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January 30, 2018

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Subject: Quarterly Report 49  
Civil Action No. 3:08-cv-00608-CRS

Attention Director and Chiefs:

Please find attached our Quarterly Report, prepared in accordance with Paragraph 29 of our Amended Consent Decree. This report is for the period October 1, 2017 – December 31, 2017, pertaining to Consent Decree compliance activities. Included are sections on Project WIN activities related to: NMC, SORP, Discharge Abatement Plans, Public Outreach, Education, Notification and Participation, CMOM and Performance Overview.

I certify under penalty of law that this document and all attachments were prepared under our direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering such information, the information submitted is, to the best of my knowledge and belief, true, accurate and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

If you have questions or need additional information, please contact me at (502) 540-6136.

Sincerely,

Angela Akridge, PE  
Louisville MSD Chief Engineer

cc: James A. Parrott  
Paula Purifoy  
File



# Louisville and Jefferson County Wet Weather Consent Decree Quarterly Report #49



**Reporting Period:**

October 1, 2017 through December 31, 2017

**Submitted To:**

Kentucky Department of Environmental Protection  
United States Environmental Protection Agency  
United States Department of Justice

**Submitted By:**

Louisville and Jefferson County Metropolitan Sewer District  
700 W. Liberty Street  
Louisville, Kentucky 40203-1911

**Submittal Date:**

January 30, 2018

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## INTRODUCTION

The Louisville and Jefferson County Metropolitan Sewer District (MSD) is currently under an Amended Consent Decree with the Kentucky Department of Environmental Protection (KDEP), the United States Environmental Protection Agency (EPA), and the United States Department of Justice. The Amended Consent Decree was signed by United States District Judge Simpson on April 10, 2009 and filed in United States District Court, Western Division of Kentucky, Louisville Division, on April 15, 2009.

### Quarterly Reporting Period

This is the forty-ninth Quarterly Report submitted in accordance with Paragraph 29 of the Amended Consent Decree. This report covers the time period from October 1, 2017, through December 31, 2017. The structure for this report is outlined as follows:

**Section 1: Program Activities for Nine Minimum Controls (NMC)** – This section describes the data collected for NMC 2 – Maximization of Storage in the Collection System, and NMC 4 – Maximization of Flow at the Morris Forman Water Quality Treatment Center (WQTC) that were active during the reporting period.

**Section 2: Program Activities for Sewer Overflow Response Protocol (SORP)** – This section describes the training attendance records, overflow data, and overflow reconnaissance inspection routes related to SORP that were active during the reporting period.

**Section 3: Program Activities for Discharge Abatement Plans (DAP)** – This section describes the schedule and status for projects related to the DAP by means of an updated Gantt chart for active DAP projects during the reporting period. This section also includes the anticipated projects and activities that are scheduled for continued compliance with the Amended Consent Decree.

**Section 4: Program Activities for Public Outreach, Education, Notification and Participation** – This section describes the activities related to public outreach that were active during the reporting period.

**Section 5: Capacity Management Operations and Maintenance (CMOM) Report** – The CMOM program activities and programmatic activities for WQTCs generating capital projects are reported in a Gantt chart for the reporting period. This section also includes the schedule for activities planned for the next reporting period are included in this section for continued compliance with the Amended Consent Decree.

**Section 6: Project Waterway Improvements Now (WIN) Performance Overview** – This section provides an accounting of unauthorized discharges from the separate sanitary and combined sewer systems, and the estimated volumes along with performance information on bypasses at WQTCs. A discussion of the probable reductions in both unauthorized discharge points and the discharges from MSD's Combined Sewer Overflow (CSO) locations, identified in the Morris Forman Water Quality Treatment Center Kentucky Pollutant Discharge Elimination System (KPDES) permit, that are expected to result from MSD's projects and activities during the reporting period are also contained in this section.

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## SECTION 1: PROGRAM ACTIVITIES FOR NINE MINIMUM CONTROLS (NMC)

### 1.1. NINE MINIMUM CONTROLS PROGRAM BACKGROUND

Per Paragraph 24.a. of the Amended Consent Decree, the Nine Minimum Controls (NMC) Compliance Report was initially submitted to EPA and KDEP on February 10, 2006. MSD received approval of the report on February 22, 2007. The approved NMC compliance document can be viewed on the MSD Project Waterway Improvements Now (WIN) website, available at [www.msdpowerwin.org](http://www.msdpowerwin.org). Highlights of the NMC program implementation over this reporting period are outlined below.

### 1.2. NMC 2: MAXIMIZATION OF STORAGE IN THE COLLECTION SYSTEM

MSD has continued operation of Phase 1 and Phase 2 of the Real Time Control (RTC) system. During this reporting period, approximately 147 MG were stored in the system during rain events and routed to the Morris Forman WQTC once the system was able to handle the flow. See Figure 1.1 at the end of this section for a detailed report.

The following identifies on-going activities; those completed during the current period; and those anticipated to be completed during the next period:

- RTC Integration – MSD and the RTC consultant continue to implement the Wet Weather Standard Operating Procedures (SOP) incrementally, starting with a period of manual operation to validate the control assumptions, followed by increasing levels of system automation as the automated controls for individual components are implemented, validated, and then incorporated into the overall RTC system.

During this reporting period, the new RTC servers were operational and utilized for software testing, including the Infoworks Integrated Catchment Model (ICM) RTC hydraulic model, Csoft, and Gorubi software. MSD continued testing the data scripting and transfer process utilizing the iFix software to transfer field data collected at local stations to the RTC system. In addition, new instrumentation for utilization with the RTC system is being incorporated into the scripting process as instruments are installed, programmed, and tested. The RTC consultant evaluated system performance and compliance with operational objectives through off-line testing of 3 historic events in addition to the 2-year/24-hour SCS type II design event tested in the previous reporting period. These results are being reviewed by MSD and analyzed to determine if any operational objectives require adjustment to better support the IOAP.

The RTC layer process control narrative is a summary of a facility's planned operations, equipment, and instrumentation compiled from a variety of sources, including design drawings, specifications, and discussions with MSD operations personnel and design consultants. The document provides the basis for development of the SOP and Csoft programming. Staff completed the RTC layer process control narratives for the Clifton Heights CSO Storage Basin and the Southwestern Parkway CSO Basin. The RTC consultant completed simulation of the RTC programming for the Southern Outfall Retention facility (SOR1), established preliminary values for tuning parameters, and finalized key

equations. These parameters and equations were incorporated into the programming guide and the guide was finalized. MSD began programming of the SOR1 facility and conducting I/O testing of connections to the programmable logic controller (PLC).

MSD is reviewing the developed drafts of the standard operating procedures (SOPs) for Clifton Heights, Southwestern Parkway, and SOR1. These SOPs will be incorporated into the FY18 Master SOP update. Revised and updated SOPs will be implemented after the Csoft and InfoWorks ICM RTC hydraulic model is integrated. Draft SOPs will be finalized as new or upgraded facilities are brought online and commissioned into the RTC network.

The upgraded Nightingale Pump Station (NGPS) facility began operating under local control June 30, 2017, with the expectation of integrating the upgraded facility into RTC during the transition to Csoft 4.

During the next quarter, MSD anticipates completion of data script transfer process testing (iFix and Process Control Network) to ensure proper field communications and commissioning readiness. MSD will also begin the online testing phase of the Csoft 4 commissioning in the phase 1 and 2 RTC facilities area. MSD will continue to review and refine the Clifton, Southwestern Parkway, and SOR1 SOPs.

- RTC Performance Assessment and Improvements – The main objective of the RTC Performance Assessment is to determine whether the available flow and storage capacities within the system are being utilized to their full potential. MSD staff continues to review and prioritize strategies for performance improvement. During the next reporting period, MSD staff and the RTC consultant will continue working to implement hardware, software and set-point changes as applicable on a site-by-site basis.

During this period, two initiatives at the Southwestern Outfall Retention Phase 2 (SWOR2) site, including a simplified human-machine interface (HMI) program and adjustment to position and flow deadband parameters aimed at reducing the number of gate movements and improving site performance, remained on hold until downstream improvements at the SWPS are completed and the need can be fully assessed.

The SWOR2 backup generator installation project is substantially complete and the backup generator and automatic transfer switch are installed and operational. In addition, MSD is evaluating options to write field data to the RTC system with a greater frequency in order to reduce data availability errors and system delays.

MSD inspected the Brady Lake and Executive Inn basins and identified a need for gate adjustments to eliminate leakage from the basins to the collection system.

MSD initiated field survey to verify the constructability of the proposed Sneads Branch modifications to eliminate the Sneads Branch pumping facility by installing an actuated gate enabling the transfer of stored volumes to existing infrastructure and utilize the Logan CSO basin pumps for dewatering the facility.

During the next reporting period, MSD will complete the field survey and geotechnical exploration for Sneads Branch, perform gate adjustments at Brady Lake and Executive Inn, and release the Ashland RTC Facility upgrades project for construction bids. The final design for the Ashland project was completed in May 2017 and provides for the replacement of the existing gate, check valves, and actuator as well as installation of a backup generator.



- Southwest Sluice Gate / Southwestern Outfall Retention Phase 1 (SWSG/SWOR1) – A gate failure at the SWSG facility on April 1, 2016, has impacted the ability of the RTC system to fully utilize storage. The center gate (one of three) broke loose and is inoperable in the closed position. A hydraulic analysis indicates the two remaining gates are capable of handling most events; however, it is necessary to limit the maximum storage level to 10 feet to ensure safe operations and reduce risks for flooding and basement surcharging. Consequently, the available storage has been temporarily reduced from 14.5 MG to 2.2 MG.

This change has impacted the ability to dewater upstream storage including SWOR2, Brady Lake, Executive Inn, and Ashland Avenue as effectively. The dewatering of these facilities is dependent on the available downstream storage at SWSG. Therefore, dewatering of these sites may be delayed to allow wet weather flow rates to decrease sufficiently to allow the process to begin safely, stored volumes may be released more slowly to ensure available storage volumes are not exceeded, and the risk of required dewatering during periods of overflow at SWSG are increased as well. MSD has adjusted Csoft parameters to improve the Southwestern Outfall dewatering process and has made temporary code revisions to the local programmable logic controller (PLC) to improve management during this period.

The new gates and actuators are installed and MSD is currently making adjustments to the equipment. Gates are anticipated to be fully operational in the upcoming reporting period. MSD will then begin a stepwise process of increasing the storage to the previous set-point levels. This process testing is weather-dependent due to the need for wet weather flows for testing, but is anticipated to begin in January 2018 and take approximately two months to complete.

### 1.3. NMC 4: MAXIMIZATION OF FLOW AT THE MORRIS FORMAN WATER QUALITY TREATMENT CENTER

#### Plant Outages

All major construction on the Morris Forman WQTC Headworks Replacement Project is complete. The East Headworks was in service during the reporting period. Channels were taken out of service due to low flow as appropriate. West Headworks remained out of service for the majority of the period for contractor work and inspection. The Final Effluent Pump Station (FEPS) was in service 9 days of the reporting period. Plant capacity was 280 MGD for the majority of the period. Flows at Morris Forman WQTC were sustained between 120 and 160 MGD as shown in Figures 1.2 through 1.4, depending on equipment in service, before allowing flow to bypass secondary treatment during the reporting period.

#### Morris Forman WQTC Projects

- Morris Forman WQTC Headworks Replacement – Substantial completion on East & West Headworks is anticipated during the next reporting period.
- Morris Forman WQTC FEPS Generator – Final completion is anticipated during the upcoming reporting period.
- Morris Forman WQTC High Yard Modifications – Power to plant is available via the north and south LG&E feeds. Power factor correction capacitors have been installed and will be tested and put into service during the upcoming reporting period. New switchgear is undergoing modifications to fix a

safety interlock issue. The project is anticipated to reach substantial completion in the upcoming reporting period.

- Morris Forman WQTC Centrifuge Electrical Controls – All five centrifuge back drives have been upgraded. The project reached substantial completion during the reporting period and will reach final completion in the upcoming reporting period.
- Morris Forman WQTC Oxygen Generation Plants 1 and 2 Replacement – System installation is substantially complete and has been providing 100% of the oxygen demand to the facility. MSD will complete controls work during the next reporting period. The control strategy is currently under development.

#### Morris Forman WQTC Performance

Figures 1.2 through 1.4 located at the end of this section illustrate performance in maximizing flow during wet weather to the Morris Forman WQTC. The top of the chart shows rainfall in inches per day. The middle part of the chart shows Morris Forman WQTC effluent flow and secondary treatment flow. The difference between these flows is the secondary bypass flow. The bottom of the chart shows days with a CSO activation at the five CSOs in the vicinity of the Morris Forman WQTC (CSOs 015, 016, 191, 210, and 211).

