

Sixth Quarterly Report

United States Environmental Protection Agency
Administrative Order No. CWA-04-2010-4772

Period
January 1, 2012 –
March 31, 2012

April 2012

Submitted by:



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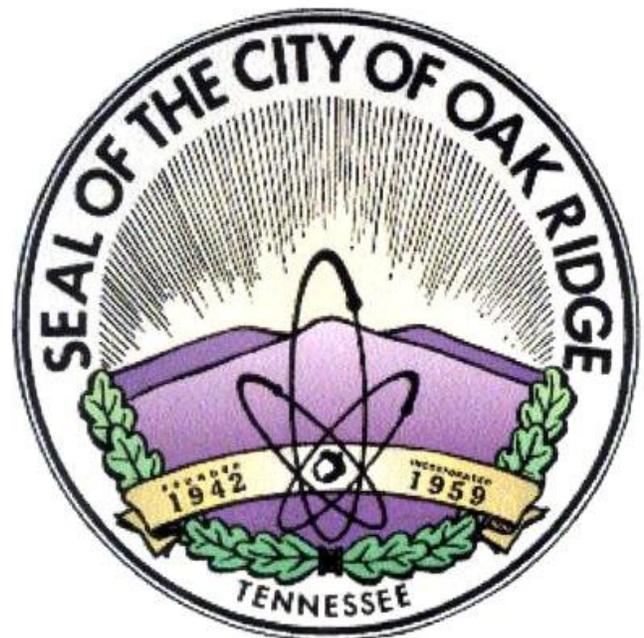
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A.	SSO's Report Sheets for Sixth Quarter
B.	Y-12 Quarterly Report



SECTION I: OVERVIEW OF ORDER



SECTION I

OVERVIEW OF ORDER

On September 28, 2010, an Administrative Order issued by the United States Environmental Protection Agency (EPA) to the City of Oak Ridge, which was received on September 30, 2010. The Order cited numerous incidents of Sanitary Sewer Overflows (SSO's). The Order had four (4) general sections outlining activities required of the City with a defined schedule for compliance. Those areas are as follows:

Sanitary Sewer Overflows

Within two (2) months (November 30, 2010), a list of SSO's which occurred in the previous two years, were required to be submitted. That list was submitted on time.

System Evaluation and Rehabilitation Plans (SERP)

Within six (6) months (March 30, 2011), the City was to develop work plans for Capacity Assessment of the system and a Sewer System Evaluation Survey (SSES). Following the Capacity Assessment Work Plan, the City must develop a Capacity Assessment Report in accordance with the work plan. That report is due for submittal to the EPA within one year of approval of the work plan (May 3, 2012). The execution of the SSES work plan must be



completed within one year of approval. The results of the evaluation survey must be submitted within two (2) months after completion of the survey. Two (2) months following the results, a Remediation Plan must be submitted for review and approval. Both the Capacity Work Plan and the Sewer System Evaluation Survey (SSES) work plan were approved by the EPA during the third quarter of the A.O.

Sanitary Sewer Overflow Response Plan (SORP)

Within six (6) months (Second Quarter), the City shall prepare and submit a Response Plan detailing procedures to be taken relative to any overflows occurring in the sewer system. The SORP was approved by EPA during the third quarter of the A.O.

Management, Operation, and Maintenance Programs (MOM)

The MOM portion of the Order has many components. The general topics are as follows:

- Information Management System (IMS) Programs
- Engineering
- Pump Station Operations Programs
- Maintenance Programs

The schedule for submittals varies for the different components of the MOM portion of the Order. The sections which were due have been submitted.

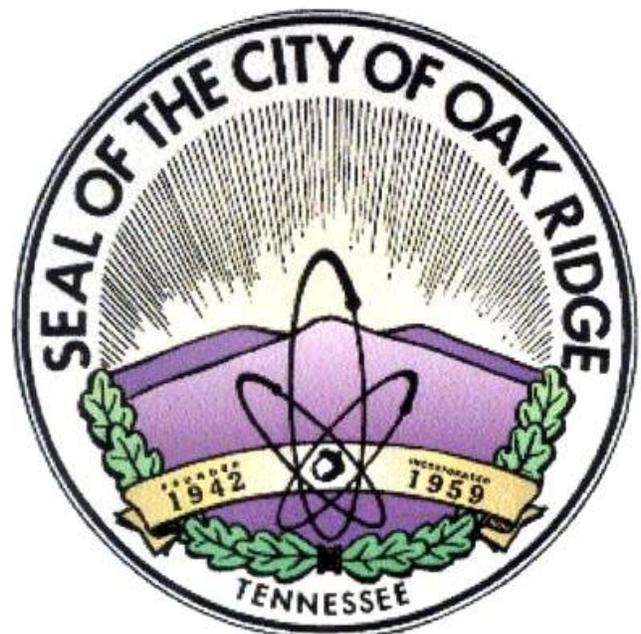


In addition to the above referenced requirements of the Order, the City must submit quarterly reports to the EPA documenting the activities of the quarter. These reports are due on the 28th day of the month following the end of each quarter. The Order outlines the format of these reports. The first five quarterly reports were submitted on time.

Section II of this report addresses the activities of the sixth quarter after receipt of the Order.



SECTION II:
ACTIONS DURING
THE SIXTH QUARTER



SECTION II

ACTIONS DURING THE SIXTH QUARTER

A. Activities of the Old Program

In 1991, the City of Oak Ridge began a program to eliminate overflows at the influent pumping station at the wastewater treatment plant. That program was to expand the hydraulic capacity of the wastewater treatment plant and reduce infiltration/inflow (I/I) in the system. Prior to the issuance of the Order, the treatment plant capacity was expanded to 30.0 million gallons per day (MGD). Sewer rehabilitation projects have been designated by letters. Contracts through "N" have been constructed.

During the sixth quarter, work under the "old program" continued. Two rehabilitation projects were placed under construction during the fifth quarter. These projects were in the Emory Valley Sewer Shed. Construction will continue into the seventh quarter.

B. Sixth Quarter Activities Relative to the Order

The investigative work using closed circuit television (CCTV) during the sixth quarter included activities in the following mini-basins:



CCTV
E5A
E5A
E6
E12
E13A
E13B
E28
W8
W18A
W26

During the sixth quarter, there were 38 manholes inspected. These manholes were covered requiring extraordinary efforts to locate and inspect. Also during the sixth quarter, City crews continued to monitor groundwater levels in low areas to be used in the Capacity Assessment Program.

