

Township of Upper St. Clair
Wastewater Collection System
Operation and Maintenance Program Plan

Revised 5/30/12

Table of Contents

I	Statement of Goals
II	Organization
III	Legal Authority
IV	Measures and Activities
V	Design and Performance Provisions
VI	Monitoring, Measurement and Program Modifications
VII	SSO Overflow Response Plan
VIII	System Evaluation and Capacity Assurance Plan
IX	O&M Program Plan Audits
X	Funding of O&M Program Plan
	Appendix A

I. Statement of Goals

The Municipal Authority of the Township of Upper St. Clair owns the Wastewater Collection system serving the Township of Upper St. Clair. The Municipal Authority Board serves in an Administrative capacity and consists of four (4) board members:

C. James Parks, Chairman

Russell L. Crane

Robert J. Ridge

T.A. Ward

The Township maintains the Sanitary Sewer System which consists of 823,680 feet +/- of gravity sewers, interceptors, two (2) pumping stations and a force main. Sanitary sewers vary in size from eight (8) inch to thirty-three (33) inch and there are 5064 manholes +/- . This system services 6950 customers. There are five (5) watersheds within the Sanitary Sewer System; McLaughlin Run, Painters Run, Brush Run, Chartiers Creek and Peters Creek.

The Township has prepared this Operation and Maintenance Program Plan to achieve the following goals:

- A. To provide service and solve problems related to the sanitary sewer system in the most efficient and cost effective way for the residents of Upper St. Clair.
- B. To outline procedures for the proper operation and maintenance of the sanitary sewer system and related appurtenances and equipment.
- C. To minimize sanitary sewer system failures.
- D. To establish a Sanitary Sewer Overflow Response Plan (SSORP) protocol.

To ensure the future success of this plan and to achieve the plan's goals, this Operation and Maintenance Program Plan will be considered as a work in progress. Updates and modifications will be made on a continual basis. The Township of Upper St. Clair will incorporate the Best Management Practices (BMPs) as determined by the Township of Upper St. Clair to achieve the goals outlined within this plan.

II. Organization

Board of Commissioners

Robert W. Orchowski, President
Russell R. Del Re, Vice President
Nicholas J. Seitanakis
Donald P. Rectenwald, Jr.
Mark D. Christie
Glenn R. Dandoy
Daniel R. Paoly

Mathew R. Serakowski, Township Manager

George Kostelich, Jr., Director of Public Works
Superintendent of Operations
Superintendent of Projects
Superintendent of Public Improvements

Staffing is adequate for the daily operation of the wastewater collection system.

- E. There are three (3) Superintendents and twenty four (24) Public Works maintenance positions that are responsible for implementing measures in the O&M Program Plan as may be required.
- F. Lines of authority begin with the Superintendent of Projects and the Superintendent of Operations who are responsible for the direct supervision of the program. They are responsible for organization, planning, prioritization, implementation and all contractual services. Public Works personnel become involved as needed for work force involvement in projects.

Sanitary Sewer Overflow Response Plan

A. Introduction and Purpose

The Municipal Authority of Upper St. Clair owns the public sewage collection system that serves the Township of Upper St. Clair, in Allegheny County, Pennsylvania. The Sanitary Sewer Overflow Response Plan will set forth a standard protocol for responding to a detected or reported sanitary sewer overflow.

The primary objective of this plan is to establish a protocol for the following responses to a sanitary sewer blockage or overflow:

- 1) To set procedures for when and how the public will be notified.
- 2) To set procedures for determining when and where public access should be limited when a sanitary sewer overflow occurs.
- 3) To set procedures for limiting public access to a sanitary sewer overflow location when necessary.
- 4) To set procedures for the remediation of unsafe conditions as a result of a sanitary sewer overflow.

B. Reporting and Preparedness

To ensure that the Township of Upper St. Clair Public Works Department personnel are prepared to respond to a sanitary sewer blockage or overflow, the Township will take the following measures.

- a) The Township of Upper St. Clair Public Works Department has three (3) Superintendents available to respond to any detected or reported sanitary sewer blockage or overflow. The time of the reported blockage or overflow, availability, or rotating on-call schedule will determine which Superintendent will respond.

Information for each sanitary sewer blockage or overflow event will be collected and will include but may not be limited to the following:

1. Time and date
2. Name of Complainant
3. Phone number
4. Address
5. Location of Complaint

6. Nature of Complaint
 7. Referred to
 8. Report of Action Taken
 9. Cause, if known
 10. Date of Action
 11. Extent of impact to a resident from a basement backup
 12. Rainfall data will be collected daily and recorded in the daily log
- b) The Superintendent of Projects will receive training in an effort to remain current on new sewage collection system technologies and I & I reduction methods.
 - c) The Superintendent of Projects will update this plan as needed to ensure that the most appropriate response and training actions are taken.
 - d) Township Public Works maintenance employees will regularly inspect, service and repair as needed all maintenance and response equipment available. A listing of available equipment is provided in attachment.
 - e) The Superintendent of Projects will maintain a listing of local contractors and other personnel and equipment resources to be used as contingency. This list is also provided in attachment.
 - f) C-53 is a constructed SSO overflow, located in the Borough of Bridgeville, at the end of Commercial Street. This structure is a diversion chamber which is part of the McLaughlin Run Trunk sewer which was constructed under Sewerage Permit #8723-S, on October 28, 1955, by the Commonwealth of Pennsylvania's Sanitary Water Board. The diversion chamber and 6 foot+/- 18" connecting pipe into an Alcosan manhole, is jointly owned by the Township of Upper St. Clair, the Municipality of Bethel Park and the Borough of Bridgeville.

