers is prohibited….Maintenance and repair of all building sewers shall be the responsibility of the property owner" (City of Lock Haven, PA, 1977).

11.3.5 Upper Macungie Township – Time-of-Sale Inspection Program

The property owner is responsible for maintenance and repair of all building sewers. The property owner must either grant the municipality permission to perform inspection, at no cost to the property owner, or hire a registered plumber, at the property owner's expense, and inspection results must be submitted to the municipality. If the lateral is not in compliance, the property owner must have it repaired or incur fines.

11.3.6 Knox Borough – Comprehensive Lateral Replacement Program

All property owners are required to replace all building laterals by a certain date.

11.3.7 East Norriton Township – Community-Wide Inspection Program

The township may inspect the sewer lateral on any property within a certain period after notice is given to the property owner. If the sewer lateral is in an unacceptable condition, the sewer lateral shall be repaired or replaced by the owner of the property within 90 days. The township shall confirm by inspection that the sewer lateral has been satisfactorily repaired or replaced. If the owner of the property fails to repair or replace the sewer lateral within 90 days, the township

shall be permitted to make such repair or replacement and assess the property owner the cost thereof.

11.3.8 Township of Butler – Time-of-Sale Inspection Program

The Butler Area Sewer Authority (BASA) will perform all testing/inspection. Entry to a property must be granted after BASA provides notice of upcoming inspection. The property owner may not transfer land without proof of compliance with the inspection program. If the property has been certified compliant in the last 5 years, no new testing is required. If the state of the lateral is a health danger and the property owner does not make necessary repairs immediately, BASA will perform repairs and charge the property owner. Extensions may be granted in cases of proven economic hardship.

Center Township, East Butler Borough, City of Butler, Connoquenessing Township, Summit Township, and Oakland Township are served by BASA, and their ordinances are nearly identical to that of the Township of Butler.

11.4 PROGRAMS IN THE UNITED STATES

11.4.1 City of Santa Barbara, CA – Major Remodel Inspection Program

Municipality inspectors are allowed to inspect all laterals but not to enter buildings. Inspections may be performed by a licensed plumber and a report must be submitted to the municipality. Inspections are required if the lateral is failing or if the house is expanded. Nonresidential properties' laterals must be inspected every 10 years. Inspection is not required if the property owner can prove that the lateral was recently inspected, repaired, or replaced.

11.4.2 City of Berkeley, CA – Time-of-Sale / Major Remodel Inspection Program

An inspection is required if the lateral is a public nuisance, if the building is undergoing a major remodel, or at the time of sale if the lateral is over 20 years old. The inspection must be performed by a qualified, licensed plumbing contractor, who must submit the results to the municipality. If the lateral is approved, the property owner will be granted a Sewer Lateral Certificate. Any violations may be prosecuted as misdemeanors.

11.4.3 City of Des Peres, MO – Lateral Insurance Program

A $28 fee will be levied on all residential properties in the municipality. The property owner is responsible for the initial investigation and the costs of cabling, if necessary. The program will pay for repairs. A deductible applies, which can be waived in the case of proven economic hardship. If a set monetary amount is exceeded during repair, the property owner must pay the remainder of repair costs.

12. PUBLIC EDUCATION

A lateral I&I elimination program cannot be successful without the understanding of all stakeholders. Residents who are educated about the need for lateral investigations and the techniques used are likely to be much more understanding when an agency employee requests access to their property. Once homeowners understand the need for the program and its long-term benefits, they are usually more willing to participate. Following is a comment from a utility company that instituted a lateral I&I program: "It is vital to get homeowners to 'buy in' to the program to ensure its success." Comments from utilities who have instituted I&I elimination programs are presented on the Water Environment Federation's Private Property Virtual Library Utility Database (http://www.wef.org/Utility/ppvl_utility_database.asp).

Public education efforts may include developing a Web site with resources and information, distributing educational pamphlets to community residents, or holding informational community meetings. Materials should answer the following fundamental questions: "What is a sewer lateral?" "What is infiltration and inflow?" "Why is I&I bad?" And "How will a repair program benefit me?" Also, any incentives offered for program involvement should be mentioned. A variety of ways to disseminate information are available, such as television, newspaper, and radio, pamphlets/flyers, and Web sites. Value and effectiveness should be considered to maximize the number of people reached while minimizing cost.

As with any public campaign, information should be provided in relatively uncomplicated vocabulary and with easily understood graphics. If a significant percentage of a municipality's population are not native English speakers, the use of foreign language materials should be considered.

Public education is a valuable tool for the duration of an I&I elimination program. Initially, the public must be notified of the lateral I&I elimination program and of opportunities for involvement. Secondly, interested parties should be informed more thoroughly about their responsibilities and the techniques to be used to eliminate I&I. Thirdly, citizens should be notified just prior to and on the day of testing or repair in their community. Public education efforts can prepare people for potential road closures or advise them not to be concerned about the effects of smoke testing.

Effective and thorough public education is vital to the success of a private lateral I&I elimination program. It is an important step when instituting a program, and should not be underestimated.

12.1 COMPANION BROCHURE

In addition to developing this compendium of program options and repair techniques, a companion brochure was prepared and sent to all households and businesses in Delaware County. An electronic copy of this brochure can be found on DELCORA's website at www.DELCORA.org.

12.2 COMPANION VIDEO

Educating both local elected officials and the residents is the key to initiating a successful private lateral I&I elimination program. To initiate this process, a companion video was produced that outlines the problem and presents the need to implement a private lateral I&I elimination program. This video can be viewed on DELCORA's website at www.DELCORA.org.

SEWER LATERAL REPAIR PROGRAM
5 EASY STEPS TO FOLLOW

If the sewer backs up in your home, here are five steps to follow:

1. Contact a University City licensed plumber to have the line cabled. If your lateral can be cleared by cabling and is not broken, misaligned or cracked, you are not eligible to participate in the program. Keep the receipts for the work completed on your lateral. If your lateral is found to be defective at a later time, you can submit them with your application. We will apply your cabling expenses toward the deductible.
2. If your lateral cannot be cleared, have the licensed plumber perform a video camera inspection. The video should cover all accessible areas and must clearly show evidence of a break. Submit video and the receipt with your completed application.
3. Make sure you request a sketch (drawing) from the licensed plumber showing the approximate location of the blockage or sewer break and the location of the home and adjoining street(s).
4. Contact your homeowner's insurance company to determine if your insurance company will pay for any of the repair costs (i.e. cabling, pipe, excavation, backfilling, seeding, etc.). Provide written documentation of your coverage.
5. Return a completed application, the video, sketch and all receipts to the Public Works Department. Please remember, all your U. City bills (i.e. refuse, weed, ambulance) and St. Louis County real estate taxes (which includes your $50 sewer lateral fee) must be paid to participate in the repair program.

City of University City

City of University City
Department of Public Works
6801 Delmar Blvd.
University City, MO 63130

City of University City

Sewer Lateral Repair PROGRAM

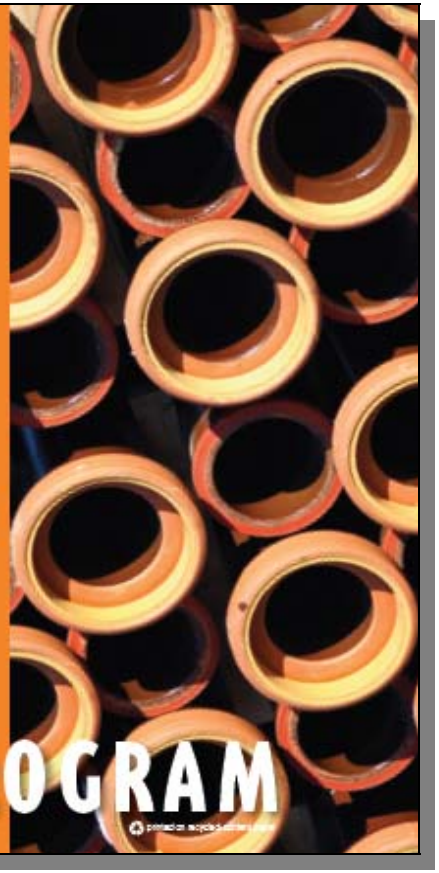

Figure 12-1 Example of a Private Lateral I&I Elimination Program Brochure

(Source: University City, Missouri's lateral program Web site, http://mo-universitycity.civicplus.com/DocumentView.aspx?DID=1202)

13. CONCLUSION

If preventive maintenance is not performed on private sewer lateral lines, I&I will cause increasing flows in wastewater collection systems as laterals age. Excessive flows in wastewater collection systems cause financial, environmental, and public health concerns. Excessive I&I costs Delaware County residents millions of dollars in unnecessary treatment costs each year. Lateral I&I elimination programs are very effective in stopping excess flows from sanitary sewer collection systems.

Many municipalities have programs in place to maintain their wastewater collection and treatment systems. Programs often include maintenance of public portions of the sewer main and expansion of collection systems and wastewater treatment systems based on population increases. Private laterals are an important component of a wastewater system, and need a maintenance and improvement program as much as public mains and the treatment plant. Proactively maintaining wastewater systems can reduce overall costs by preventing treatment plant surcharges and fines associated with SSOs as well as reducing flow volumes. Maintaining private sewer laterals will help reduce those overall costs and help keep the environment healthy.

What works for one community may not work for all. A program will work best when tailored to an area's specific requirements and sources of I&I. Locally relevant information, such as the greatest sources of I&I in the municipality, potential roadblocks to program implementation, and public opinion must be considered when designing a lateral I&I elimination program. Many options for program types, funding sources, incentive options, inspection methods, and repair techniques are available. A wealth of information exists from many sources, including communities who have implemented programs in the past or are currently running such a program. This report, as well as the brochure and video that complement it, are intended to be used as a starting point in the research and development of an I&I elimination program.

Implementing a private lateral I&I elimination program in your municipality is possible. This document can serve as the starting point for researching and developing a program tailored to work for your citizens and your unique issues.

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APPENDIX A

SAMPLE ORDINANCE

_____

Ordinance No. _____

AN ORDINANCE OF _____, DELAWARE COUNTY, PENNSYLVANIA PROHIBITING CERTAIN DISCHARGES INTO THE SANITARY SEWER SYSTEM WITHIN _____, MANDATING INSPECTION OF SANITARY SEWER LATERALS AND THE REPAIR OF ANY DEFECT IN SUCH LATERALS PRIOR TO THE ISSUANCE OF A CERTIFICATE OF OCCUPANCY, EMPOWERING _____ TO INSPECT SANITARY SEWER LATERALS WITHIN _____, AND REPEALING ALL ORDINANCES, RESOLUTIONS OR PARTS OF ORDINANCES AND RESOLUTIONS INCONSISTENT HEREWITH.

Whereas, the discharge, inflow and infiltration of certain unpolluted waters into the sanitary sewer system unnecessarily increases the cost of wastewater treatment; and

Whereas, this _____ deems it desirous to prohibit the discharge, and take measures to reduce the inflow and infiltration, of unpolluted waters into the sanitary sewer system.

Now, therefore, _____ hereby ordains that:

1. Definitions. When used in this ordinance and capitalized, the following terms shall have the following meanings:

a. **Applicant** shall mean any Person applying for a Certificate of Occupancy.

b. **Certificate of Occupancy** shall mean the certificate required pursuant to Ordinance No. _____.

c. **Person** shall include any individual, entity, partnership, business, corporation or company.

d. **Property** shall mean any real property located within _____.

e. **Sanitary Sewer System** shall include piping, lines, sewers and connections thereto transporting wastewater within _____ to a destination for sanitization and treatment.

f. **Sewer Lateral** shall mean any pipe, line or sewer running across or through any Property and connecting to a pipe, line or sewer owned by any municipality or municipal authority for the purpose of transporting wastewater for treatment.

g. **Storm Water** shall include all storm water, rain water, surface water, ground water, roof run-off or subsurface drainage.

2. Prohibition of Storm Water discharges into the Sanitary Sewer System.

a. It shall be unlawful for any Person to discharge any Storm Water into the Sanitary Sewer System, or permit the discharge of Storm Water from any Property owned by such person into the Sanitary Sewer System. For the purpose of this paragraph, any discharge of Storm Water into the Sanitary Sewer System shall be deemed to have been permitted by the owner of the Property upon or within which such Storm Water enters the Sanitary Sewer System.

b. No Person who owns any Property serviced by the Sanitary Sewer System shall connect any roof drain or foundation drain or foundation drain thereto or permit any such drains to remain connected thereto.

c. Each violation of the provisions of any provision of this Paragraph 2 of this Ordinance shall be punishable by a fine of no less than _____ dollars ($_____) nor more than _____ dollars ($_____). For the purpose of this provision, each day on which a discharge or connection that violates this Paragraph 2 occurs shall constitute a separate violation.

3. Inspection by _____. _____ may, upon _____ days notice, undertake such inspection or test as it may deem appropriate to determine the condition of any Sewer Lateral. Any such inspection or test may only take place during between the hours of ___ a.m. and ___ p.m., Monday through Friday. The owner of the affected Property shall make all areas to be inspected or tested available to _____ or its designee upon request. If, in its sole discretion, _____ determines that the Sewer Lateral is in an unacceptable condition, the Sewer Lateral shall be repaired or replaced by the owner of the Property at such owner's expense within ___ days of the date _____ notifies such owner that the Sewer Lateral is in an unacceptable condition. _____ may confirm by inspection that the Sewer Lateral has been satisfactorily repaired or replaced. If the owner of the Property fails to repair or replace the Sewer Lateral within ___ days, _____ shall be permitted to make such repair and assess the owner of the Property the cost thereof. Such assessment shall be made in accordance with Pennsylvania's Municipal Claims Act, and shall constitute a lien against the Property until paid.

