

Eighteenth Quarterly Report

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

**Period
January 1, 2015 –
March 31, 2015**

April 2015

Submitted by:



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TABLE OF CONTENTS

<u>SECTION</u>	<u>DESCRIPTION</u>	<u>Page</u>
I.	Actions During the Eighteenth Quarter	1
II.	Other General Comments	8
III.	SSO's During Eighteenth Quarter	9

<u>APPENDIX</u>	<u>DESCRIPTION</u>
A.	Y-12 Correspondence
B.	SL-RAT



SECTION I:

ACTIONS DURING THE EIGHTEENTH QUARTER



SECTION I

ACTIONS DURING THE EIGHTEENTH QUARTER

A. Introduction

Item 18 of the Administrative Order (AO) requires the City to submit quarterly reports. Those reports are due the 28th day of the month following the end of the quarter. They are to describe actions taken toward achieving compliance with the AO. This section of the report will deal with Management, Operation, Maintenance (MOM) matters, as well as remediation activities.

B. System Evaluation and Rehabilitation Plans

The program is rapidly coming to a close. The provisions of the A.O. Completion date is September 2015. Central City and Y-12 sewersheds rehabilitation work is complete. East Plant IV sewershed work is complete except for a few punch list items. The West End sewershed is being completed as an extension of the East Plant sewershed contract. The final sewershed rehabilitation contract was awarded during the eighteenth quarter. The project should be completed by September 2015.

The three equalization basins (EQ) are under construction, as mentioned in the seventeenth quarterly report. Work continued during the eighteenth quarter. The Emory Valley EQ basin is nearing completion. Site preparation for the other two basins is in progress.



C. NPDES MATTERS

The State of Tennessee referenced the AO in the latest NPDES permit. It acknowledged that the rehabilitation program was to be complete by the end of the third quarter of calendar year 2015. The water quality of East Fork Poplar Creek is to be improved as a result of the rehabilitation program. It also referenced the renewal of industrial discharge permits in 2015. The Y-12 permit is included in those which are to be renewed. The Y-12 permit will address instantaneous flow rates in addition to total daily volume. Drafting of the permits continued in the eighteenth quarter and will be issued in the nineteenth quarter.

The NPDES permit requires a nutrient management plan to be developed following the completion of the AO. The reissuance of the industrial discharge permits is the first step in that effort. The City is required to report their activities on a quarterly basis regarding the nutrient management plan. A copy of this report is being forwarded to TDEC for compliance with that permit requirement.

D. MANAGEMENT, OPERATIONS, AND MAINTENANCE PROGRAMS

1. Information Management System

During the period, the City continued utilizing the SL-RAT inspection equipment to assist in locating blocked sewer lines and continued the development of the process for documentation of the findings in Infor. The documentation process will continue during the next quarter and will be consistent with the documentation of failed FOG inspections.



Pump Stations

- 435 weekly preventive maintenance work orders generated and completed.
- 73 monthly preventive maintenance work orders generated and completed.
- 48 quarterly preventive maintenance work orders generated and completed.
- 11 semi-annual preventive maintenance work orders generated and completed.
- 8 annual preventive maintenance work orders generated and completed.
- 8 pump station inspection work orders were generated for rain events.
- 27 work orders generated by the maintenance crew (not including PMs, and Rain Events)
- 5 work orders generated as Work from PM work orders.
- Total-to-date of 9,191 work orders generated in the Infor system for the WWTP maintenance crew.

Gravity Sewer

- FOG asset routes in January, February and March were scheduled and completed.
 - 8 work orders assigned to Code Enforcement for failed FSE FOG inspections
- SSOs documented in the Infor system as required
- SL-RAT inspection routes generated and completed for the remaining mini basins in the Turtle Park Sewer Shed
- 111 work orders generated by the gravity crews (not including Call Center, Routing and Rain Events)
- Total-to-date of 2,906 work orders generated in the Infor system for the gravity crews.

Call Center

- Total-to-date of 8,157 work orders generated in the Infor system by the Call Center.
- 754 work orders generated during this quarter in the Infor system by the Call Center.