The Township of Upper St. Clair will monitor/inspect the SSO structure weekly and after rain events. Inspection report logs will be shared with the Municipality of Bethel Park and Bridgeville Borough.

The Township of Upper St. Clair will post and maintain a sign warning the public that any discharge may contain pathogens which can cause illness. Sign posted September, 2011.

C. Emergency Sanitary Sewer Blockage or Overflow

Definition - Any reported or discovered sanitary sewer blockage or overflow discharge which occurs within the Authority owned and Township maintained sewers of the Township of Upper St. Clair.

The following steps will be taken by the Township Public Works maintenance personnel upon discovery or notification of an Emergency Sanitary Sewer Blockage or Overflow:

1. Emergency sanitary sewer calls are received by the Upper St. Clair Police Department and are immediately forwarded to the Superintendent on-call.
2. A minimum of two (2) Public Works maintenance personnel from the on-call roster will be notified of the discharge, its location, nature and immediate impacts if known.
3. The on-call Superintendent and Public Works maintenance personnel will meet at the Township of Upper St. Clair Public Works building to assemble the required response equipment.
4. The response personnel will proceed immediately to the discharge location.
5. The Superintendent and maintenance personnel will open and check the flow in the manholes near the location to determine if the Township is involved. The Superintendent will assess the condition of the event.
6. Equipment including but not limited to a large water volume sewer jet, Harben jet, pumps, root cutters and other maintenance equipment shall be used when safe and practical to reduce or eliminate current and future discharge at the response location (see attachment for listing of available equipment).
7. If elimination of the discharge is not possible, the response personnel will attempt to divert the discharge away from humans and human contact areas.
8. If elimination of the discharge is not possible, the response personnel will attempt to divert flows to minimize impact to the environment.
9. Diversion efforts should be continued for the duration of the discharge event.

D. Emergency Sanitary Sewer Overflow Notification

In order to protect human health and safety, the Superintendent of Projects or the

Superintendent of Operations shall notify the Allegheny County Health Department, Department of Water Pollution by fax as soon as possible or within twenty-four (24) hours. The form used is Appendix B of the Administrative Consent Order (ACO) as of March 24, 2004. See attachment of fax report form. (Attachment 4)

Reporting of sanitary sewer overflows (SSOs) is the responsibility of the Superintendent of Projects. In his absence, reporting will be completed by the Superintendent of Operations.

Information on the report form will include but may not be limited to:

1. Origin for the call and the name and title of the contact person.
2. Nature of the emergency (i.e. sanitary sewer overflow).
3. Location of the emergency (specific street address or location).
4. Response action taken.

Following a sanitary sewer blockage or overflow

E. Remediation

Following a sanitary sewer blockage or overflow event, the following steps will be taken to restore the area and minimize the threat to public health and safety and the environment:

1. All solid materials remaining after the cessation of a discharge event will be cleaned up and removed from the site. Persons performing and persons affected by clean-up activities will be informed of the personal health and safety threats of handling raw sewage and sewage affected debris and will be provided with personal protective equipment necessary to protect them from the biological hazards of raw sewage.
2. When available and necessary, the area affected shall be hosed clean. Flushing waters will be directed or pumped to the sanitary sewer when possible. Lime and other stabilizing or disinfecting agents will be used as necessary to ensure the threat to human health and safety and the environment is minimized.
3. Equipment including sewer jets, pumps, root cutters and other maintenance equipment shall be used when safe and practical to reduce or eliminate current and future discharge at the response location.
4. The response crew shall report to the Superintendent in charge at the conclusion of the clean-up activities. A report shall be logged that indicates location, date, time and suspected cause.

RESPONSE PROTOCOL

COMPLAINT OR NOTICE RECEIVED BY THE PUBLIC WORKS OFFICE

NORMAL OFFICE HOURS 8:00 AM-3:30 PM

- 1) CALL THE TOWNSHIP OF UPPER ST. CLAIR DEPARTMENT OF PUBLIC WORKS (412-831-9000)

INFORMATION REQUIRED ON COMPLAINT

- 1) TIME OF CALL
- 2) NAME OF COMPLAINANT
- 3) LOCATION OF PROBLEM
- 4) DESCRIPTION OF PROBLEM

THE PUBLIC WORKS SUPERINTENDENT IN CHARGE IS NOTIFIED

THE PUBLIC WORKS SUPERINTENDENT WILL IMMEDIATELY RESPOND TO THE LOCATION OF THE COMPLAINT TO EVALUATE THE SITUATION

IF THE PUBLIC SEWER IS INVOLVED, A PUBLIC WORKS CREW IS ASSEMBLED AND DISPATCHED.