Lamar Dunn & Associates, Inc. (LD&A) continues to assist the City with various tasks required by the Order.

The Order requires a GIS program. During the sixth quarter, the GIS program continued to be populated with data from field investigative work.

Item 16D(i) of the Order requires the City to submit Information Management System Programs. The IMS program was submitted to the EPA before the due date. The activities of maintenance crews "went live" during the fifth quarter in the IMS. During the sixth quarter, 598 weekly preventive maintenance work orders were



generated and completed. There were twenty-eight (28) pump station inspections for rain events (three (3) occurred with preventive maintenance inspections) between January 1 and March 31. Thirty-one (31) work orders were written and assigned for the pump station crew (in addition to the preventive maintenance and rain events). A total of 654 work orders were generated in the IMS for the wastewater treatment plant maintenance crew.

The Call Center "went live" on March 1, 2012. A test period was implemented for the call center between December 12, 2011, and February 29, 2012. There were 223 call-in work orders generated during the sixth quarter. The next group to go "live" in the IMS will be the gravity sewer group. It is projected that they will be fully incorporated into the IMS late in the seventh quarter or early in the eighth quarter.

The City continues collecting rainfall data from three (3) rain gauges. Flow monitoring equipment remains in place with data being collected for both the Capacity Assessment Report and the SSES.

As the computerized model of the collection system is being built, it has been determined that certain information is inconsistent in the sewer record drawings. During the sixth quarter, a survey crew has been confirming invert elevations of manholes. Flow data continued to be loaded into the model. The City crews continued to dig out and raise manholes.



The city has identified five design firms and notified them of their selection. Proposals have been received from each. Contracts and authorizations were issued in the sixth quarter.

The City is continuing to upgrade its wastewater pumping stations. Several stations do not have auxiliary power. Provisions for "pump arounds" continue to be made. New control panels are being installed at several pumping stations in order that SCADA can be available and have better control of the stations.

The City continues to have discussions with the Department of Energy (DOE) personnel. Section III provides more insight to the DOE issues.

The Codes Department of the City began its Fats, Oils, and Grease (FOG) program last year. There are ninety-four (94) food service establishments in the City. Ten (10) establishments were given notices of non-compliance. Five (5) have come into compliance, three (3) are due for re-inspection. Two (2) will be replacing their grease interceptor. Full compliance is expected by the seventh quarter. All information relative to the FOG program is shared with the Public Works Department.

A new sewer rate structure has been presented to the City Council to develop funds to continue the program. It passed on the first reading during the sixth quarter, and is anticipated to pass the second and final reading early in the seventh quarter.



SECTION III:
OTHER GENERAL COMMENTS



SECTION III

OTHER GENERAL COMMENTS

The City has been extremely active over the first six quarters of the Administrative Order. To date, all requirements have been met both for content and timeliness.

In the first quarterly report, mention was made of a conference call between the City and EPA concerning the National Nuclear Security Administration's (NNSA) Y-12 facility. In the second, third, fourth, and fifth quarterly reports, Y-12 was mentioned again.

There remains a concern by the City that the magnitude and complexity of the Y-12 matter is not fully understood by EPA. As stated in earlier reports, the next phase of the enforcement activities of EPA should consider the ramifications of that flow component.

The City recognizes they own the collection system and hold its permit. However, the Y-12 facility operates at a level higher than city or state government. That facility, from a practical perspective, is not the same as any other industrial customer. The Y-12 matter should be thoroughly reviewed by the parties prior to finalization of any civil penalties. This situation is one where the City and EPA should cooperate to affect a timely solution to the matter. Appendix B is the Y-12 Quarterly Report of their I/I program.



SECTION IV:
SSO'S DURING
SIXTH QUARTER



SECTION IV

SSO'S DURING SIXTH QUARTER

During the sixth quarter, there were three (3) storm events which resulted in overflows. Appendix A contains the report sheets for each overflow that occurred during the sixth quarter for whatever the reason. These sheets meet the criteria set forth in Section 18 of the Order, which includes:

- Date of event
- Specific location
- Estimated flow rate
- Time event started and finished
- Estimated total flow volume
- Rainfall event (in/day)
- Discharge destination



APPENDIX A: SSO'S REPORT SHEETS FOR SIXTH QUARTER



EPA Sanitary Sewer Overflow Summary (See Attached SSO Reports for Details)

6th Quarterly Report - January 1, 2012 to March 31, 2012

Start Date	St Name	St #	Est Tot Flow (Gal)	Explain OF Cause	Other Measures	Flow in Surface	Name of Surface Water
1/4/2012	East Drive	393	20	Contractor Missed tap from house when main was sliplined	City Made tap and tied back into house	<input type="checkbox"/>	
1/21/2012	Athens Road	119	14200	Excessive rainfall of 1.16 inches in 3 hour period	City continues work to correct I&I	<input checked="" type="checkbox"/>	Tributary to Melton Hill Lake
1/21/2012	Melton Lake Drive	695	19200	Excessive rainfall of 1.16 inches in 3 hour period	City continues work to correct I&I	<input checked="" type="checkbox"/>	Melton Hill Lake
1/21/2012	Purdue Avenue, North	117	23250	Excessive rainfall of 1.16 inches in 3 hour period	City continues work to correct I&I	<input checked="" type="checkbox"/>	East Fork Poplar Creek
1/23/2012	Athens Road		7250	Excessive rainfall	City continues work to correct I&I	<input checked="" type="checkbox"/>	Tributary to Melton Hill Lake
1/23/2012	Athens Road	119	14100	Excessive rainfall	City continues work to correct I&I	<input checked="" type="checkbox"/>	Tributary to Melton Hill Lake
1/23/2012	Melton Lake Drive	695	13400	Excessive rainfall	City continues work to correct I&I	<input checked="" type="checkbox"/>	Melton Hill Lake
1/23/2012	Oak Ridge Turnpike	1403	3500	Excessive rainfall	City continues work to correct I&I	<input checked="" type="checkbox"/>	Tributary to East Fork Poplar Creek
1/23/2012	Oak Ridge Turnpike	470	6200	Excessive rainfall	City continues work to correct I&I	<input checked="" type="checkbox"/>	Ernie's Creek
1/23/2012	Purdue Avenue, North	117	53250	Excessive rainfall	City continues work to correct I&I	<input checked="" type="checkbox"/>	East Fork Poplar Creek
1/27/2012	Melton Lake Drive	695	12000	Excessive rain, found signs of overflow when checked at 9:00 am	City continues work to correct I&I	<input checked="" type="checkbox"/>	Melton Hill Lake
1/27/2012	Oak Ridge Turnpike	1403	3500	Excessive rain, found signs of overflow when checked at 10:00 am	City continues work to correct I&I	<input checked="" type="checkbox"/>	Tributary to East Fork Poplar Creek
1/27/2012	Purdue Avenue, North	117	5000	Excessive rain, found signs of overflow when checked at 9:30 am	City continues work to correct I&I	<input checked="" type="checkbox"/>	East Fork Poplar Creek
1/30/2012	Oak Ridge Turnpike		10000	At Intersection with Grandcove Lane-Oak Hills Lift Station breaker failed. City was notified at 9:18 am of the problem	Lift station will be checked to see what would have caused the breaker to trip	<input checked="" type="checkbox"/>	East Fork Poplar Creek
3/2/2012	Cairo Lane	151	3000	Power outage due to storm, emergency generator failed to start	City having the generator checked out	<input checked="" type="checkbox"/>	Ernie's Creek