- 45 work orders called in for “Check Sewer Problem” with 51% the owner’s problem

GIS

The City of Oak Ridge continues to add to and update the GIS mapping system. During this quarter, the GIS Specialist worked with the Public Works and Information Services Departments to train the field crew on the new procedures in performing Manhole Inspections using the CUES Granite XP software.

2. Engineering

By-Pass Pumping Connections

By-pass pumping connections will be installed at the remaining seven pump stations when they are replaced or updated.

- Palisades #1 Pump Station
- Palisades #2 Pump Station
- Palisades #3 Pump Station
- Castlewood Pump Station (completed)
- Westview Pump Station (completed)
- Peninsula (formerly Gregory’s) Pump Station (completed)
- Palisades #4 (completed)

Supervisory Control and Data Acquisition (SCADA)

Installation of the SCADA system continued with expected installation completion by June 30, 2015 and fully operational by September 1, 2015.

3. Operations

Fats, Oils, and Grease

Quick Stats:

- a. 110 establishments in program
- b. 4 known outstanding FOG violations being addressed
- c. Resolved 6 of 10 reported by Public Works identified FSE failures since last quarterly report



- d. Resolved 2 of 2 Code Enforcement reported FSE failures since last quarterly report
- e. Random Inspected 15 FSE locations since last quarterly report
- f. Investigated 1 GWH for quality assurance issues at the Gondolier

City of Oak Ridge Program Coordination updates:

- a. Will be submitting FOG policy amendments to the City Manager for approval prior to June 30, 2015.
- b. Frequent FSE Manager changes continue to cause problems with education and additional inspection follow ups.

Collection

SL-RAT

- The City of Oak Ridge Public Works department purchased a Sewer Line Rapid Assessment Device Tool (SL-RAT) in January 2014. The SL-RAT is specifically designed as a cost effective tool to help prioritize maintenance operations based on a rapid assessment of a blockage within gravity fed sewer line segments.

The device relies on the fact that air flowing through the free space in a pipe acts very similarly to water. It consists of an acoustic transmitter (TX) and receiver (RX). The TX introduces a known sound into the pipe typically through a manhole. The RX listens at an adjacent manhole. Using a sophisticated algorithm to measure the sound energy it hears, the RX is able to make a blockage assessment that is immediately displayed to the user and also provides the ability to transfer that data to a computer file that can be further manipulated and analyzed by the SL-RAT user.

The TX sits on top of an open manhole and the RX sits on top of an open adjacent manhole. It uses the sound waves instead of sight to determine if a sewer line is open, partially or completely blocked. The TX emits a repeating series of tones similar to a musical scale to the RX which rates the sewer line segment on a scale of 1–10 with one of five possibilities (see appendix for more information):



Rating 10	No significant obstructions
Rating 7-9	Minor impediments
Rating 4-6	Impediments within the pipe
Rating 2-3	Significant impediments
Rating 0	Blockage

With a rating of 0 on the scale, the section of the pipe diameter may have been reduced in size due to a blockage of roots, grease or other debris. This sewer line would immediately be scheduled for further inspection to be cleaned and videoed to determine if there are any needed repairs.

With a rating of 1 to 6, this section of pipe would not need immediate attention but should be scheduled for further inspection in the near future.

With a rating of 7 or above, the pipe diameter is the correct size or close enough to the correct size that there are no blockages recorded. This sewer line would not need any further maintenance at this time.

Previous sewer maintenance inspections consisted of cleaning and CCTV each segment of sewer line which is extremely time consuming and labor intensive but was the only way to determine the pipe condition. The SL-RAT allows the sewer line to be assessed in minutes instead of hours. The crews can quickly and easily check the sewer lines in an area and clean and CCTV only those that are indicated as needing attention.

During a demonstration of the SL-RAT in December 2013, before it was purchased, the Public Works sewer maintenance crew tested 12,125 linear feet of sewer lines and determined 2,700 feet or roughly 22% needed to be cleaned and CCTV. The potential for saving time and labor were quickly realized by the number of lines that were checked compared to the number of lines that actually needed attention.

With this new technology, the City will be able to greatly reduce the need for cleaning and CCTV each and every sewer line segment and concentrate more on the lines that were discovered with the SL-RAT to be partially or totally blocked, possibly needing repairs. This will save the City a tremendous amount of time and money allowing the crews to inspect the system quicker and more efficiently.