Note that the flow meter downstream from CSO211 is known to be affected by Ohio River backwater effects and the ultrasonic signal is sometimes blocked by mist and condensation when air and sewage temperatures are significantly different. Therefore, CSO activations at CSO211 are keyed to water levels upstream and downstream of the inflatable dam in the Main Diversion Structure. The other CSO activations are tied to flow measurement downstream of the respective CSO. At times, “blips” representing very small volumes of overflow are indicated by flow meters even though an overflow cannot be verified by level measurements or other indicators. These blips are not reported as overflows, but are noted in the CSO monitoring data reported in Appendix B. In addition, indications of rainfall and CSO activations are shown on the day they happened, but are not aligned with the exact time, so the effluent flow graph (which is tied to actual time) may show peaks that are offset from the indicated rain or CSO events by as much as 24 hours.

For the months of October and December 2017, Morris Forman WQTC did not meet the Seven and 30 Day Secondary Effluent Total Suspended Solids (TSS), TSS Percent Removal, and Seven and 30 Day Secondary Effluent Biochemical Oxygen Demand (BOD) limits. For the month of November 2017, Morris Forman WQTC did not meet the Seven and 30 Day Secondary Effluent TSS limits. MSD is working with the oxygen supplier to improve that the control strategy developed to manage the new oxygen generation system at Morris Forman in an effort to resolve these permit issues. MSD has also contracted to begin using a portable belt press onsite to remove additional solids. The contract began in December 2017, and has been impacted by lower than average sub-freezing temperatures, but will continue to be tested in the upcoming reporting period. Additionally, staff is working with permitted industrial users through the pretreatment program to reduce solids introduced into the collection system.

## 1.4. NMC ACTIVITY SCHEDULE

NMC capital project milestones for the current reporting period as well as a look-ahead for the upcoming reporting period are provided in Figure 1.5.

Figure 1.1. Wet Weather Storage in the Morris Forman Sewer System via the RTC System



Louisville/Jefferson County  
Metropolitan Sewer District

## WET WEATHER STORAGE IN THE MORRIS FORMAN SEWER SYSTEM VIA THE RTC SYSTEM



Period	
From :	10/01/2017
To :	12/31/2017

Event Number	Wet Weather Event			Rainfall			CSO Saved Volume (MG)								High River Levels	Comments
	Start Date	End Date	Duration	Average*	Max**		SWPS SG Chamber (7.7)	SWOR2 (5.3)	Brady Lake and Executive Inn Storage (13.4)	Southern Outfall (3.5)	Ashland (1.0)	Ohio River Interceptor (4.1)	Sneads Branch (2.5)	Total (46.5)		
				TRFD (in)	TRFD (in)	Rain Gauge										
2017-063	10/7/17 21:00	10/9/17 9:15	36:15:00	2.24	2.73	TR12	9.35	2.30	7.55	8.10	1.65	4.30	3.10	36.35	0	Very large back-to-back storm cells homogeneously distributed over the service area. The SWSG site was controlled manually. The storage capacity at the SWSG site is restricted due to the damaged Gate 2.
2017-064	10/10/17 13:10	10/11/17 5:15	16:05:00	0.82	1.17	TR12	4.65	1.40	2.70	3.25	0.90	1.75	N.A.	14.65	0	Moderate storm cells heterogeneously distributed over the service area. The SWSG site was controlled manually. The storage capacity at the SWSG site is restricted due to the damaged Gate 2. Invalid level meter data at Sneads Branch.
2017-065	10/23/17 4:40	10/24/17 9:25	28:45:00	0.83	1.11	TR12	4.00	0.00	0.95	3.10	0.00	2.15	0.35	10.55	0	Small back-to-back storm cells homogeneously distributed over the service area. The SWSG site was controlled manually. The storage capacity at the SWSG site is restricted due to the damaged Gate 2. Invalid level meter data at SWPS ; CSO saved volume estimated to the best of available data.
2017-066	10/27/17 16:40	10/28/17 17:35	24:55:00	1.10	1.46	TR12	7.00	0.00	3.45	3.20	0.65	2.05	0.50	16.85	0	Large storm cells homogeneously distributed over the service area. The SWSG site was controlled manually. The storage capacity at the SWSG site is restricted due to the damaged Gate 2.
2017-068	11/3/17 4:15	11/4/17 7:55	27:40:00	0.96	1.76	TR12	4.04	2.43	1.78	3.50	0.35	1.95	1.80	15.85	0	Large back-to-back storm cells homogeneously distributed over the service area. The SWSG site was controlled manually. The storage capacity at the SWSG site is restricted due to the damaged Gate 2.
2017-069	11/6/17 0:25	11/6/17 17:20	16:55:00	0.36	0.71	TR05	1.05	0.00	1.10	3.20	0.05	1.30	0.65	7.35	0	Moderate back-to-back storm cells homogeneously distributed over the service area. The SWSG site was controlled manually. The storage capacity at the SWSG site is restricted due to the damaged Gate 2.
2017-070	11/6/17 23:35	11/7/17 15:45	16:10:00	0.26	0.32	TR12	0.00	0.00	0.15	1.15	0.05	0.95	0.05	2.35	0	Small back-to-back storm cells homogeneously distributed over the service area. The SWSG site was controlled manually. The storage capacity at the SWSG site is restricted due to the damaged Gate 2.
2017-072	11/15/17 10:55	11/15/17 21:50	10:55:00	0.29	0.36	TR04	1.40	0.00	0.60	2.50	0.10	1.60	0.20	6.40	0	Small storm cells homogeneously distributed over the service area. The SWSG site was controlled manually. The storage capacity at the SWSG site is restricted due to the damaged Gate 2.
2017-073	11/18/17 15:10	11/19/17 0:25	9:15:00	0.29	0.43	TR04	0.30	0.00	0.40	3.50	0.10	1.80	0.25	6.35	0	Moderate back-to-back storm cells homogeneously distributed over the service area. The SWSG site was controlled manually. The storage capacity at the SWSG site is restricted due to the damaged Gate 2.
2017-074	12/4/17 20:00	12/5/17 17:50	21:50:00	0.89	1.15	TR14	4.05	1.80	3.30	3.20	0.75	2.75	1.30	17.15	0	Large back-to-back storm cells homogeneously distributed over the service area. The SWSG site was controlled manually. The storage capacity at the SWSG site is restricted due to the damaged Gate 2.
2017-075	12/22/17 16:55	12/24/17 8:55	40:00:00	1.60	1.96	TR04	0.00	1.25	5.50	2.55	1.45	1.55	1.00	13.30	0	Large back-to-back storm cells homogeneously distributed over the service area. The SWSG site was controlled manually. The storage capacity at the SWSG site is restricted due to the damaged Gate 2.
TOTAL							35.84	9.18	27.48	37.25	6.05	22.15	9.20	147.15		

\* Average total rainfall depth based on rain gauge TR04, TR05, TR11, TR12, TR13, TR14 and TR15

\*\* Maximum total rainfall depth measurement and its location during the wet weather event

\*\*\* MDS is always manually controlled by operator

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Figure 1.2. Morris Forman WQTC – Plant Flows and Associated CSO Activations – October 2017

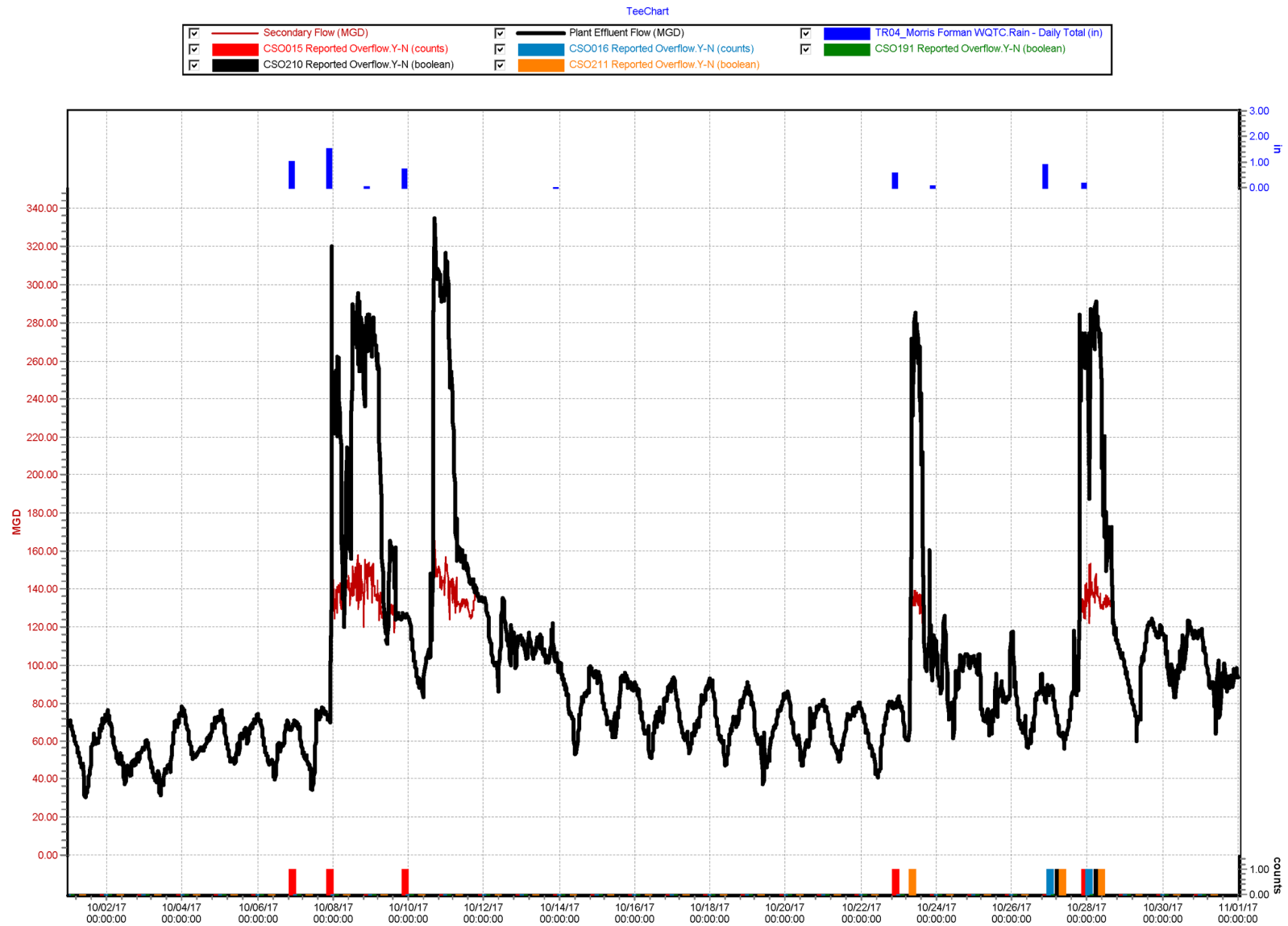


Figure 1.3. Morris Forman WQTC – Plant Flows and Associated CSO Activations – November 2017