CITY OF OAK RIDGE

REPORT DATE: 1/5/2012

SANITARY SEWER OVERFLOW FINAL REPORT

NPDES PERMIT # TN0024155

LOCATION DATA

LOCATION: 393 East Dr.

1st Occurrence at this location? Y N

If No, Date of Last Occurrence: [redacted]

POINT OF OCCURANCE

Manhole Clean Out In-House Backup Lift Station Name: None or None or None

If Manhole; Give Mini-system # E12 Map Page # B22 Manhole # [redacted] Force Main:

FLOW DATA

Start Date: 1/4/2012 Time: 3:50 AM PM End Date: 1/4/2012 Time: 4:15 AM PM

Duration ? hours/minutes Est. Flow Rate: ? gpm Estimated Total Flow: 20 gallons

CAUSES

(Check all that apply)

Rainfall [Estimated amount [redacted] in] Power Outage Equipment Failure

Broken Sewer Blocked line from Roots Grease Collapse Other

Explain causes of overflow: Contractor Missed Tap from house when main was slipped lined

REMEDIAL MEASURES TO CORRECT, PREVENT OR MINIMIZE FUTURE OCCURANCES

Line was: Jet Rodded Nozzle Root Saw Lid Removed Lined Equipment Repair

Line will be: cleaned and TV'd for needed repair: Other: city made tap and tied back into house

WHERE DID DISCHARGE GO (Check all that apply)

Did flow run to surface water: Yes No Name of surface water: [redacted]

Ran on/in: Ground & absorbed into soil Ditch Storm Sewer

Basement Back-up No. of basements 1 Use (i.e., commercial, residential) residential

Other (describe) Note: The wrong Permit # was marked on the 24 hr notification. This one is correct.

Notified Public: Yes No How: City Web Site The Oak Ridger Signs Posted Date: [redacted]

Names of Responders: Anthony Morris, David Patterson

Report completed by David Patterson Title: Sewer Maint. District Date: 1/5/2012

Reviewed by Kathy Stout Title: Operations & Maint. Manager Date: 1/9/2012

Initial TDEC Notification By: Anthony Morris Date: 1/5/2012

After Review & Notification to TDEC Anthony Morris Title: Operations Manager Date: 1-9-12

Final Review Kathy Stout Title: Public Works Director Date: 1/9/12

Final Report Transmitted to TDEC By: Kathy Stout Date: 1/9/12

CITY OF OAK RIDGE

REPORT DATE: 1/21/2012

SANITARY SEWER OVERFLOW FINAL REPORT

NPDES PERMIT # TN0024155

LOCATION DATA

LOCATION: 119 Athens Rd.

1st Occurrence at this location? Y N

If No, Date of Last Occurrence: 12/7/2011

POINT OF OCCURANCE

Manhole Clean Out In-House Backup Lift Station Name: None or None or None

If Manhole; Give Mini-system # E11 Map Page # E22 Manhole # E22-32 Force Main:

FLOW DATA

Start Date: 1/21/2012 Time: 10:39 AM PM End Date: 1/21/2012 Time: 1:01 AM PM

Duration 2hrs.22min. hours/minutes ✓ Est. Flow Rate: 100 gpm Estimated Total Flow: 14,200 gallons

CAUSES

(Check all that apply)

Rainfall [Estimated amount 1.34 in] Power Outage Equipment Failure

Broken Sewer Blocked line from Roots Grease Collapse Other

Explain causes of overflow: Excessive Rainfall 1.16" rain in 3hr.period

REMEDIAL MEASURES TO CORRECT, PREVENT OR MINIMIZE FUTURE OCCURANCES

Line was: Jet Rodded Nozzle Root Saw Lid Removed Lined Equipment Repair

Line will be: cleaned and TV'd for needed repair: Other: City contunes work to correct I&I

WHERE DID DISCHARGE GO (Check all that apply)

Did flow run to surface water: Yes No Name of surface water: Tributary to Melton Hill Lake

Ran on/in: Ground & absorbed into soil Ditch Storm Sewer

Basement Back-up No. of basements Use (i.e., commercial, residential)

Other (describe)

Notified Public: Yes No How: City Web Site The Oak Ridger Signs Posted Date:

Names of Responders: David Patterson, Earnest Bailey

Report completed by David Patterson Title: Senior Maint. Specialist Date: 1/21/12

Reviewed by Rick Lujan Title: Operations & Maint. Manager Date: 1/23/12

Initial TDEC Notification By: David Patterson Date: 1/21/2012 ✓ KS

After Review & Notification to TDEC Rick Lujan Title: Operations Manager Date: 1-24-12

Final Review Wayne Curd Title: Public Works Director Date: 1/24/12

Final Report Transmitted to TDEC By: Kathy Stout Date: 1/24/12

CITY OF OAK RIDGE

REPORT DATE: 1/21/2012

SANITARY SEWER OVERFLOW FINAL REPORT

NPDES PERMIT # TN0024155

LOCATION DATA

LOCATION: 695 Melton Lake Dr.

