

### PRIVATE LATERAL PROGRAM QUESTIONNAIRE

The WEF Collection System Committee is primarily interested in successfully operating programs for work performed on the privately-owned portion of the lateral line; e.g., building service connection. We want to assemble policy descriptions, enabling resolutions or ordinances, funding details, public education/information materials, standard design or construction details, etc., for programs that have proven to be successful. This specific program documentation will be made available to other wastewater utilities through a virtual private property program on-line library.

While we are interested in “planned” programs, we want to first concentrate on programs that have been demonstrated to have been effectively implemented. Planned programs will be included in the virtual library after the program has been implemented and actual experience with the program is available.

Program descriptions of private lateral programs that were previously implemented, but considered “failed” or only “partially successful” will be included if the reasons for the problems with the program have been identified and can be included as a “lessons learned” component of the virtual library.

**Interview Conducted by WEF Representative:** Name: Carol Hufnagel \_\_\_\_\_  
Date: November 28, 2006 \_\_\_\_\_

#### 1. General Information

Utility Name & Location: City of Lansing, Public Service Department

Contact Name & Details: Chad Gamble, P.E., Director, Public Service Department (517) 483-4452 \_\_\_\_\_  
7<sup>th</sup> Floor City Hall, 124 W. Michigan Avenue \_\_\_\_\_  
Lansing, MI 48933 \_\_\_\_\_

Utility Characteristics: 43810 \_\_\_\_\_ Number of Customers  
44250 \_\_\_\_\_ Number of Taps  
537 Total Miles of Public Sanitary Sewers (separated sewers and combined sewers)  
121 \_\_\_\_\_ Miles of Public Combined Sewers (sanitary only, not including storm sewers)  
(estimate % of system that is combined if total miles is unavailable or unknown)  
Yes \_\_\_\_\_ Are basements (thus potentially sump pump connections) typical in your area?  
(indicate yes or no)  
Municipal Government Utility Type (municipal government, special purpose district, private utility, etc.)

#### 2. Lateral Definition

Private Lateral Definition: \_\_\_\_\_ Building to ROW/Easement Line Only  
(check definition that applies)  
\_\_\_\_\_  
(Note if (& how) utility treats laterals in easements differently than laterals in ROWs)

X \_\_\_\_\_ Building To Tap on Sewer Main Line  
\_\_\_\_\_ Other (Specify details) \_\_\_\_\_

\_\_\_\_\_  
(Note if (& how) utility treats residential building laterals differently than commercial building laterals – this may affect responses to subsequent questions)

Cleanouts: Usually  
(check all that apply) Required Exists  
\_\_\_\_\_ X \_\_\_\_\_ At building  
\_\_\_\_\_ \_\_\_\_\_ At ROW \_\_\_\_\_

### 3. Lateral/ Private Inflow Removal Program Description

Type of Lateral Program (check all that apply and describe program – try to be brief in program description, but add separate sheets as needed). If utility operates more than one private lateral program, it may be preferable to complete a separate questionnaire form for the remaining questions for each of those private lateral programs.

\_\_\_\_\_ Lateral Maintenance (e.g., cleaning, root control, etc.):

\_\_\_\_\_ Lateral Repair (e.g., point repairs, etc.):

X  Lateral Replacement:

The City replaces portions of private laterals as necessary to accomplish CSO separation. Typically this construction takes place in the public ROW, but in a few instances, the City has done work on private property to abandon back-lot sewers, etc.

X  I/I Control (Specify type; e.g., cleanout caps, sump pump disconnect, downspout/yard drain disconnect, backflow preventer installation, etc. If basements are typical in area, where are building owners directed to connect the foundation or tile drain lines that have to be disconnected?):

As part of the CSO Control Program, every property owner becomes part of the environmental protection team and is required to remove all sources of inflow from their property and to cover associated costs.

Typical rainwater inflow sources include but are not limited to: disappearing downspouts, abandoned downspout leads, catch basins, driveway or patio drains, cleanouts, and pumped footing drain flows. Stairwell and window well drains which accept in excess of 100 square feet of stormwater runoff must also be disconnected from sanitary sewer leads and discharged to a storm sewer system or to the ground surface.