Cleaning and CCTV Inspection

- The rehab work is currently underway in the Central City, Y12 West End and Turtle Park Sewer Sheds. As the rehab contractors complete a mini system, City crews will SL-RAT the entire mini system, checking lines that were and were not repaired. All line segments that rate a six (6) or below shall be cleaned and CCTV for any needed repairs. City crews have begun using the SL-RAT in the East Plant Sewer Shed. The contractor will be responsible for cleaning and post CCTV the lines that were repaired by the contractor.

Manhole Inspections

- The rehab contractors have finished rehab work in the East Plant Sewer Shed and are now working in the Central City, Y12 and West End Sewer Sheds. The city has purchased a new GIS module and software and has upgraded the CUES pole camera and converted the city's old CUES CCTV van for manhole inspections. The crew has been trained and plan on using the new inspection equipment this spring in the East Plant Sewer Shed as the rehab contractors finish a mini system.

Flow Monitoring

- City personnel continue to monitor the sewer flows during rain and dry weather. There are currently twenty four (24) flow meters strategically located throughout the city. The city will continue flow monitoring pre and post construction as the rehab work continues in the other sewer sheds.

Rain Gauges

- The three (3) rain gauges are recording rainfall data in the East, West and Center of the city. The central rain gauge being at the Water Treatment Plant is the primary gauge used to call rain events of 0.5" or more.

Rain Events

- For this quarter, the City of Oak Ridge has had a total of eight (8) rain events totaling .5" or more of rain.



Rainfall Data,

- Monthly rainfall amounts for the City of Oak Ridge recorded at the Water Treatment Plant for this quarter.
 - January 4.79”
 - February 1.06”
 - March 4.31”

SSO's

- 5 - SSO's during this quarter
 - All five (5) SSO's were dry weather overflows.

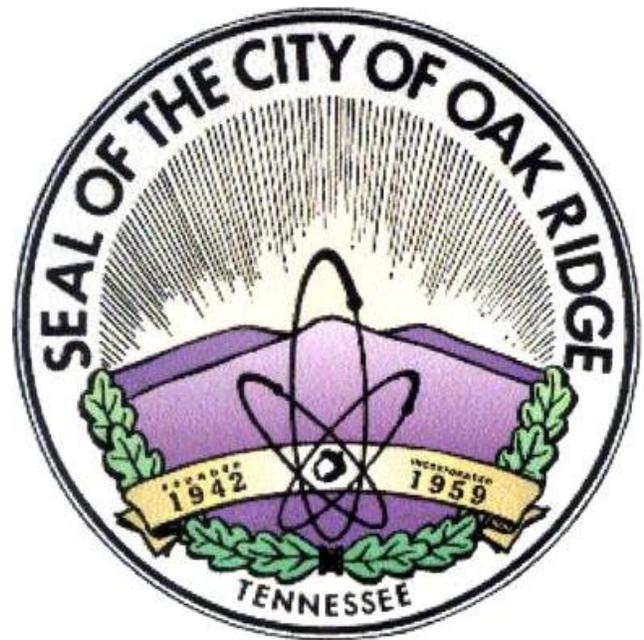
Safety Training

- All Public Works employees attend monthly safety meetings.
- This quarter topics were
 - January – Update on Personal Protective Equipment
 - February – Globally Harmonized System of Classification and Labeling of Chemicals (GHS); Hazardous Chemical Communication Update; CPR/ First Aid Training
 - March – Slips, Trips and Falls



SECTION II:

**OTHER GENERAL
COMMENTS**



SECTION II

OTHER GENERAL COMMENTS

The City and the operating contractor for Y-12 have been in discussions relative to their wet weather flows and the impact on the City's collection system. It has been agreed in principle that Y-12 will assist with the debt service for the equalization basin which will dampen their peak flows. The upcoming Y-12 discharge permit will have instantaneous flow rate language, as mentioned earlier.

The Y-12 quarterly statement of their activities is shown in Appendix A.

The City has recently been designated a MS-4 community.



