

Sixteenth Quarterly Report

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

**Period
July 1, 2014 –
September 30, 2014**

October 2014

Submitted by:



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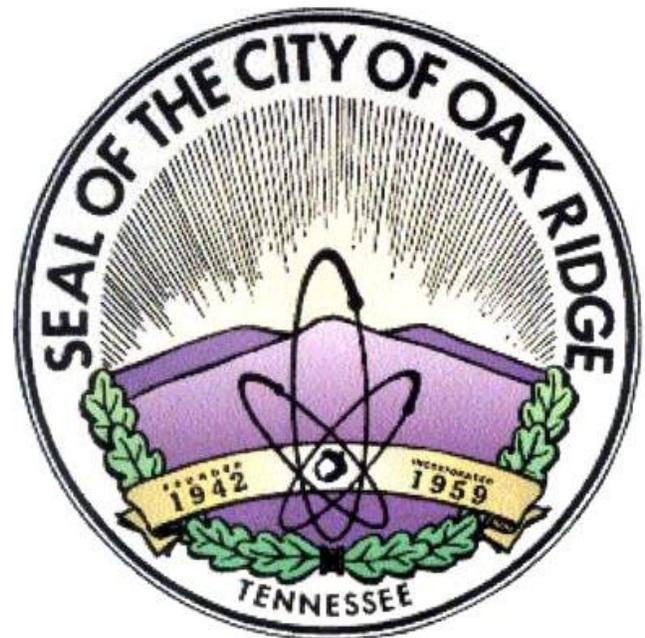
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SECTION I:

ACTIONS DURING THE SIXTEENTH QUARTER



SECTION I

ACTIONS DURING THE SIXTEENTH 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 East Plant sewer shed rehabilitation is complete. Post-construction flow monitoring, smoke testing, and manhole inspections are underway.

During the sixteenth quarter, the three equalization basins have been bid and construction authorized. A pre-construction conference with SRF program manager and the contract is scheduled for October 2014.

Rehabilitation construction continues on the Y-12 and Central City sewer sheds. The West End sewer shed construction should commence soon. The Turtle Park sewer shed is being designed.



C. Management, Operations, and Maintenance Programs

1. Information Management System

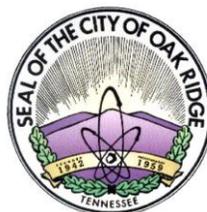
During the period, the City continued utilizing the SL-RAT inspection equipment to assist in locating blocked sewer lines.

Pump Stations

- 473 weekly preventive maintenance work orders generated and completed.
- 67 monthly preventive maintenance work orders generated and completed.
- 41 quarterly preventive maintenance work orders generated and completed.
- 4 semi-annual preventive maintenance work orders generated and completed.
- 23 annual preventive maintenance work orders generated and completed.
- 9 pump station inspection work orders were generated for rain events.
- 33 work orders generated by the maintenance crew (not including PMs, and Rain Events)
- Total-to-date of 7,976 work orders generated in the Infor system for the WWTP maintenance crew.

Gravity Sewer

- FOG asset routes in July, August and September scheduled and completed.
 - 3 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 three mini basins in the Turtle Park Sewer Shed (W10, W11, W12)
 - Approximately 90,800 feet of gravity sewer line inspected utilizing the SL-RAT



- 180 work orders generated by the gravity crews (not including Call Center, Routing and Rain Events)
- Total-to-date of 2,492 work orders generated in the Infor system for the gravity crews.

Call Center

- Total-to-date of 6,916 work orders generated in the Infor system by the Call Center.
- 710 work orders generated during this quarter in the Infor system by the Call Center.
 - 31 work orders called in for “Check Sewer Problem” with 80% 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 begin retrofitting an old CCTV van, as well as the pole camera hardware, to use for MH inspections. Starting this winter (2014-15), all MH inspections will be performed using the CUES Granite XP MH Inspection module. Work is almost complete on loading approximately 22,000 inspection pictures from 2010 and 2011 that will be linked to the GIS mapping system.

The GIS Specialist implemented several software patches for the Infor system on September 30.