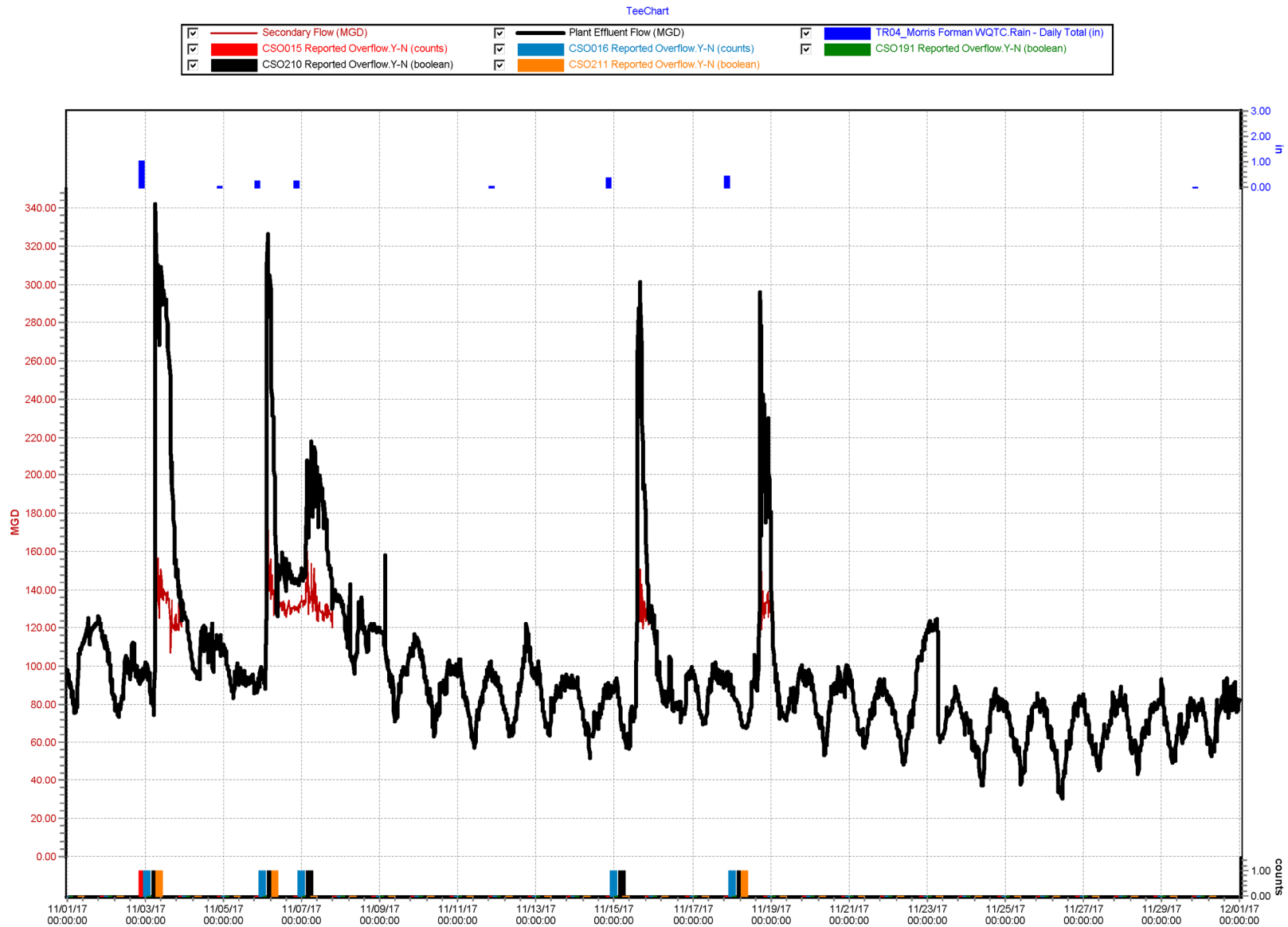


Figure 1.4. Morris Forman WQTC – Plant Flows and Associated CSO Activations – December 2017