Property owners that require sump pump discharge outlets to be redirected to a storm sewer are encouraged to install backflow prevention devices. Sump discharge to grade has been permitted to date.

The City has been studying SSO control methods using a SWMM model, and will likely select footing drain disconnection in separate sewer areas. In remaining combined sewer areas undergoing separation, the City is including additional capacity for footing drain flows expected to accompany the 25-year, 24-hour rainfall. The design footing drain flow rate per parcel is currently set at 5 gallons per minute (gpm). The City will continue to monitor flows and cost-effectiveness of FD removals.

X  Lateral Reconnects (Specify conditions; e.g., when utility relocates main, etc. Specify special situations; e.g., sewers under building(s) requiring building plumbing changes or extensive lateral relocation):

When the City of Lansing implements the design for a CSO project area, the City Public Service Department assists property owners by:

- a) conducting limited private property investigations to identify inflow sources which may require redirection from sanitary service laterals
- b) asking property owners to provide input to the City during design to accommodate the property's needs. This includes the provision of service lateral stubs to be constructed from the City's sewer main to a location outside the influence of the roadway. The service laterals that are designed and constructed to service the property are provided by the City at no cost to the property owner.

X  Lateral Inspections (Specify conditions; e.g., point of sale, special utility project, etc.):

Laterals are inspected during the CSO construction phase as they are exposed and reconnected. Failing or poor condition lines are reported to the property owner..

Closed circuit televising is used to inspect private property service laterals connected to cross-lot sewers that will become dedicated storm sewers or abandoned after the CSO construction is complete. These sanitary service laterals are redirected to sanitary sewers located within the public right of way during the construction phase of a CSO project.

The SSO control program will include inspection of selected service laterals, probably focusing on older areas, and in areas known to use low quality materials such as asphalt paper, etc.

X  New Connection Permitting (e.g., special coordination with Building Codes, etc.):

Properties requiring internal and external separation work that involves changing interior or exterior plumbing are required to submit a separation plan/site plan to the City of Lansing Public Service Department for approval. The Department of Building and Safety conducts plan reviews of internal building changes. A City plumbing inspector conducts site visits to approve the required plumbing changes.

New connections to the sewer main from properties that are not located within CSO project areas require special permitting and approval prior to the connection. Property owners are responsible for costs incurred.

X  New Connection Enforcement Mechanisms:

- City Ordinance requires all properties abutting any street, alley, or right of way with a public sewer to connect to the sewer.
- New connections to the public sewer require appropriate permits and inspection by the City before restoration, per City Ordinance.

#### 4. ~~Lateral~~ Private Property Program Implementation

Implementation Date:  1992  Why implemented?

Was included with sewer separation as most cost effective solution to control CSOs, and meet the City's NPDES Permitting requirements for elimination or control to meet water quality standards of the combined sewer system  
(e.g., consent order/decreed, reduce CSOs/SSOs, obtain capacity to alleviate sewer moratorium, more cost-effective than "old" program, etc.)

Ongoing Program?  X  Or End Date:  2020  Why Ended?  To be completed in 2020

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What Legal Authority was Required to Implement the Lateral Program? (check all that apply, inquire if electronic copy is available for virtual library; inquire if utility type [i.e., municipality vs. district] affects the necessary legal authority)

X  Resolution  
 X  Ordinance  
 X  State Enabling Legislation  
 X  Other (Specify)

The City of Lansing is required by its National Pollution Elimination System (NPDES) Permit to eliminate the discharge of sewage to local waterways.

Per State of Michigan Public Act No. 4 of 1998, and the City of Lansing's Wastewater Treatment Plant discharge permit, eaves troughs and roof downspouts require immediate disconnection from the City of Lansing's combined sewer systems. This action is required by the State of Michigan to help accomplish the following:

- Reduce combined sewage overflow volume to the Grand and Red Cedar rivers during rainfall, prior to separation of the combined sewer area.
- Reduce wet weather basement flooding in combined sewer areas, prior to separation of the combined sewer.

On Dec 1, 1975, the City of Lansing enacted Chapter 1040 Part 10a of Lansing Codified Ordinances, applying to prohibited discharges to sanitary sewers.