1st Occurrence at this location? Y N

If No, Date of Last Occurrence: 12/7/2011

POINT OF OCCURANCE

Manhole Clean Out In-House Backup Lift Station Name: None or None or None

If Manhole; Give Mini-system # E20 Map Page # L24 Manhole # L24-1 Force Main:

FLOW DATA

Start Date: 1/21/2012 Time: 9:57 AM PM End Date: 1/21/2012 Time: 1:09 AM PM

Duration 3hrs.12min. hours/minutes Est. Flow Rate: 100 gpm Estimated Total Flow: 19,200 gallons

CAUSES

(Check all that apply)

Rainfall [Estimated amount 1.34 in] Power Outage Equipment Failure

Broken Sewer Blocked line from Roots Grease Collapse Other

Explain causes of overflow: Excessive Rainfall 1,16"rain in 3hr. period

REMEDIAL MEASURES TO CORRECT, PREVENT OR MINIMIZE FUTURE OCCURANCES

Line was: Jet Rodded Nozzle Root Saw Lid Removed Lined Equipment Repair

Line will be: cleaned and TV'd for needed repair: Other: City continues work to correct I&I

WHERE DID DISCHARGE GO (Check all that apply)

Did flow run to surface water: Yes No Name of surface water: Melton Hill Lake

Ran on/in: Ground & absorbed into soil Ditch Storm Sewer

Basement Back-up No. of basements Use (i.e., commercial, residential)

Other (describe)

Notified Public: Yes No How: City Web Site The Oak Ridger Signs Posted Date:

Names of Responders: David Patterson Earnest Bailey

Report completed by David Patterson Title: Senior Maint. Specialist Date: 1/21/12

Reviewed by Rick Clavin Title: Operations & Maint. Manager Date: 1/23/12

Initial TDEC Notification By: David Patterson Date: 1-21-2012

After Review & Notification to TDEC Scott Johnson Title: Operations Manager Date: 1-24-12

Final Review Title: Public Works Director Date: 1/24/12

Final Report Transmitted to TDEC By: Kathy Stout Date: 1/24/12

CITY OF OAK RIDGE

REPORT DATE: 1/21/2012

SANITARY SEWER OVERFLOW FINAL REPORT

NPDES PERMIT # TN0024155

LOCATION DATA

LOCATION: 117 N. Purdue Ave.

1st Occurrence at this location? Y N

If No, Date of Last Occurrence: 12/7/2011

POINT OF OCCURANCE

Manhole Clean Out In-House Backup Lift Station Name: None or None or None

If Manhole; Give Mini-system # W5A Map Page # G15 Manhole # G15-13 Force Main:

FLOW DATA

Start Date: 1/21/2012 Time: 11:22 AM PM End Date: 1/21/2012 Time: 12:55 AM PM

Duration 1hr.33min. hours/minutes Est. Flow Rate: 250 gpm Estimated Total Flow: 23,250 gallons

CAUSES

(Check all that apply)

Rainfall [Estimated amount 1.34 in] Power Outage Equipment Failure

Broken Sewer Blocked line from Roots Grease Collapse Other

Explain causes of overflow: Excessive Rainfall 1.16" rain in 3hr.period

REMEDIAL MEASURES TO CORRECT, PREVENT OR MINIMIZE FUTURE OCCURANCES

Line was: Jet Rodded Nozzle Root Saw Lid Removed Lined Equipment Repair

Line will be: cleaned and TV'd for needed repair: Other: City continues work to correct I&I

WHERE DID DISCHARGE GO (Check all that apply)

Did flow run to surface water: Yes No Name of surface water: East Fork Poplar Creek

Ran on/in: Ground & absorbed into soil Ditch Storm Sewer

Basement Back-up No. of basements Use (i.e., commercial, residential)

Other (describe)

Notified Public: Yes No How: City Web Site The Oak Ridger Signs Posted Date:

Names of Responders: David Patterson, Earnest Bailey

Report completed by David Patterson Title: Sewer Maint. Specialist Date: 1/21/12

Reviewed by Rick Lawin Title: Operations & Maint. Manager Date: 1/23/12

Initial TDEC Notification By: David Patterson Date: 1/21/2012

After Review & Notification to TDEC Scott Johnson Title: Operations Manager Date: 1-24-12

Final Review Greg Cund Title: Public Works Director Date: 1/24/12

Final Report Transmitted to TDEC By: Kathy Stout Date: 1/24/12

CITY OF OAK RIDGE

REPORT DATE: 1/23/2012

SANITARY SEWER OVERFLOW FINAL REPORT

NPDES PERMIT # TN0024155

LOCATION DATA

LOCATION: Athens Rd. @ E. Arrowwood Rd.

1st Occurrence at this location? Y N

If No, Date of Last Occurrence: 11/28/2011

POINT OF OCCURANCE

Manhole Clean Out In-House Backup Lift Station Name: None or None or None

If Manhole; Give Mini-system # E11 Map Page # E23 Manhole # E23-49 Force Main:

FLOW DATA

Start Date: 1/23/2012 Time: 8:53 AM PM End Date: 1/23/2012 Time: 11:18 AM PM

Duration 2hrs.25min. hours/minutes Est. Flow Rate: 50 gpm Estimated Total Flow: 7,250 gallons

CAUSES

(Check all that apply)

Rainfall [Estimated amount 1.15 in] Power Outage Equipment Failure

Broken Sewer Blocked line from Roots Grease Collapse Other

Explain causes of overflow: Excessive rainfall

REMEDIAL MEASURES TO CORRECT, PREVENT OR MINIMIZE FUTURE OCCURANCES

Line was: Jet Rodded Nozzle Root Saw Lid Removed Lined Equipment Repair

Line will be: cleaned and TV'd for needed repair: Other: City continues work to correct I&I

WHERE DID DISCHARGE GO (Check all that apply)

Did flow run to surface water: Yes No Name of surface water: Tributary to Melton Hill Lake

Ran on/in: Ground & absorbed into soil Ditch Storm Sewer

Basement Back-up No. of basements Use (i.e., commercial, residential)

Other (describe)

Notified Public: Yes No How: City Web Site The Oak Ridger Signs Posted Date:

Names of Responders: David Patterson, Earnest Bailey

Report completed by David Patterson Title: Sewer Maint. Specialist Date: 1/23/12

Reviewed by Rick Clavin Title: Operations & Maint. Manager Date: 1/25/12

Initial TDEC Notification By: David Patterson Date: 1/23/12

After Review & Notification to TDEC Scott Johnson Title: Operations Manager Date: 1-26-12

Final Review Scott Johnson Title: Public Works Director Date: 1/26/12

Final Report Transmitted to TDEC By: Kathy Stout Date: 1/26/12

CITY OF OAK RIDGE

REPORT DATE: 1/23/2012

SANITARY SEWER OVERFLOW FINAL REPORT

NPDES PERMIT # TN0024155

LOCATION DATA

LOCATION: 119 Athens Rd.