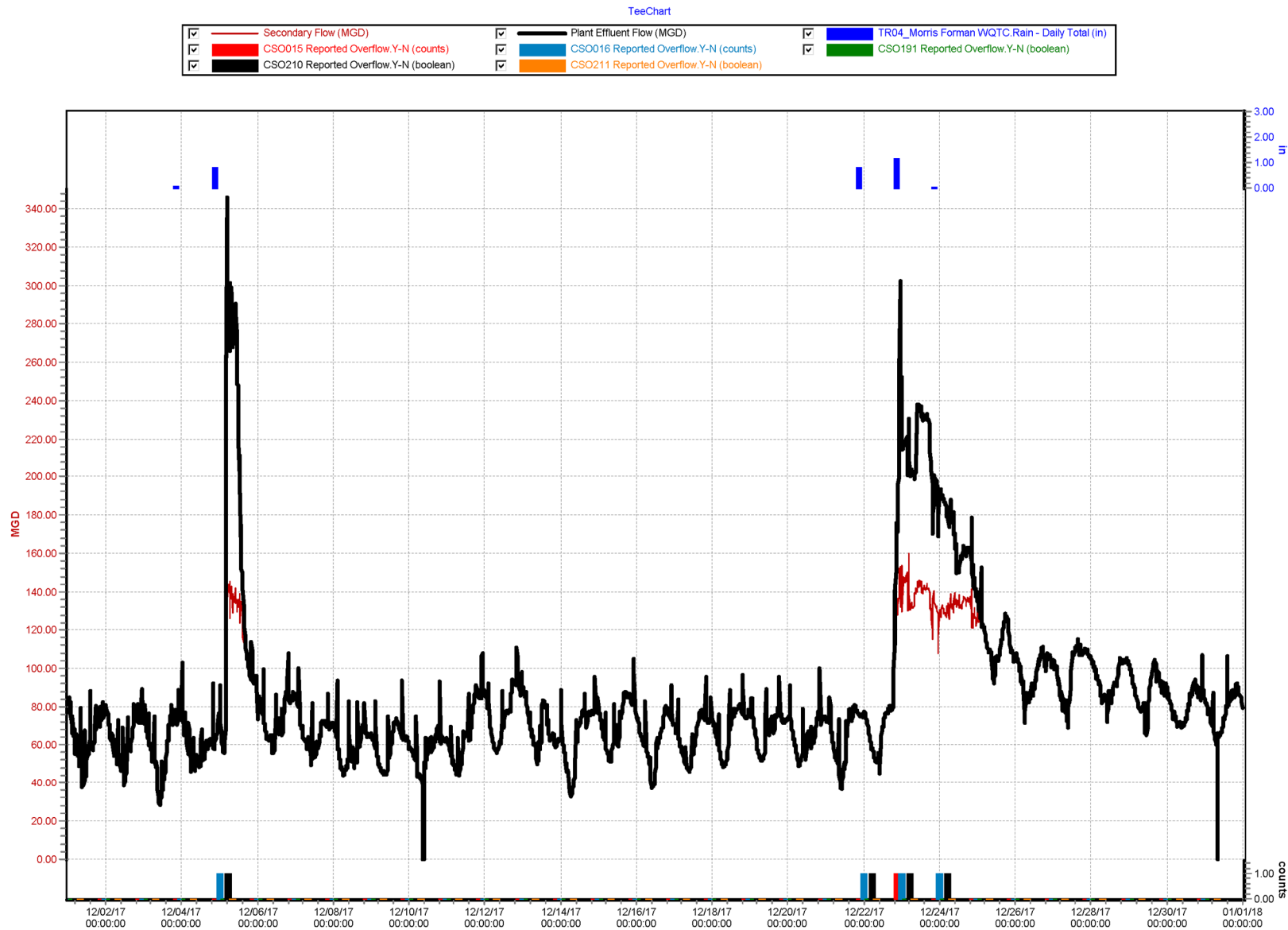




Figure 1.5. NMC Quarterly Commitments Schedule

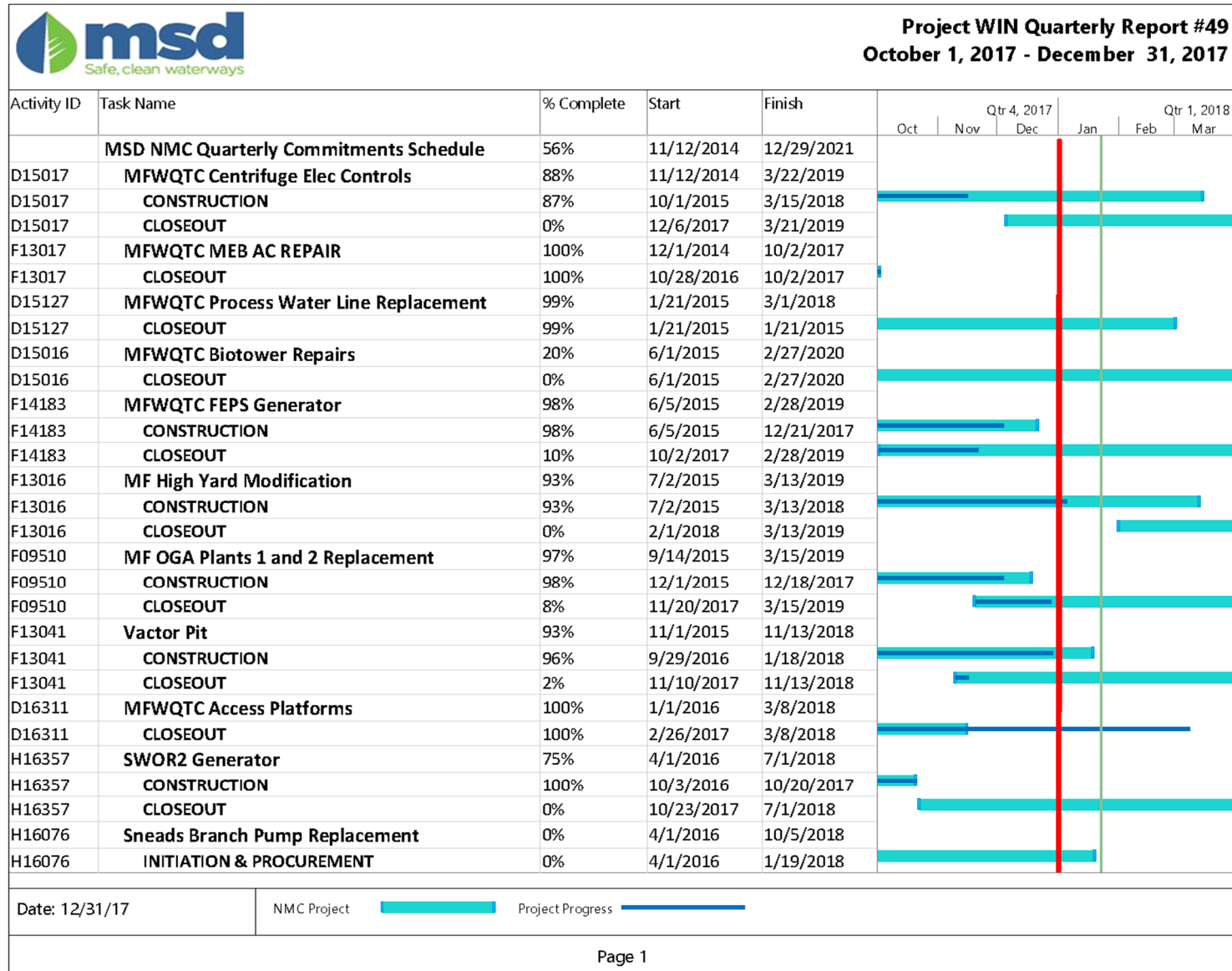




Figure 1.5. NMC Quarterly Commitments Schedule

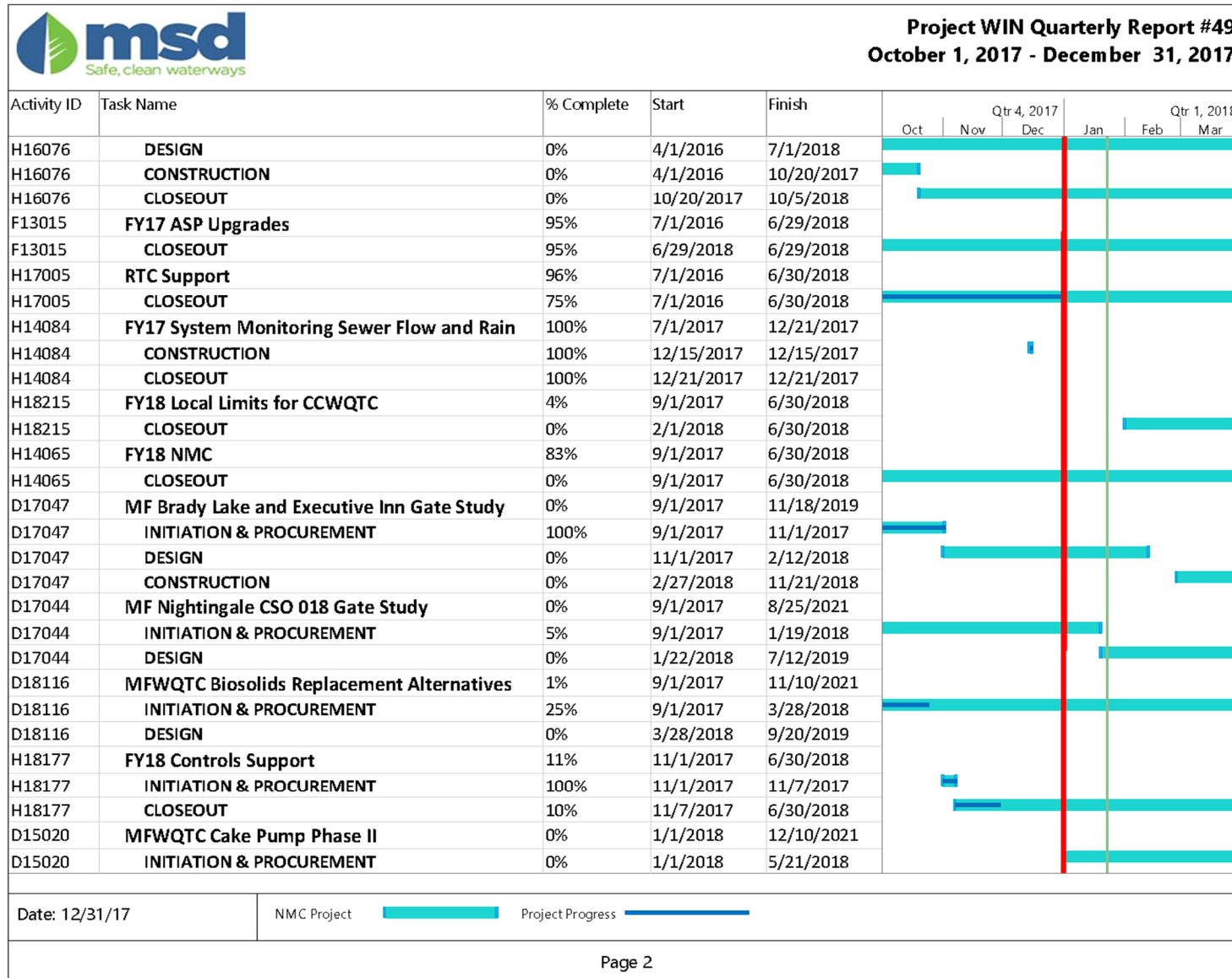
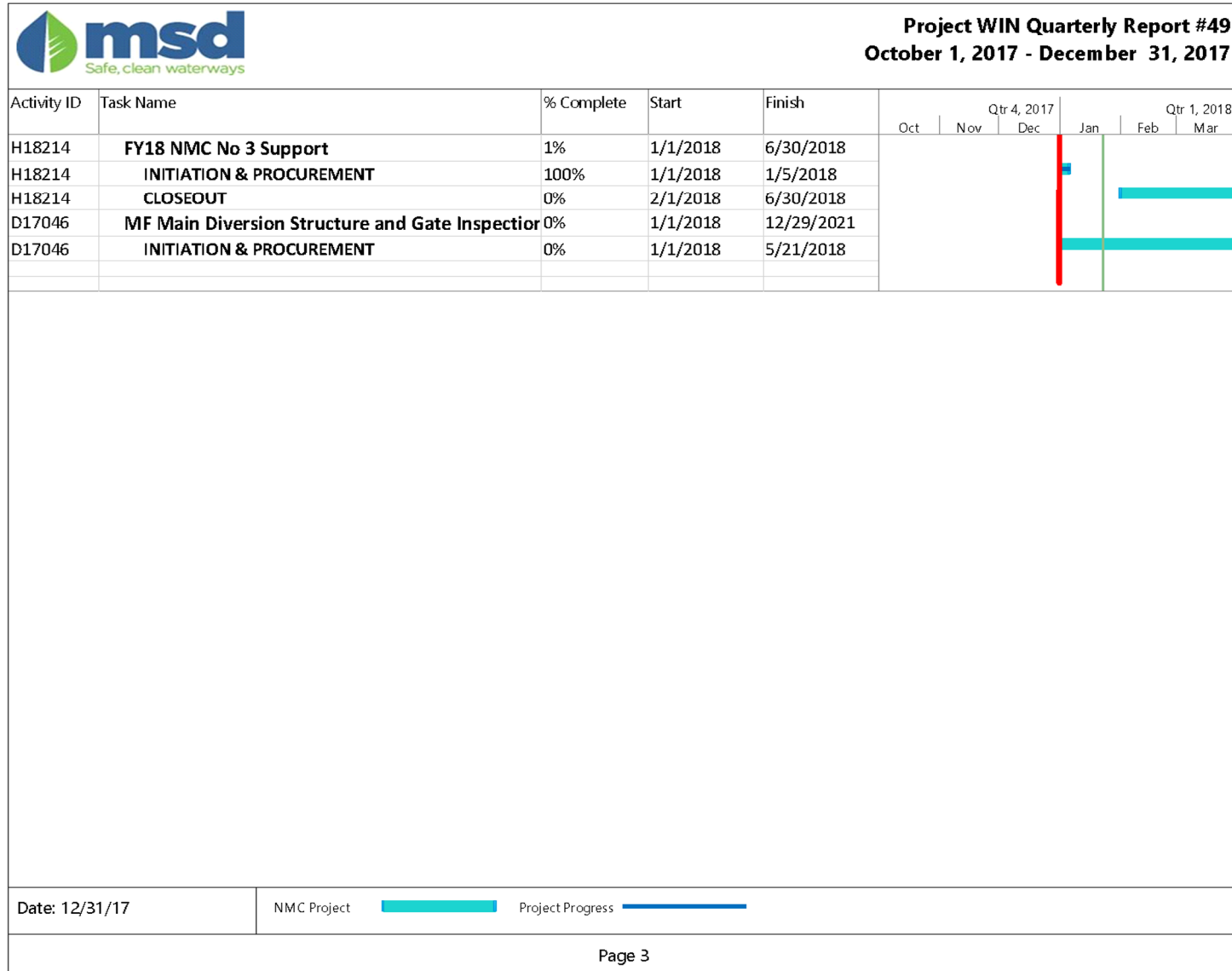


Figure 1.5. NMC Quarterly Commitments Schedule



## SECTION 2: PROGRAM ACTIVITIES FOR SEWER OVERFLOW RESPONSE PROTOCOL (SORP)

### 2.1. PROGRAM BACKGROUND

Per Paragraph 24.d. of the Amended Consent Decree, MSD initially submitted the Sewer Overflow Response Protocol (SORP) to EPA and KDEP on February 10, 2006, and received comments on March 13, 2006.

MSD completely revised the SORP documentation in 2011. The draft of this revised document was submitted for comment on August 22, 2011. Comments from EPA and KDEP were received and addressed, and the document was resubmitted October 28, 2011. Final approval of the updated SORP document was received February 21, 2012. Modifications were made to the document in 2016 to reflect the elimination of the Jeffersontown WQTC, and were approved on July 21, 2017. A hard copy of the approved document has been distributed to each division throughout MSD and a viewable, downloadable electronic version has been posted to the MSD Project WIN website, available at [www.msdpowerwin.org](http://www.msdpowerwin.org). The following activities were performed during this reporting period.

### 2.2. OVERFLOW MANAGEMENT AND FIELD DOCUMENTATION

MSD monitored approximately 134 sanitary sewer overflow (SSO) sites, which have been grouped into routes based on the range of rainfall rates necessary to cause a SSO. These routes are monitored during rain events depending on the magnitude and location of the storm. If an overflow is observed, a Discharge Work Order is created to document the event. During this quarter, eight unauthorized discharges were identified through route reconnaissance. Inspection routes were run during rain events, as described in Table 2.1.

MSD Operations staff hauled 30,000 gallons due to capacity-related issues during this reporting period. Hauling was also initiated due to other issues as indicated in Table 2.2.

**Table 2.1. Rain Event Inspection Routes**

DATE	ENGINEERING	HIKES POINT	JTOWN	JTOWN & FERN CREEK	MIDDLE FORK & MUDDY FORK	WEST COUNTY
October 8, 2017	X	X	X	X	X	X
October 28, 2017		X	X	X	X	X
November 3, 2017	X	X	X	X	X	X
December 23, 2017	X	X	X	X	X	X

**Table 2.2. Hauled Volumes in Gallons**

PROBLEM	OCT	NOV	DEC
LACK OF SYSTEM CAPACITY	3,000	27,000	0
MECHANICAL FAILURE	0	7,200	0

## 2.3. STAFF TRAINING AND COMMUNICATION

MSD launched a new online training delivery system to allow more flexibility for employees to complete training at convenient times during the quarter and to integrate SORP training with new employee and contractor orientation. The existing training program was reviewed, updated, and repackaged into an enhanced online format for the 2017 fourth quarter SORP training that included four modules under Reporting and Follow-up:

- Reporting Basics
- Hansen Reporting
- Paper-Based and Contingency reporting
- Regulatory Reporting and Data Quality

A fifth module was developed that included updates related to progress under the IOAP and projects under the CMOM and NMC programs. The modules were successfully delivered to 290 staff in Operations and Engineering.

Additionally, annual overview training was delivered in person to 283 contractors and for MSD employees who are not directly responsible for overflow response.

First quarter training is now being repackaged to utilize the online format, and includes three modules under Preparing for Overflows, Monitoring & Mobilization:

- SORP Overview
- SORP Process Overview
- Monitoring & Mobilization

A fourth module is also being developed to provide continued updates related to progress under the IOAP and projects under the CMOM and NMC programs.

The two modules being developed to provide a SORP overview will include the purpose for the SORP process, definitions and history related to overflows and the Clean Water Act, applicable regulations, obligations of MSD employees and contractors, and an overview of the procedures, including the procedure MSD employees and contractors need to follow should an overflow occur. It is anticipated that these modules will be customized for contractors and for MSD employees who are not directly responsible for overflow response, to be used for annual training and onboarding.

## SECTION 3: PROGRAM ACTIVITIES FOR DISCHARGE ABATEMENT PLANS (DAP)

### 3.1. INTEGRATED OVERFLOW ABATEMENT PLAN (IOAP)

As a requirement of the Amended Consent Decree, per Paragraph 25, MSD is to prepare and submit for review and approval discharge abatement plans for the elimination of unauthorized discharges from the separate sanitary and the combined sewer systems, the reduction and control of discharges from the CSO locations identified in the Morris Forman WQTC KPDES permit, and the improvement of water quality in the receiving waters.

The Final Sanitary Sewer Discharge Plan (SSDP) and the Final CSO Long Term Control Plan (LTCP) were submitted concurrently and certified on December 19, 2008, under the title of the Integrated Overflow Abatement Plan (IOAP). The IOAP was accepted by the Federal Court and incorporated by reference into the Amended Consent Decree by a Federal Order signed February 12, 2010, and was entered into public record on February 15, 2010.

MSD submitted an IOAP modification request to EPA/KDEP on September 20, 2012, with partial approval granted via certified letter on October 25, 2012. The modified project package, including program descriptions, progress, and updated supporting text, was submitted to EPA/KDEP for approval on June 14, 2013. On June 19, 2014, MSD received approval of the 2012 IOAP Modification from EPA/KDEP. The project and program modifications proposed within this submittal resulted from additional information gathered from ongoing system monitoring, hydraulic modeling and best professional judgment. MSD's adaptive management approach to overflow abatement has justified modifications which provide a higher level of overflow control. These modifications will be completed faster than originally proposed for approximately the same overall budget.

Since the June 19, 2014, approval of the 2012 IOAP Modification, minor project modification requests have been submitted and approved on an individual project basis.

### 3.2. SANITARY SEWER DISCHARGE PLAN (SSDP)

The Sanitary Sewer Discharge Plan (SSDP) addresses the overflows and unauthorized discharges from the separate sanitary sewer system. Three separate plans have been submitted under this program as described below and outlined in Paragraph 25.a. of the Amended Consent Decree.

#### 3.2.1. UPDATED SANITARY SEWER OVERFLOW PLAN (SSOP) IMPLEMENTATION

MSD prepared and submitted the Updated Sanitary Sewer Overflow Plan (SSOP) on February 10, 2006. This plan included an overview of the MSD sanitary sewer overflow abatement program and specific actions taken to reduce/eliminate overflows from the sanitary sewer system. This document included a list of the proposed improvements to be accomplished by December 31, 2008. Activities required under the Updated SSOP have been completed.

### 3.2.2. INTERIM SANITARY SEWER DISCHARGE PLAN (ISSDP)

MSD submitted an Interim Sanitary Sewer Discharge Plan (ISSDP) for approval on September 30, 2007. Comments were received on January 8, 2008. MSD resubmitted the revised ISSDP on March 7, 2008, and received an approval letter for the ISSDP on July 24, 2008. The approved document can be viewed on the MSD Project WIN website, available at [www.msdprojectwin.org](http://www.msdprojectwin.org).

All projects required by the ISSDP have been completed and certified. The Derek R. Guthrie WQTC Project's completion was delayed in accordance with the construction contract documents due to existing litigation and performance by the general contractor. However, the full functionality and capacity of the plant upgrades under this project met the demands of the service area. With this understanding, a revised certification letter dated October 19, 2015, was submitted certifying that the Derek R. Guthrie WQTC Project is performing in accordance with its stated intent and purpose, and is in compliance with the Consent Decree requirements.

### 3.2.3. FINAL SANITARY SEWER DISCHARGE PLAN (SSDP)

MSD submitted for approval a Final SSDP on December 19, 2008, as Volume 3 of the IOAP. The IOAP was accepted by the Federal Court and incorporated by reference into the Amended Consent Decree by a Federal Order signed February 12, 2010, and was entered into public record on February 15, 2010. A revised SSDP was included in the 2012 IOAP Modification, submitted on June 14, 2013. On June 19, 2014, MSD received approval of the 2012 IOAP Modification from EPA/KDEP. The approved document can be viewed on the MSD Project WIN website, available at [www.msdprojectwin.org](http://www.msdprojectwin.org).