SECTION III:

SSO'S DURING EIGHTEENTH QUARTER



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

18th Quarterly Report - January 1, 2015 to March 31, 2015

Start Date	St Name	St #	Est Tot Flow (Gal)	Explain OF Cause	Other Measures	Flow in Surface <input type="checkbox"/>	Name of Surface Water
1/31/2015	Hunter Circle, West	116	270	FLUSHABLE WIPES (RAGS) AND A ROCK ABOUT THE SIZE OF A BRICK		<input type="checkbox"/>	
2/9/2015	Monterey Road	200	150	COMPUTER GLITCH CAUSED A PUMP TO COME ON AND PUMP AT A 26,500,000 GALLON RATE FOR 20 SECONDS CAUSING THE DRUM SCREEN TO OVERFLOW AND IT OVERCAME THE DRAINS IN THE BUILDING AND EXCESS WENT INTO STORM DRAIN.	WILL RUN TWO DRUM SCREENS IN THE FUTURE TO PREVENT ANOTHER OCCURRENCE.	<input checked="" type="checkbox"/>	EAST FORK POPLAR CREEK
2/19/2015	Bryn Mawr Circle, West	138	3000			<input checked="" type="checkbox"/>	TRIBUTARY TO EAST FORK POPLAR CREEK
3/9/2015	Montana Hollow		2250	FLUSHABLE WIPES AND ROOTS	LINE IS SCHEDULED TO BE REHABBED DURING THE TURTLE PARK SEWER SHED REHAB PROJECT IN SPRING 2015. THE SEWER LINE SEGMENT MH:W16-C3-21, W16-C3-22 IS WHERE THE BLOCKAGE OCCURRED, CAUSING MH:W16-B3-11 TO OVERFLOW. THIS LINE SEGMENT IS SCHEDULED TO BE REPLACED IN THE TPSS REHAB CONTRACT THIS SPRING 2005.	<input type="checkbox"/>	

Start Date	St Name	St #	Est Tot Flow (Gal)	Explain OF Cause	Other Measures	Flow in Surface	Name of Surface Water
3/17/2015	Purdue Avenue, South	148-150	90	The common sewer lateral for 148-150 S. Purdue was discovered to have a severe root problem after a plumber hired by 150 S. Purdue replaced their sewer lateral. Sewer from 150 S. Purdue came out of the clean out due to the blockage of roots in the common lateral. The sewer rehab crew cleaned and CCTV the common lateral. Due to the severe root problem that was discovered, the common lateral was replaced the following day.	The city's sewer rehab crew replaced the common lateral that serves 148-150 S. Purdue. 123 feet of 6 inch line was replaced 3/18/15.	<input type="checkbox"/>	

LOCATION DATA

LOCATION: 116 Hunter Circle 1st Occurrence at this location? Y N

If No, Date of Last Occurrence:

POINT OF OCCURENCE

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

If Manhole; Give Mini-system # W8 Map Page # D13 Manhole # W8-D13-15 Force Main:

FLOW DATA

Start Date: 1/31/2015 Time: 6:56 AM PM End Date: 1/31/2015 Time: 8:26 AM PM

Duration 1 hr 30 mins hours/minutes Est. Flow Rate: 3 gpm Estimated Total Flow: 270 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: flushable wipes (rags) and a rock about the size of a brick.

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:

WHERE DID DISCHARGE GO (Check all that apply)

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

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: Gene Wilson, Jeremy Justice

Report completed by Jack Krum Title: Operations & Maint. Manager Date: 2/3/15

Reviewed by Gene Wilson Title: Maint. Mech. Date: 2/3/15

Initial TDEC Notification By: Gene Wilson Date: 1/31/15

After Review & Notification to TDEC Scott Jackson Title: Operations Manager Date: 2.4.15

Final Review Greg Caud Title: Public Works Director Date: 2/4/15

Final Report Transmitted to TDEC By: Craig Will Date: 2.4.15

CITY OF OAK RIDGE

REPORT DATE: 2/10/2015

SANITARY SEWER OVERFLOW FINAL REPORT

NPDES PERMIT # TN0024155

LOCATION DATA

LOCATION: 200 Monterey Road 1st Occurrence at this location? Y N

If No, Date of Last Occurrence: 12/15/2014

POINT OF OCCURENCE

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

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

FLOW DATA

Start Date: 2/9/2015 Time: 6:50 AM PM End Date: 2/9/2015 Time: 6:51 AM PM

Duration 1 minute hours/minutes Est. Flow Rate: 150 gpm Estimated Total Flow: 150 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: Computer glitch caused a pump to come on and pump at a 26,500,000 gallon rate for 20 seconds causing the drum screen to overflow and it overcame the drains in the building and excess went into storm drain.