1st Occurrence at this location? Y N

If No, Date of Last Occurrence: 1/21/2012

POINT OF OCCURANCE

Manhole Clean Out In-House Backup Lift Station Name: None or None or None

If Manhole; Give Mini-system # E11 Map Page # E22 Manhole # E22-32 Force Main:

FLOW DATA

Start Date: 1/23/2012 Time: 8:56 AM PM End Date: 1/23/2012 Time: 11:17 AM PM

Duration 2hrs.21min. hours/minutes Est. Flow Rate: 100 gpm Estimated Total Flow: 14,100 gallons

CAUSES

(Check all that apply)

Rainfall [Estimated amount 1.15 in] Power Outage Equipment Failure

Broken Sewer Blocked line from Roots Grease Collapse Other

Explain causes of overflow: Excessive rainfall

REMEDIAL MEASURES TO CORRECT, PREVENT OR MINIMIZE FUTURE OCCURANCES

Line was: Jet Rodded Nozzle Root Saw Lid Removed Lined Equipment Repair

Line will be: cleaned and TV'd for needed repair: Other: City continues work to correct I&I

WHERE DID DISCHARGE GO (Check all that apply)

Did flow run to surface water: Yes No Name of surface water: Tributary to Melton Hill Lake

Ran on/in: Ground & absorbed into soil Ditch Storm Sewer

Basement Back-up No. of basements Use (i.e., commercial, residential)

Other (describe)

Notified Public: Yes No How: City Web Site The Oak Ridger Signs Posted Date:

Names of Responders: David Patterson, Earnest Bailey

Report completed by David Patterson Title: Sewer Maint. Specialist Date: 1/23/12

Reviewed by Kick Shurin Title: Operations & Maint. Manager Date: 1/25/12

Initial TDEC Notification By: David Patterson Date: 1/23/12

After Review & Notification to TDEC Scott Jackson Title: Operations Manager Date: 1-26-12

Final Review Greg Corder Title: Public Works Director Date: 1/26/12

Final Report Transmitted to TDEC By: Kathy Stout Date: 1/26/12

LOCATION DATA
LOCATION: 695 Melton Lake Dr.
1st Occurrence at this location? Y N
If No, Date of Last Occurrence: 1/21/2012

POINT OF OCCURANCE
Manhole Clean Out In-House Backup Lift Station Name: None or None or None
If Manhole, Give Mini-system # E20 Map Page # L24 Manhole # L24-1 Force Main:

FLOW DATA
Start Date: 1/23/2012 Time: 9:16 AM PM End Date: 1/23/2012 Time: 11:30 AM PM
Duration 2hrs.14min. hours/minutes Est. Flow Rate: 100 gpm Estimated Total Flow: 13,400 gallons

CAUSES
(Check all that apply)
Rainfall [Estimated amount 1.15 in] Power Outage Equipment Failure
Broken Sewer Blocked line from Roots Grease Collapse Other
Explain causes of overflow: Excessive rainfall

REMEDIAL MEASURES TO CORRECT, PREVENT OR MINIMIZE FUTURE OCCURANCES
Line was: Jet Rodded Nozzle Root Saw Lid Removed Lined Equipment Repair
Line will be: cleaned and TV'd for needed repair: Other: City continues work to correct I&I

WHERE DID DISCHARGE GO (Check all that apply)
Did flow run to surface water: Yes No Name of surface water: Melton Hill Lake
Ran on/in: Ground & absorbed into soil Ditch Storm Sewer
Basement Back-up No. of basements Use (i.e., commercial, residential)
Other (describe)

Notified Public: Yes No How: City Web Site The Oak Ridger Signs Posted Date:

Names of Responders: David Patterson, Earnest Bailey
Report completed by Wayne Patterson Title: Sewer Maint. Specialist Date: 1/23/12

Reviewed by Kick Lawin Title: Operations & Maint. Manager Date: 1/25/12

Initial TDEC Notification By: David Patterson Date: 1/23/12
After Review & Scott Jackson Title: Operations Manager Date: 1-26-12
Notification to TDEC

Final Review [Signature] Title: Public Works Director Date: 1/26/12

Final Report Transmitted to TDEC By: Kathy Stout Date: 1/26/12

CITY OF OAK RIDGE

REPORT DATE: 1/23/2012

SANITARY SEWER OVERFLOW FINAL REPORT

NPDES PERMIT # TN0024155

LOCATION DATA

LOCATION: 1403 Oak Ridge Turnpike

1st Occurrence at this location? Y N

If No, Date of Last Occurrence: 12/7/2011

POINT OF OCCURANCE

Manhole Clean Out In-House Backup Lift Station Name: None or None or None

If Manhole; Give Mini-system # W5 Map Page # G11 Manhole # G11-8 Force Main:

FLOW DATA

Start Date: 1/23/2012 Time: 9:50 AM PM End Date: 1/23/2012 Time: 11:00 AM PM

Duration 1hr.10min. hours/minutes Est. Flow Rate: 50 gpm Estimated Total Flow: 3,500 gallons

CAUSES

(Check all that apply)

Rainfall [Estimated amount 1.15 in] Power Outage Equipment Failure

Broken Sewer Blocked line from Roots Grease Collapse Other

Explain causes of overflow: Excessive rainfall

REMEDIAL MEASURES TO CORRECT, PREVENT OR MINIMIZE FUTURE OCCURANCES

Line was: Jet Rodded Nozzle Root Saw Lid Removed Lined Equipment Repair

Line will be: cleaned and TV'd for needed repair: Other: City continues work to correct I&I

WHERE DID DISCHARGE GO (Check all that apply)

Did flow run to surface water: Yes No Name of surface water: Tributary to East Fork Poplar Creek

Ran on/in: Ground & absorbed into soil Ditch Storm Sewer

Basement Back-up No. of basements Use (i.e., commercial, residential)

Other (describe)

Notified Public: Yes No How: City Web Site The Oak Ridger Signs Posted Date:

Names of Responders: David Patterson, Earnest Bailey

Report completed by David Patterson Title: Sewer Maint Specialist Date: 1/23/12

Reviewed by Rick C. Brown Title: Operations & Maint Manager Date: 1/25/12

Initial TDEC Notification By: David Patterson Date: 1/23/12 KS

After Review & Notification to TDEC Scott Patrick Title: Operations Manager Date: 1-26-12

Final Review [Signature] Title: Public Works Director Date: 1/26/12

Final Report Transmitted to TDEC By: Date:

CITY OF OAK RIDGE

REPORT DATE: 1/23/2012

SANITARY SEWER OVERFLOW FINAL REPORT

NPDES PERMIT # TN0024155

LOCATION DATA

LOCATION: 470 Oak Ridge Turnpike

1st Occurrence at this location? Y N

If No, Date of Last Occurrence: 12/7/2011

POINT OF OCCURANCE

Manhole Clean Out In-House Backup Lift Station Name: None or None or None

If Manhole; Give Mini-system # E10 Map Page # F20 Manhole # F20-25 Force Main:

FLOW DATA

Start Date: 1/23/2012 Time: 9:09 AM PM End Date: 1/23/2012 Time: 11:13 AM PM

Duration 2hrs.4min. hours/minutes Est. Flow Rate: 50 gpm Estimated Total Flow: 6,200 gallons

CAUSES

(Check all that apply)

Rainfall [Estimated amount 1.15 in] Power Outage Equipment Failure

Broken Sewer Blocked line from Roots Grease Collapse Other

Explain causes of overflow: Excessive rainfall

REMEDIAL MEASURES TO CORRECT, PREVENT OR MINIMIZE FUTURE OCCURANCES

Line was: Jet Rodded Nozzle Root Saw Lid Removed Lined Equipment Repair

Line will be: cleaned and TV'd for needed repair: Other: City continues work to correct I&I

WHERE DID DISCHARGE GO (Check all that apply)

Did flow run to surface water: Yes No Name of surface water: Ernie's Creek

Ran on/in: Ground & absorbed into soil Ditch Storm Sewer

Basement Back-up No. of basements Use (i.e., commercial, residential)

Other (describe)

Notified Public: Yes No How: City Web Site The Oak Ridger Signs Posted Date:

Names of Responders: David Patterson, Earnest Bailey

Report completed by David Patterson Title: Sewer Maint. Specialist Date: 1/23/12

Reviewed by Rick Clavin Title: Operations & Maint. Manager Date: 1/25/12

Initial TDEC Notification By: David Patterson Date: 1/23/12

After Review & Notification to TDEC By: [Signature] Title: Operations Manager Date: 1-26-12

Final Review By: [Signature] Title: Public Works Director Date: 1/26/12

Final Report Transmitted to TDEC By: Kathy Stout Date: 1/26/12

CITY OF OAK RIDGE

REPORT DATE: 1/23/2012

SANITARY SEWER OVERFLOW FINAL REPORT

NPDES PERMIT # TN0024155

LOCATION DATA

LOCATION: 117 N. Purdue Ave.

1st Occurrence at this location? Y N

If No, Date of Last Occurrence: 1/21/2012

POINT OF OCCURANCE

Manhole Clean Out In-House Backup Lift Station Name: None or None or None

If Manhole; Give Mini-system # W5A Map Page # G15 Manhole # G15-13 Force Main:

FLOW DATA

Start Date: 1/23/2012 Time: 9:42 AM PM End Date: 1/23/2012 Time: 1:15 AM PM

Duration 3hrs.33min. hours/minutes Est. Flow Rate: 250 gpm Estimated Total Flow: 53,250 gallons

CAUSES

(Check all that apply)

Rainfall [Estimated amount 1.15 in] Power Outage Equipment Failure

Broken Sewer Blocked line from Roots Grease Collapse Other

Explain causes of overflow: Excessive rainfall

REMEDIAL MEASURES TO CORRECT, PREVENT OR MINIMIZE FUTURE OCCURANCES

Line was: Jet Rodded Nozzle Root Saw Lid Removed Lined Equipment Repair

Line will be: cleaned and TV'd for needed repair: Other: City continues work to correct I&I

WHERE DID DISCHARGE GO (Check all that apply)

Did flow run to surface water: Yes No Name of surface water: East Fork Poplar Creek

Ran on/in: Ground & absorbed into soil Ditch Storm Sewer

Basement Back-up No. of basements Use (i.e., commercial, residential)

Other (describe)

Notified Public: Yes No How: City Web Site The Oak Ridger Signs Posted Date:

Names of Responders: David Patterson, Earnest Bailey

Report completed by David Patterson Title: Sewer Maint. Specialist Date: 1/23/12

Reviewed by Rick Churni Title: Operations & Maint. Manager Date: 1/25/12

Initial TDEC Notification By: David Patterson Date: 1/23/12

After Review & Notification to TDEC Scott Johnson Title: Operations Manager Date: 1-26-12

Final Review Title: Public Works Director Date: 1/26/12

Final Report Transmitted to TDEC By: Kathy Stout Date: 1/26/12

CITY OF OAK RIDGE

REPORT DATE: 1/27/2012

SANITARY SEWER OVERFLOW FINAL REPORT

NPDES PERMIT # TN0024155

LOCATION DATA

LOCATION: 695 Melton Lake Dr.

1st Occurrence at this location? Y N

If No, Date of Last Occurrence: 1/23/2012

POINT OF OCCURANCE

Manhole Clean Out In-House Backup Lift Station Name: None or None or None

If Manhole; Give Mini-system # E20 Map Page # L24 Manhole # L24-1 Force Main:

FLOW DATA

Start Date: 1/27/2012 Time: ? AM PM End Date: 1/27/2012 Time: 9:00 AM PM

Duration ? hours/minutes Est. Flow Rate: ? gpm Estimated Total Flow: 12,000 gallons

CAUSES

(Check all that apply)

Rainfall [Estimated amount 1.31 in] Power Outage Equipment Failure

Broken Sewer Blocked line from Roots Grease Collapse Other

Explain causes of overflow: Excessive rain, Found signs of overflow when checked at 9:00A.M.