## 3.3. CSO LONG TERM CONTROL PLAN (LTCP)

The CSO Long Term Control Plan (LTCP) addresses the overflows and unauthorized discharges from the Combined Sewer System (CSS). Two separate plans have been submitted under this program as described below and outlined in Paragraph 25.b. of the Amended Consent Decree.

### 3.3.1. INTERIM CSO LONG TERM CONTROL PLAN (LTCP)

The Interim CSO LTCP was initially submitted to EPA and KDEP on February 10, 2006, and MSD received an approval letter dated February 22, 2007. The approved Interim LTCP can be viewed on the MSD Project WIN website, available at [www.msdprojectwin.org](http://www.msdprojectwin.org). This plan includes an overview of the MSD program, efforts taken to reduce/eliminate discharges from the CSS, and the list of proposed improvements to be accomplished by December 31, 2008. All projects associated with this plan have been completed.

### 3.3.2. FINAL CSO LONG TERM CONTROL PLAN (LTCP)

MSD submitted for approval the Final CSO LTCP on December 19, 2008, as Volume 2 of the Integrated Overflow Abatement Plan. The IOAP was accepted by the Federal Court and incorporated by reference into the Amended Consent Decree by an Order signed February 12, 2010, and was entered into public record on February 15, 2010. A revised LTCP was included in the 2012 IOAP Modification, submitted June 14, 2013. On June 19, 2014, MSD received approval of the 2012 IOAP Modification from EPA/KDEP. The approved document can be viewed on the MSD Project WIN website, available at [www.msdprojectwin.org](http://www.msdprojectwin.org).

### 3.3.3. GREEN INFRASTRUCTURE PROGRAM UPDATE

No new Green Infrastructure Program projects were procured during the current reporting period. The intent of the Green Infrastructure Program is to provide additional overflow volume reduction benefits to complement LTCP projects. Projects are selected for incentive by providing high value for residual AAOV reduction based on the latest modeling results.

## 3.4. DISCHARGE ABATEMENT PLAN PROJECT STATUS

### 3.4.1. SANITARY SEWER DISCHARGE PLAN (SSDP)

Table 3.1 details SSDP projects completed and certified during the current reporting period. Per the current approved schedule, no SSDP projects will be completed or certified during the next reporting period.

**Table 3.1. IOAP Project Completion Dates – SSDP – Current Reporting Period**

BUDGET ID	ACD PROJECT NUMBER	PROJECT NAME	ASSOCIATED SSOs	ACD DATE	CERTIFIED COMPLETION DATE
H09218	S_SF_MF_30917_M_09_A	CAMP TAYLOR #3- REPLACE SEWER & REHABILITATION	08717, 104223, 104224, 104231, 13931, 13943, 13946, 34093542, 36763, 44396, 44397, 51301, 66349, 99259, KK14815019, KK14855239	December 31, 2017	December 15, 2017

### 3.4.2. COMBINED SEWER OVERFLOW LONG TERM CONTROL PLAN (LTCP)

Table 3.2 details CSO LTCP projects completed and certified during the current reporting period. Per the current approved schedule, no CSO LTCP projects will be completed or certified during the next reporting period.

**Table 3.2. IOAP Project Completion Dates – CSO LTCP – Current Reporting Period**

BUDGET ID	ACD PROJECT NUMBER	PROJECT NAME	ASSOCIATED CSOs	LEVEL OF CONTROL (TYPICAL YEAR)	ACD DATE	CERTIFIED COMPLETION DATE
H09137	L_OR_MF_190_S_09B_B_A_8	CSO190 Green Infrastructure	CSO190	8	December 31, 2017	December 29, 2017
H09142	L_SO_MF_092_M_09B_B_D_8	Logan Street and Breckinridge Street Storage Basin	CSO091, CSO097, CSO106, CSO110, CSO111, CSO113, CSO117, CSO137, CSO146, CSO148, CSO149, CSO151, CSO152	8	December 31, 2017	December 20, 2017

#### 3.4.3. ACTIVITY PROGRESS CHART

A Gantt chart showing the 2012 IOAP Modification project schedules and subsequent approved minor modifications for the entire program is provided in Figure 3.1. Refer to IOAP, Volume 1 – Figure 6.3.1 for the previous chart.



Figure 3.1. MSD Integrated Overflow Abatement Plan Implementation Schedule

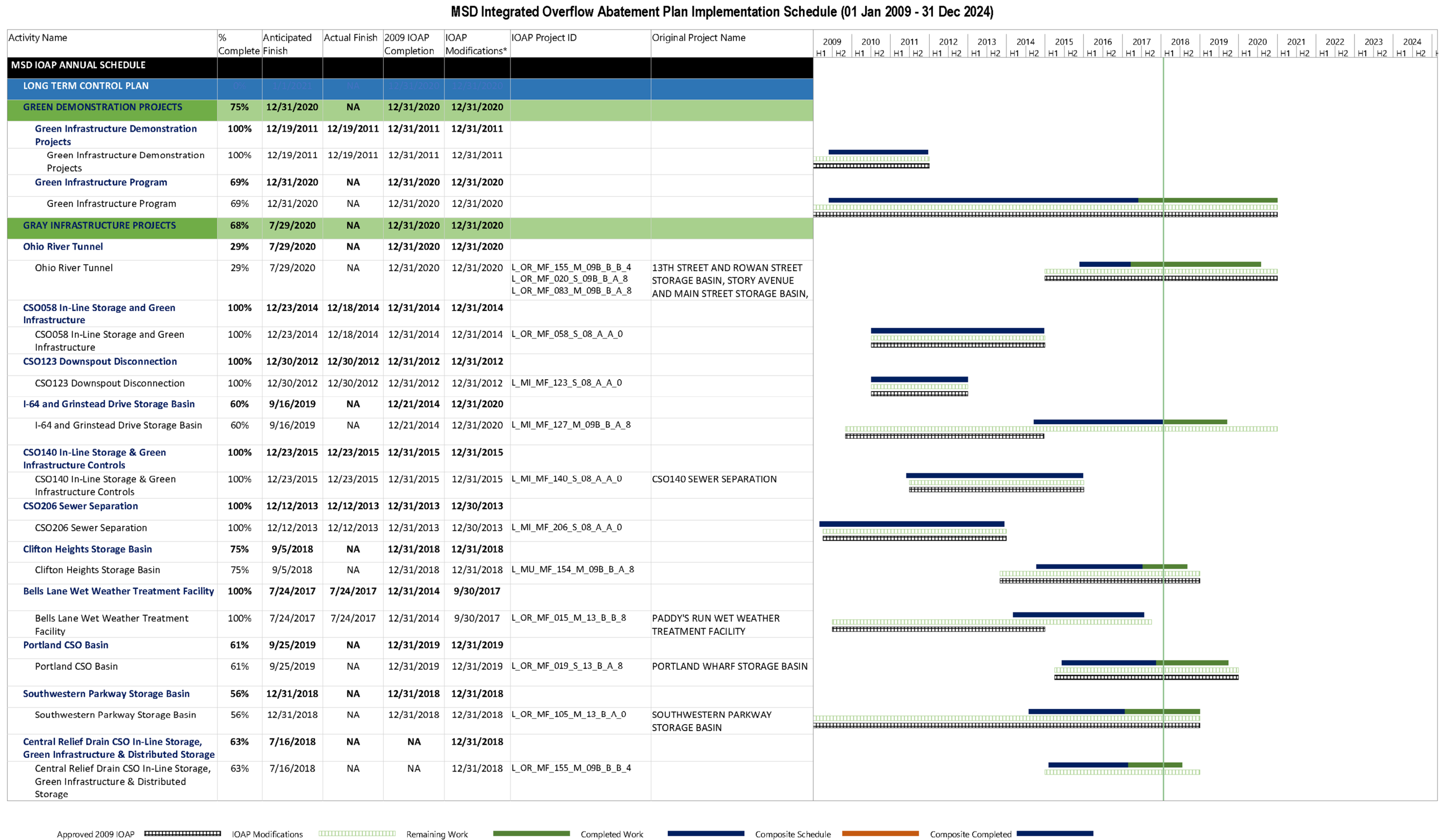
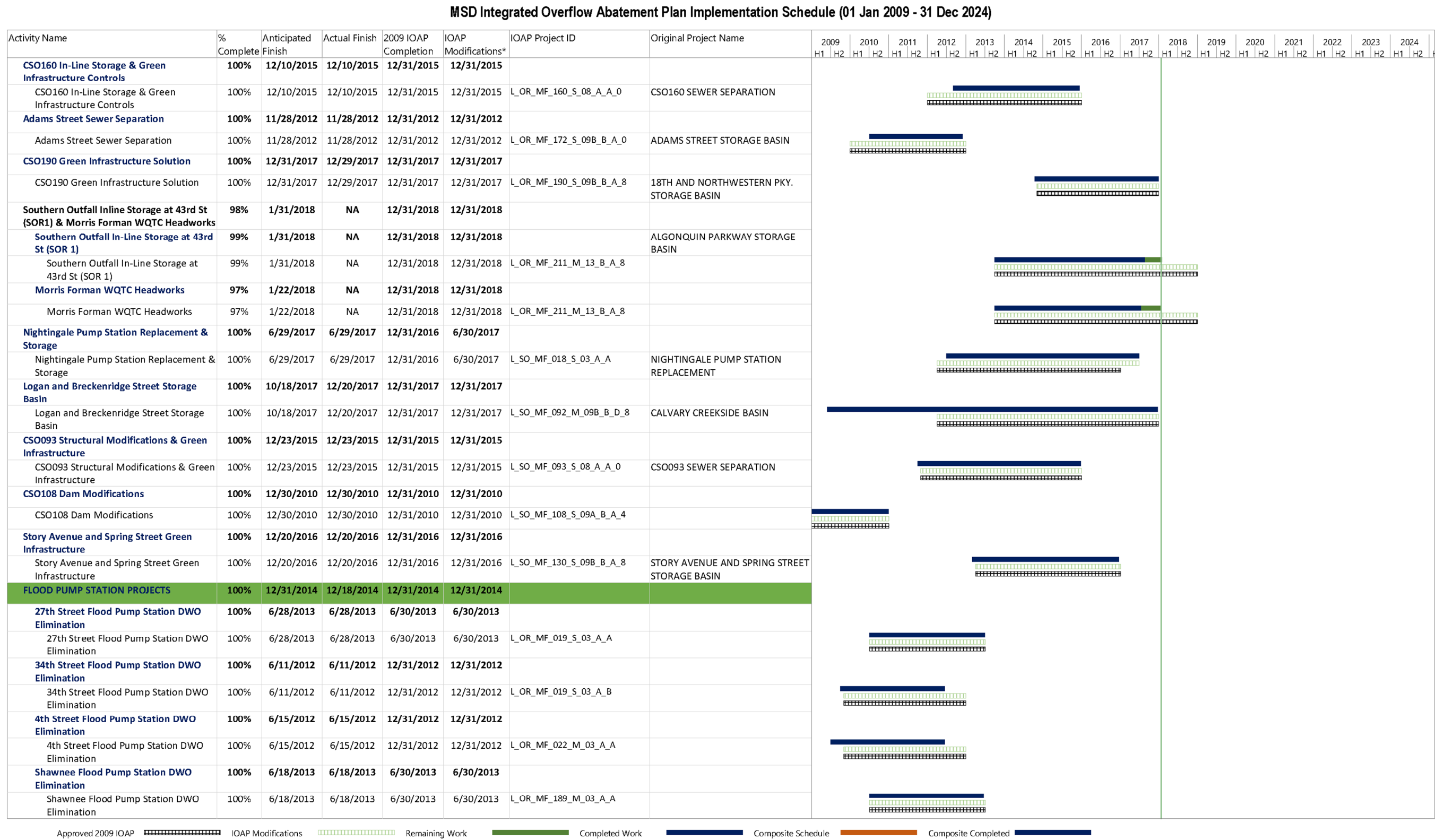


Figure 3.1. MSD Integrated Overflow Abatement Plan Implementation Schedule



Includes 2014 approval of 2012 IOAP Modification as well as all minor mod letter approvals to date.