AFTER NORMAL BUSINESS HOURS

- 1) CALL THE TOWNSHIP OF UPPER ST. CLAIR POLICE DEPARTMENT (412-833-7500)
- 2) THE PUBLIC WORKS ON-CALL SUPERINTENDENT IS NOTIFIED
- 3) POLICE DISPATCH PERSONNEL REFER TO THE PUBLIC WORKS ON-CALL ROSTER AND CALL OUT THE APPROPRIATE PERSONNEL AT THE DIRECTION OF THE PUBLIC WORKS SUPERINTENDENT

ASSESS PROBLEM

- 1) RETURN COMPLAINANT'S CALL IF NECESSARY
- 2) NOTIFY OTHER DEPARTMENTS IF NECESSARY
 - a) FIRE DEPARTMENT FOR A SPECIAL STILL RESPONSE AS NECESSARY
 - b) POLICE DEPARTMENT AS NECESSARY
 - c) PUBLIC WORKS DEPARTMENT (412 -831-9000)
 - d) EMERGENCY MANAGEMENT (412-833-7500)

MEET AT DEPARTMENT OF PUBLICS WORKS BUILDING

- 1) DISPATCH APPROPRIATE EQUIPMENT (SEWER JET, INSPECTION EQUIPMENT, ROOT CUTTERS, ETC)
- 2) PROCEED TO COMPLAINANT LOCATION

ALLEVIATE PROBLEM

- 1) NOTIFY COMPLAINANT OF RESOLUTION
- 2) NOTIFY DISPATCH OF RESOLUTION

SUPERINTENDENT WILL FILE A REPORT WHICH WILL INCLUDE BUT MAY NOT BE LIMITED TO:

- 1) TIME OF CALL
- 2) NAME OF COMPLAINANT
- 3) LOCATION OF PROBLEM
- 4) DESCRIPTION OF PROBLEM
- 5) PROBABLE CAUSE, IF KNOWN
- 6) HOW PROBLEM WAS RESOLVED
- 7) EXTENT OF IMPACT TO THE RESIDENTS DWELLING, AS APPROPRIATE
- 8) IF FURTHER CORRECTIVE ACTION IS NECESSARY

III. Legal Authority

The Municipal Authority of the Township of Upper St. Clair owns the Wastewater Collection system serving the Township of Upper St. Clair. The sanitary sewer system consists of gravity sewers, interceptors, two (2) pumping stations and a force main. There are five (5) watersheds within the Township. The sanitary sewers and the storm sewers are separate systems.

A. Controlling Legal Authority includes but may not be limited to:

1. Administrative Consent Order (ACO), March 24, 2004
2. Public and Private Improvements Code, Chapter 99, adopted December 4, 2006 by Ordinance No. 1962. Regulations and requirements for connections to the sanitary sewer system, design, installation, testing and inspection.
3. Dye Test Ordinance No 1787, adopted December 7, 1998. Prohibits surface and ground water connections to the sanitary sewer system. Requires dye testing prior to the sale or conveyance of property.
4. Township Code, approved November 6, 1973. The various chapters of the Code contain all currently effective ordinances of a general and permanent nature enacted by the Board of Commissioners of the Township of Upper St. Clair.
5. Allegheny County Plumbing Code
6. International Plumbing Code
7. Clean Streams Law PA Code, Title 25, Chapters 71, 93, 94.95 and 96
8. There are existing sanitary sewer service agreements with bordering Municipalities; Peters Township, Bethel Park, Bridgeville and Mt. Lebanon. These agreements are being reviewed as part of the required Feasibility Study and will be updated as needed.
9. The Engineer will identify and monitor peak flows from satellite collection systems which may contribute to non-compliance within the Township's waste water collection system.
10. There are no Industrial users at this time. However, Industrial users would be covered by the requirements contained within the Allegheny County Health Department Plumbing Code and must comply with ALCOSAN's pretreatment program which is developed under 40 CFR 403.5.

IV. Measures and Activities

A. The Township of Upper St. Clair operates a 48,000 SF maintenance facility including administrative offices and mechanic garage. The building is more than adequate for its intended use. The Superintendent of Operations is in charge of the Public Works Building and twenty-four (24) maintenance personnel, including two (2) mechanics.

The list of equipment includes but is not limited to:

- a) Sewer Aqua Jet
- b) Harben Jet

- c) Public Works vehicles, including but not limited to eight (8) 36,000 GVW International dump trucks, nine (9) F-550 dump trucks and utility vehicles.
- d) One (1) backhoe
- e) One (1) excavator
- f) Two (2) loaders
- g) Rigid Sewer Rodding Machine
- h) Hand tools
- i) Miscellaneous equipment as appropriate
- j) Trash pumps and discharge hose
- k) Sewer plugs, air compressor, testing dyes, marking flags and paint.

B. Mapping

1. Stationary sanitary and storm sewer maps are located in the Public Works Administrative offices.
2. Map books are located in designated vehicles for field use.
3. All Superintendents carry maps in their vehicles.
4. Sanitary sewer system mapping is accessible by computer in the Administrative offices.