4. Mandatory Inspection Prior to the Issuance of a Certificate of Occupancy.

a. As a pre-condition to the issuance of by _____ of any Certificate of Occupancy, the Applicant shall contract a plumber to perform a dye test, smoke test or air test of the Sewer Lateral on the affected Property and provide the results of same to _____. Any smoke test shall involve the use of nontoxic, non-staining smoke, forced through the Sewer Lateral by way of forced air. The plumber performing such test shall notify _____ at least __ business days in advance of same, so that _____ may have the opportunity to witness the test. _____ shall have the right to approve the test as performed or require additional testing. The plumber performing such test shall certify the results to _____. Should there be any connection to the Sewer Lateral in violation of Paragraph 2 of this Ordinance, or should

the Sewer Lateral be in a condition that _____, in its sole discretion, deems unsatisfactory, then, except as otherwise provided herein, the Applicant shall not receive a Certificate of Occupancy until such connection is removed or such condition is remedied to the satisfaction of _____.

b. In the event a Sewer Lateral is in an unsatisfactory condition, _____ may, in its discretion, issue a temporary Certificate of Occupancy upon the Applicant placing an amount of money that _____, in its sole discretion, deems sufficient to remedy such unsatisfactory condition. In the event that the Applicant fails to remedy such unsatisfactory condition within ___ days, _____ may, in its discretion: (1) revoke the temporary Certificate of Occupancy; or (2) undertake such repairs or replacement of the Sewer Lateral as may be necessary to remedy the unsatisfactory situation, applying the escrowed monies toward such repairs or replacement. Should _____ undertake the repair or replacement of any Sewer Lateral in accordance with this Paragraph 4.b, the amount by which the costs of such repairs or replacement may exceed the amount of money placed in escrow, such difference shall be a liability of both the Property and the Applicant, and may be assessed against the Property in accordance with Pennsylvania's Municipal Claims Act, in which case it shall constitute a lien against the Property until paid. Any money remaining in escrow after the Sewer Lateral is repaired to a satisfactory condition or replaced in accordance with this Paragraph 4.b shall be returned to the Applicant.

c. Except as provided in this Paragraph 4 of this Ordinance, nothing herein is intended to amend, reduce or remove any existing prerequisite to an Applicant obtaining a Certificate of Occupancy pursuant to Ordinance _____.

5. Severability. Should any clause, paragraph or provision of this Ordinance be deemed illegal or unconstitutional by an appropriate court of law, it is the intention of _____ that the remainder of this Ordinance continue in effect.

6. Repealer. Any ordinance, resolution, or any severable part of any ordinance or resolution directly conflicting with the provisions of this Ordinance is hereby repealed.

7. Effective Date. This Ordinance shall be effective as of _____.

ORDAINED AND ENACTED into law as of this __ day of _____, 201__.

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APPENDIX B

EXAMPLE ORDINANCES

Fox Chapel Borough, Pennsylvania

Time of Sale Inspection Program Ordinance

ORDINANCE NO. 510
BOROUGH OF FOX CHAPEL

AN ORDINANCE OF THE BOROUGH OF FOX CHAPEL, ALLEGHENY COUNTY, PENNSYLVANIA, ESTABLISHING A REQUIREMENT FOR CERTIFICATION OF SANITARY SEWER STATUS PRIOR TO THE SALE OF REAL ESTATE WITHIN THE BOROUGH OF FOX CHAPEL, AND AS A CONDITION FOR THE ISSUANCE OF MUNICIPAL LIEN LETTERS AND PROPERTY TAX VERIFICATION LETTERS.

WHEREAS, the Borough of Fox Chapel is desirous of eliminating storm and surface waters from entering into the sanitary sewer system of the BOROUGH and,

WHEREAS, the Borough of Fox Chapel is desirous of establishing certain procedures for the issuance of municipal lien and property tax certifications.

NOW, THEREFORE, BE IT ORDAINED AND ENACTED by the Borough Council of the Borough of Fox Chapel, Allegheny County, Pennsylvania, and it is hereby ordained by and with the authority of the same:

SECTION I - GENERAL

After the effective date of this Ordinance, it shall be unlawful for any person to sell real estate within the Borough of Fox Chapel on which a building or improvement exists, without first delivering unto the purchaser a **Document of Certification or Temporary Document of Certification** from the proper officers of the Borough of Fox Chapel.

SECTION II - DEFINITIONS

A. Person: Any person, syndicate, associate, partnership, firm, corporation, institution, agency, Authority, or other entity recognized by law as the subject of rights and duties.

B. Municipal Lien and Property Tax Verification Letter: A written letter from the proper official of the Borough of Fox Chapel concerning municipal liens and property taxes.

C. Document of Certification: An official statement from the proper officer of the Borough of Fox Chapel stating that there are no known illegal storm or surface water connections into the sanitary sewer connections on the specific property which is being sold.

D. Temporary Document of Certification; A temporary statement of certification from the proper officer of the Borough of Fox Chapel, issued pursuant to the terms of Section IV of this ordinance.

E. Illegal Storm or Surface Water Connections: The discharge of ground or surface water or the connection of downspouts, roof drainage, surface areaway drainage, or foundation or basement drainage into the sanitary sewer system.

SECTION III - DOCUMENT OF CERTIFICATION APPLICATION

Any person selling real estate located within the Borough of Fox Chapel (hereinafter "APPLICANT') shall make application on a form furnished by the Borough of Fox Chapel at least seven (7) days before the date of sale. The APPLICANT shall then have a plumber who is registered and licensed by the Allegheny County Health Department perform a dye test, smoke test or air test of the sewer drainage system on the property to be sold, said smoke test to involve the use of nontoxic, nonstaining smoke, which is forced through the sewer system by the use of air blowers. The plumber shall notify the Borough at least two (2) working days before the test is made so that the Borough may witness the test. The Borough shall have the right to approve the test as performed and/or to require that additional tests be made. The Borough shall also have the right to rely on the results of any internal televising of the main sewer completed by the Borough or its contractor. The plumber shall complete the appropriate portions on the form and certify that the property has been dye tested, smoke tested or air tested and certify the results of such test. In the event that there are no illegal storm or surface water connections and the existing drainage system is sound, the Borough of Fox Chapel Building Inspector or his designate shall issue a Document of Certification upon the payment of any established fee. When an illegal storm or surface water connection or malfunctioning drainage system is discovered by the means of the above-mentioned testing, no Document of certification will be issued until the illegal connections/malfunctioning drainage system are removed/repaired, the system retested and certification of such removal/repair by a registered, licensed plumber is received.

SECTION IV - TEMPORARY DOCUMENT OF CERTIFICATION

A **Temporary Document of Certification** may be issued at the Borough's sole discretion when either:

A. The APPLICANT proves that such testing cannot be performed because of weather conditions, and when such is the case, the APPLICANT shall provide the Borough with security in the amount of One Thousand Dollars ($1,000.00) to guarantee that the appropriate test will be performed. The APPLICANT will cause to have performed the appropriate test within fourteen (14) days of subsequent written notification from the Borough, which will be given at such time as weather conditions make such testing possible. In addition, the APPLICANT shall provide a signed written acknowledgement from the purchaser of the real estate, agreeing to correct, at the said purchaser's sole

expense, any violations/defects that may be discovered as the result of subsequent tests. Nothing in this subsection shall prohibit any purchaser from requiring the APPLICANT to reimburse the purchaser for any costs incurred; PROVIDED, NEVERTHELESS, that primary liability shall run with the land and no such agreement shall affect the Borough's enforcement powers or excuse the current owner from performance.

B. When an illegal storm or surface water connection or malfunctioning drainage system has been discovered and the necessary remedial activities to correct such connection would require a length of time such as to create a practical hardship for the APPLICANT, the APPLICANT may apply to the Borough Building Inspector for a Temporary Document of Certification which may only be issued when the APPLICANT provides the Borough with all of the following:

1. A bona fide executed contract between the APPLICANT and a registered, licensed plumber to complete the necessary remedial work with the Borough listed therein as a third party beneficiary;

2. Cash security in the amount of said contract as posted with the Borough; and,

3. An agreement by the purchaser to be responsible for all cost overruns related to the remedial work, together with a license to the Borough to enter upon the property to complete work in case of default by the contractor. The Building Inspector shall determine, by regulation, when such **Temporary Document of Certification** shall expire, at which time the security shall be forfeited, and the Borough may use the security to have the necessary remedial work completed.

SECTION V

The Building Inspector is hereby authorized, empowered and directed to make reasonable rules and regulations for the operation and enforcement of this Ordinance as he deems necessary, which shall include, but not be limited to:

A. Establishing acceptable forms of security or guarantees;

B. Acceptable testing methods.

C. Establishing the forms of applications, purchaser acknowledgements and plumber certifications;

D. Limiting the times of year in which **Temporary Documents of Certification** are available for reasons of weather.

All rules and regulations issued pursuant to this Section shall be in writing and be approved by the Fox Chapel Borough Council prior to such rules and regulations being effective.

SECTION VI

Nothing in this Ordinance shall limit, in any fashion whatsoever, the Borough's right to enforce any ordinance or law of the Borough of Fox Chapel, County of Allegheny or Commonwealth of Pennsylvania. Nothing in this Ordinance shall be a defense of any citation issued by any municipal corporation or the Commonwealth pursuant to any other law or ordinance.

SECTION VII

Any person who shall fail, neglect or refuse to comply with any of the terms or provisions of this Ordinance, or of any regulation or requirement pursuant thereto and authorized thereby shall, upon conviction before any district justice, be sentenced to pay a fine of $1,000.00 and costs of prosecution, and in default of payment thereof, to imprisonment for a term not to exceed ninety (90) days.

SECTION VIII

The provisions of this Ordinance are severable, and if any Section, sentence, clause or phrase shall be held by a court of competent jurisdiction to be illegal, invalid or unconstitutional, the remaining portions of this Ordinance shall not be affected or impaired thereby.

SECTION IX

Any Ordinance or part of any Ordinance conflicting with the provisions of this Ordinance be and the same are hereby repealed to the extent of such conflict.

SECTION X

The effective date of this Ordinance shall be the 1st day of July, 1990.

ORDAINED AND ENACTED into law by the Borough Council of the Borough of Fox Chapel, Allegheny County, Pennsylvania this 18th day of June, 1990.

ATTEST:

Secretary

BOROUGH OF FOX CHAPEL

President, Borough Council

Township of Butler, Pennsylvania

Time of Sale Inspection Program Ordinance

ARTICLE V, Certification of Sanitary Sewer Status [Adopted 6-28-2004 by Ord. No. 806]

§ 224-29. Definitions.

As used in this article, the following terms shall have the meanings indicated:

DOCUMENT OF CERTIFICATION, EVIDENCE OF COMPLIANCE -- An official statement from BASA[EN(1)] stating that there was, at the time of inspection and testing, no evidence of any illegal stormwater and surface water connections and infiltration of groundwater or subsurface waters on the specific property which is being sold, transferred, assigned, mortgaged or refinanced.

ILLEGAL STORMWATER AND SURFACE WATER CONNECTIONS AND INFILTRATION OF GROUNDWATER OR SUBSURFACE WATERS -- The connection or presence of any basement seepage, stormwater, surface water, drains, down spouts, roof drainage, or infiltration of ground or subsurface waters into the sanitary sewer system.

MUNICIPAL LIEN LETTER -- A written letter from officials of BASA[EN(2)] concerning municipal liens for public sanitary sewer service and charges related thereto.

PERSON -- Any person, syndicate, associate, partnership, firm, corporation, institution, agency, authority or other entity recognized by law as the subject of rights and duties.

SEWAGE -- As defined under the Pennsylvania Sewage Facilities Act, 35 P.S. § 750.2, any substance that contains any of the waste products or excrement or other discharge from the bodies of human beings or animals and any noxious or deleterious substances being harmful or inimical to the public health, or to animal or aquatic life, or to the use of water for domestic supply or for recreation, or which constitutes pollution under the Act of June 22, 1937 (P.L. 1987, No. 394, also known as the Clean Streams Law, as amended, 35 P.S. § 691.1 et seq.).

TELEVISING DYE AND/OR SMOKE TESTING AND INSPECTION -- Any commonly accepted method of testing and inspection wherein a television camera, dye and/or smoke is introduced into the stormwater, surface water, groundwater or subsurface water collection system, down spouts or sanitary sewer lateral connection of real estate property to determine if any illegal stormwater or surface water or infiltration of groundwater or subsurface water is entering the sanitary sewer system.

§ 224-30. Designation of BASA as agents.

The Township has, by Ordinance No. 783,[EN(3)] designated BASA,[EN(4)] its officers, employees and agents, as agents for the Township to identify, report and require the disconnection of any illegal stormwater and surface water connections and infiltration of groundwater or subsurface waters, at any time prior to or from the effective date of this article, to the BASA sanitary sewer system, and for such purpose, BASA, its officers, employees and agents are authorized to enforce, consistent with this article and the ordinances in effect within the Township with respect to illegal stormwater and surface water connections and infiltration of groundwater or subsurface water to the sanitary sewers. BASA shall report to the Township all enforcement measures undertaken within the Township which are directed to an owner, lessee or occupier of realty situate in the Township.