Figure 3.1. MSD Integrated Overflow Abatement Plan Implementation Schedule

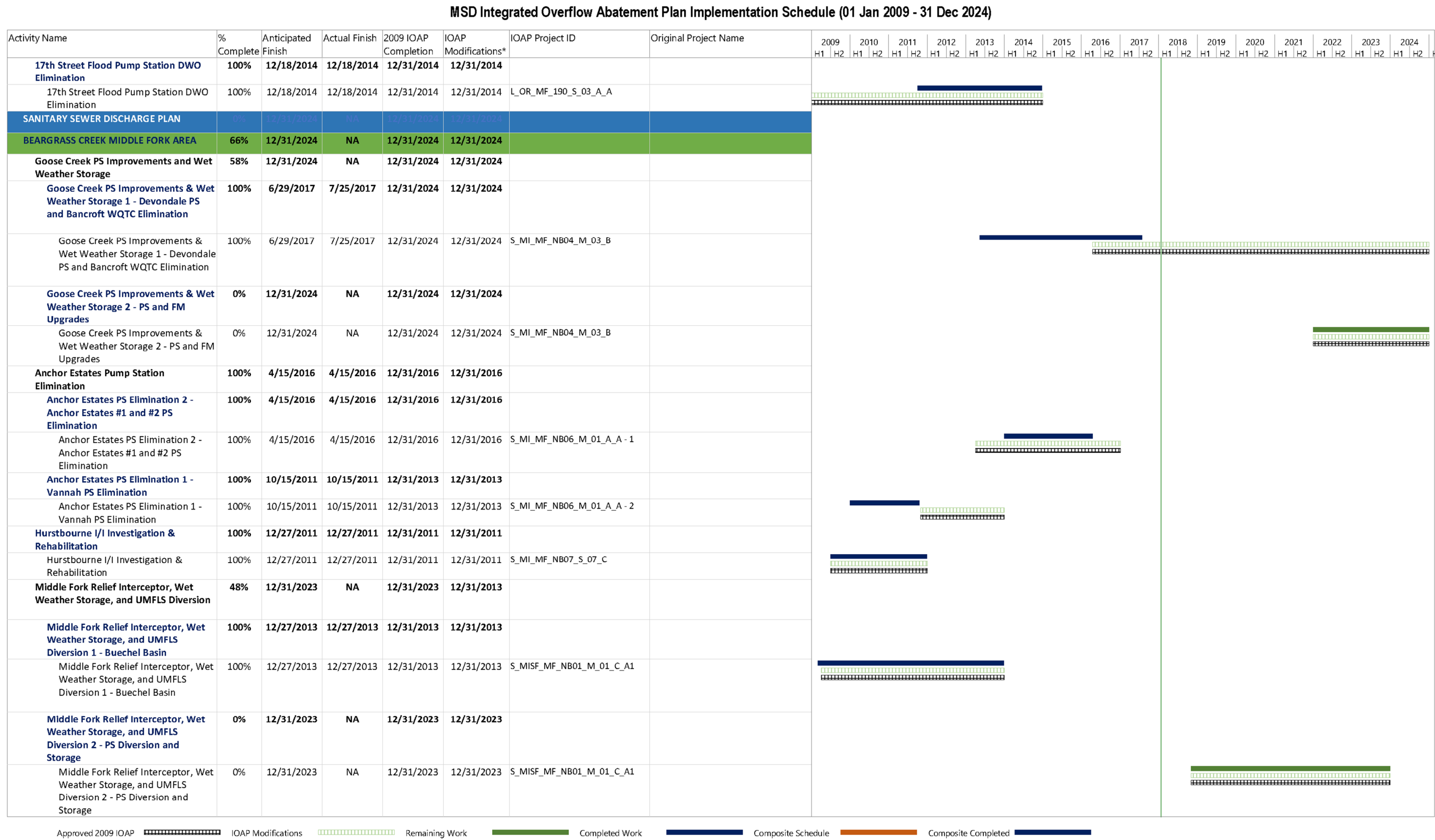




Figure 3.1. MSD Integrated Overflow Abatement Plan Implementation Schedule

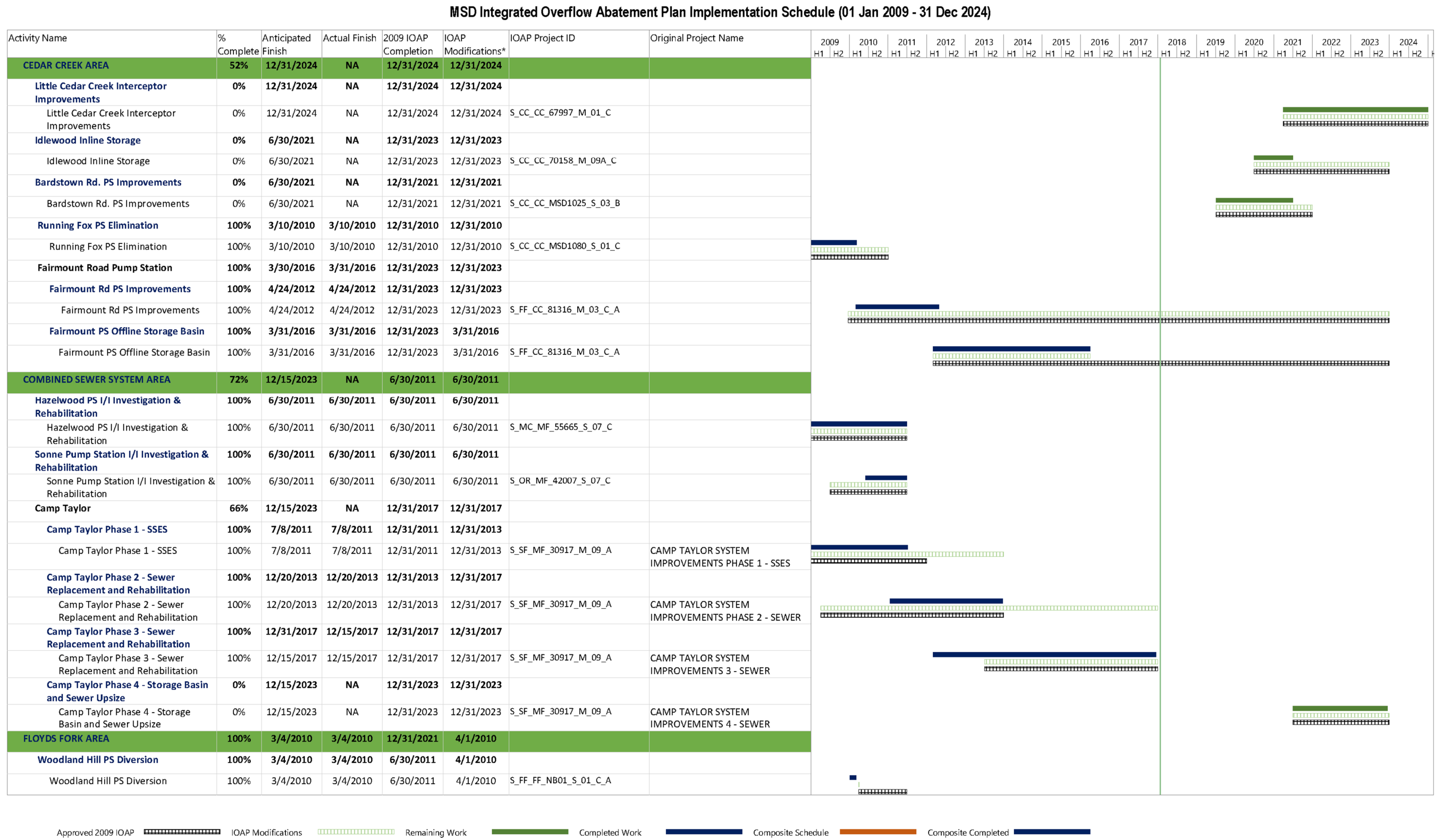
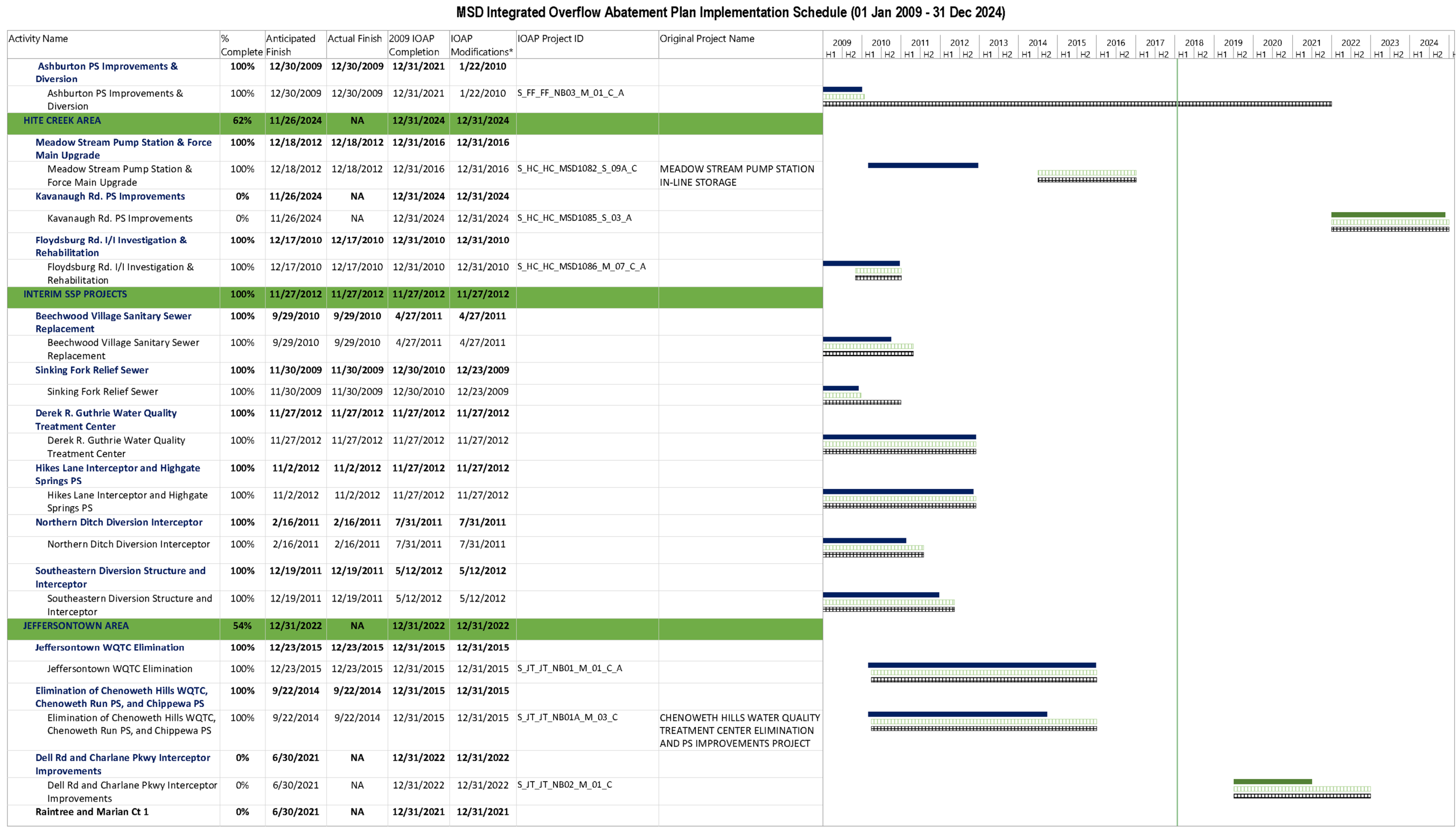