Management of Information

All sanitary sewer information which includes but may not be limited to data, repairs, planning and mapping is maintained by the Information Technologies Department under the guidance of the Director of Information Technology. The Information Technology Department will provide, at a minimum, the following benefits to the Township and its residents:

- Provide necessary information to effectively respond to service requests
 - Improve knowledge to the system components and connectivity
 - Allow efficient operation and maintenance with routine schedules
 - Generate consistent reliable planning and support the continual improvement of the system.
 - Reduce unexpected risks and SSO's
 - Establish and prioritize appropriate O&M tasks and work orders
1. All GIS mapping of the sanitary and storm sewers is maintained by the Information Technology Department. The maps and associated data are in Arcview format.
 2. The Superintendent of Projects and the Superintendent of Operations review and update the sanitary sewer maps in GeoSewer. Changes to the Township sanitary sewer mapping may include but may not be limited to rehabilitation or replacement of existing lines or existing conditions discovered during CCTV. The

- Township Engineer then updates the Township GIS database.
3. The Superintendent of Projects, the Superintendent of Operations and the Director of Information Technology maintains a comprehensive map of the sanitary sewer system which includes but may not be limited to manhole locations, length and diameter of sewer lines, CCTV data, manhole inspection data and all other sanitary sewer asset information necessary to implement the O&M Plan. The Township Engineer also maintains a similar database.
 4. The NASSCO (National Association of Sewer Service Contractors) through their PACP (Pipeline Assessment and Certification Program) is also incorporated into the Management of Information regarding the sanitary sewer system.
- C. All sanitary sewer complaints received are entered into the GeoPlan database system by the Public Works Administrative Assistant. Records are kept and tracked by street address.
1. The GeoPlan database can be used to illustrate overflow trends within the wastewater collection system.
 2. Public Works response to sewer calls will follow the Response Protocol and is compliant with the procedure outlined in the Sanitary Sewer Overflow Response Plan (SSORP).

RESPONSE PROTOCOL

COMPLAINT OR NOTICE RECEIVED BY THE PUBLIC WORKS OFFICE

NORMAL OFFICE HOURS 8:00 AM-3:30 PM

- 1) CALL THE TOWNSHIP OF UPPER ST. CLAIR DEPARTMENT OF PUBLIC WORKS (412-831-9000)

INFORMATION REQUIRED ON COMPLAINT

- 1) TIME OF CALL
- 2) NAME OF COMPLAINANT
- 3) LOCATION OF PROBLEM
- 4) DESCRIPTION OF PROBLEM

THE PUBLIC WORKS SUPERINTENDENT IN CHARGE IS NOTIFIED

THE PUBLIC WORKS SUPERINTENDENT WILL IMMEDIATELY RESPOND TO THE LOCATION OF THE COMPLAINT TO EVALUATE THE SITUATION

IF THE PUBLIC SEWER IS INVOLVED, A PUBLIC WORKS CREW IS ASSEMBLED AND DISPATCHED.

AFTER NORMAL BUSINESS HOURS

- 1) CALL THE TOWNSHIP OF UPPER ST. CLAIR POLICE DEPARTMENT (412-833-7500)
- 2) THE PUBLIC WORKS ON-CALL SUPERINTENDENT IS NOTIFIED
- 3) POLICE DISPATCH PERSONNEL REFER TO THE PUBLIC WORKS ON-CALL ROSTER AND CALL OUT THE APPROPRIATE PERSONNEL AT THE DIRECTION OF THE PUBLIC WORKS SUPERINTENDENT

ASSESS PROBLEM

- 1) RETURN COMPLAINANT'S CALL IF NECESSARY
- 2) NOTIFY OTHER DEPARTMENTS IF NECESSARY
 - a) FIRE DEPARTMENT FOR A SPECIAL STILL RESPONSE AS NECESSARY
 - b) POLICE DEPARTMENT AS NECESSARY
 - c) PUBLIC WORKS DEPARTMENT (412 -831-9000)
 - d) EMERGENCY MANAGEMENT (412-833-7500)

MEET AT DEPARTMENT OF PUBLICS WORKS BUILDING

- 1) DISPATCH APPROPRIATE EQUIPMENT (SEWER JET, INSPECTION EQUIPMENT, ROOT CUTTERS, ETC)
- 2) PROCEED TO COMPLAINANT LOCATION

ALLEVIATE PROBLEM

- 1) NOTIFY COMPLAINANT OF RESOLUTION
- 2) NOTIFY DISPATCH OF RESOLUTION

SUPERINTENDENT WILL FILE A REPORT WHICH WILL INCLUDE BUT MAY NOT BE LIMITED TO:

- 1) TIME OF CALL
- 2) NAME OF COMPLAINANT
- 3) LOCATION OF PROBLEM
- 4) DESCRIPTION OF PROBLEM
- 5) PROBABLE CAUSE, IF KNOWN

- 6) HOW PROBLEM WAS RESOLVED
- 7) EXTENT OF IMPACT TO THE RESIDENTS DWELLING, AS APPROPRIATE
- 8) IF FURTHER CORRECTIVE ACTION IS NECESSARY