§ 224-31. Sale, transfer, mortgaging or refinancing without evidence of compliance prohibited.

After the effective date set forth in § 224-42 of this article, it shall be unlawful for any person: (a) to sell or transfer any real estate within the Township of Butler on which a building or improvement exists which is connected to the BASA sanitary sewer system, when such sale or transfer is subject to taxation under the Realty Transfer Tax Act, 72 P.S. § 810 1-C et seq., and the corresponding regulations of the Department of Revenue, or (b) to mortgage or refinance any real estate within the Township of Butler on which a building or improvement exists which is connected to the BASA sanitary sewer system when such mortgage or refinancing is for the purpose of acquiring title to, or improving, modifying, repairing or rehabilitating any such real estate which requires a building permit under the Township's Building Code,[EN(5)] without first delivering to the purchaser, transferee mortgagee or person or institution providing financing or refinancing, a document of certification from the proper officials of BASA.

§ 224-32. Evidence of compliance; document of certification; application.

A. Any person selling, transferring, mortgaging or refinancing real estate located within the Township of Butler (hereinafter "applicant") and subject to the requirements set forth in § 224-31 above shall make application on a form furnished by the BASA at least 14 days before the date of sale, transfer, mortgaging or refinancing, together with payment of a fee to be set by the Township by resolution of the Board of Commissioners. BASA shall schedule, within 14 days of receipt of the application, an inspection and televising, dye and/or smoke test on the property to be sold, transferred, mortgaged or refinanced, said televising, dye or smoke testing to involve the use of nontoxic, nonstaining dye or smoke. BASA shall complete the appropriate portions on the form that the property lateral and facilities have been inspected,

televised, dye and/or smoke tested and certify the results of such test. In the event that there was, at the time of inspection and testing, no evidence of illegal connections, devices, or conditions causing or permitting stormwater or surface water, or infiltration of groundwater or subsurface waters, to enter the sanitary sewer system, BASA shall issue a document of certification.

B. When an illegal connection, device, or condition which causes or permits stormwater or surface water or the infiltration of groundwater or subsurface water to enter into the BASA sanitary sewer system is discovered by the means of the above-mentioned inspection and testing, no document of certification will be issued until the illegal connections, devices, or conditions are removed, inspected and approved by BASA. BASA shall have the authority to permit BASA and the applicant, purchaser, transferee, mortgagor, mortgagee and any other appropriate person to enter into an escrow agreement to provide adequate assurance to BASA that the necessary actions will be taken to remove the illegal connection, device, or condition and to eliminate the illegal stormwater and surface water connections and infiltration of groundwater or subsurface waters from entering into the BASA sanitary sewer system.

C. Testing will not be required when the application process reveals that a valid document of certification with respect to the specific tax parcel has been issued by BASA in accordance with this article within a period of five years from the date of application.

§ 224-33. Inspection of sanitary sewer status prior to sale, transfer, mortgage, or refinancing of real estate.

In addition to the requirements set forth in §§ 224-31 and 224-32 of this article of the Township, any person selling, transferring, mortgaging or refinancing real estate located within the Township which is connected to the BASA sanitary sewer system must subject such person's real property to prior inspection, including inspection of interior premises of any building or residence, by authorized representatives of BASA, between the hours of 7:00 a.m. and 9:00 p.m., prevailing time, and upon seven days' written advance notice to the person selling such real estate, to determine the presence of any illegal connection, device (e.g., a sump pump), or condition, which causes or permits stormwater or surface water or the infiltration of groundwater or subsurface water to enter into the BASA sanitary sewer system. Such person shall not be issued a document of certification until (a) such inspection and testing has been performed and has revealed no evidence that a connection, device, or condition exists which causes or permits storm or surface water or the infiltration of groundwater or subsurface water to enter into the BASA sanitary sewer system and a follow-up inspection verifies that such connection, device or condition found to be previously in operation or existence has been disconnected and removed, or (b) an escrow agreement satisfactory to BASA has been executed and a follow-up inspection of the illegal connection, device or condition identified in such agreement verifies that such connection, device or condition found to be previously in operation or existence has been disconnected and removed.

§ 224-34. Written reports of and required repairs of deteriorating laterals and sewer service connections.

BASA is authorized in the course of its program of inspection and testing privately and publicly owned facilities within the Township, when it identifies deteriorating sewer service laterals or other connections, devices or conditions which cause or permit inflow of stormwater and surface waters or infiltration of groundwater or subsurface waters into the publicly owned facilities of the BASA sanitary sewer system, to provide written notice to the property owner or owners as to the condition of such laterals and sewer service connections, devices or conditions, together with a statement that such deteriorating laterals and sewer service connections, devices or conditions, must, at the property owner's expense, be promptly repaired, replaced or rehabilitated. A copy of all written reports of deteriorating laterals and sewer service connections shall be kept on file and shall be used in determining whether certificates can issue.

§ 224-35. Powers of BASA.

A. BASA, its officers, employees and agents, in performing its duties and authorized functions under this article, shall be empowered, subject to the requirements set forth below, to enter upon any private property at all reasonable times between the hours of 7:00 a.m. and 9:00 p.m., prevailing time, with seven days' written advance notice to the owner, lessee or occupier (unless exigent circumstances require otherwise) for the purpose of obtaining information, conducting routine or systemic inspections, and televising, dye and/or smoke testing, and/or enforcing this article, and shall have only those powers expressly set forth in this article and in other ordinances of the Township or provided by law to perform its functions consistent with such ordinances and laws. BASA shall first seek permission from the owner, lessee or occupier of such real estate to enter upon the property to obtain information, conduct inspections and/or enforce this article. In the event that permission is not granted by the owner, lessee or occupier of the property, BASA shall make appropriate application to the Court of Common Pleas for authorization to enter upon the property for such purposes.

B. In the event the owner of the premises is unable or fails to effect the necessary remedial work within the time permitted, including any extension thereof, or BASA determines that a public health hazard exists, BASA may undertake to have the necessary remedial work completed by its employees or a third party at the expense of the owner, lessee or occupier of the premises, and to make any necessary arrangements for the payment of such work by the owner, lessee or occupier of the premises on an installment basis, which arrangements shall be mutually satisfactory to the owner, lessee or occupier. Under such circumstances, in the event satisfactory arrangements are not agreed upon by the BASA and the owner, lessee or occupier, the BASA may file a lien against such property.

C. BASA is hereby authorized to conduct, by written advance notice, random and/or periodic inspection and televising, dye and/or smoke testing, and any other appropriate test or inspection, without cost to the residents of the Township, of all existing sanitary sewer systems and structures in the Township for compliance with this article and other laws pertaining to sanitary sewer systems and structures. Such testing will not be required when the owner, lessee or occupier of the land produces a valid document of certification issued by BASA in accordance with this article, which document of certification shall be sufficient proof of compliance for purpose of this article, for a period of two years from the date of issuance.

D. When illegal stormwater or surface water connections or infiltration of groundwater or subsurface water or conditions have been discovered, all necessary remedial work to correct such connection shall be completed by the owner, lessee or occupier of the premises, weather permitting, within 60 days of the date such party receives notification of the illegal device, connection or condition.

E. In the event the necessary remedial work would create extraordinary economic hardship for the owner, lessee or occupier of the premises, application may be made to BASA for an extension of up to an additional six months to complete said remedial work. An extraordinary economic hardship shall be determined by the Board of BASA, upon consideration of the cost of the remedial work, the financial means of the owner(s) and other factors which the Board may determine to be relevant.

F. BASA shall also have the power to institute suit in equity to restrain, prevent, remove or correct any connection, device, or condition from and/or to the sanitary sewer system.

§ 224-36. Powers conferred herein are in addition to all other powers and responsibilities of BASA.

The powers conferred by the within article of the Township shall be in addition to and not in substitution for any other powers conferred upon BASA to enforce and require the elimination of illegal stormwater and surface water connections or infiltration of groundwater or subsurface water to the BASA sanitary sewer system.

§ 224-37. Rules and regulations.

A. BASA is hereby authorized, empowered and directed to make rules and regulations for the operation and enforcement of this article as it deems necessary, which shall include, but not be limited to:

(1) Establishing acceptable forms of security, guarantees, and escrow agreements;

(2) Establishing the form of application; and

(3) Establishing such other rules and regulations, consistent with this article, as are necessary for the operation and enforcement of this article.

B. In the event that BASA determines that any rule or regulation is required, it shall give the Township at least 60 days' written notice prior to its adoption and implementation by the BASA Board.

§ 224-38. No conflict with general police powers.

Nothing in this article shall limit, in any fashion whatsoever, the Township's rights to enforce its ordinances or the laws of the Commonwealth of Pennsylvania. Nothing in this article shall be a defense to any citation issued by any municipal corporation or the commonwealth pursuant to any other law or ordinance.

§ 224-39. Violations and penalties; appeals.

A. Any person, firm, corporation or entity which is found to have violated any sewage-related Township ordinance enforced by BASA and/or the Township or who willfully violated or failed to comply with any provision of this article and the orders, rules, regulations and permits issued hereunder, shall pay a fine of not less than One Hundred ($100) Dollars or no more than the maximum penalty set forth in the Pennsylvania Sewage Facilities Act, 35 P.S. § 750.13, following adjudication by a Judge of the Court of Common Pleas for each violation. Each day on which a violation shall occur or continue to occur shall be deemed a separate and distinct violation. In addition to the penalties provided herein, BASA and the Township may recover penalties, damages, costs, reasonable attorneys' fees, court costs, court reporters' fees and other expenses of litigation by appropriate suit at law against the person or user found to have violated this article or the orders, rules, regulations and permits issued hereunder.

B. BASA shall also have the power to institute suit in equity to restrain, prevent or correct any illegal connection, device, or condition which causes or permits stormwater or surface water or the infiltration of groundwater or subsurface water to enter into the BASA sanitary sewer system.

C. Upon final adjudication that a violation of this article exists and refusal or failure to act by the property owner to undertake the repair, replacement of rehabilitation identified by written notice as herein provided, BASA shall have the right to enter onto the subject property to conduct the necessary work to bring the property into compliance with this article at the expense of the property owner, and further, upon failure of the property owner to pay said expense, BASA shall have the right to file a lien against the subject property for the amount of

said expense, together with the costs of filing and perfecting such lien.

D. Any applicant, purchaser, transferee, mortgagor, mortgagee or other person aggrieved by an initial determination by BASA personnel that an illegal connection, device or condition exists on real estate shall be permitted to file a request for a hearing before the Butler Area Sewer Authority's Board of Appeals. Any request for a hearing must be received by BASA within 30 days of the date of BASA's notification to the applicant, purchaser, transferee, mortgagor, mortgagee or other person that an illegal connection, device or condition exists. The hearing before the Board of Appeals shall be governed by applicable provisions of the Local Agency Law, 2 Pa.C.S.A. § 101 et seq. 2 Pa.C.S.A. § 751 et seq., and a right of appeal from the determination of the Board of Appeals shall be permitted in accordance with the Local Agency Law.

E. The Board of Appeals shall be empowered solely to determine whether or not any illegal connection, device or condition exists on the property. The Board of Appeals shall consist of two available members of the BASA Board and a third member appointed to the Board of Appeals by the governing body of the municipality wherein the property which is the subject of the appeal is situated. If any municipality does not appoint a member to the Board of Appeals, a vacancy exists in any such appointment, or a member appointed is otherwise not available, the third member of the Board of Appeals shall be a member appointed by another municipality within the service area of BASA, or if no such member is available, the third member of the Board of Appeals shall be an available member of the BASA Board. No appointee of any municipality to the Board of Appeals shall be involved in any inspection of property on behalf of the municipality or be engaged in the business, trade or occupation of performing plumbing or sewer line installation or repairs.

§ 224-40. Severability.

The provisions of this article are severable and if any section, sentence, clause or phrase shall be held by a court of competent jurisdiction to be illegal, invalid or unconstitutional, the remaining portions of this article shall not be affected or impaired hereby.

§ 224-41. Repealer.

Any ordinance or part of any ordinance conflicting with the provisions of this article be and the same are hereby repealed to the extent of such conflict.

§ 224-42. Effective date.

Sections 224-31, 224-32 and 224-33 of this article shall take effect September 1, 2004. The

remaining Sections of this article shall take effect immediately.

Endnotes

1 (Popup)
Editor's Note: Per the title of Ord. No. 806, which ordinance adopted this article, "BASA" refers to the Butler Area Sewer Authority.

2 (Popup)
Editor's Note: Per the title of Ord. No. 806, which ordinance adopted this article, "BASA" refers to the Butler Area Sewer Authority.

3 (Popup)
Editor's Note: See § 224-28.

4 (Popup)
Editor's Note: Per the title of Ord. No. 806, which ordinance adopted this article, "BASA" refers to the Butler Area Sewer Authority.

5 (Popup)
Editor's Note: See Ch. 138, Construction Codes, Uniform.