(a) “No person shall discharge or cause to be discharged any stormwater, surface water, ground water, roof run-off, cooling water, or unpolluted industrial process waters into any sanitary sewer.”

On May 1, 2000, the City of Lansing enacted Chapter 1040 Part 10b of Lansing Codified Ordinances, detailing prohibited discharges to combined sewers.

(b) “No person shall discharge or cause to be discharged stormwater runoff from a residential eaves trough or roof downspout into a combined sewer.”

**5. Lateral Program Funding**

Who Pays:         Utility         Property Owner         Other (Specify):

The City pays for the portion of new service laterals constructed within the public ROW for CSO control/sewer separation. This funding is usually through State Revolving Fund loans that are repaid through debt service with Sewage Fund revenue. The private property inspection program for sources of inflow is cash funded by the City through Sewage Fund revenue. Work on private property is typically paid for by the property owner, unless the work is to redirect the service lateral to a new outlet of the City’s choosing. All service lateral maintenance is paid by the property owner.

When the SSO control program begins, the City will likely apply for low-interest state SWQIF loans to complete footing drain disconnection on private property.

(other could include grants, loans, low & moderate income programs, block development grants, etc.; inquire if electronic copy is available for virtual library)

Funding Description:

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**6. Program Construction**

Who Does the Work:    \_\_\_\_\_ Utility Internal Forces     Utility Selects & Pays Contractor  
    \_\_\_\_\_ Property Owner                                     Property Owner But Only From Utility List  
    \_\_\_\_\_ Other (Specify:)                                    \_\_\_\_\_

As part of the bidding process to implement the CSO design into the construction phase, the City of Lansing selects a contractor to construct the sewer main and service laterals located within the public right of way as stipulated in the project design.

Private properties requiring external and internal separation are required to obtain a permit, retain and pay an engineer and/or licensed contractor to separate the property’s combined piping and connect to the service laterals provided by the City of Lansing. A list of certified plumbing contractors is provided by the City to the property owner at the property owner’s request.

Construction Details: Are standard details/specifications used? Yes    Are electronic copies available?    Upon request \_\_\_\_\_

Describe/List Details:    A conceptual detail sheet is provided by the City to property owners to assist them in the disconnection and abandonment of disappearing downspout leads connected to a private sanitary service lateral.

Separation of inflow sources requiring more complex work, such as ground level surface drains, requires a licensed plumbing contractor or engineer to complete a separation plan for City approval.

## 7. Public Education/Information Program

How is Lateral Program Publicized?	<input checked="" type="checkbox"/> Door hangers	Are electronic copies available?	attached _____
	<input type="checkbox"/> Bill stuffers	Are electronic copies available?	_____
	<input checked="" type="checkbox"/> Meetings	Are electronic copies available?	attached
	<input checked="" type="checkbox"/> Brochures	Are electronic copies available?	attached
	<input type="checkbox"/> Customer Specific (e.g., provide property owner with CCTV still shot of lateral interior, field mark/locate [flag or cone] problem, provide picture of field location in case flag or cone is removed, etc.)	Are electronic copies available?	_____
	<input checked="" type="checkbox"/> Other (Specify)	Are electronic copies available?	attached

### Additional Description of Material(s):

The City of Lansing Private Inflow Removal Program focuses on property owner understanding of the separation program's connection with CSO control and awareness of their responsibility in the program. The City of Lansing initiates the process in each CSO project area by mailing information to property owners in a series of three letters, beginning almost two years before the start of construction.

**Letter "A"** informs property owners about the CSO Control Program. The information outlines what they must do if they have inflow sources, when corrective work must be completed, and includes instructions on how to achieve private property sewer separation. Letter "A" also asks property owners and residents to complete and return a questionnaire, allowing them to give input prior to design on a number of issues, such as basement flooding history, multiple service connections, and other details about their property. Letter "A" is typically mailed 21 months prior to construction, and informs residents and property owners that inspections in their area will be conducted throughout the year.

**Letter "B"** is sent the next spring, 1 year before construction begins. Letter "B" reminds property owners to anticipate upcoming construction, and to rectify rainwater inflow sources that were identified during the initial private property inspections. Included information recaps sewer separation construction details and property owner responsibilities.