D. Routine Preventive Operation and Maintenance

1. Public Works labor force personnel will inspect and service twenty-seven (27) flapgates bi-annually
2. The Superintendent of Projects, the Superintendent of Operations or Public Works labor force personnel will inspect and service two (2) Pumping stations daily and maintain a written log book of activities. (See Appendix A.)
3. The Superintendent of Projects and the Superintendent of Operations will walk and visually inspect sanitary sewer lines along stream channels annually or after significant storms, if warranted, to determine whether the structural integrity of any sanitary sewer line has been compromised.
4. The Superintendent of Projects and the Superintendent of Operations will walk rights-of-way to insure sanitary sewer lines in undeveloped locations are accessible.
5. The Superintendent of Projects and the Superintendent of Operations will create a list of level 5 Operation and Maintenance defects, as defined by NASSCO standards and as required under Phase I of the Administrative Consent Order (ACO). 20% of O&M defects are repaired each year, as required under Phase I of the ACO.
6. The Superintendent of Projects and the Superintendent of Operations will create a list of defective manholes based on the completed physical inspection from Phase 1 of the ACO, including visual inspection of manholes located within a stream or other waterway. The list will be divided into those manholes with structural defects and those with infiltration issues.

5% of manholes with O&M deficiencies will be rehabilitated each year.
Priority will be given to brick manholes.

Man pans will be placed in all manholes in low areas to resolve inflow issues.

The Superintendent of Projects and the Superintendent of Operations will inspect all manholes once every ten (10) years. Any discovered defects will be entered into the database for future rehabilitation.

7. The Superintendent of Projects or the Superintendent of Operations will have the Siphons cleaned every five (5) years. This task will be completed in conjunction with CCTV of the Brush Run sewer area. See cleaning schedule in the appendix.
8. The Superintendent of Projects or the Superintendent of Operations will have sediment removed from the sanitary sewer lines entering the pump station every six (6) months. Sediment will be removed from the pump station wet well annually. See cleaning schedule in appendix.

E. Assessment of the current capacity of the Sanitary Sewer System is monitored and

evaluated using a combination of modeling on the major interceptors and using Manning's Equation to determine capacity on the critical sewers. The PADEP Domestic Wastewater Design Manual will be used to assess capacity in eight (8)" sanitary sewers. Flows have been determined by meters owned by the Township as well as data collected from the Regional Flow-monitoring Program.

- F. Periodic identification and prioritization of structural deficiencies within the sanitary sewer system is accomplished through CCTV inspection by NASSCO standards.

The Township has 823,680 +/- feet of sanitary sewer. Each year beginning on or after June 1, 2010, the Township will CCTV inspect a minimum of 165,000 feet (20%) of sanitary sewer. The entire wastewater collection system will be CCTV inspected over five (5) years. For CCTV inspection purposes, the Township has been divided into 5 O&M service areas. These service areas are referred to as the: Cook School Area, High School Area, Drake Area, Boyce Area and the Mayview Area. Inspection will begin in the Northern service area, Cook School area, and continue toward the southern border. See O&M Service Area map in the appendix.

Priority will be given to any reported basement back-ups or manhole overflows. Township policy is to CCTV inspect any line segments with reported basement back-ups or manhole overflows to determine a cause, if possible, within 24 hours or first availability of the CCTV contractor. These segments will take priority and will move to the top of the inspection list. When defects within the sanitary sewer line are discovered, the line segment is moved to the top of the rehabilitation list and the line is rehabilitated before there is a second occurrence.

Prioritization of rehabilitation repairs will be determined using the NASSCO rating system. Rehabilitation will begin with structural level 5's, then 4's and so forth and will include but not be limited to root infiltration, sags, break-in taps and offset joints.

After CCTV inspection reports are received, the following steps are taken:

1. Public Works reviews each segment and compiles a list of defects observed.
2. The defects are prioritized.
3. Each site is walked to determine the appropriate method for repair.
4. Letters are prepared and sent to each residence affected by the repair.
5. Public Works answers resident questions by phone or at an on-site meeting.
6. A PA One-Call is placed by the contractor.
7. The project is scheduled.
8. Public Works inspects the project in progress and resolves any problem or complaint.

O&M Service Area Cleaning and Rehabilitation Plan

1. 20% of the sanitary sewer system will be CCTV inspected each year beginning in 2010, after compliance with Phase I of the Administrative Consent Order (ACO), as part of the O&M Program Plan.

CCTV inspection will be conducted by an independent contractor for the Township of Upper St. Clair. The contractor will conduct all CCTV inspections under NASSCO (National Association of Sewer Service Contractors) guidelines through their PACP (Pipeline Assessment and Certification Program). The contractor will be responsible to train their employees in but not limited to PACP, Confined Space and Safety.

The Township will strive to reach a multi-year contract to maintain continuity of the CCTV program through completion.