REMEDIAL MEASURES TO CORRECT, PREVENT OR MINIMIZE FUTURE OCCURANCES

Line was: Jet Rodded Nozzle Root Saw Lid Removed Lined Equipment Repair

Line will be: cleaned and TV'd for needed repair: Other: City continues work to correct I&I

WHERE DID DISCHARGE GO (Check all that apply)

Did flow run to surface water: Yes No Name of surface water: Melton Hill Lake

Ran on/in: Ground & absorbed into soil Ditch Storm Sewer

Basement Back-up No. of basements Use (i.e., commercial, residential)

Other (describe)

Notified Public: Yes No How: City Web Site The Oak Ridger Signs Posted Date:

Names of Responders: David Patterson

Report completed by David Patterson Title: Senior Maint. Specialist Date: 1/27/12

Reviewed by Rick Clavin Title: Operations + Maint. Manager Date: 2/1/12

Initial TDEC Notification By: David Patterson Date: 1/27/12

After Review & Notification to TDEC Scott Johnson Title: Operations Manager Date: 2-2-12

Final Review Scott Johnson Title: Public Works Director Date: 2/3/12

Final Report Transmitted to TDEC By: Kathy Stout Date: 2/3/12

CITY OF OAK RIDGE

REPORT DATE: 1/27/2012

SANITARY SEWER OVERFLOW FINAL REPORT

NPDES PERMIT # TN0024155

LOCATION DATA

LOCATION: 1403 Oak Ridge Turnpike

1st Occurrence at this location? Y N

If No, Date of Last Occurrence: 1/23/2012

POINT OF OCCURANCE

Manhole Clean Out In-House Backup Lift Station Name: None or None or None

If Manhole; Give Mini-system # W5 Map Page # G11 Manhole # G11-8 Force Main:

FLOW DATA

Start Date: 1/27/2012 Time: ? AM PM End Date: 1/27/2012 Time: 10:00 AM PM

Duration ? hours/minutes Est. Flow Rate: ? gpm Estimated Total Flow: 3,500 gallons

CAUSES

(Check all that apply)

Rainfall [Estimated amount 1.31 in] Power Outage Equipment Failure

Broken Sewer Blocked line from Roots Grease Collapse Other

Explain causes of overflow: Excessive rain, Found signs of overflow when checked at 10:00 A.M.

REMEDIAL MEASURES TO CORRECT, PREVENT OR MINIMIZE FUTURE OCCURANCES

Line was: Jet Rodded Nozzle Root Saw Lid Removed Lined Equipment Repair

Line will be: cleaned and TV'd for needed repair: Other: City continues work to correct I&I

WHERE DID DISCHARGE GO (Check all that apply)

Did flow run to surface water: Yes No Name of surface water: Tributary to East Fork Poplar Creek

Ran on/in: Ground & absorbed into soil Ditch Storm Sewer

Basement Back-up No. of basements Use (i.e., commercial, residential)

Other (describe)

Notified Public: Yes No How: City Web Site The Oak Ridger Signs Posted Date:

Names of Responders: David Patterson

Report completed by David Patterson Title: Senior Maint. Specialist Date: 1/27/12

Reviewed by Kick Lawson Title: Operations & Maint. Manager Date: 2/1/12

Initial TDEC Notification By: David Patterson Date: 1/27/12

After Review & Notification to TDEC Kathy Stout Title: Operations Manager Date: 2-2-12

Final Review Scott Curden Title: Public Works Director Date: 2/3/12

Final Report Transmitted to TDEC By: Kathy Stout Date: 2/3/12

CITY OF OAK RIDGE

REPORT DATE: 1/27/2012

SANITARY SEWER OVERFLOW FINAL REPORT

NPDES PERMIT # TN0024155

LOCATION DATA

LOCATION: 117 N. Purdue Ave.

1st Occurrence at this location? Y N

If No, Date of Last Occurrence: 1/23/2012

POINT OF OCCURANCE

Manhole Clean Out In-House Backup Lift Station Name: None or None or None

If Manhole; Give Mini-system # W5A Map Page # G15 Manhole # G15-13 Force Main:

FLOW DATA

Start Date: 1/27/2012 Time: ? AM PM End Date: 1/27/2012 Time: 9:30 AM PM

Duration ? hours/minutes Est. Flow Rate: ? gpm Estimated Total Flow: 5,000 gallons

CAUSES

(Check all that apply)

Rainfall [Estimated amount 1.31 in] Power Outage Equipment Failure

Broken Sewer Blocked line from Roots Grease Collapse Other

Explain causes of overflow: Excessive Rain, Found signs of overflow when checked at 9:30 A.M.

REMEDIAL MEASURES TO CORRECT, PREVENT OR MINIMIZE FUTURE OCCURANCES

Line was: Jet Rodded Nozzle Root Saw Lid Removed Limed Equipment Repair

Line will be: cleaned and TV'd for needed repair: Other: City continues work to correct I&I

WHERE DID DISCHARGE GO (Check all that apply)

Did flow run to surface water: Yes No Name of surface water: East Fork Poplar Creek

Ran on/in: Ground & absorbed into soil Ditch Storm Sewer

Basement Back-up No. of basements Use (i.e., commercial, residential)

Other (describe)

Notified Public: Yes No How: City Web Site The Oak Ridger Signs Posted Date:

Names of Responders: David Patterson

Report completed by David Patterson Title: Senior Maint. Specialist Date: 1/27/12

Reviewed by Rick Clavin Title: Operations & Maint. Manager Date: 2/1/12

Initial TDEC Notification By: David Patterson Date: 1/27/12

After Review & Notification to TDEC Scott Johnson Title: Operations Manager Date: 2.2.12

Final Review [Signature] Title: Public Works Director Date: 2/3/12

Final Report Transmitted to TDEC By: Kathy Stout Date: 2/3/12

CITY OF OAK RIDGE

REPORT DATE: 1/30/2012

SANITARY SEWER OVERFLOW FINAL REPORT

NPDES PERMIT # TN0024155

LOCATION DATA

LOCATION: Oak Ridge Turnpike @ Grandcove Ln.

1st Occurrence at this location? Y [X] N []

If No, Date of Last Occurrence: []

POINT OF OCCURANCE

Manhole [X] Clean Out [] In-House Backup [] Lift Station Name: None or None or None

If Manhole; Give Mini-system # W27 Map Page # E3W Manhole # E3W-9 Force Main: []

FLOW DATA

Start Date: 1/30/2012 Time: ? AM [] PM [] End Date: 1/30/2012 Time: 9:53 AM [X] PM []

Duration ? hours/minutes Est. Flow Rate: ? gpm Estimated Total Flow: 10,000 gallons

CAUSES

(Check all that apply)

Rainfall [] [Estimated amount [] in] Power Outage [] Equipment Failure [X]

Broken Sewer [] Blocked line from Roots [] Grease [] Collapse [] Other []

Explain causes of overflow: Oak Hills Liftstation Breaker Failed. City was notified at 9:18 a.m. of the problem.