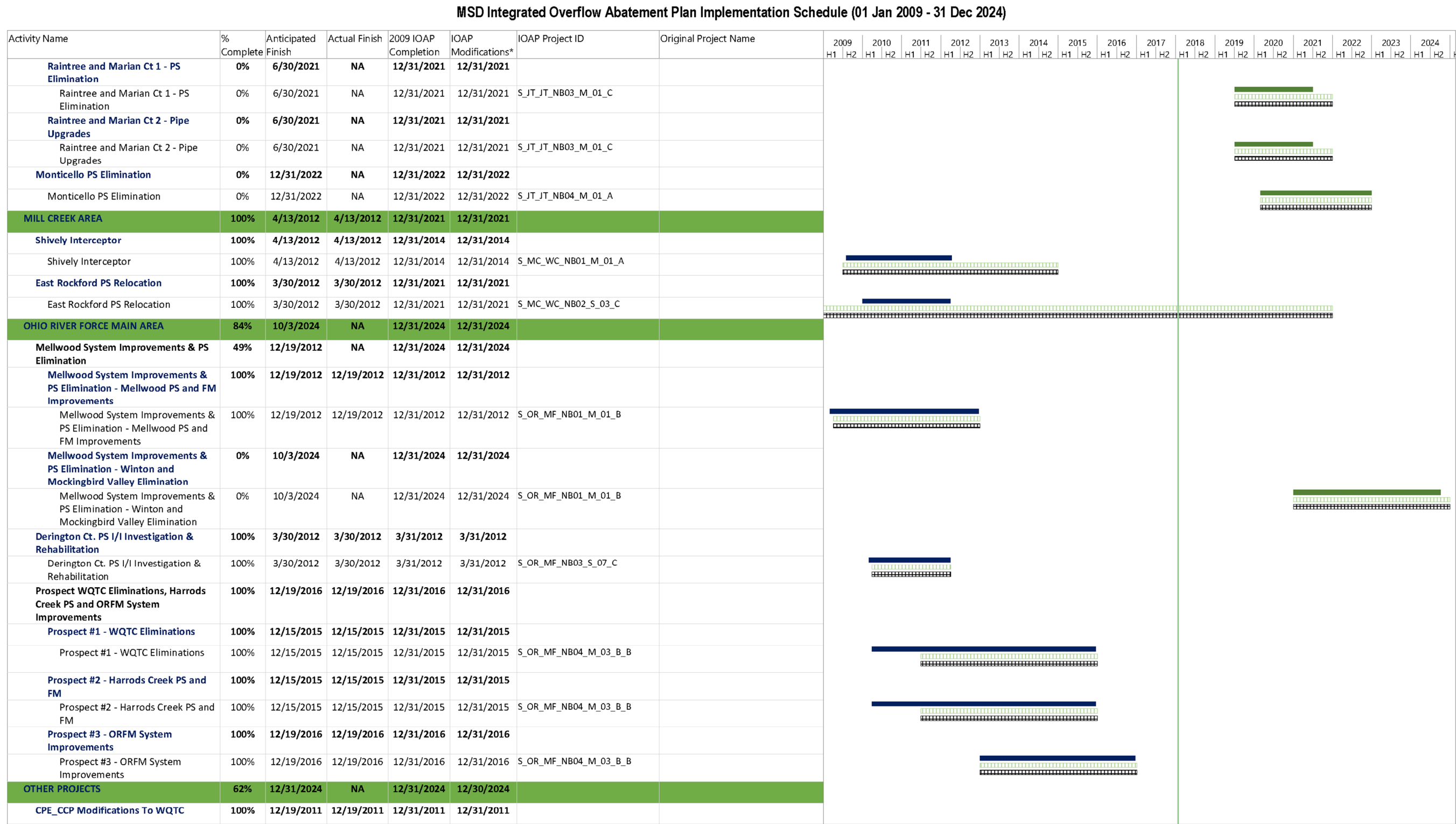
Figure 3.1. MSD Integrated Overflow Abatement Plan Implementation Schedule



Approved 2009 IOAP  IOAP Modifications  Remaining Work  Completed Work  Composite Schedule  Composite Completed 

Includes 2014 approval of 2012 IOAP Modification as well as all minor mod letter approvals to date.

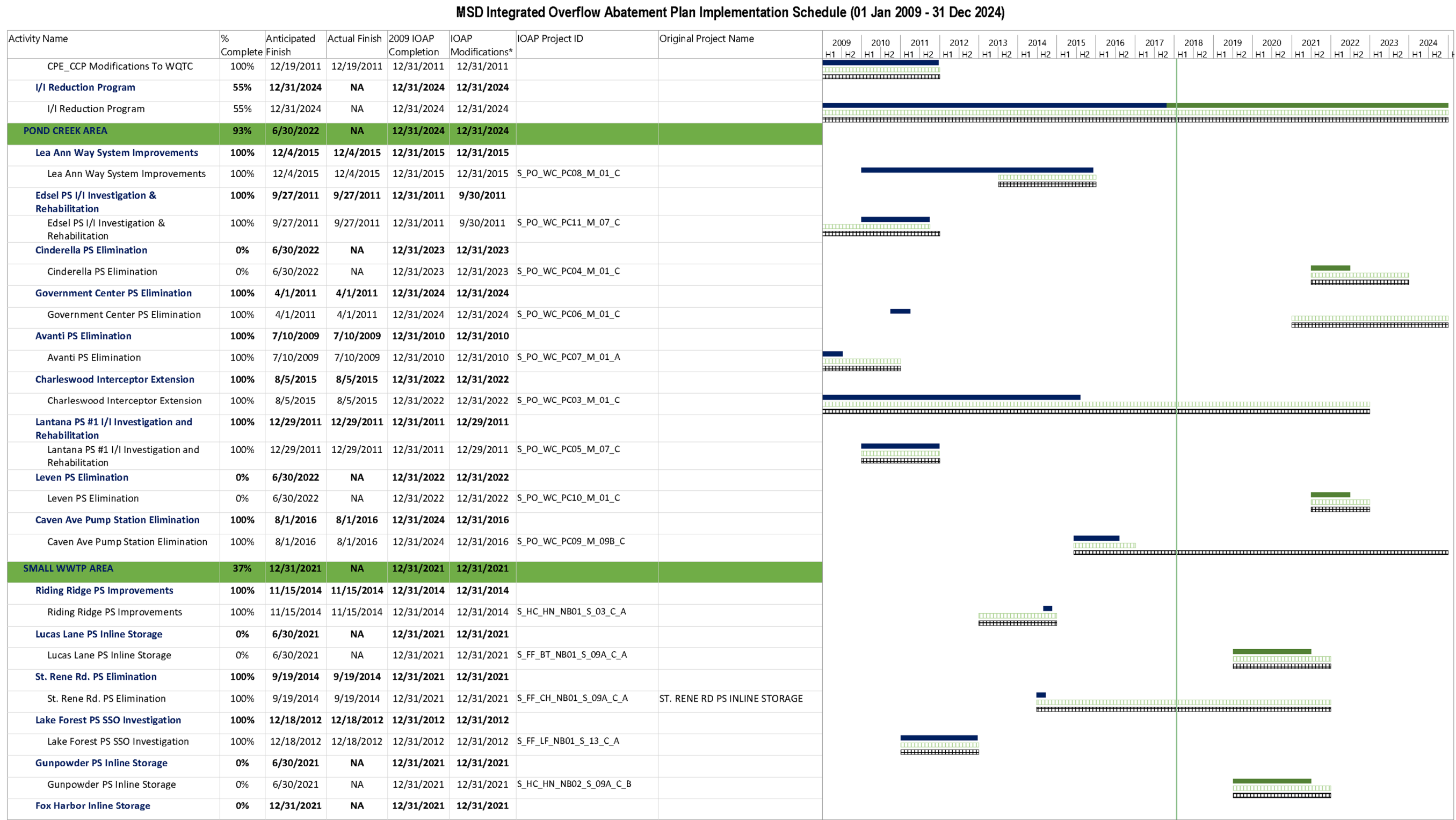
Figure 3.1. MSD Integrated Overflow Abatement Plan Implementation Schedule



Approved 2009 IOAP  IOAP Modifications  Remaining Work  Completed Work  Composite Schedule  Composite Completed 

Includes 2014 approval of 2012 IOAP Modification as well as all minor mod letter approvals to date.

Figure 3.1. MSD Integrated Overflow Abatement Plan Implementation Schedule

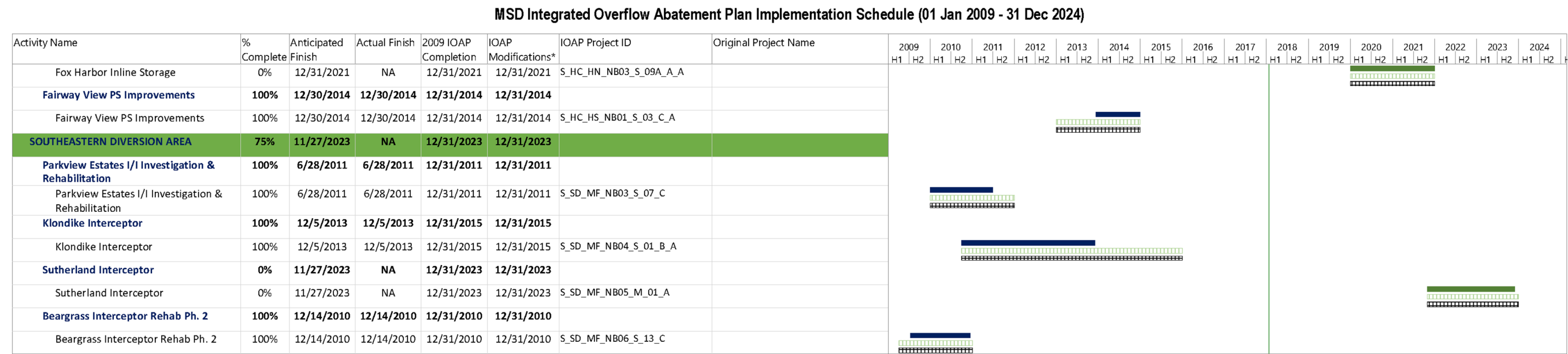


Approved 2009 IOAP  IOAP Modifications  Remaining Work  Completed Work  Composite Schedule  Composite Completed 

Includes 2014 approval of 2012 IOAP Modification as well as all minor mod letter approvals to date.



Figure 3.1. MSD Integrated Overflow Abatement Plan Implementation Schedule



Approved 2009 IOAP IOAP Modifications Remaining Work Completed Work Composite Schedule Composite Completed

Includes 2014 approval of 2012 IOAP Modification as well as all minor mod letter approvals to date.



## SECTION 4: PROGRAM ACTIVITIES FOR PUBLIC OUTREACH, EDUCATION, NOTIFICATION AND PARTICIPATION

### 4.1. PUBLIC NOTIFICATION PROGRAM

MSD has developed a program aimed at notifying the community of the objectives of Project WIN and how to lessen the risks associated with coming into contact with sewage overflows.

### 4.2. PUBLIC EDUCATION PROGRAMS

A public education program aimed at disseminating information to the public on MSD's primary business functions with emphasis on wastewater, stormwater and flood protection has been developed and implemented. Efforts continued to utilize various media outlets, including television, radio, magazines and newspapers, social media, and MSD websites, to serve as a conduit for circulating information to the public.

MSD included Consent Decree compliance, wastewater facility upgrades, and aging infrastructure as key topics in its Critical Repair & Reinvestment Plan. Public education about this initiative included public meetings and posts on MSD's website and social media accounts.

During the reporting period, MetroTV aired the programs listed in Table 4.1.

**Table 4.1. MetroTV Broadcasts**

DATE	PROGRAM TITLE	ORIGINAL MEETING DATE
October 1, 2017	Story & Main CSO Basin: Orientation Meeting	June 16, 2015
October 1, 2017	Clifton Heights CSO Basin: Advanced Design Meeting	September 15, 2015
October 1, 2017	Ohio River Tunnel: Advanced Design Meeting	July 19, 2017
October 7, 2017	Ohio River Tunnel: Advanced Design Meeting	July 19, 2017
October 8, 2017	Story & Main CSO Basin: Orientation Meeting	June 16, 2015
October 9, 2017	Story & Main CSO Basin: Orientation Meeting	June 16, 2015
October 9, 2017	Ohio River Tunnel: Advanced Design Meeting	July 19, 2017
October 11, 2017	Story & Main CSO Basin: Orientation Meeting	June 16, 2015
October 11, 2017	Clifton Heights CSO Basin: Advanced Design Meeting	September 15, 2015
October 12, 2017	Ohio River Tunnel: Advanced Design Meeting	July 19, 2017
October 13, 2017	Portland CSO Basin: Conceptual Design Meeting	January 26, 2016
October 13, 2017	Story & Main CSO Basin: Conceptual Design Meeting	February 9, 2016
October 14, 2017	Portland CSO Basin: Conceptual Design Meeting	January 26, 2016
October 14, 2017	Ohio River Tunnel: Conceptual Design Meeting	October 18, 2016
October 14, 2017	Ohio River Tunnel: Advanced Design Meeting	July 19, 2017
October 15, 2017	Southwest Parkway CSO Basin: Construction Meeting	March 23, 2015
October 16, 2017	Ohio River Tunnel: Advanced Design Meeting	July 19, 2017