**Letter "C"** is mailed in the spring, about 1 month before construction, as a final reminder to property owners to complete inflow source removal prior to construction on their street, and that they will be in violation of City ordinances if the inflow is not removed from their property's existing sanitary piping.

At the beginning of the project's design and prior to the start of the construction, City staff members attend neighborhood meetings to get the word out in person, address resident concerns, and to answer specific questions about inflow removal, construction details, and other facets of the CSO Control Plan. In areas of commerce, separate meetings are held to present information tailored for commercial properties. Presentations, given by experts, combine project information and typical commercial property sewer separation requirements. These meetings are designed to foster proactive preparation for the upcoming construction project and inflow source removal. City staff members address a myriad of issues voiced by business owners whose primary revenue depends on continual customer access to their properties. Throughout the duration of the sewer separation project, additional meetings are held as needed to maintain project detail awareness, cooperation, and to resolve project challenges.

The City of Lansing's Public Service Department is committed to providing outstanding customer service, including ongoing public outreach activities and easily accessible information. Lansing CSO Control program information can be found on the City's website at <http://www.cityoflansingmi.com/cso/>

For those who have concerns, questions, or need additional assistance regarding inflow removal, the City provides assistance at no charge including a site visit from qualified personnel by calling the Private Inflow Helpline.

In 1999, The City of Lansing conducted a campaign designed to help eliminate stormwater runoff from residential downspouts contributing to combined sewer systems. The "Residential Downspout Removal Program" involved mailing

a postcard asking property owners to check their properties for and, if applicable, correct prohibited discharges to the combined sewer from their eaves trough system. City representatives were available to conduct site visits, inspections, and provide additional assistance to residents. The program was successful in achieving a positive response from 44% of over 13,000 properties.

## 8. Lessons Learned

**What Would You Do Differently?** The City is planning to implement an enforcement program to convince stragglers to complete their private property sewer separation. Although the vast majority of properties have complied with the inflow removal program, some have not. This enforcement program should have been initiated earlier in the program to assure compliance. This is expected to begin in 2007.

**What Performance Measures Are/Were Used?**

(e.g., plant flow reduction, CSO/SSC reduction, basement backup reduction, service call (roots, etc.) reduction, sewer moratorium lifted, etc.) Describe results of Lateral Program on those performance measures:

Project Performance Certification (PPC) is conducted by the City's engineering consultant and includes the following:

1. Compare conceptual design drawings against construction records.
2. Perform flow monitoring of sanitary sewers in accordance with engineering firm's standard flow monitoring methods & procedures.
  - a) If excessive flows are found, investigate to locate the source(s) per engineering firm's standard methods & procedures.
  - b) Confirm sewer system will perform adequately during the design condition (25-year, 24-hour rainfall, assuming normal summertime soil moisture).
3. Perform biological/chemical monitoring of storm sewers in accordance with engineering firm's standard sampling methods & procedures.
  - a) If testing indicates sources of sewage into storm sewers, investigate to locate the source(s) per standard engineering methods & procedures.
4. Inform appropriate parties to remedy deficiencies found during PPC investigations.
5. Write PPC report

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**Lessons Learned:** Footing drain flows have turned out to be higher in some areas than expected, the basis of design for footing drains flows has been increased in remaining CSO separation areas with footing drains connected to 5 gpm per parcel.

Basement flooding and sewer overflows have been significantly reduced in CSO sewer separation areas. Since the program construction began in 1992, there has been only one event where basement flooding occurred in a CSO separation area. This event was recorded to be an approximate 100-year rainfall in the area of flooding, greatly exceeding the CSO basis of design event.

## 9. Follow-Up Electronic Submittal

Willing to Send Electronic Materials to WEF Collection System Committee for Inclusion in Virtual Library? Yes  
(list all items utility agrees to send below should future follow-up reminders be needed)

Is utility willing to provide a contact (e.g., either web site address, telephone number or email address [preferably not a name due to possible privacy concerns] for inclusion in the WEF Private Lateral Virtual Library)? Yes - see first page

WEF Tracking List of Materials: Private property mailings, brochures, door hangers, etc. \_\_\_\_\_

Violation form and draft enforcement program \_\_\_\_\_

Private inflow removal photographs \_\_\_\_\_

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