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 #4 Pump Station
 - Construction of the rebuilt pump station was completed during the quarter, with a projected start-up date of October 1, 2014.
- Palisades #1 Pump Station
- Palisades #2 Pump Station



- Palisades #3 Pump Station
- Castlewood Pump Station (completed)
- Westview Pump Station (completed)
- Peninsula (formerly Greggory's) Pump Station (completed)

Supervisory Control and Data Acquisition (SCADA)

Installation of the SCADA system began with expected operation by December 31, 2014.

3. Operations

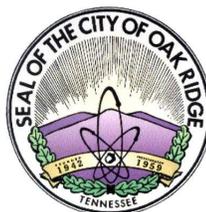
Fats, Oils, and Grease

Quick Stats:

- 113 establishments in program (lost 1 and added 3 FSE's since last quarterly report)
- 2 outstanding FOG violations being addressed
- Resolved 8 of 10 reported Public Works identified FSE failures since last quarterly report
- Resolved 1 of 1 outstanding Public Works identified FSE failures since last quarterly report
- Installed 3 new in ground interceptors at the Kroger shopping center for future spaces

City of Oak Ridge Program Coordination updates:

- City of Oak Ridge newly created Administrative Hearing Officer to hear 1 FOG citation (Plumbing Code)
- Frequent FSE Manager changes continue to cause problems with education and additional inspection follow ups.



Collection

Cleaning and CCTV Inspection

- The rehab work is currently underway in the East Plant, Central City, Y12 and West End Sewer Sheds. As the rehab contractors complete a mini system, the contractor will clean and CCTV the lines that were repaired, all other sewer lines in that mini system will be cleaned and CCTV by city crews.

Manhole Inspections

- The rehab contractors are now working in the East Plant, Central City, Y12 and West End Sewer Sheds. As rehab contractors finish a mini system, city crews will inspect the manholes.

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 Emory Valley Sewer Shed has flow meters installed for post construction flow monitoring and the East Plant Sewer Shed flow meters were removed for construction but have since been reinstalled for post construction flow monitoring. 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 nine (9) 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.
 - July 5.76”
 - August 4.11”
 - Sept. 1.05”

SSOs

- 6 - SSOs during this quarter
 - 2 - wet weather overflows
 - 4 - dry weather overflows

Safety Training

- All Public Works employees attend monthly safety meetings.
- This quarter topics were:
 - July – Dealing with the Public in Confrontational Situations
 - August –Heavy Equipment Safety
 - Sept. –Time Out for Men’s Health
 - Employees also attended training classes at Safety Fest provided by the Y12 National Security Complex.



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. Also, as a part of the City's new NPDES permit, a nutrient management plan is required. That NPDES condition requires the reissuance of all industrial discharge permits. The Y-12 discharge permit will have instantaneous flow rate language.

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

The nutrient management plan requires two complete seasons of monitoring which is to begin at the completion of the A.O. (September 2015). The City has recently been designated a MS-4 community. The activities of the program along with stream monitoring by DOE will develop background information relative to stream nutrient load.



SECTION III:

**SSO'S DURING
SIXTEENTH QUARTER**



CITY OF OAK RIDGE

REPORT DATE: 7/2/2014

SANITARY SEWER OVERFLOW FINAL REPORT

NPDES PERMIT # TN0024155

LOCATION DATA

LOCATION: 100 Dresden Road

1st Occurrence at this location? Y N

If No, Date of Last Occurrence: 2/3/2014

POINT OF OCCURENCE

Manhole Clean Out In-House Backup

Pump Station Name: None or None or None

If Manhole; Give Mini-system # E13A Map Page # F20

Manhole # E13A-F20-36

Force Main:

FLOW DATA

Start Date: 7/1/2014 Time: 8:00 AM PM

End Date: 7/1/2014 Time: 8:40 AM PM

Duration 40 mins hours/minutes

Est. Flow Rate: 12.5 gpm

Estimated Total Flow: 500 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: The lower MH E13A-F20-4 was being pressure tested by the Rehab Contractor. In the process of testing MH E13A-F20-4 the manhole was plugged to long causing MH E13A-F20-36 to overflow. General Contractor- Hurst Excavating ,Sub Contractor- Gunite. Wastewater system rehabilitation contract COR13-06-E7

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: Use of bypass pumping.