2. CCTV inspection will consist of line cleaning and root removal necessary for proper inspection of the sanitary line compliant with NASSCO guidelines.
3. Line segments discovered to have significant root infiltration will be replaced. The Township BMP has determined that line replacement is more cost effective and provides a permanent solution rather than pouring acid.
4. Line segments discovered to have significant sags, 40% or greater, will be replaced. The Township BMP has determined that line replacement is more cost effective and provides a permanent solution rather than periodic cleaning of a line segment.
5. The Township will rehabilitate structural Level 5 defects discovered through CCTV inspection using the most appropriate method as determined by Township BMP's. Rehabilitation methods currently used are; open-cut, pipe bursting, lining, point repairs and spot repairs.

Sanitary sewer rehabilitation will be completed primarily by independent contractors, each with an expertise in the method chosen for the rehabilitation. The Township will review each sanitary sewer segment requiring rehabilitation and will make the final decision on the appropriate method to use. Public Works will provide the Administration, Supervision and Inspection of all rehabilitation projects.

The Contractor will be responsible to properly train his personnel, which will include but not be limited to Confined Space, Trench/Shoring, Traffic Control and Safety.

6. As a standard operating procedure, the Township replaces defective existing sewer lines, manhole to manhole, as needed. Our BMP has found that replacement of the entire line segment is more cost effective than a point repair, in most cases. The benefits include replacing whole line segments rather than creating a series of patchwork repairs, existing easements are cleared of debris and obstructions and the neighborhood is disturbed only one time.

G. Continuing education and on-going training is provided to Public Works maintenance employees and Superintendents. Training includes but is not limited to:

1. Confined Space Training
2. First Aid
3. Traffic Control
4. Work Zone Safety
5. Various seminars that are offered by Local Government Academy, DEP and 3RWWDP
6. The Superintendent of Projects and the Superintendent of Operations will receive training in Arcview software and mapping from the Township Director of Information Technology.

Public Works employees are used on an as-needed emergency basis to assist with sanitary sewer back-ups or blockages. Personnel are used to open blockages when the CCTV contractor is not available, after normal work hours or on weekends. Reconstruction of defective sanitary sewers is completed by construction personnel under contract with the Township.

Training of Township employees is adequate in relationship to their limited involvement with Operation and Maintenance. Instructors will be selected based on their availability and expertise in the subject matter.

The Township will work to enhance its existing program to adopt, institute, and enforce a Sewer Worker Safety Program that meets the standards set by OSHA 29 CFR 1910 and 1926 to eliminate unsafe working conditions for the personnel conducting inspections and performing maintenance.

H. Inventories and Vendors

1. Public Works maintains an inventory of parts to service sewer related equipment and facilities. Public Works inventory includes but may not be

limited to:

- a) 8" SDR 35 pipe
- b) 4" SDR 35 pipe
- c) Wye fittings
- d) Furnco fittings
- e) Manhole base, risers and cones
- f) 6" and 4" precast risers
- g) Manhole lids and castings
- h) 2B limestone

2. A vendor list is maintained for service and parts for the Pump stations

Pump Station Contacts:

- Walt Donaldson, Jimmy Stewart (Public Works mechanics) and Ron Sarrick, Superintendent of Buildings. Let them look at everything first.
- **Electrical/Control problems.** MET.
Carrie Crocker. Account Manager. Office - 724-772-4638
- **Call 1st Pump/ Motor problems.** Daman-Superior.
Mark Robinson. Sales Manager. Office - 412-279-1210 cell - 412-680-6373
Adam Stipp. Office - 724-526-5714 cell - 724-525-0975
Rick Corrins, Office – 724-526-5714 x23
- **Laser Alignment.** Daman-Superior.
Adam Stipp. Office - 724-526-5714 cell - 724-525-0975
- **Call 2nd Pump/Motor problems.** United Electric.
John Turek. Office. - 724-746-4700
- **Pump dealer.** Keystone Pump.
Pat or Jeff. Office. - 724-746-4111
- **Seimans Autocon**
DAS Group, Inc.
Tim Tomasco – 412-977-0740 , 412-441-4941 (Home)– Tim@dasgroupinc.com
- **Grinder Problems.** WC Yeil Company
Tim. Office - 412-487-7140 cell - 412-720-2563
- **Generator Problems.** Kohler
Dave Magar. - Office – 1-800-969-3966 or 412-475-2732

- **Check Valves.** GA Industries.
Mark Sullivan. Office - 724-776-1020
- **Flex Couplers.** Motion Industries.
Office - 412-787-1600
- **Anchor Packing.**
Jim Brewer. Office - 412-299-6559 - 1-800-441-8193
- **Ozone Generator.** Sani Air.
Gary. Cell - 412-302-6076
- **General pump station work.** Kranick Environmental.
Office - 412-824-1200
- Lone Pine Construction: Ed Swarmer
724-239-6100 office, 724,747-7370 cell, 724-239-6107 fax

Godwin Pumps: Scott Legg
412-370-8140 cell, 724-266-6936 office

Service Pump & Supply: Bob Christman
412-370-5761

Trumbull Industries: Barry Weiss
724-239-2621

CCTV Equipment:
Robinson Pipe Cleaning Co.
2656 IdlewildRoad
Pittsburgh, PA 15205
412-921-2100

V. Design and Performance Provisions

- A. The Public and Private Improvements Code, Chapter 99, adopted December 4, 2006 by Ordinance No. 1962, details the requirements and standards for the installation of new sewers and other appurtenances in addition to rehabilitation and repair projects.
- B. Vendors and Township Engineer assessments provide the necessary pump requirements for the Pump Stations. The last study; Brush Run Watershed Study, Pump Station Alternatives, was submitted September 20, 2006.
- C. Procedures and specifications for inspecting and testing the installation of new sewers, pumps, other appurtenances including rehabilitation and repair projects is included within the Public and Private Improvements Code.
- D. CCTV requirements are consistent with NASSCO (National Association of Sewer Service Contractors) specifications.