Upper Macungie Township, Pennsylvania

Time of Sale Inspection Program Ordinance

TOWNSHIP OF UPPER MACUNGIE
Lehigh County, Pennsylvania

ORDINANCE NO. 2008-3
(Duly Adopted December 4, 2008)

AN ORDINANCE REGULATING SANITARY SEWER CONNECTIONS FOR THE PURPOSE OF ELIMINATING THE INTRODUCTION OF PROHIBITED WATERS INTO THE UPPER MACUNGIE TOWNSHIP AUTHORITY SANITARY SEWER SYSTEM; PROVIDING FOR PERIODIC INSPECTIONS AND/OR TESTS OF SANITARY SEWER LINES AND FACILITIES OF HOMES, BUILDINGS AND APPURTENANCES CONNECTED TO SAID SANITARY SEWER SYSTEM; REQUIRING THE INSPECTION OF ALL PROPERTIES PRIOR TO TRANSFER OF TITLE FOR COMPLIANCE WITH THE STANDARDS AND REQUIREMENTS OF THE PROVISIONS SET FORTH HEREIN AND PROVIDING PENALTIES FOR VIOLATIONS THEREOF.

WHEREAS, Upper Macungie Township Authority (Authority) has constructed a sanitary sewer collector system for the use and benefit of the residents of the Township; and

WHEREAS, Upper Macungie Township Authority has adopted restrictions in storm water being introduced into the Township Sewer System in Section 305 of Chapter 18 of the Upper Macungie Township Code of Ordinances.

WHEREAS, Upper Macungie Township (Township) has adopted Ordinance 2007-6 whereby discharge or conveyance of stormwater by and through the use of private sewer service lateral into the sanitary sewer system (Publicly Owned Treatment Works – "POTW") is prohibited.

WHEREAS, notwithstanding the adoption of Ordinance 2007-6 and Section 305 of Chapter 18 of the Upper Macungie Township Code of Ordinances, the Township has obtained supporting documentation from its engineer and/or Township personnel that excessive inflow exists within the sanitary sewer system; and

WHEREAS, the Authority concludes that a substantial amount of the inflow which exists in the system is caused by violations of the provisions of Ordinance 2007-6 and Section 305 of Chapter 18 of the Upper Macungie Township Code of Ordinances ; and

WHEREAS, the Authority concludes that these violations have caused and will continue to

cause excessive sanitary sewer flows which have created and will continue to create a direct danger to the health, safety and welfare of the Upper Macungie residents served by the Authority's sanitary sewer system; and

WHEREAS, the Authority concludes that these violations which have existed, and continue to exist, have resulted in, and will continue to result in excessive costs for treatment and maintenance of its system; and

WHEREAS, the Township is charged and obligated to enforce its ordinance and agreements as effectively as possible; and

WHEREAS, Upper Macungie Township concludes it is in the best interests of the residents of the Township to enact a comprehensive systematic compliance and enforcement procedure to govern the conduct of all of the users of the system.

NOW, THEREFORE, BE IT ENACTED by the Board of Supervisors of Upper Macungie Township as follows, to wit:

Section 1. Recitals.

The above recitals shall form a part of this Ordinance as fully as though the same were set forth herein at length.

Section 2. Definitions.

Unless the context specifically indicates otherwise, the meaning of terms used in this Ordinance shall be as follows:

"Board" shall mean the Upper Macungie Township Board of Supervisors (UMT);

"Compliance" shall, whenever necessary, mean compliance with the provisions of the Ordinance set forth herein, and any amendments thereto as well as Upper Macungie Township Ordinance 2007-6 and with Section 305 of Chapter 18 of the Upper Macungie Township Code of Ordinances;

"Employees" shall, whenever necessary, mean and include such employees or designated representative or officials of the UMT as the UMT shall, from time to time, designate and utilize in making the inspection and/or tests hereafter described in carrying out the other duties as prescribed herein to be performed on behalf of the UMT;

"Notice" shall mean advising when inspections and tests of the system should be performed by UMT.

"System" shall mean all of the facilities for collecting, pumping and disposing of sanitary sewage which is owned by the UMT/UMTA within the sanitary sewer service area of the UMT;

"Sump Pump" – any pump connected to the Sanitary Sewer System which is being used to pump ground/storm water into the Sanitary Sewer System.

"User" shall mean the owner, lessee or occupant of the property on which the buildings and/or appurtenances that are connected to the System are located; and

"UMT" shall mean "Upper Macungie Township" and "UMTA" shall mean "Upper Macungie Township Authority".

Throughout this Ordinance, the masculine gender shall be deemed to include the feminine and/or the neuter, the singular, the plural and vice versa, wherever required by the context.

Section 3. Compliance.

Following the passage and adoption of this Ordinance by the Board, all users of the sanitary sewage collection system of UMT shall, on or before January 1, 2009, bring themselves into voluntary compliance with the terms and conditions of the Ordinances of the UMT governing connection to and use of the sanitary sewage collection system of UMT, including but not limited to the requirements of the within Ordinance as are set forth herein; Ordinance 2007-6 as well as Section 305 of Chapter 18 of the Upper Macungie Township Code of Ordinances.

Section 4. Proof of Compliance.

After January 1, 2009, a User utilizing the System of the Township may avoid the imposition or levy of any fines, fees, surcharges or penalties with regard to such use and utilization by Proof of Compliance and continuing Compliance with the provisions of the Township's Ordinance 2007-6 and any amendments thereto, the provisions of this Ordinance 2008-3 as well as Section 305 of Chapter 18 of the Upper Macungie Township Code of Ordinances, which proof shall consist of and include Compliance with the following procedures and conditions as to each building and/or appurtenance connected thereto:

A. Upon request by a UMTA or UMT employee or representative, either in writing or by personal contact, each user utilizing the System shall, within ten (10) business days, as to each building and/or appurtenance so connected to the System execute a "Grant of Inspection" to UMT to permit entry upon the property served by the System on which the building and/or appurtenances are located, to inspect and/or perform such tests as may be deemed necessary, by the Township, to verify and prove Compliance with the provisions of this Ordinance 2008-3; Ordinance 2007-6 as well as Section 305 of Chapter 18 of the Upper Macungie Township Code of Ordinances.

B. The Grant of Inspection shall be deemed to include the right of periodic inspections and/or tests thereafter, as may be reasonably determined to be necessary by the Township, to maintain, monitor and ensure continued Compliance with the provisions of Section 305 of Chapter 18 of the Upper Macungie Township Code of Ordinances.

C. After a Grant of Inspection has been executed, it shall be deemed to be an ongoing authorization as provided for herein. When a Grant of Inspection has been submitted to UMT, the authorization to inspect shall be continuing unless the authorization is withdrawn by written Notice to UMT.

D. The Grant of Inspection shall specify that with its execution, the employees/representatives of UMT/UMTA shall be permitted to schedule an acceptable time to inspect and conduct such tests following the submission of a Notice of Inspection to the property owner advising of the date and time of the Inspection.

E. In lieu of the grant of Inspection, the user may choose to employ the services of a certified and licensed plumber as so registered by UMT, at the expense of the user, to conduct the inspection on behalf of UMTA and thereafter forwarding the results of such inspection to UMT.

F. There shall be no fees charged by UMTA for any inspections and/or tests conducted and performed by the designated representatives of UMTA or UMT with respect to processing the provisions of this Ordinance.

G. In the event a User utilizing the System executes the Grant of Inspection, and UMTA determines that said buildings and/or appurtenances are in compliance, no surcharge, fines or other penalties shall be imposed or levied upon the User; provided, however, that UMTA shall have the right and authority, pursuant to the Grant of Inspection executed as required hereby and the terms of this Ordinance, to conduct additional inspection and/or tests at a later date to determine that compliance still exists;

H. In the event a User utilizing the System refuses to execute a Grant of Inspection to UMTA for the purposes provided for herein, a surcharge of Twenty-Five ($25.00) Dollars per month shall be imposed in addition to all other charges authorized and imposed under any applicable Ordinances of UMT commencing at the next billing period following the date of the failure of refusal to execute the Grant of Inspection to the UMTA. Should a user continue to refuse a Grant of Inspection for a period of sixty (60) days after the submission of a Final Notice of Refusal of Inspection, the surcharge shall be increased to Fifty ($50.00) Dollars per month.

I. In the event a User utilizing the System executes the Grant of Inspection, and the UMTA inspects, conducts, tests, and determines that the buildings and/or appurtenances of said User are not in compliance, then and in such event, UMTA by its designated employee shall provide written notice of the results of the inspection and tests to the User, who shall be required to commence compliance with the applicable provisions of the Ordinance set forth herein within forty-five (45) days of the date of the notice.

J. In the event that the building and/or appurtenances of the User is determined not to be in compliance with the Ordinance set forth herein, and any amendments thereto, and the time period referred to in Subparagraph I above for the commencement of corrective work expires, and the User refuses or fails to bring buildings and/or appurtenances in compliance with the aforementioned Ordinance, the surcharge of Fifty Dollars ($50.00) per month as per Paragraph H, per billing account,

for such User shall be imposed, in addition to all other charges authorized and imposed under any applicable Ordinances of UMT commencing at the next billing period following the date of the inspection or testing by UMTA wherein such non-compliance was determined, for permitting such violation to continue to exist.

K. The surcharge referred to herein shall be removed only upon the following conditions:

1. The User utilizing the system executes a Grant of Inspection to UMTA; and
2. UMTA inspects and/or performs tests on the building and/or appurtenances connected to the System and determines that the buildings and/or appurtenances so connected to the System are in Compliance; or
3. An independent plumber who is certified to perform inspections on behalf of UMTA submitting the results of such inspection to UMTA; and
4. Under any of these conditions, the payment in full of all surcharges billed to the User utilizing the System until the date when the buildings and/or appurtenances in question of the User are determined to be in Compliance.

Section 5. Inspection Required upon Transfer of Properties.

(A) The Seller of any property (residential or commercial) located in UMT shall be required to retain the services of a master plumber registered with UMT for the purposes of conducting an inspection of the property to ensure Compliance with the provisions of this Ordinance 2008-3; Ordinance 2007-6 as well as Section 305 of Chapter 18 of the Upper Macungie Township Code of Ordinances. Said inspection shall also require a video inspection of the sanitary sewer lateral to ensure Compliance. The plumber retained shall prepare and certify a report that the property is in Compliance. The Seller of any property shall submit the certified result to UMTA and to the purchaser of the property at or prior to the time for settlement on the sale or purchase of the property.

(B) Should the lateral, be found to be defective, based upon UMTA's Rules and Regulations and/or sound engineering practice, the lateral pipe shall be replaced or relined. There may be limited permission granted for spot repairs. The pipe replacement/relining/spot repair shall be performed by a registered certified plumber in accordance with the Code requirements of UMT.

(C) In the event that any transfer of title occurs without an inspection having been conducted and without the Seller obtaining a certified report, the Buyer or Purchaser of the property shall be responsible for having the aforementioned inspection conducted and for the submission of the certified result to UMTA.

(D) This Section shall not apply to transfer of "NEW" construction properties.

Section 6. Special Circumstances to Allow Retention of Sump Pump.

(A) Unique Topography – some areas situate in close proximity to Streams and/or Water Ways are not suitable for the removal of existing sump pumps which are presently connected to individual Sanitary Sewer Systems. Residential structures situate in such areas shall be permitted to

retain the existing sump pumps after such properties have been inspected by the plumbing inspector for UMTA.

(B) Upon receiving approval from UMTA, a sump pump may be retained in accordance with the specifications issued by UMTA whereby ground water may be discharged into the UMT Sanitary Sewer System.

(C) Permitted sump pumps shall be subject to periodic inspections being performed by the plumbing inspector for UMTA or by an approved certified plumber at the expense of the owner of the property after which a report shall be issued to UMTA for review and approval by UMTA.

Section 7. Cost Contribution by UMTA.

The Authority will consider providing a contribution, on an individual basis, of a maximum of One Thousand ($1,000.00) Dollars toward the cost of pipe replacement/relining or sump pump removal from the Sanitary Sewer System. Only owner occupied residential property owners may be eligible for this contribution for such work, whether or not the subject property is being sold. No contribution will be made toward "spot" lateral repairs. The decision regarding such contribution by the Authority shall not be appealable.

Section 8. Non-Compliance.

In the event a User is found to be in Compliance and subsequent inspections and/or tests determine Non-Compliance now exists, the terms and provisions of Section Four, Paragraphs H, I, and J, thereof shall be applicable, except that in addition to the surcharge to be charged in accordance with Section Four, Paragraph I, if any, the User shall be liable for payment of a sum equal to the number of the months since the original determination of compliance was made, multiplied by the monthly surcharge amount provided for in Section Four, Paragraph I, for knowingly, willfully and/or intentionally creating or permitting such violation to commence and continue. A non-compliance occurs when a reconnection of a sump pump is discovered with the performance of a subsequent inspection.

Section 9. Penalty for Non-Compliance.

In the event a User if found to be in a state of non-compliance a second or subsequent time, then the User shall be liable for the payment of a sum equal to One Thousand Dollars ($1,000.00) per day, plus an amount equal to the sum of the months since the original non-compliance was corrected (and if never corrected, from the date of such non-compliance determination), multiplied by the monthly surcharge amount provided for in Section Four, Paragraphs H or J, for knowingly, willfully and/or intentionally permitting such violation to commence and continue.

Section 10. Violations.

Any User violating any of the provisions of this Ordinance shall be liable to the Township for any expenses, costs and fees, including but not limited to reasonable attorney fees, occasioned or

caused to the Township by reason of seeking enforcement of such Ordinance against the violator, as well as for any losses or damages occasioned or caused to the Township by reason of such violation.

Section 11. Remedies.

UMT and UMTA shall have full power and authority to invoke any legal, equitable or special remedy for the enforcement of this Ordinance.

Section 12. Supplemental Ordinance.