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:

Report completed by Rick Irwin Title: Operations & Maint. Manager Date: 7/2/14

Reviewed by Conrad J. Mayo Title: LDA Tech Date: 7/2/14

Initial TDEC Notification By: Rick Irwin Date: 7/1/14

After Review & Kathie Jackson Title: Operations Manager Date: 7-2-14
Notification to TDEC

Final Review Greg Cunder Title: Public Works Director Date: 7/2/14

Final Report Transmitted to TDEC By: Craig Wild Date: 7.3.14

CITY OF OAK RIDGE

REPORT DATE: 7/31/2014

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: 2/3/2014

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 # E13B-G22-14

Force Main:

FLOW DATA

Start Date: 7/28/2014 Time: 3:25 AM PM

End Date: 7/28/2014 Time: 3:25 AM PM

Duration ? hours/minutes Est. Flow Rate: ? gpm Estimated Total Flow: 1000 gallons

CAUSES

(Check all that apply)

Rainfall [Estimated amount 1.97 in]

Power Outage

Equipment Failure

Broken Sewer

Blocked line from Roots

Grease

Collapse

Other

Explain causes of overflow: Excessive rainfall 1.97" rain in 6hr period. Manhole was not overflowing when checked at 3:25 am but showed signs an overflow had occurred.

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: 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

Report completed by David Patterson Title: Sewer Maint. Specialist Date: 7/31/14

Reviewed by Kick Lawen Title: Operations & Maint. Manager Date: 7/31/14

Initial TDEC Notification By: David Patterson Date: 7/28/14

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

Final Review Title: Public Works Director Date: 8/1/14

Final Report Transmitted to TDEC By: Kathy Stout Date: 8/1/14

CITY OF OAK RIDGE

REPORT DATE: 7/31/2014

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: 2/3/2014

POINT OF OCCURENCE

Manhole Clean Out In-House Backup

Pump Station Name: None or None or None

If Manhole; Give Mini-system # W5

Map Page # G15

Manhole # W5-G15-13 Force Main:

FLOW DATA

Start Date: 7/28/2014 Time: ? AM PM End Date: 7/28/2014 Time: 4:45 AM PM

Duration ? hours/minutes Est. Flow Rate: ? gpm Estimated Total Flow: 1000 gallons

CAUSES

(Check all that apply)

Rainfall [Estimated amount 1.97 in]

Power Outage

Equipment Failure

Broken Sewer

Blocked line from Roots

Grease

Collapse

Other

Explain causes of overflow: Excessive rainfall 1.97" rain in 6hr. period. Manhole was not overflowing when checked at 4:45 A.M. but showed signs an overflow had occurred.

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: San. Maint. Specialist Date: 7/31/14

Reviewed by Bob Smith Title: Operations & Maint. Manager Date: 7/31/14

Initial TDEC Notification By: David Patterson Date: 7/28/14

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

Final Review [Signature] Title: Public Works Director Date: 8/1/14

Final Report Transmitted to TDEC By: [Signature] Date: 8/1/14

CITY OF OAK RIDGE

REPORT DATE: 8/19/2014

SANITARY SEWER OVERFLOW FINAL REPORT

NPDES PERMIT # TN0024155

LOCATION DATA

LOCATION: 1201 Oak Ridge Turnpike

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 # W5 Map Page # G14

Manhole # W5-G14-10 Force Main:

FLOW DATA

Start Date: 8/14/2014 Time: 11:00 AM PM End Date: 8/14/2014 Time: 11:30 AM PM

Duration 30 min hours/minutes Est. Flow Rate: .5 gpm Estimated Total Flow: 15 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: See attached sheet.

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: See attached sheet.

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: Conrad Majors

Report completed by Scott Jackson Title: Operations & Maint. Manager Date: 8/19/14

Reviewed by Conrad Major Title: ENG TECH LD+A Date: 8/19/14

Initial TDEC Notification By: Date:

After Review & Scott Jackson Title: Operations Manager Date: 8-19-14
Notification to TDEC

Final Review Scott Cunder Title: Public Works Director Date: 8/19/14

Final Report Transmitted to TDEC By: Kathy Stout Date: 8/19/14

CITY OF OAK RIDGE

REPORT DATE: 9/4/2014

SANITARY SEWER OVERFLOW FINAL REPORT

NPDES PERMIT # TN0024155

LOCATION DATA

LOCATION: 129 Princeton Ave.