VI. Monitoring, Measurement, and Program Modifications

- A. The Township will monitor the implementation and, where appropriate, measure the effectiveness of each element of the Operation and Maintenance Plan during the first quarter of each year.
- B. The plan will be updated as needed, based upon the results of monitoring and performance evaluations.
- C. A yearly summary to evaluate the effectiveness of the Operation and Maintenance plan will be prepared to keep the plan updated and accurate.
- D. Any unique or specific issues not previously addressed but discovered throughout the year will be reviewed and incorporated into the Operation & Maintenance Plan.

VII. Sanitary Sewer Overflow Response Plan

- A. Residential basement backups are identified by residential complaints. The Township Public Works Department responds to the call to determine if the cause of the blockage lies within the public portion of the system. If it does, the Township takes the appropriate remedial action to relieve the obstruction. If the existing condition warrants, the section of sanitary sewer line involved with the blockage is reconstructed, manhole to manhole, through contractual services.
- B. A follow-up internal video inspection may be made to determine the cause of the obstruction if possible, as needed.
- C. If the backup is due to a problem within the private system, then the Township defers to the resident's plumber, who would then determine the cause of the backup and complete the work as necessary to fix the problem.
- D. The Township does not have a permit for SSOs but does report all overflows to the PADEP and ACHD.
- E. The Township has received SSOs complaints regarding residential basement flooding. These complaints are recorded by the Public Works Department. The Township is currently integrating this system into a computerized system. The Public Works Department investigates and addresses each complaint. Work orders are generated and followed through until resolution of the problem.
- F. The Township will post and maintain signs at overflow sites and at the Brush Run Pump Station, per ACHD standards.
- G. The Township has on file a copy of the Sewerage Permit 462S105 for the Brush Run Pump Station in the Public Works office and at the Brush Run Pump Station.
- H. The Township has four (4) constructed overflows:
 - 1. C-53-13 Bridgeville
 - 2. 950-4750 Brush Run Pump Station
 - 3. 950-2213 McLaughlin Run (sub-station)
 - 4. 950-4785 McLaughlin Run (racquetball court)

RESPONSE PROTOCOL

COMPLAINT OR NOTICE RECEIVED BY THE PUBLIC WORKS OFFICE

NORMAL OFFICE HOURS 8:00 AM-3:30 PM

- 1) CALL THE TOWNSHIP OF UPPER ST. CLAIR DEPARTMENT OF PUBLIC WORKS (412-831-9000)

INFORMATION REQUIRED ON COMPLAINT

- 1) TIME OF CALL
- 2) NAME OF COMPLAINANT
- 3) LOCATION OF PROBLEM
- 4) DESCRIPTION OF PROBLEM

THE PUBLIC WORKS SUPERINTENDENT IN CHARGE IS NOTIFIED

THE PUBLIC WORKS SUPERINTENDENT WILL IMMEDIATELY RESPOND TO THE LOCATION OF THE COMPLAINT TO EVALUATE THE SITUATION

IF THE PUBLIC SEWER IS INVOLVED, A PUBLIC WORKS CREW IS ASSEMBLED AND DISPATCHED.

AFTER NORMAL BUSINESS HOURS

- 1) CALL THE TOWNSHIP OF UPPER ST. CLAIR POLICE DEPARTMENT (412-833-7500)
- 2) THE PUBLIC WORKS SUPERINTENDENT ON CALL IS NOTIFIED
- 3) POLICE DISPATCH PERSONNEL REFER TO THE PUBLIC WORKS ON-CALL ROSTER AND CALL OUT THE APPROPRIATE PERSONNEL AT THE DIRECTION OF THE PUBLIC WORKS SUPERINTENDENT

ASSESS PROBLEM

- 1) RETURN COMPLAINANT'S CALL IF NECESSARY
- 2) NOTIFY OTHER DEPARTMENTS IF NECESSARY
 - a) FIRE DEPARTMENT FOR A SPECIAL STIL RESPONSE AS NECESSARY
 - b) POLICE DEPARTMENT AS NECESSARY
 - c) PUBLIC WORKS DEPARTMENT (412 -831-9000)
 - d) EMERGENCY MANAGEMENT (412-833-7500)

MEET AT DEPARTMENT OF PUBLICS WORKS BUILDING

- 1) DISPATCH APPROPRIATE EQUIPMENT (SEWER JET, INSPECTION EQUIPMENT, ROOT CUTTERS, ETC)
- 2) PROCEED TO COMPLAINANT LOCATION