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: Will run two drum screens in the future to prevent another occurrence.

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: Bob Currier

Report completed by: [Signature] Title: TREATMENT Plant operations ^{supv.} Date: 2-10-15

Reviewed by: _____ Title: _____ Date: _____

Initial TDEC Notification By: Bob Currier Date: 02/10/15

After Review & Notification to TDEC By: [Signature] Title: Operations Manager Date: 2-10-15

Final Review By: [Signature] Title: Public Works Director Date: 2/10/15

Final Report Transmitted to TDEC By: [Signature] Date: 2.11.15

CITY OF OAK RIDGE

REPORT DATE: 2/20/2015

SANITARY SEWER OVERFLOW FINAL REPORT

NPDES PERMIT # TN0024155

LOCATION DATA

LOCATION: 138 W. Bryn Mawr Cir.

1st Occurrence at this location? Y N

If No, Date of Last Occurrence:

POINT OF OCCURENCE

Manhole Clean Out In-House Backup

Pump Station Name: None or None or None

If Manhole; Give Mini-system # W16 Map Page # D3 Manhole # D3-62 Force Main:

FLOW DATA

Start Date: 2/19/2015 Time: 7:30 AM PM End Date: 2/19/2015 Time: 10:00 AM PM

Duration 2 hrs. 30 min. hours/minutes Est. Flow Rate: 20 gpm Estimated Total Flow: 3,000 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:

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: Line is scheduled to be rehabbed it the Turtle Park Sewer Shed rehab project, spring 2015

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: Eugene Wilson, Mark Daniels, Elijah Duncan

Report completed by David Patterson Title: Senior Maint. Specialist Date: 2/20/15

Reviewed by Kate Lawson Title: Operations + Maint. Manager Date: 2/24/15

Initial TDEC Notification By: David Patterson Date: 2/20/2015

After Review & Notification to TDEC Kate Lawson Title: Operations Manager Date: 2-24-15

Final Review [Signature] Title: Public Works Director Date: 2/25/15

Final Report Transmitted to TDEC By: [Signature] Date: 2.26.15

CITY OF OAK RIDGE
SANITARY SEWER OVERFLOW FINAL REPORT
NPDES PERMIT # TN0024155

REPORT DATE: 3/9/2015

LOCATION DATA

LOCATION: Montana Hollow 1st Occurrence at this location? Y N

If No, Date of Last Occurrence: 4/6/2000

POINT OF OCCURENCE

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

If Manhole; Give Mini-system # W16 Map Page # B3 Manhole # B3-11 Force Main:

FLOW DATA

Start Date: 3/9/2015 Time: 1:45 AM PM End Date: 3/9/2015 Time: 2:30 AM PM

Duration 45 MIN hours/minutes Est. Flow Rate: 50 gpm Estimated Total Flow: 2250 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: Flushable wipes and roots

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: The sewer line segment MH:W16-C3-21, W16-C3-22 is where the blockage occurred, causing MH:W16-B3-11 to overflow. This line segment is scheduled to be replaced in the TPSS rehab contract this Spring 2015.

WHERE DID DISCHARGE GO

(Check all that apply)

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

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, Anthony Morris, Mark Maples

Report completed by David Patterson Title: Senior Maint. Specialist Date: 3/13/15

Reviewed by Rick Laurin Title: Operations & Maint. Manager Date: 3/13/15

Initial TDEC Notification By: David Patterson Date: 3/9/15

After Review & Notification to TDEC Title: Operations Manager Date: _____

Final Review Greg Cundy Title: Public Works Director Date: 3/13/15

Final Report Transmitted to TDEC By: Craig Will Date: 3.13.15

CITY OF OAK RIDGE
SANITARY SEWER OVERFLOW FINAL REPORT

REPORT DATE: 3/19/2015

NPDES PERMIT # TN0024155

LOCATION DATA

LOCATION: 148-150 S. Purdue Ave.