This Ordinance shall be deemed supplemental to all other Ordinances and provisions thereof for enforcement and compliance purposes, and shall not be deemed to amend or rescind said other Ordinances and provisions; further, that any fines, fees, charges or penalties levied or imposed pursuant to this Ordinance shall be in addition to any fines, fees, charges or penalties levied or imposed pursuant to all other Ordinances and provisions thereof.

Section 13. Compliance.

The Board, by passage hereof, has determined that the measures hereinbefore set out are a reasonable means of ensuring compliance with the Ordinance set forth herein and any amendments thereto, and further that the same are necessary to protect and ensure the health, safety and welfare of the residents of the Township and the area served by the System.

Section 14. Severable Provisions.

The provisions of this Ordinance shall be deemed severable, and should any section or part hereof be deemed invalid or unenforceable by the Courts of the Commonwealth of Pennsylvania, such section, clause, sentence or provision shall be deemed stricken and the invalid or unenforceable part shall not affect the validity or enforceability of any other part or parts of this Ordinance which can be given effect without such part or parts as may be so deemed invalid or unenforceable.

Section 15. Effective Date.

This Ordinance shall become effective five (5) days after its enactment.

DULY ENACTED AND ORDAINED this 4th day of December, 2008, by the Board of Supervisors of Upper Macungie Township, Lehigh County, Pennsylvania, in a lawful session duly assembled.

ATTEST:

KATHY A. RADER, Secretary

TOWNSHIP OF UPPER MACUNGIE
LEHIGH COUNTY, PENNSYLVANIA

BY: _____
EDWARD J. EARLEY, Chairman
of the Board of Supervisors

City of York, Pennsylvania

Ordinance Allowing Inspection of Private Laterals

CODIFIED ORDINANCES OF YORK

PART NINE - STREETS, UTILITIES AND PUBLIC SERVICES CODE

TITLE THREE - Public Sewers
Art. 931. Sanitary Sewers
Art. 932 Plumbing Requirements
Art. 933. Sewer Rentals

Amended Ordinance. 10-2009

ARTICLE 931
Sanitary Sewers

CROSS REFERENCES
Federal Water Pollution Control Act - (Clean Water Act); (as amended 33 U.S.C.1251, et seq.)
Sewer connections - see 3rd Class 3201 et seq. (53 P.S. 38201 et seq.)
City may charge tapping fee - see 3rd Class 3202 (53 P.S. 38202)
Power to furnish facilities outside City - see 3rd Class 3250 (53 P.S. 38250)
Sewage disposal standards - see 25 Pa. Code 73.1 et seq.
Waste water treatment - see 25 Pa. Code Ch. 95
Industrial wastes - see 25 Pa. Code Ch. 97
Industrial wastes charge - see S.U. & P.S. 933.04
New subdivision sewers - see P. & Z. 1397.07

(cc) "Storm sewer or storm drain" means a sewer which carries storm and surface waters and drainage, but excludes sewage and polluted industrial wastes.

(dd) "Suspended solids" means the total nonfilterable residue retained on a glass fiber filter, .45 micron, and dried at a temperature of 103-105 C to a constant weight.

(ee) "Toxic Pollutant" means any pollutant or combination of pollutants listed as toxic in regulations promulgated by the Administrator of the Environmental Protection Agency under the provision of the Clean Water Act 307(a) or other Acts.

(ff) "Treatment plant" means the York City Wastewater Treatment Plant, 1701 Black Bridge Road, York, PA 17402.

(gg) "Upset" means an exceptional incident in which there is unintentional and temporary noncompliance with categorical Pretreatment Standards because of factors beyond the reasonable control of the Industrial User. An Upset does not include noncompliance to the extent caused by operational error, improperly designed treatment facilities, inadequate treatment facilities, lack of preventive maintenance, or careless or improper operation [40 CFR 403.16(a)].
(Ord. 02-7. Passed 2-20-02; Ord. 50-2003. Passed 12-16-03.)

931.02 PROHIBITED WASTES.

(a) No person shall discharge or cause to be discharged any storm water, surface water, ground water, roof run-off or subsurface drainage except around basement walls into any sanitary sewer. The addition of cooling water or unpolluted water or an increase in the use of process water for the purpose of reducing the concentrations of substances that are limited or prohibited by this article shall be prohibited.

(b) Except as hereinafter provided, no person shall discharge or cause to be discharged at any time any of the following described wastes or waters into any sanitary sewer or drain connected therewith:

(1) Any liquid or vapor having temperature which shall inhibit biological activity in the treatment plant resulting in an inhibition or disruption of the Treatment Plant process, but in no case wastewater with a temperature upon reaching the Treatment Plant which exceeds 40 C (104 F) or upon reaching the public sewer of 82 C (180 F).
(Ord. 02-7. Passed 2-20-02.)

(2) Any water or waste containing more than 100 mg/l by weight of recoverable oil and grease, as per 40 CFR 136.3.
(Ord. 50-2003. Passed 12-16-03.)

(3) Any garbage that is not ground garbage.

(4) Any ashes, cinders, sand, mud, straw, hay scraps, rags, shavings, metal, glass, bones, feathers, rubber, tires, plastic, wood, paunch manure, butchers' offal, grease or solid fat, floating oil or any other solids or viscous substance capable of causing obstruction to the flow in sewers or other interference with the proper operation of the sewage works.

(5) Any water or waste having a pH lower than 5.5 or higher than 11.0 or having any corrosive property capable of causing damage or hazards to structures, equipment or personnel of the sewage works or affecting the biological treatment of the waste.
(Ord. 02-7. Passed 2-20-02.)

(5) If an authorization under paragraph (4) of this section is no longer accurate because a different individual or position has responsibility for the overall operation of the facility, or overall responsibility for environmental matters for the company, a new authorization satisfying the requirements of paragraph (4) of this section must be submitted to the City prior to or together with any reports to be signed by an authorized representative. (Ord. 02-7. Passed 2-20-02.)

931.04 INSPECTIONS.

The General Manager and other duly authorized employees of the City bearing proper credentials and identification shall be permitted to enter upon all properties for the purposes of inspection, observation, measurement, sampling and testing, and to examine and copy records of operation required by the City, Federal or State agencies in accordance with the provisions of this article.
(Ord. 02-7. Passed 2-20-02.)

931.05 SEWAGE, WASTES AND SPILLED MATTER NOT TO BE DISCHARGED INTO WATERCOURSES.

(a) All owners or users of private sewers which, either directly or through an intervening public or private storm sewer, drain domestic sewage into any natural watercourse within the City limits, shall discontinue the discharge of such sewage into such watercourse within three months after notice to do so from the Department of Public Works served upon such owner or user, or, if nonresident in the City, upon the agent thereof or upon the party in possession, and if there is no agent or party in possession, then by notice posted upon the most public part of the property. Such owner shall, within such time, and at his own expense, connect his house drain with the sanitary sewer system. Provided, however, that if the sanitary sewer system is not laid along any property, then the owner of such property shall be exempted from the requirements of this section until such time as the system shall be available for use, or until the City otherwise makes provision for the disposition of such sewage. Nothing herein contained shall forbid the continuation of the drainage through such private or public storm water sewers of roof, surface or ground water.

(b) The discharge or spilling of industrial waste or waste water or of any hazardous, toxic, colored or oil-bearing matter into a natural watercourse either directly or indirectly via public or private storm sewer, ditch or culvert is prohibited unless such discharge is in accordance with the permit issued by the United States Environmental Protection Agency or the Pennsylvania Department of Environmental Resources or consists of unpolluted cooling, boiler or distilled water.
(Ord. 02-7. Passed 2-20-02.)

931.06 GARAGES.

(a) Every garage or other structure for the housing, sale or repair of vehicles in which vehicles are washed, cleaned or repaired shall, before being connected with the sewage works, be provided with proper means for draining the floors and repair pits, as hereinafter provided.

City of Lock Haven, Pennsylvania

Ordinance Prohibiting Stormwater in Lateral and Delegating Responsibility

CHAPTER 18

SEWERS AND SEWAGE DISPOSAL

PART 1

SEWER CONNECTIONS AND USES

A. Definitions.

B. Discharge of Sanitary Sewage to Public System Required.

C. Exclusion of Stormwater Runoff.

D. Sewerage Service Charges.

E. Surcharge for Certain Industrial Wastes.

F. Billing and Collection.

G. Connection to System.

H. Extensions By Developers.

C. Exclusion of Stormwater Runoff.

§18-121. Stormwater Discharge Unlawful.

The discharge of stormwater runoff to sanitary sewers is prohibited.

(*Ord. 23B*, 3/7/977, §301)

§18-123. Means to Exclude Stormwater Required.

All persons connecting to the public sanitary sewage system shall provide adequate means for excluding stormwater runoff in the event the connection is made to a sanitary sewer.

(*Ord. 23B*, 3/7/977, §302)

§18-123. Connection of Drains Unlawful; Exclusion of Surface Waters.

No person connected to a sanitary sewer shall connect any roof drain or foundation drain thereto or permit any such drains to remain connected thereto, nor shall he permit, allow or cause to enter into any sanitary sewer any spring water or surface water from any other source.

(*Ord. 23B*, 3/7/977, §303)

§18-124. Combined Sewers and Storm Sewers Unaffected by Provisions.

The provisions of these rules and regulations do not prohibit the present or future discharge of stormwater runoff to combined sewers or storm sewers or to natural watercourses within the City.

(*Ord. 23B*, 3/7/977, §304)

G. Connection to System.

§18-161. Application for Permit.

Applications for connection to the public sanitary sewage system shall be made to the City Engineer upon the permit form to be formulated and furnished by the City Engineer.

(*Ord. 23B*, 3/7/1977, §901)

§18-162. Information Required of Applicant.

All information requested on said form shall be furnished by the applicant, including the character and use of each structure located upon the property.

(*Ord. 23B*. 3/7/1977, §902)

§18-163. Connection Fee; Certain Service Lateral Installation Costs Borne by City.

A connection and inspection fee in an amount as established from time to time by City Council will be required at the time of making application for permission to make a connection to the City's sanitary sewer system. The fee is to be used to recover the ordinary and reasonable expenses incurred by the City in making the connection. Connections to the City mains may be made only by City forces. Service laterals shall be installed from the main to the curb line of the property or a distance of 35 feet, whichever is the lesser, by and at the expense of the City. Where an existing sanitary sewer main is not available, the cost of extending the main shall be by and at the expense of the property owner(s) making the request of the extension.

(*Ord. 23B*, 3/7/1977, §903; as amended by *Ord. 485B*, 1/3/1995; and by *Ord. 670*, 2/24/2003, §1)

§18-164. Work to Commence Only Upon Payment of All Fees.

No work shall commence before the payment of any aforementioned tap connection and inspection fee and issuance of the aforementioned connection permit.

(*Ord. 23B*, 3/7/1977, §904)

§18-165. Separate Connection Required; Exceptions.

Unless written permission is obtained from the City Engineer, separate connections and corresponding tap connection and inspection fees will be required for each individual occupied building, whether constructed as a detached unit or as one of a pair or row, but a single connection will be permitted to serve a school, factory, apartment house or other permanent multiple unit structure whose individual apartments or units may not be subject to separate ownership.

(*Ord. 23B*, 3/7/1977, §905)

§18-166. Time Limit to Connect.

Connections to sanitary sewers shall be completed within 60 calendar days after receipt of an approved permit.

(*Ord. 23B*, 3/7/1977, §906)

§18-167. Connections Subject to Restriction.

All connections to the sanitary sewers shall be subject to certain restrictions as to unacceptable sanitary sewage which are set forth in §§18-141 to 18-145.

(*Ord. 23B*, 3/7/1977, §907)

§18-168. Inspection of Connection.

The designated inspector of the City shall be given at least 24 hours notice of the time when such connection shall be made in order that said inspector can be present to inspect and approve the work of connection. The inspector shall signify his approval of the connection by endorsing his name and the date of approval on the aforementioned connection permit in the possession of the permittee(s).

(*Ord. 23B*, 3/7/1977, §908)

§18-169. Right of Inspector to Enter Premises.

At the time of inspection of the connection, the owner or owners of property shall permit the inspector full and complete access to all sanitary and drainage arrangements and facilities in each building and in and about all parts of the property. No building sewer line shall be covered over or in any manner concealed until after it is inspected and approved by said inspector.

(*Ord. 23B*, 3/7/1977, §909)

§18-170. Connection to be Entirely Inspected at One Time; Additional Inspections.

It is the intention of these rules and regulations that the entire connection be inspected at one time; however, if the property owner feels that special conditions warrant more than one inspection, he may request the same, subject to such additional inspection fees as the City Council shall determine.

(*Ord. 23B*, 3/7/1977, §910)

§18-171. Types of Piping Permitted.

All pipe installed shall be either asbestos cement, plastic or ductile iron pipe. Pipe shall meet City standards currently in effect and shall be of nominal size of at least 4 inches. Where the ground is firm and provides a good foundation, plastic or asbestos cement pipe may be used. On filled ground or on ground which is not firm, ductile iron pipe shall be used. Each section of pipe shall be stamped with the manufacturer's certification. Couplings for the asbestos-cement pipe shall conform to the standards of the manufacturer of the pipe with which the couplings will be used. All joints for ductile iron pipe or plastic pipe shall conform to the standards of the manufacturer.

(*Ord. 23B*, 3/7/1977, §911)

§18-172. Compliance with Manufacturer's Recommendations Required; Rock Foundations.

All sewer pipe shall be installed in strict accordance with the manufacturer's recommendations. Where rock trench foundation exists, a 4 inch gravel cradle shall be provided under the pipe.