ALLEVIATE PROBLEM

- 1) NOTIFY COMPLAINANT OF RESOLUTION
- 2) NOTIFY DISPATCH OF RESOLUTION

FILE REPORT WITH SUPERINTENDENT

- 1) TIME OF CALL
- 2) NAME OF COMPLAINANT
- 3) LOCATION OF PROBLEM
- 4) DESCRIPTION OF PROBLEM
- 5) PROBABLE CAUSE, IF KNOWN
- 6) HOW PROBLEM WAS RESOLVED
- 7) EXTENT OF IMPACT TO THE RESIDENTS DWELLING, AS APPROPRIATE
- 8) IF FURTHER CORRECTIVE ACTION IS NECESSARY

VIII. System Evaluation and Capacity Assurance Plan

Evaluation

- A. The Township will participate in the Regional Flow monitoring Program which shall help to evaluate those portions of the Sanitary Sewer System which may experience or contribute to an SSO discharge caused by hydraulic deficiency. Estimates of peak flows will be included and evaluated. Results of the flow monitoring will be used to provide

estimates of the capacity of key system components, identify any hydraulic deficiencies and identify any major sources that may contribute to peak flows associated with overflow events. These evaluations will be performed by the Township Engineer when there is a potential for significant changes in flow characteristics for a particular section of sewer segments with ten (10) dwellings or more.

- B. All sanitary sewers within the township have GIS calculations for pipe capacity using Manning's Equation. All sanitary sewer pipes eight (8) inches and smaller will have a capacity calculated as required by the PADEP Sewage Facilities Design Manual.
 - C. The Township Engineer will develop a flow monitoring/flow isolation program, if needed, to determine potential sources of high peak flows.
 - D. The Township Engineer will identify locations limiting components of the system contributing to SSO's and potential SSO's.
 - E. The Township Engineer will complete a feasibility study.
 - F. The effectiveness of each corrective maintenance activity will be evaluated through the assessment of monitoring data.
- G. Regional flow monitoring data will be evaluated to discover any hydraulic deficiency within the Sanitary Sewer System. Short and long term remediation projects will be developed to address system improvements including prioritization of projects and project schedules.

Capacity Enhancement Measures

- A. Identify highest priority problems based upon; impact on residents, impact on water quality, volume of overflow and future growth.
- B. Determine alternatives for both short term and long term solutions for capacity related issues.
- C. Analyze alternatives in terms of cost, effectiveness and execution.
- D. Select the best fit alternative for implementation.
- E. Determine a schedule for implementation.

Plan Updates

The Plan will be updated annually, as needed, to describe any significant changes in proposed actions or implementation and to develop budgets.

The Township will include as attachments any Sewer Agreements that the Township has with other municipalities or authorities that either flow into the Township of Upper St. Clair or that the Township of Upper St. Clair conveys wastewater through. The Township Engineer is currently locating and packaging all sewer agreements. They will be attached as soon as they are available.

The Township shall submit to ACHD any updates or changes to this plan on an annual basis starting on March 31, 2012. The annual submission shall include but not be limited to the annual O&M Plan Budget.

IX. Operation and Maintenance Program Plan Audits

The Superintendent of Projects and the Director of Public Works will conduct an internal audit of its O&M Program Plan annually. The Audit will develop a report on the overall effectiveness of the O&M Program Plan. The maintenance schedule will be reviewed on an annual basis and will include possible adjustments for the increase or decrease in the frequency of the schedule based on actual field data. Maintenance priorities will be based on NASSCO standards.

An audit will be conducted every five (5) years, which shall be sent to the ACHD. The Audit report sent to the ACHD will include but may not be limited to the number of overflows during the period, a list of projects completed projects, description of any deficiencies discovered and any rehabilitation projects planned. The 5-year internal audit report shall be sent to ACHD by May 12, 2016.

X. Funding of the Operation and Maintenance Program Plan

The Director of Public Works, The Superintendent of Projects and the Township Engineer will prepare and discuss a plan with the Township Manager for adequate funding to implement the components of the O&M Program Plan based upon the findings from the annual plan review. Reviews in the first quarter of the year will allow time to develop a funding plan for submission to the Township Board of Commissioners for approval during the third quarter as is consistent with current Budget appropriations.

The Township will have an operating budget in place to adequately allocate funds for routine preventive maintenance activities, to respond and prevent SSO's and provide assurance for infrastructure sustainability. The Operation and maintenance Program budget will include funding for discovered structural defects.

Funding for the Operation and Maintenance of the sanitary sewer system comes from revenue generated by a user fee sewer rate and multiplier. User charges are evaluated and adjusted annually. The current average annual fee for residential users is \$700.00 +/- per year.

Wastewater collection system deficiency repairs or replacement projects outside of routine operation and maintenance projects are typically funded by a Capital Improvement Plan (CIP) budget. Capital Improvement Plan costs for small projects, large projects and the source of funding for any associated projects will be included in the annual sewer operating budget.

The 2012 Adopted Budget provides \$1,200,000 for Operation and Maintenance of the sanitary sewer system.

System upgrades and expansion are typically funded by a Sanitary Sewer Bond issue. A Bond issue is currently being contemplated for 2014.