1st Occurrence at this location? Y N

If No, Date of Last Occurrence:

POINT OF OCCURENCE

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

If Manhole; Give Mini-system # W2 Map Page # L-14 Manhole # Force Main:

FLOW DATA

Start Date: 3/17/15 Time: 9:30 AM PM End Date: 3/17/15 Time: 10:00 AM PM

Duration 30min hours/minutes Est. Flow Rate: 3 gpm Estimated Total Flow: 90 gallons

CAUSES (Check all that apply)

Rainfall [Estimated amount in] Power Outage Broken Sewer Blocked line from Roots

Grease Equipment Failure Collapse Other Explain causes of overflow below:

The common sewer lateral for 148-150 S. Purdue was discovered to have a severe root problem after a plumber hired by 150 S. Purdue replaced their sewer lateral. Sewer from 150 S. Purdue came out of the clean out due to the blockage of roots in the common lateral. The sewer rehab crew cleaned and CCTV the common lateral. Due to the severe root problem that was discovered, the common lateral was replaced the following day.

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 (enter below):

The city's sewer rehab crew replaced the common lateral that serves 148-150 S. Purdue. 123 feet of 6 inch line was replaced 3/18/15.

WHERE DID DISCHARGE GO (Check all that apply)

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

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 Website The Oak Ridger Signs Posted Date:

Names of Responders: Trevor Gallaher, Brian Simmons and Cody Martin

Report completed by Trevor Gallaher Title: Utility Line Maint. Crew Chief Date: 3-19-15

Reviewed by Rick Clavin Title: Operations & Maint. Manager Date: 3/19/15

Initial TDEC Notification by: Trevor Gallaher Date: 3/17/15

After Review & Kott Pederson Title: Operations Manager Date: 3-19-15
Notification to TDEC

Final Review R. G. Lindsey Title: Public Works Director Date: 3/19/15

Final Report Transmitted to TDEC by: Craig Will Date: 3-20-15

APPENDIX A:

Y-12 CORRESPONDENCE



**Status of Y-12 National Security Complex
Sanitary Sewer Inflow and Infiltration (I&I) Program
March 31, 2015**

The next planned I&I repair effort is to rehabilitate thirteen manholes along the same section of piping that was lined in September and October 2014. The contractor will use a spray-on liner technique which precludes the need to wash and rinse the interior of the manholes prior to application of the epoxy. Hence, there will be no additional water introduced into the sanitary sewer collection system and the potential for a second disruption of latent mercury is minimal. This activity is currently planned to start in June 2015.

There are no other planned I&I repair efforts currently planned for fiscal year (FY) 2015 (which ends on September 30, 2015). The manhole rehabilitation project will exhaust the remaining available funding for this year. Additional funding is being requested for FY 2016 and beyond in the upcoming budget planning cycles. With the realization that discharges of mercury are a real possibility with any washing and rinsing activities, the need to capture and treat these waters has the potential to significantly increase the cost above what normal operational savings can provide.

Sampling in Association with Rain Events

The following table contains all mercury and suspended solids results for samples collected during the first calendar quarter of 2015. The results with a Sample Type of "Storm Water" were collected as a flow-proportional composite sample once the flow rate at the monitoring station exceeded 600 gallons per minute. This data is also included in Enclosure 1 and is noted under the sample method SWCOMP. The results with a Sample Type of "24 Hour" were collected as normal flow-proportional composite monthly samples as per the Y-12 Industrial and Commercial User Waste Water Discharge Permit with no rainfall requirement. All sample results were included in the calculations for the monthly averages.