(*Ord. 23B*, 3/7/1977, §912)

§18-173. Installation Requirements.

All pipe shall be installed with a minimum slope of 1/8 inch per foot and a minimum cover of 2 1/2 feet. All pipe shall be laid to an even grade and straight alignment to the public sanitary sewer. All pipe shall be laid with full and even bearing and no block supports will be allowed. Bell holes shall be dug to allow sufficient space to properly make each joint. Backfill shall be tamped uniformly around the pipe. All work shall be done in a workmanlike manner and shall provide a durable installation.

(*Ord. 23B*, 3/7/1977, §913)

§18-174. Installation of Vents.

A 4 inch soil pipe vent shall be installed a maximum of 5 feet from the building. The soil pipe vent shall be installed with a trap and a 4 inch vent within the building. The vent shall be so situated as not to allow the discharge of any surface water to the sanitary sewer.

(*Ord. 23B*, 3/7/1977, §914)

§18-175. Compliance with Local Regulations.

Commercial installations must also comply with all local construction regulations.

(*Ord. 23B*, 3/7/1977, §915)

§18-176. Maintenance of Building Sewers.

Maintenance and repair of all building sewers shall be the responsibility of the property owner

(*Ord. 23B*, 3/7/1977, §916)

Knox Borough, Pennsylvania

Comprehensive Lateral Replacement Program Ordinance

KNOX BOROUGH, CLARION COUNTY, PENNSYLVANIA
ORDINANCE NO. 1-2009

AN ORDINANCE OF THE BOROUGH OF KNOX REQUIRING THE REPLACEMENT OF SEWER LATERALS FOR REAL PROPERTIES LOCATED IN THE BOROUGH OF KNOX, CLARION COUNTY, PENNSYLVANIA.

WHEREAS, the Borough of Knox is required by a Consent Order and Agreement with the Department of Environmental Protection, executed on or about May 18, 2009, to require replacement of the sewer laterals; and

WHEREAS, the Borough of Knox has determined that it is necessary for the public health and safety that the said Borough require the replacement of the existing sewer laterals from real properties located in the Borough of Knox to the sewer main.

NOW, THEREFORE, IT IS ORDAINED AND ENACTED BY THE BOROUGH COUNCIL OF KNOX BOROUGH, CLARION COUNTY, PENNSYLVANIA AS FOLLOWS:

SECTION 1: Chapter 18 of the Code of Ordinances of the Borough of Knox, Part 1, Section A, is hereby amended to include a Section 106 as follows:

Section 106. Replacement of Sewer Laterals. All owners of property in the Borough of Knox currently connected to the sanitary sewer are hereby required to replace the laterals from their building to the sewer main of the Borough of Knox. The owners of property shall complete said replacement by **July 31, 2011**. Replacement of the laterals shall comply with the rules and regulations of the Borough of Knox regarding the standard service connection to the sanitary sewer which requirements of some are outlined in Exhibit A attached hereto and incorporated herein. Any person, firm, or corporation who fails to comply with the replacement of their sewer laterals shall be subject to the enforcement provisions provided in Section 104 and 105 of this Chapter and Part.

ALL LATERALS MUST BE REPLACED BY JULY 31, 2011!!!

MUST HAVE SEWER LATERAL REPLACEMENT DATA SHEET COMPLETED AND PHOTOS TURNED IN TO THE BOROUGH TO BE CONSIDERED IN COMPLIANCE.

ANY QUESTIONS CALL KNOX BOROUGH BEFORE YOU START AT (814) 797-1376.

East Norriton Township, Pennsylvania

Community-Wide Inspection Program Ordinance

ORDINANCE NO. 490

EAST NORRITON TOWNSHIP

MONTGOMERY COUNTY, PENNSYLVANIA

AN ORDINANCE AMENDING THE CODE OF EAST NORRITON TOWNSHIP, SPECIFICALLY CHAPTER 162, SEWERS, PROVIDING FOR THE TOWNSHIP'S INSPECTION OF SEWER LATERALS ON PROPERTY WITHIN THE TOWNSHIP

BY THE BOARD OF SUPERVISORS OF EAST NORRITON TOWNSHIP, MONTGOMERY COUNTY, PENNSYLVANIA UNDER AND BY VIRTUE OF AUTHORITY GRANTED BY THE SECOND CLASS TOWNSHIP CODE DOES HEREBY ENACT AND ORDAIN:

SECTION I.

The Code of East Norriton Township, Chapter 162, Sewers, is hereby amended to add the following:

162-30.1: Inspection of Sewer Laterals: The Township may, upon five (5) days notice, inspect and/or televise the sewer lateral on any property within the Township to determine the condition of the sewer lateral. Any such inspection and/or televising shall only take place between the hours of 8:00 a.m. and 6:00 p.m., Monday thru Friday, and the owner of the property shall make all areas to be inspected and/or televised available to the Township upon request. If, in its sole discretion, the Township determines that the sewer lateral is in an unacceptable condition, the sewer lateral shall be repaired or replaced by the owner of the property at the owner's expense within ninety (90) days of the date that the Township notifies the property owner that the sewer lateral is in an unacceptable condition. The Township shall confirm by inspection that the sewer lateral has been satisfactorily repaired or replaced. If the owner of the property fails to repair or replace the sewer lateral, as appropriate, within ninety (90) days, the Township shall be permitted to make such repair or replacement and assess the property owner the cost thereof.

SECTION II. SEVERABILITY

If any section, subsection, sentence, clause, phrase, or portion of this Ordinance is for any reason held invalid or unconstitutional by any court of competent jurisdiction, such provisions shall be separate, distinct and independent and such holding shall not affect the validity of the remaining portions of this Ordinance.

SECTION III. RATIFICATION

This Ordinance shall in no other way affect, amend or modify the Code of East Norriton Township.

SECTION IV. FAILURE TO ENFORCE NOT A WAIVER

The failure of the Township to enforce any provision of this Ordinance shall not constitute a waiver by the Township of its rights of future enforcement hereunder.

ENACTED AND ORDAINED by the Board of Supervisors of East Norriton Township, Montgomery County, Pennsylvania, this 20th day of February, 2007.

Attest: _____
Secretary

BOARD OF SUPERVISORS
EAST NORRITON TOWNSHIP

By: _____
Chairman

City of Santa Barbara, California

Major Remodel Inspection Program Ordinance

Chapter 14.46
BUILDING SEWER INSPECTIONS

Sections:

14.46.010 Definitions.

Unless the context indicates otherwise, the following definitions apply to the use of the following terms for the purposes of this Chapter 14.46:

A. BUILDING SEWER LATERAL. That part of the horizontal piping of a drainage system which extends from the end of the building drain and which receives the discharge of the building drain and conveys it to a public sewer, private sewer, individual sewage disposal system, or other point of disposal. For the purposes of this Chapter, a Building Sewer Lateral shall also include a Septic Tank if one exists upon the Property and it is in use.

B. BUILDING SEWER INSPECTION. An inspection of a Building Sewer Lateral that consists of the retention of a licensed plumber (as certified under Section 14.46.050) by the Owner in order to visually examine and inspect a Building Sewer Lateral in the manner deemed appropriate by the City Public Works Director. Such an inspection shall, at a minimum, include the use of a closed-circuit television inspection device for the purposes of determining whether the Building Sewer Lateral complies with the requirements of this Chapter, the Regulation adopted under Section 14.46.080, and any applicable state laws.

C. COMMERCIAL PROPERTY. Any real property not used for residential purposes and not a Common Interest Development.

D. COMMON INTEREST DEVELOPMENT. A development characterized by individual ownership of a condominium housing unit or a residential parcel coupled with the shared ownership of (or right to use) common areas and facilities, including, but not limited to, condominium projects, community apartment projects, stock cooperatives and planned unit developments, which contains three (3) or more dwelling units and which has a Building Sewer Lateral shared by three (3) more dwelling units.

E. NOTICE TO REPAIR. The notice issued by the City Public Works Director to the Owner advising that the Owner appears to be in violation of the Santa Barbara Municipal Code with respect to the Owner's Building Sewer Lateral, or in violation of the Code in the manner of the Building Sewer Lateral's connection to the City sewer system, which order directs the abatement of the identified apparent violation in a timely manner.

F. OWNER. Any person, partnership, association, corporation or fiduciary having legal title (or any partial interest) in any real property situated within the City.

G. SEPTIC TANK. As the term is defined in Santa Barbara Municipal Code Section 14.34.100. (Ord. 5396, 2006.)

14.46.020 Maintenance of Private Building Sewer Laterals.

A. MAINTENANCE OF BUILDING SEWER LATERALS. Each Owner shall maintain his or her Building Sewer Lateral(s) free of displaced joints, open joints, root intrusion, substantial deterioration of the line, cracks, leaks, inflow, or infiltration of extraneous water, root intrusion, grease and sediment deposits, or any other similar conditions, defects, or obstructions likely to cause or increase the chance for blockage of the Building Sewer Lateral.

B. MAINTENANCE OF SEPTIC TANK. Each Owner shall maintain his or her Septic Tank free of deterioration, corrosion, damage, disposal failure or any other similar deficiencies or defects likely to increase failure of the Septic Tank.

C. GENERAL MAINTENANCE REQUIREMENTS. The maintenance obligation imposed by this Section shall be in addition to and supplemental of the general private sewer system maintenance obligations imposed by Section 14.44.160 of this Code. (Ord. 5396, 2006.)

14.46.030 Building Sewer Inspections – Access to Premises.

The Public Works Director or the City Health Officer (or any designated representative thereof) is hereby authorized to inspect any Building Sewer Lateral in use within the City and connected to the City sewer system for the following purposes:

1. To determine the size, depth, and location of any sewer connection.
2. To determine the end outlet of any sewer connection by depositing harmless testing materials in any plumbing fixture attached thereto and flushing the same, if necessary.
3. To determine, by measurements and samples, the quantity and nature of the sewage or waste water being discharged into any sewer.
4. To determine the location of the roof, swimming pool, floor and surface drains, and whether or not they physically connect to a sewer.

Nothing herein shall be deemed to provide the Public Works Director (or the Director's designee) with any right or authority to enter a building or other apparently private or interior area of a real property, except to the extent such entry is expressly authorized by state law. (Ord. 5396, 2006.)

14.46.040 Mandatory Building Sewer Inspections.

A. HEALTH AND SAFETY BASIS FOR REQUIRING A BUILDING SEWER LATERAL INSPECTION. An Owner shall have the Building Sewer Lateral of his or her real property inspected in accordance with the requirements of this Chapter (as directed and within the time period indicated by the Public Works Director) upon the occurrence of any of the following events:

1. Overflow or Malfunction. Whenever the Public Works Director has sufficient evidence (as determined by the Director) that the Building Sewer Lateral has recently overflowed or has recently malfunctioned;

2. Lateral Failure or Lack of Maintenance. Whenever, based on sewer system testing conducted by the City (of either the Building Sewer Lateral or the City's public sewer system), the Public Works Director finds that there is sufficient evidence to conclude that the Building Sewer Lateral has failed, is likely to fail, or has not been properly maintained.

3. Public Health Threat. Upon any other reasonable cause to believe that there is a threat to the public health, safety, or welfare due to the condition of a Building Sewer Lateral.

B. EVENTS REQUIRING A BUILDING SEWER LATERAL INSPECTION – RESIDENTIAL PROPERTIES. An Owner shall have the Building Sewer Lateral of his or her residential Property inspected in accordance with the requirements of this Chapter upon the occurrence of any of the following events:

1. Home Additions. Prior to the issuance of a City building permit for a residential building addition or new improvements on the real property in excess of four (400) hundred square feet of habitable space as that phrase is defined in the California Building Code as adopted and amended by the City;

2. New Plumbing Fixtures. Prior to the issuance of a City building permit for two or more new plumbing fixtures attached to the Building Sewer Lateral upon the residential Property.[For the purposes of this section, the phrase "new plumbing fixtures" shall refer only to an increase in the number of plumbing fixtures in use on the real property prior to the application for a building permit for the "new" plumbing fixtures.]

C. SCHEDULE FOR LATERAL INSPECTIONS - NON-RESIDENTIAL AND COMMON INTEREST DEVELOPMENT REAL PROPERTIES.

1. Non-Residential Properties. An Owner or Owners of a non-residential property within the City shall have that Property's Building Sewer Lateral(s) inspected in accordance with the requirements of this Chapter once every ten (10) years beginning January 1st of the year following the adoption of the Ordinance first enacting this Chapter. Within each ten (10) year period of time, such lateral inspections shall occur in accordance with and not later than the Citywide area map and schedule attached to this Chapter as Exhibit 1 and dated as of September 26, 2006, in the order and by district as established on Exhibit 1. [For the purposes of this section, a property which has a mixture of allowed residential and non-residential uses shall be considered a non-residential property with respect to its compliance with the sewer lateral inspection requirements of this section.]

2. Common Interest Developments. The Owner or Owners of a Common Interest Development shall have that Property's Building Sewer Lateral(s) inspected in accordance with the requirement of this Chapter once every ten (10) years beginning January 1st of the second year following the enactment of the Ordinance first enacting this Chapter. Within each ten (10) year period of time, such lateral inspections shall occur in accordance with and not later than the Citywide area map and schedule attached to this Chapter as Exhibit 1 and dated as of September 26,

2006, in the order and by district as established on Exhibit 1, an official full size color copy of which shall remain on file in the City Clerk's office.