REMEDIAL MEASURES TO CORRECT, PREVENT OR MINIMIZE FUTURE OCCURANCES

Line was: Jet Rodded [] Nozzle [] Root Saw [] Lid Removed [] Lined [] Equipment Repair [X]

Line will be: cleaned and TV'd for needed repair: [] Other: Lift station will be checked to see what would have caused the breaker to trip.

WHERE DID DISCHARGE GO (Check all that apply)

Did flow run to surface water: Yes [X] No [] Name of surface water: East Fork Poplar Creek

Ran on/in: Ground & absorbed into soil [] Ditch [X] Storm Sewer []

Basement Back-up [] No. of basements [] Use (i.e., commercial, residential) []

Other (describe) []

Notified Public: Yes [] No [X] How: City Web Site [] The Oak Ridger [] Signs Posted [] Date: []

Names of Responders: Anthony Morris, Tom Roberts, David Patterson

Report completed by David Patterson Title: Sewer Maint. Foreman Date: 2/1/12

Reviewed by Rick Lavin Title: Operations & Maint. Manager Date: 2/1/12

Initial TDEC Notification By: David Patterson Date: 1/30/2012

After Review & Notification to TDEC Scott Johnson Title: Operations Manager Date: 2-2-12

Final Review Greg Curd Title: Public Works Director Date: 2/3/12

Final Report Transmitted to TDEC By: Kathy Stout Date: 2/3/12

CITY OF OAK RIDGE

REPORT DATE: 3/3/2012

SANITARY SEWER OVERFLOW FINAL REPORT

NPDES PERMIT # TN0024155

LOCATION DATA

LOCATION: 151 Cairo Ln.

1st Occurrence at this location? Y N

If No, Date of Last Occurrence: 12/7/2011

POINT OF OCCURENCE

Manhole Clean Out In-House Backup Pump Station Name: None or None or None

If Manhole; Give Mini-system # E13B Map Page # G22 Manhole # G22-14 Force Main:

FLOW DATA

Start Date: 3/2/2012 Time: 11:30 AM PM End Date: 3/2/2012 Time: 11:45 AM PM

Duration 15 min. hours/minutes Est. Flow Rate: 200 gpm Estimated Total Flow: 3000 gallons

CAUSES

(Check all that apply)

Rainfall [Estimated amount in] Power Outage Equipment Failure

Broken Sewer Blocked line from Roots Grease Collapse Other

Explain causes of overflow: Power outage due to storm, emergency generator failed to start.

REMEDIAL MEASURES TO CORRECT, PREVENT OR MINIMIZE FUTURE OCCURANCES

Line was: Jet Rodded Nozzle Root Saw Lid Removed Lined Equipment Repair

Line will be: cleaned and TV'd for needed repair: Other: City having the generator checked out.

WHERE DID DISCHARGE GO (Check all that apply)

Did flow run to surface water: Yes No Name of surface water: Emies Creek

Ran on/in: Ground & absorbed into soil Ditch Storm Sewer

Basement Back-up No. of basements Use (i.e., commercial, residential)

Other (describe)

Notified Public: Yes No How: City Web Site The Oak Ridger Signs Posted Date:

Names of Responders: David Patterson, Robert Powell

Report completed by David Patterson Title: Sewer Maint. Specialist Date: 3/3/12

Reviewed by Rick Swan Title: Operations/Maint. Manager Date: 3/6/12

Initial TDEC Notification By: David Patterson Date: 3/3/2012

After Review & Notification to TDEC Scott Jackson Title: Operations Manager Date: 3-7-12

Final Review [Signature] Title: Public Works Director Date: 3/7/12

Final Report Transmitted to TDEC By: Cindy Wile Date: 3-7-12

APPENDIX B: Y-12 QUARTERLY REPORT



**Status of Y-12 National Security Complex
Sanitary Sewer Inflow and Infiltration Program
March 31, 2012**

The Y-12 Complex has not performed any smoke testing or pipe video surveillances (camera was in need of repairs) during the first quarter 2012. However, during the second half 2011, approximately 16.8 miles of pipe were smoke tested. This revealed a number of improper openings and connections to the sanitary sewer system which are summarized below:

- Broken/missing cleanout caps replaced: 12
- Downspouts rerouted: 2
- Grated manhole cover replaced with solid cover: 3
- Rain catchers replaced: 2
- Openings Plugged/Broken Pipe Repaired: 5
- Below grade reroute of cross-connection with storm drain system: 1
- Isolation of pad from demolished building: 2

All corrective actions were completed soon after discovery, except for the reroute of the cross-connection with the storm drain system. This repair required a pipe video surveillance to determine the exact nature of the cross-connection; repairs were completed approximately 6 weeks after discovery.

During January 2012, an inflatable plug was placed in the abandoned 15-inch sewer line that runs beneath and parallels Bear Creek Road. The inflatable plug is a temporary measure that will be replaced with a mechanical plug and concrete during April 2012. It is estimated this will eliminate approximately 25,000 gallons of flow during a 1½-inch rain event. Subsequent to completion of this isolation, the following actions are planned:

- The manhole into which the permanent plug will be placed will be smoke tested to determine if there are any other nearby intrusions. If so, repairs will be initiated.
- Approximately 500 feet of abandoned 8-inch clay pipe will be plugged with flowable fill as part of the elimination of the east end gas station. This is expected to occur in May 2012.
- Two warehouses are scheduled for demolition in May 2012. As part of this process, a lift station pump will be removed and flowable fill poured into the manhole. This will result in approximately 100 feet of cast iron pipe removed from the system.
- The entire Y-12 Complex will be re-smoke tested. This process will involve using plugs in the manholes to better direct the flow of smoke into sections of pipe that are suspect. It will also allow for increased smoke pressure, which may reveal section(s) of compromised pipe that went previously undetected.
- The video camera, which is scheduled to be repaired during April 2012, will be used to further examine areas of suspect piping. Needed repairs will be initiated or new funding requested, depending on the extent of the repair.

- The duration of the smoke testing and video surveillance activities is expected to be 4 to 5 months. This assumes a crew working two days per week on this task.
- Flow monitoring will continue to be performed within the sewer system. At present, there are eight flow meters deployed and flow is being analyzed in conjunction with rain events.