Date	Rainfall (Inches)	Sample Type	Daily Mercury Concentration (mg/L)	Monthly Average Mercury Concentration (mg/L)	Daily Suspended Solids (mg/L)	Monthly Average Suspended Solids (mg/L)
1-7-15	0.00	24 Hour	0.00657	0.00873	21.2	35.9
1-13-15	1.24	Storm Water	0.00431		50.5	
2-2-15	0.53	Storm Water	0.0225	0.01101	112	64.7
2-3-15	0.00	24 Hour	0.00509		59.3	
2-23-15	1.28	Storm Water	0.00543		22.8	
3-2-15	0.18	Storm Water	0.000422	0.00118	44.8	52.4
3-5-15	1.24	Storm Water	0.000313		9.6	
3-9-15	0.60	Storm Water	0.000474		54.4	
3-10-15	0.46	Storm Water	0.00162		22.4	
		24 Hour	0.00224		17.6	
3-11-15	0.54	Storm Water	0.00219		138	
3-12-15	0.11	Storm Water	0.000974		80	

APPENDIX 6

SL-RAT



Table 1 Pipe Segment Assessment - General Interpretation

Assessment	Typical Condition / Interpretation
10	No significant obstructions within the pipe
7-9	Minor impediments within the pipe such as joint offsets, partial sags, protruding laterals, debris, minor grease, and/or minor root fibers.
4-6	Impediments within the pipe such as joint offsets, partial sags, protruding laterals, debris, grease, and/or root fibers. Single or multiple occurrences.
1-3	Significant impediments within the pipe such as multiple joint offsets, near full pipe sag, multiple protruding laterals, significant debris, significant grease, significant root fibers and/or root balls. Single or multiple occurrences.
0	Full pipe sag; single or multiple obstructions within the pipe reaching or nearly reaching the flow.

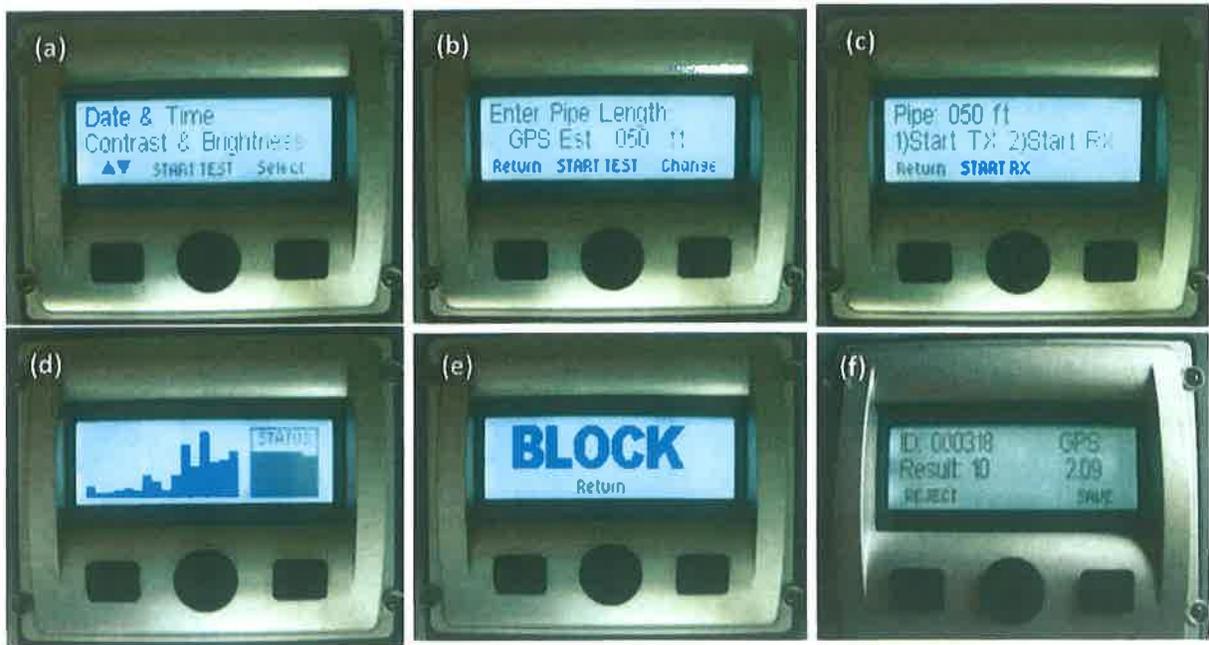


Figure 9 Menu Sequence for RX acoustic measurement operation. (a) Main Menu; (b) Pipe Length Menu; (c) Start Test Instruction Menu; (d) RX Real Time Display; (e) Pipe Segment Assessment; (f) Pipe Segment Evaluation.