D. EXCEPTION TO INSPECTION FOR RECENT PRIOR INSPECTIONS AND REPAIRS. The following are exceptions to the Inspection requirements of subparagraphs (B) and (C) above:

1. Prior Replacement of Sewer Lateral. An Owner otherwise required to perform a Building Sewer Lateral inspection under Section 14.46.040(B) or (C) hereof shall not be required to perform such an inspection if the Owner (or the Owner's predecessor-in-interest) has originally installed or has replaced his or her Property's Building Sewer Lateral within the twenty (20) years prior to the date of the application for a building permit.

306 rev. 9/30/08

2. Prior Inspection or Repair of a Building Sewer Lateral. An Owner otherwise required to perform an inspection under Section 14.46.040(B) or (C) shall not be required to perform such an inspection if the Owner has either completed a remedial inspection (conducted in accordance with the Inspection requirements of this Chapter) or completed a permitted repair of the Building Sewer Lateral within the three (3) years prior to the date the inspection would otherwise be required. (Ord. 5451, Section 5, 2008; Ord. 5396, 2006.)

14.46.050 Requirements for a Proper Building Sewer Lateral Inspection Report.

A. INSPECTION REPORT STANDARDS. The Building Sewer Inspection Reports required by this Chapter shall be prepared in accordance with the following requirements and specifications:

1. The Inspection Report shall be prepared by a licensed plumber;
2. The Inspection Report shall identify all of the following:

a. Any of the following conditions: displaced joints, open joints, root intrusion, substantial deterioration of the line, cracks, leaks, inflow or infiltration of extraneous water, root intrusion, grease and sediment deposits or other conditions likely to increase the chance for blockage of the Building Sewer.

b. Whether any connection, by pipes or otherwise, allows rainwater or groundwater to enter the Building Sewer or public sewer.

c. Whether the Building Sewer has an installed backwater device where any outlet or trap of the Building Sewer is below the level of the nearest manhole. If a backwater device is already installed, the report shall indicate whether the backwater device is functioning properly.

d. Where the Building Sewer includes a Septic Tank, the report shall identify the extent to which the Septic Tank is deteriorated, corroded, damaged, whether the disposal field has failed or any other relevant deficiency.

3. The Inspection Report shall contain an express certification from the certified inspector that the property has been inspected for any outdoor drain connection to the City sewer system and that no such unpermitted connection is present. It shall also contain either a videotape or DVD of the video inspection of the Building Sewer Lateral in a format acceptable to the City, as established by the City regulations.

B. COMPLIANCE WITH REGULATIONS. The Inspection Report shall, in all other aspects, comply with the requirements and specifications described in the Public Works Director's specifications for a Building Sewer Lateral Inspection Report as established by the regulations authorized under Section 14.46.080 hereof. (Ord. 5396, 2006.)

14.46.060 Required Building Sewer Lateral Repairs.

A. NOTICE TO REPAIR. Upon receipt of the Building Sewer Inspection Report pursuant to this Chapter, the Public Works Director (or his or her designee) will determine whether it indicates any deficiencies in the operation of the Building Sewer Lateral and, thereafter, shall provide the Owner(s) with a Notice to Repair or Replace as may be deemed appropriate by the Director. The Notice to Repair/Replace shall specifically identify the deficiencies to be corrected and shall establish a deadline within which the Owner(s) shall complete the required corrective actions. The corrective action may include a requirement that the lateral be replaced altogether and also may include the installation of cleanouts and backwater valves if those devices are otherwise required by this Code or any uniform code adopted by the City.

B. OBLIGATIONS OF THE OWNER. The Owner shall repair his or her Building Sewer Lateral to the satisfaction of the Public Works Director, and, if a building permit is required for the repairs, the Owner shall obtain a final permit inspection and approval of the City Building Official.

C. REPAIRS UPON OTHER PROPERTIES NOT REQUIRED. If a Building Sewer Lateral traverses private property other than the Owner's Property, the Owner shall only be responsible for the repairs to that portion

of the Building Sewer Lateral that are upon the Owner's Property and also to that portion of the Building Sewer within a public right-of-way. (Ord. 5396, 2006.)

14.46.070 Common Interest Developments.

The homeowners association of a Common Interest Development shall, along with the Owner, be jointly and severally liable for the duties and obligations imposed by this Chapter 14.46 in relation to any Building Sewer Lateral located within a common area of the Development. If no homeowners association exists, then the individual unit owners, both jointly and individually, shall be liable for the duties and obligations with respect to Building Sewer Laterals established by this Chapter. (Ord. 5396, 2006.)

14.46.080 Administrative Guidelines for Inspections.

Within ninety (90) days of the adoption of the ordinance enacting this Chapter, the Public Works Director shall prepare and promulgate the public administrative guidelines which shall, among other things, establish the following:

1. A certification program for licensed plumbers who will be accepted by the City to perform Inspections and the basis for obtaining and maintaining such a certification or for a decertification;
2. Develop a standard Inspection report form and specifications for Building Sewer Inspection reports; and

3. Establish a Notice format and standard enforcement timelines for the Notice to Repair and for repair and inspection service of that Notice in a manner consistent with the requirements of due process. Such administrative guidelines shall be approved by a resolution of the City Council. (Ord. 5396, 2006.)

City of Berkeley, California

Time of Sale / Major Remodel Inspection Program Ordinance

ORDINANCE NO. 6,914–N.S.

ADDING CHAPTER 17.24 TO THE BERKELEY MUNICIPAL CODE REGULATING SEWER LATERALS ON PRIVATE PROPERTY

BE IT ORDAINED by the Council of the City of Berkeley as follows:

Section 1. That Berkeley Municipal Code Chapter 17.24 is added to read as follows:

Chapter 17.24

ABATEMENT OF NONCONFORMING/SUBSTANDARD SEWER LATERALS ON PRIVATE PROPERTY

Sections:

17.24.010 Purpose and Findings.

A. The purpose of this chapter is to codify requirements for the testing, repair, replacement, and ongoing maintenance of the privately owned sewer laterals within the City of Berkeley.

B. The requirements of this chapter are intended to comply with requirements of the U.S. Environmental Protection Agency (The Clean Water Act (CWA) Section 301(a)), the State of California Water Resources Control Board (California Water Code Section 13243), and the Regional Water Quality Control Board, San Francisco Bay Region (Order No. R2-2004-0010, NPDES Permit No. CA 0038466), for reducing infiltration and inflow in the City of Berkeley sanitary sewer collection system. To this end, this chapter requires that all private sewer laterals be maintained by their owners in accordance with the standards set forth in this chapter.

C. In 1986, the State Regional Water Quality Control Board (SRWQCB), San Francisco Bay Region, in its enforcement of the 1972 Federal Clean Water Quality Act, and the requirement to control sewage overflows, issued a cease and desist order to the East Bay Municipal Utility District (EBMUD),

the City of Berkeley and other East Bay Communities (Order No. 86-17, reissued with Order No. 93-134).

D. In an effort to solve the problem of sewage overflows in compliance with the cease and desist order, the affected jurisdictions jointly developed a compliance plan. The plan used a broad based Sewer System Evaluation Study completed in 1985 by CDM Jordan/Montgomery. The CDM Jordan/Montgomery study found that a significant component of infiltration and inflow (I/I) is infiltration, consisting of groundwater or runoff from rainfall that passes through the soil into defects in the sewer pipes and associated structures.

E. In addition, City staff has observed that there exists in the City numerous non-conforming storm water inflow connections into sewer laterals, such as downspouts and storm drains on private property.

F. The City's evaluation estimates that as much as 40-50% of the I/I peak flows during heavy wet weather events are from private laterals and non-conforming storm drain connections on private property.

G. Infiltration and non-sanitary sewer connections (inflows) are major sources of the I/I that occurs during the rainy season. Evidence supporting this conclusion includes leakage test data, internal inspection by television, smoke test results, conditions documented by "archaeological" type excavations, and direct flow measurements.

H. The CDM Jordan/Montgomery study recommended that the affected jurisdictions update and enforce their sewer ordinances as required to implement the program's recommendations, including an ordinance requiring testing and repair of the privately owned portion of sewer laterals as a condition on the sale of property; and to require all property owners to disconnect nonconforming storm water connections and correct defective sewers identified through smoke testing.

I. In order to meet the Regional Water Quality Control Board and Cease and Desist Order requirements for comprehensive rehabilitation and I/I reduction, it is necessary to address the issues of private lateral repair or replacement, and disconnection of non-sanitary sewer connections to the sanitary sewer system, as set forth in this chapter.

17.24.020 Definitions.

The following terms apply to this chapter and are the same as, or supplement the definitions found in the Berkeley Plumbing Code, Berkeley Municipal Code Chapter 19.36:

A. "Sewer Lateral Certificate" is a certificate issued by the City Engineer indicating that the lateral is in "Satisfactory Condition" as defined herein.

B. "Main line", "Sewer Main", or "Main Sewer" is a common sewer directly controlled by the City of Berkeley.

C. "Lateral", "Building Sewer", or "Lateral Sewer Line" is that part of the horizontal piping of a drainage system which extends from the end of the building drain to the main sewer and conveys the discharge of the building drain to the main sewer.

D. "Private Sewer Lateral" or "Upper Lateral" is the portion of a building sewer from the building drain to a City cleanout, usually located near the curb line. When a building sewer connects to a rear yard sewer main, the entire building sewer or lateral, including the connection to the main sewer, shall be considered a private sewer lateral.

E. "Lower Lateral" or "Lower Lateral Sewer line" is the portion of a building sewer that is located in the public right-of-way or easement and extends from a City cleanout to the main sewer.

F. "Cleanout" is a pipe fitting and associated piping connected to a building sewer or lateral sewer line that provides access to the line for purposes of routine flushing, rodding, cleaning and other maintenance and diagnostic purposes.

G. "Two-Way City Cleanout" or "City Cleanout" is a cleanout at or near the property line or street curb line that is maintained by the City which allows flushing, rodding, cleaning and other maintenance and diagnostic procedures in the sewer lateral.

H. "Private Cleanout" is a cleanout located on the private sewer line.

I. "Satisfactory Condition" is a condition indicated by fulfilling either:

1. Final inspection and approval of a City Building or Plumbing Permit that specifically calls for replacement of the private lateral and disconnection of any area or roof water collection system, including approved redirection of any storm water connections, completed within the previous 20 years; or

2. Approval by the City Engineer of a tape video record of Closed Circuit Television (CCTV) inspection of the private lateral or by a contractor approved by the City Engineer to accomplish such inspection.

J. "Non-sanitary Sewer Connections" is any facility that directly or indirectly conveys storm water, surface water, roof runoff, intercepted groundwater or subsurface drainage into sanitary sewers, including, but not limited to, down spouts, yard drains or other sources of storm water or other run-off.

K. "Structure" is any structure or building as defined in the Berkeley Plumbing Code that is provided with public sewer service by the City of Berkeley.

L. "City Engineer" is the City Engineer or his or her designee.

17.24.030 Standards for Maintenance of Private Sewer Laterals.

A. The standards for maintenance of private laterals are as follows:

1. The private lateral shall be kept free from roots, grease deposits, and other solids, which may impede the flow or obstruct the transmission of waste;

2. All joints shall be tight and all pipes shall be sound;

3. The private lateral shall be free of any structural defects such as cracks, breaks, openings, rodent holes or missing portions, and the grade shall be uniform without sags or offsets;

4. The private lateral shall have cleanouts in accordance with Section 17.24.040. All cleanouts shall be securely sealed with a proper cap at all times; and

5. All non-sanitary sewer connections shall be disconnected and such connections shall be rerouted in accordance with the Berkeley Building and Plumbing Codes and other applicable standards.

B. These standards shall apply to existing private sewer laterals only pursuant to Sections 17.24.050 or 17.24.080 through 17.24.120, or when a person performs any work on a private sewer lateral, in which case such work shall comply with the requirements for repairs and maintenance of private laterals established by the City Engineer and the California Plumbing Code as adopted by the City of Berkeley.

17.24.040 Cleanouts Required.

A. Each sewer lateral shall have a standard two-way cleanout located in the City right-of-way or easement. Such cleanouts shall be installed by the property owner after obtaining all applicable permits from the City.

B. Each private lateral shall also have a privately maintained cleanout within 30 inches of the building or as specified by the California Plumbing Code as adopted by the City of Berkeley, whichever is more restrictive. Such cleanouts shall be installed by the property owner consistent with the California Plumbing Code as adopted by the City of Berkeley, after obtaining all applicable permits from the City.

C. Installation of cleanouts under this section may be undertaken at any time with applicable permits, but shall not be required until testing and/or inspection is required pursuant to Sections 17.24.050, or 17.24.080 through 17.24.120.

17.24.050 Public Nuisance Conditions.

A. A private lateral constitutes a public nuisance when either of the following conditions exists:

1. The piping and fittings have leaks or breaks, or it is otherwise subject to exfiltration or leakage of sewage; or

2. The piping and fittings provide connections other than those permitted by this chapter and the California Plumbing Code as adopted by the City of Berkeley, or is otherwise subject to inflow and infiltration, whether accidentally, negligently, or intentionally.

B. A cleanout constitutes a public nuisance if it:

1. Is uncapped or improperly capped;

2. Has leaks or breaks or is otherwise subject to exfiltration or leakage of sewage; or

3. Has non-sanitary sewer connections or is otherwise subject to inflow and infiltration, whether accidentally, negligently or intentionally.