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

If No, Date of Last Occurrence:

POINT OF OCCURENCE

Manhole [x] Clean Out [] In-House Backup []

Pump Station Name: None or None or None

If Manhole; Give Mini-system # W3 Map Page # K-14 Manhole # W3-K14-54 Force Main: []

FLOW DATA

Start Date: 9/3/2014 Time: 4:00 AM [] PM [x] End Date: 9/3/2014 Time: 6:00 AM [] PM [x]

Duration 2 hrs hours/minutes Est. Flow Rate: 5 gpm Estimated Total Flow: 600 gallons

CAUSES

(Check all that apply)

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

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

Explain causes of overflow: Roots, this line is a common lateral that serves four houses.

REMEDIAL MEASURES TO CORRECT, PREVENT OR MINIMIZE FUTURE OCCURANCES

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

Line will be: cleaned and TV'd for needed repair: [x] Other:

WHERE DID DISCHARGE GO (Check all that apply)

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

Ran on/in: Ground & absorbed into soil [x] Ditch [] 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: Brian Gartman, Joey Wheeler and Cade McMillan

Report completed by B. H. Stout Title: Maintenance Mechanic Date: 9-4-14

Reviewed by Kirk Lewin Title: Operations & Maint. Manager Date: 9/4/14

Initial TDEC Notification By: Trevor Gallaher Date: 9/4/2014

After Review & Scott Jackson Title: Operations Manager Date: 9-5-14
Notification to TDEC

Final Review N/A Title: Public Works Director Date:

Final Report Transmitted to TDEC By: Kathy Stout Date: 9/5/14

CITY OF OAK RIDGE

REPORT DATE: 9/8/2014

SANITARY SEWER OVERFLOW FINAL REPORT

NPDES PERMIT # TN0024155

LOCATION DATA

LOCATION: 140 East Division Road

1st Occurrence at this location? Y N KS

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 # E-4 Map Page #

Manhole #

Force Main:

FLOW DATA

Start Date: 9/5/2014 Time: 9:45 AM PM

End Date: 9/5/2014 Time: 10:00 AM PM

Duration 15 min hours/minutes Est. Flow Rate: ? gpm Estimated Total Flow: 5 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: Rehab Contractor failed to reinstate the service lateral because it appeared to have been abandoned. See attached sheet.

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:

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: LD&A Conrad Majors, LD&A Dennis Morganstern

Report completed by Rick Irwin Title: Operations & Maint. Manager Date: 9/8/14

Reviewed by Conrad J. Majors Title: LDA Inspect Date: 9/8/14

Initial TDEC Notification By: Rick Irwin Date: 9/5/14

After Review & Notification to TDEC Scott Anderson Title: Operations Manager Date: 9-10-14

Final Review [Signature] Title: Public Works Director Date: 9/10/14

Final Report Transmitted to TDEC By: Kathy Stout Date: 9/10/14

APPENDIX A:

Y-12 CORRESPONDENCE



**Status of Y-12 National Security Complex
Sanitary Sewer Inflow and Infiltration Program
September 30, 2014**

The project to line approximately 1,300 lineal feet of 8" and 10" vitrified clay pipe commenced during the last week of this calendar quarter. This line runs from First Street near the old Biology Complex to the 18" main sewer line which parallels East Fork Poplar Creek (EFPC). This line was selected as a result of the smoke testing which was conducted in 2012. During the video surveillance of this line, it was discovered that two grounding rods had been driven through the sewer piping. The contractor plans to cut the rods and repair the broken sections of pipe via the use of a fiberglass liner. While it is not possible to determine the exact amount of storm water inflow via these compromised sections of pipe, the repairs will eliminate any inflow. Additionally, four laterals to old/demolished buildings will be isolated from this main line. The lining work is currently scheduled to occur during the last week of October.

Per a revised National Pollutant Discharge Elimination System permit issued to the Y-12 Complex on April 1, 2014, the Y-12 Complex is no longer allowed to augment the flow in EFPC via transfer of raw water from the Clinch River. This revision became effective on May 1, 2014, and the raw water flow was terminated on April 30. This has resulted in a 60 percent reduction in flow in EFPC which may have the unintended consequence of reduced infiltration into the sewer system from the creek bank into gaps in the nearby sewer line. There is still no conclusive evidence that this reduction in flow in EFPC has actually resulted in decreased dry weather flow in the sanitary sewer system, and there does not appear to be any way to definitively make this determination.