17.24.060 Determination of Public Nuisance by City Engineer – Appeal.

A. The City Engineer may require the inspection and/or testing of any private lateral, and may determine and declare that a private lateral or cleanout is a public nuisance as defined in this chapter. Testing and inspection and repairs shall be conducted as set forth in regulations adopted by the City Engineer.

B. If the City Engineer determines and declares that a private lateral or cleanout is a public nuisance, the City Engineer may issue a written notice ordering the property owner to make whatever repairs the City Engineer reasonably deems necessary, within a reasonable period of time that shall be specified in the notice.

C. Determinations under this section may be appealed as set forth in Chapter 1.24.

17.24.070 Correction or Abatement.

A. Owners shall obtain all required plumbing and sewer permits prior to making such repairs, and shall retain the inspection card(s), signed and approved by City inspector(s), as proof of completion of work.

B. Upon approval of such repairs and payment of the required fee, the City Engineer shall issue a Sewer Lateral Certificate.

C. In the event a property does not comply with a final notice and order under Section 17.24.060, the City may abate the public nuisances as set forth in Chapter 1.24.

D. The City may recover any costs incurred in abating a public nuisance under this chapter, as set forth in Chapter 1.24.

17.24.080 Inspection at Time of Sale.

A. Prior to the sale of property that contains any structure with a building sewer line that was installed more than 20 years prior to the sale of the property, the owner shall have the building sewer line tested for infiltration and inflow.

B. All required repair or replacement work shall be completed prior to transfer of title. Alternatively, funds may be retained in escrow, or a bond may be posted, sufficient to complete the work within six months thereafter, if permitted by, and subject to any conditions required by, the City Engineer. Except as otherwise provided in this chapter or by the City Engineer, the owner of the property is responsible for compliance with this section.

C. The seller of any real property shall be responsible for disclosing to prospective purchasers that the requirements of this chapter and the compliance status of the real property in question.

17.24.090 Inspection at Time of Major Remodel.

A. Whenever a person applies for a building and/or plumbing permit for a construction valuation that exceeds either $100,000, or $50,000 when involving two or more plumbing fixtures, in 2005 dollars, adjusted every year for inflation as shown in the Master Fee Schedule, the property owner shall have the building sewer line tested for infiltration and inflow, unless he or she presents satisfactory proof to the City Engineer that the private lateral sewer line is less than 20 years old or has been repaired but not completely replaced within the last 10 years.

B. In order to ensure compliance with this section, the property owner shall obtain a Sewer Lateral Certificate prior to approval of a building permit application for that work.

C. The City of Berkeley Building Official is hereby authorized to implement this section.

17.24.100 Reserved.

17.24.110 Reserved.

17.24.120 Inspection and Repair – Requirements.

A. All testing and inspection procedures shall be in accordance with standard procedures, or reviewed and approved by the City Engineer.

B. CCTV inspections shall be performed by a qualified licensed plumbing contractor or utility evaluation service, unless the owner presents satisfactory proof to the City Engineer that the private lateral is less than 20 years old or has been repaired but not completely replaced within the last 10 years.

C. All repair or replacement work identified by the testing procedure as necessary to prevent infiltration and inflow must be completed and approved by the City Engineer.

D. If non-sewer connections to the private lateral sewer line are found, the property owner will be required to disconnect them and contain, disperse on site, or redirect, storm water run-off within six months, as required by the City Engineer, unless granted an exception under Section 17.24.140.

E. The property owner shall submit a copy of the inspection card, signed and approved by a City inspector, as proof of compliance.

F. Failure to comply with an order issued under this section shall be deemed a violation of this chapter, and the condition of the private lateral sewer line in such cases shall be deemed, and is hereby declared, a public nuisance.

17.24.130 Sewer Lateral Certificates.

A. All properties governed by this chapter are required to obtain Sewer Lateral Certificates. Sewer Lateral Certificates shall be issued by the City Engineer upon sufficient proof that a property owner has complied with this chapter, and upon payment of any required fee.

B. Sewer Lateral Certificates shall be effective for the following periods of time:

1. A period of 10 years after:

a. Acceptance of a test performed under this chapter if no repairs were required;

b. Inspection and approval by the City of completed alterations (partial repairs) to a lateral of or connections to a lateral;

c. Inspection and approval by the City of completed repairs to a lateral or cleanout ordered by the City Engineer.

2. A period of 20 years after inspection and approval by the City of replacement of the private lateral.

17.24.140 Exceptions.

The City Engineer may waive inspections under Sections 17.24.080 through 17.24.90, and/or repairs under Section 17.24.120, if he or she determines that compliance is infeasible.

17.24.150 Reserved.

17.24.160 Fees.

The City Council may establish fees by resolution for administration of this chapter.

17.24.170 Violation – Penalty.

Any violation of any provisions of this chapter shall be deemed a misdemeanor but may be cited and prosecuted, in the discretion of the enforcing officer, as an infraction, and shall be punishable as set forth in Chapter 1.20 of this Code.

17.24.180 Remedies.

The remedies specified in this chapter are cumulative.

17.24.190 Severability.

If any article, section, subsection, paragraph, sentence, clause or phrase of this chapter for any reason shall be held to be invalid or unconstitutional, the decision shall not affect the remaining portions of this chapter. The Council of the City of Berkeley hereby declares that it would have passed this chapter and each article, section, subsection, paragraph, sentence, clause or phrase which is a part thereof, irrespective of the fact that anyone or more articles, sections, subsections, paragraphs, sentences, clauses or phrases are declared to be invalid or unconstitutional.

Section 2. This ordinance shall be effective July 1, 2006.

Section 3. Copies of this Ordinance shall be posted for two days prior to adoption in the display case located near the walkway in front of Old City Hall, 2134 Martin Luther King Jr. Way. Within 15 days of adoption, copies of this Ordinance shall be filed at each branch of the Berkeley Public Library and the title shall be published in a newspaper of general circulation.

At a regular meeting of the Council of the City of Berkeley held on April 18, 2006, this Ordinance was passed to print and ordered published by posting by the following vote:

Ayes: Councilmembers Anderson, Capitelli, Maio, Moore, Olds, Spring, Worthington, Wozniak and Mayor Bates.

Noes: None.

Absent: None.

At a regular meeting of the Council of the City of Berkeley held on April 25, 2006, this Ordinance was adopted by the following vote:

Ayes: Councilmembers Capitelli, Maio, Moore, Olds, Wozniak and Mayor Bates.

Noes: None.

Absent: Councilmember Anderson.

Tom Bates, Mayor

ATTEST: Sara T. Cox
Sara T. Cox, City Clerk

In effect: May 25, 2006.

City of Des Peres, Missouri

Lateral Insurance Program Ordinance

Bill 08-2503
Ordinance

PROPOSED BY: Mayor and Board of Aldermen BILL NO. 08-2503

INTRODUCED BY: Alderman Kleinschmidt ORDINANCE:

AN ORDINANCE ADOPTING REVISED STANDARDS FOR ADMINSTRATION OF THE SANITARY SEWER LATERAL PROGRAM

WHEREAS, Section 249.422, RSMO 1994, authorizes a city located within the boundaries of a sewer district, established pursuant to Article VI, Section 30(a) of the Constitution of the State of Missouri, to levy and impose annually for the repair of lateral sewer service lines on residential property having six (6) or less dwelling units a fee not to exceed $50.00 per year with the approval of a majority of the qualified voters of the City voting on such proposal; and

WHEREAS, at the Municipal Election held April 6,1999, the voters of the City of Des Peres approved Proposition “S” by a vote of 2,094 to 999 to approve imposition of a $28.00 fee per single family residence to fund a sanitary sewer lateral repair program in accordance with Section 249422, RSMO; and

WHEREAS, the City of Des Peres established such a program effective July 1, 1999, under Ordinance #1956 and has expended over $600,000.00 in repair of residential sanitary sewer laterals since inception of the program; and

WHEREAS, it has been determined that the most equitable way to allocate these limited resources is to restrict participation in the program to once per a 12-month period and to limit the total amount to be reimbursed to $5,000.00 per repair, per household;

NOW, THEREFORE, BE IT ORDAINED BY THE BOARD OF ALDERMEN OF THE CITY OF DES PERES, MISSOURI, AS FOLLOWS:

SECTION ONE: **$28.00 SEWER FEE LEVIED**

In accordance with the provisions of Section 249.422, RSMO 2000, a sanitary sewer lateral repair fee in the amount of $28.00 is hereby levied on all residential property located within the city limits. The City Administrator is hereby authorized and directed to take such administrative steps to collect such fee through the St. Louis County Department of Revenue as a part of the real estate bill and to implement the program in accordance with the provisions contained herein.

SECTION TWO: SANITARY SEWER REPAIR PROGRAM

The Sanitary Sewer Lateral Repair Program is intended to be an “insurance type” program offering homeowners protection against costly and unforeseen emergency repair to their sanitary sewer lateral.

(A) The following general regulations shall apply to reimbursement under the program:

1) No person or household delinquent in payment of the assessment to the fund shall be eligible for reimbursement until such assessment shall have been paid-in-full.

2) Any and all applications for participation in the program must be submitted by the property owner, not the tenant of the single-family structure.

3) The homeowner or tenant shall have the initial responsibility to investigate the cause of any sanitary sewer blockage including the initial cost of cabling such sewer. If the blockage can be cleared by cabling, the property is not eligible for participation in the program unless it can be shown by further investigation that the sewer is in danger of collapse or is otherwise leaking effluent. Such further investigation of repairs deemed to be non-emergency repairs shall be borne by the property owner.

4) A deductible of $250.00 is payable at the time of application and shall apply to the cost of any repair undertaken in conjunction with this program. Such deductible, less any actual costs incurred by the city, shall be returned to the property owner if they are found not to be eligible for participation in said program for any reason.

   The City Administrator shall be authorized to waive the deductible if the owner of the structure shall execute an affidavit stating that he/she is the occupant of the residential property and demonstrate that he/she has limited financial resources and cannot pay the deductible or permit fees for such repair.

5) No individual repair shall be charged against the fund in an amount in excess of Five Thousand Dollars and No Cents ($5,000.00). Any costs in excess of this amount shall be the responsibility of the property owner.

   Provided, however, the City Administrator, after consultation with the Director of Public Works, is hereby authorized to expend up to one hundred and fifty percent (150%) percent of said cap under extraordinary circumstances relating to the public health, financial constraints of the homeowner and/or when repair to more than the immediate break as a single project is determined to be in the best interest of the city. Any such exceptions granted shall be reported in writing to the Mayor and Board of Aldermen.

6) In the event the property owner chooses to utilize a contractor not preapproved by the city, the fund shall reimburse costs based upon the unit quantity costs established by the city in awarding contracts to pre-approved contractors.

7) Reimbursement under this program shall be subordinate to any insurance or other similar financial protections including settlements

from potential litigation against parties other than the city to which the property owner is otherwise entitled.

8) No tenant or property owner shall be reimbursed for work under this program if they have received reimbursement under the program during the prior twelve (12) month period except under extraordinary circumstances approved by the City Administrator with recommendation of the Director of Public Works.

(B) The following costs are authorized for reimbursement or payment under the program:

1) The cost of dye testing or video of the sanitary sewer lateral to determine the location and cause of the blockage or break.

2) The cost of removal of any site improvements necessary for excavation to repair or replace the sewer. However, the fund will reimburse reinstallation of said improvements only for fences and affected sections of private driveways or sidewalks.

3) The cost of excavation and repair or replacement of the sanitary sewer lateral from the MSD main to the foundation of the affected home. Excavation and repair under any structure, including under the home, is not covered by this program.

4) Site restoration is limited to re-establishment of a reasonable grade using materials on-site.

5) The cost of restoration of any public street or sidewalk located on the public right-of-way.

6) Administrative costs incurred by the city including but not limited to bidding, contract management costs, cost of materials and labor for repair to public infrastructure and other offsite work done by the city under this policy. Such costs shall include recovery of the proportional amount of salary and benefits costs incurred in administration of this program. Such costs shall be reimbursed to the General Fund of the city as miscellaneous income.

7) The following costs are not authorized for reimbursement under the program:

8) The cost of interior clean-up or other damage to the interior of the home or personal property caused by sanitary sewer back-ups resulting from the failure of the sanitary sewer lateral.

9) The cost of lost wages or income to the homes occupant due to absence from work necessary to work with the city or contractor to complete the repairs necessary under the program.

10) The cost of cabling or other similar methods to attempt to clear tree roots or other blockages including any such unsuccessful procedure by the homeowner which leads to an application for reimbursement under this program.

11) The cost of site restoration including landscaping, seeding, or sodding. Such costs are the responsibility of the property owner. The program will be responsible for lawn restoration involving property of another, which is disturbed in order to achieve the repairs necessary under the program.

12) If it is determined that the need for such repair or replacement of the sanitary sewer lateral is determined to be the result of a natural disaster, negligence or damage during the course of other excavation or construction on the site.

SECTION THREE: Ordinances #1956 and #2304 and all other ordinances in conflict herewith are hereby repealed.

SECTION FOUR: This ordinance shall be in full force and effect both from and after its passage and approval by the Mayor and Board of Aldermen.

Passed this ____ day of _____, _____.

Voting in Favor:
Voting Against:
Absent:

_____
Presiding Officer

ATTEST:

_____
Linda M. Schulte, City Clerk

Approved this ____ day of _____, _____.

_____
Mayor Richard Lahr

ATTEST:

_____
Linda M. Schulte, City Clerk

1st Reading 12-08-2008
2nd Reading 01-12-2009