**Table 4.1. MetroTV Broadcasts**

DATE	PROGRAM TITLE	ORIGINAL MEETING DATE
October 20, 2017	Story & Main CSO Basin: Orientation Meeting	June 16, 2015
October 20, 2017	Clifton Heights CSO Basin: Advanced Design Meeting	September 15, 2015
October 22, 2017	Portland CSO Basin: Conceptual Design Meeting	January 26, 2016
October 22, 2017	Story & Main CSO Basin: Conceptual Design Meeting	February 9, 2016
October 23, 2017	Southwest Parkway CSO Basin: Construction Meeting	March 23, 2015
October 23, 2017	Story & Main CSO Basin: Orientation Meeting	June 16, 2015
October 24, 2017	Clifton Heights CSO Basin: Advanced Design Meeting	September 15, 2015
October 25, 2017	Portland CSO Basin: Conceptual Design Meeting	January 26, 2016
October 25, 2017	Story & Main CSO Basin: Conceptual Design Meeting	February 9, 2016
October 26, 2017	Ohio River Tunnel: Conceptual Design Meeting	October 18, 2016
October 28, 2017	Southwest Parkway CSO Basin: Construction Meeting	March 23, 2015
October 28, 2017	Story & Main CSO Basin: Orientation Meeting	June 16, 2015
October 29, 2017	Story & Main CSO Basin: Orientation Meeting	June 16, 2015
October 30, 2017	Story & Main CSO Basin: Orientation Meeting	June 16, 2015
November 4, 2017	Story & Main CSO Basin: Orientation Meeting	June 16, 2015
November 5, 2017	Story & Main CSO Basin: Orientation Meeting	June 16, 2015
November 6, 2017	Story & Main CSO Basin: Orientation Meeting	June 16, 2015
November 7, 2017	Southwest Parkway CSO Basin: Construction Meeting	March 23, 2015
November 7, 2017	Portland CSO Basin: Conceptual Design Meeting	January 26, 2016
November 9, 2017	Southwest Parkway CSO Basin: Construction Meeting	March 23, 2015
November 11, 2017	Clifton Heights CSO Basin: Advanced Design Meeting	September 15, 2015
November 11, 2017	Story & Main CSO Basin: Conceptual Design Meeting	February 9, 2016
November 12, 2017	Clifton Heights CSO Basin: Advanced Design Meeting	September 15, 2015
November 12, 2017	Portland CSO Basin: Conceptual Design Meeting	January 26, 2016
November 12, 2017	Ohio River Tunnel: Conceptual Design Meeting	October 18, 2016
November 12, 2017	Ohio River Tunnel: Advanced Design Meeting	July 19, 2017
November 17, 2017	Southwest Parkway CSO Basin: Construction Meeting	March 23, 2015
November 17, 2017	Clifton Heights CSO Basin: Advanced Design Meeting	September 15, 2015
November 17, 2017	Clifton Heights CSO Basin: Advanced Design Meeting	September 15, 2015
November 18, 2017	Story & Main CSO Basin: Conceptual Design Meeting	February 9, 2016
November 19, 2017	Portland CSO Basin: Conceptual Design Meeting	January 26, 2016
November 19, 2017	Ohio River Tunnel: Advanced Design Meeting	July 19, 2017
November 29, 2017	Story & Main CSO Basin: Orientation Meeting	June 16, 2015
November 30, 2017	Southwest Parkway CSO Basin: Construction Meeting	March 23, 2015
November 30, 2017	Clifton Heights CSO Basin: Advanced Design Meeting	September 15, 2015
December 2, 2017	Story & Main CSO Basin: Conceptual Design Meeting	February 9, 2016

**Table 4.1. MetroTV Broadcasts**

DATE	PROGRAM TITLE	ORIGINAL MEETING DATE
December 3, 2017	Clifton Heights CSO Basin: Advanced Design Meeting	September 15, 2015
December 8, 2017	Southwest Parkway CSO Basin: Construction Meeting	March 23, 2015
December 9, 2017	Story & Main CSO Basin: Orientation Meeting	June 16, 2015
December 10, 2017	Clifton Heights CSO Basin: Advanced Design Meeting	September 15, 2015
December 10, 2017	Story & Main CSO Basin: Conceptual Design Meeting	February 9, 2016
December 11, 2017	Clifton Heights CSO Basin: Advanced Design Meeting	September 15, 2015
December 11, 2017	Portland CSO Basin: Conceptual Design Meeting	January 26, 2016
December 11, 2017	Story & Main CSO Basin: Conceptual Design Meeting	February 9, 2016
December 12, 2017	Southwest Parkway CSO Basin: Construction Meeting	March 23, 2015
December 13, 2017	Story & Main CSO Basin: Orientation Meeting	June 16, 2015
December 13, 2017	Clifton Heights CSO Basin: Advanced Design Meeting	September 15, 2015
December 14, 2017	Portland CSO Basin: Conceptual Design Meeting	January 26, 2016
December 15, 2017	Southwest Parkway CSO Basin: Construction Meeting	March 23, 2015
December 16, 2017	Story & Main CSO Basin: Orientation Meeting	June 16, 2015
December 16, 2017	Clifton Heights CSO Basin: Advanced Design Meeting	September 15, 2015
December 17, 2017	Portland CSO Basin: Conceptual Design Meeting	January 26, 2016
December 17, 2017	Portland CSO Basin: Conceptual Design Meeting	January 26, 2016
December 17, 2017	Ohio River Tunnel: Advanced Design Meeting	July 19, 2017
December 19, 2017	Logan Street Basin: Ribbon Cutting Ceremony	December 19, 2017
December 21, 2017	Logan Street Basin: Ribbon Cutting Ceremony	December 19, 2017
December 22, 2017	Southwest Parkway CSO Basin: Construction Meeting	March 23, 2015
December 22, 2017	Story & Main CSO Basin: Orientation Meeting	June 16, 2015
December 22, 2017	Clifton Heights CSO Basin: Advanced Design Meeting	September 15, 2015
December 22, 2017	Logan Street Basin: Ribbon Cutting Ceremony	December 19, 2017
December 23, 2017	Southwest Parkway CSO Basin: Construction Meeting	March 23, 2015
December 26, 2017	Southwest Parkway CSO Basin: Construction Meeting	March 23, 2015
December 26, 2017	Logan Street Basin: Ribbon Cutting Ceremony	December 19, 2017
December 27, 2017	Clifton Heights CSO Basin: Advanced Design Meeting	September 15, 2015
December 27, 2017	Logan Street Basin: Ribbon Cutting Ceremony	December 19, 2017
December 28, 2017	Portland CSO Basin: Conceptual Design Meeting	January 26, 2016
December 28, 2017	Story & Main CSO Basin: Conceptual Design Meeting	February 9, 2016
December 28, 2017	Logan Street Basin: Ribbon Cutting Ceremony	December 19, 2017
December 29, 2017	Portland CSO Basin: Conceptual Design Meeting	January 26, 2016
December 29, 2017	Logan Street Basin: Ribbon Cutting Ceremony	December 19, 2017
December 30, 2017	Ohio River Tunnel: Conceptual Design Meeting	October 18, 2016

### 4.3. PUBLIC OUTREACH PROGRAMS

MSD has developed a public education program aimed at expanding the public's knowledge of MSD's primary business functions of wastewater, stormwater and flood protection, with an emphasis on Project WIN Program elements.

#### 4.3.1. IOAP PROJECT AND PROGRAM MEETINGS

MSD facilitates meetings for the Wet Weather Team and the public to review regulatory commitments, update progress on projects and initiatives, and to gather public input on efforts.

MSD has developed a partnership with Louisville Metro for providing project information and soliciting feedback from stakeholders using a Structured Public Involvement approach. Structured Public Involvement is meant to facilitate relevant input on the design process as MSD prepares to design and construct CSO basins. The current IOAP outreach activities and public meetings are using this process to elicit qualitative and quantitative information and enhance engagement with customers. Additional information regarding the Structured Public Involvement Process and meetings held during this reporting period may be found at the Project WIN Public Input Website, available at <http://www.msdpwin.org/Public-Input.aspx>.

During the reporting period, MSD facilitated and planned for the meetings shown in Table 4.2. Meetings planned for the upcoming reporting period are listed in Table 4.3.

**Table 4.2. IOAP Project and Program Meetings – Current Reporting Period**

DATE	EVENT
October 17, 2017	Southwest Parkway CSO Basin: Construction Meeting
November 7, 2017	Ohio River Tunnel: Construction Meeting

**Table 4.3. Anticipated IOAP Project and Program Meetings – Upcoming Reporting Period**

DATE	EVENT
January 9, 2018	Southwestern Parkway CSO Basin: Construction Meeting
February 13, 2018	Lexington & Payne CSO Interceptor: Construction Meeting

## SECTION 5: CAPACITY MANAGEMENT OPERATIONS AND MAINTENANCE (CMOM) REPORT

Per Paragraph 24.c. of the Amended Consent Decree, the Capacity Management Operations and Maintenance (CMOM) Self Assessment Report was submitted to EPA and KDEP on February 10, 2006. MSD received a letter of approval on August 22, 2006. The approved CMOM document can be viewed on the MSD Project WIN website, available at [www.msdpowerwin.org](http://www.msdpowerwin.org).

The primary objectives of CMOM are as follows:

- **Capacity** – Ensuring that adequate wet and dry weather capacity is maintained in existing and new infrastructure.
- **Management** – Implementing programs in support of operations and maintenance activities required to ensure KPDES permit compliance and promote public health by remedying design, construction and operational deficiencies; training staff; and performing activities in a safe manner.
- **Operations** – Implementing written standard operating procedures to operate system components as designed to meet permit requirements.
- **Maintenance** – Implementing systematic, comprehensive asset maintenance and rehabilitation programs to prevent overflows, maximize system reliability, and ensure system sustainability.

Although the program implementation deadlines from the CMOM Self Assessment Report were previously met, MSD continues to enhance the activities. Highlights of the CMOM program implementation over this reporting period are outlined below.

### 5.1. MANAGEMENT PROGRAMS

#### M-E-9 Infrastructure Rehabilitation

Refer to the CMOM activity schedule provided in Section 5.4.

#### M-E-10 System Capacity Assurance Program

Included in the goals of the CMOM Self-Assessment Report, the System Capacity Assurance Plan (SCAP) is the basis for applying capacity decision criteria to support watershed community values. It provides a programmatic approach for confirming available capacity within MSD's sanitary sewer system, creating capacity credits through system improvement and rehabilitation, identifying hydraulic constrictions, and proposing capacity improvements that support interim and long-term performance objectives. SCAP revisions, including credit and balance projections and discussion of approach for multi-family residential unit populations, were discussed with EPA and KDEP and submitted electronically for review on July 21, 2014. The final SCAP revision was submitted for approval on December 9, 2014, and approval was received February 5, 2015. A copy of the approved SCAP can be found on the Project WIN website, available at [www.msdpowerwin.org](http://www.msdpowerwin.org).

A current copy of the SCAP Credit Balance is included as Appendix B.

## 5.2. OPERATIONS PROGRAMS

O-A-1 Pump Station Operations Programs (Routine Operating Programs)

O-A-2 Pump Station Operations Programs (Emergency Operating Programs)

Refer to the CMOM activity schedule provided in Section 5.4.

## 5.3. COMPREHENSIVE PERFORMANCE EVALUATIONS AND COMPOSITE CORRECTION PLANS (CPE/CCP)

Per requirements of MSD's 2009 Amended Consent Decree, MSD implemented a Comprehensive Performance Evaluation (CPE) and Composite Correction Plan (CCP) program for the District's WQTCs. Although the IOAP CPE assessments that defined specific WQTC improvements were completed by December 31, 2011, MSD will continue to implement CPE/CCP activities as part of the District's CMOM Program. This section lists activities per WQTC as they occur during the reporting period.

Refer to the CMOM activity schedule provided in Section 5.4 for CPE/CCP-related capital projects.

### 5.3.1. HITE CREEK WATER QUALITY TREATMENT CENTER

The Hite Creek WQTC Expansion project, to expand the capacity of the Hite Creek WQTC from 6 MGD to 9 MGD, is underway and will continue during the next reporting period.

Construction of the Preliminary Treatment Odor Control Improvements project is nearly complete. The project is expected to reach substantial completion during the next reporting period.

### 5.3.2. FLOYDS FORK WATER QUALITY TREATMENT CENTER

During this reporting period, there is no activity to report for the Floyds Fork WQTC.

### 5.3.3. DEREK R. GUTHRIE WATER QUALITY TREATMENT CENTER

Per recommendations from vibration testing, a Finite Element Analysis was conducted on the Wet Weather Pumps during this quarter. Additional work to complete that analysis will continue during the next reporting period.

The DRG Return Activated Sludge (RAS) 1 and 4 Pump Replacement project is under construction. This project calls for the removal and upgrade of RAS pumps 1 and 4, including replacement of the variable frequency drives. Construction will continue into the next reporting period.

Design of the DRG Clarifier #7-12 Floor Repair project is expected to begin in the next reporting period.

The final draft of the Regional Facilities Plan was submitted to KDOW for upload to their website for public review. A public meeting is scheduled for February 2018 to follow the review period and receive public comments.

### 5.3.4. CEDAR CREEK WATER QUALITY TREATMENT CENTER

The Cedar Creek WQTC Influent Pump Station VFD project is expected to be bid for construction during the next reporting period.

#### 5.3.5. PROSPECT AREA WATER QUALITY TREATMENT CENTER UPDATES

An elimination plan for the five WQTCs serving Prospect (Timberlake, Hunting Creek North, Hunting Creek South, Ken Carla, and Shadow Wood) was submitted to EPA/KDEP on March 31, 2009. Approval of this plan was received on September 24, 2009, and work is now complete. A certification letter dated December 15, 2015, was submitted finalizing the completion of the project.

#### 5.3.6. JEFFERSONTOWN WATER QUALITY TREATMENT CENTER

A certification letter dated December 23, 2015, was submitted finalizing the completion of the Jeffersontown WQTC Elimination Project.

#### 5.3.7. OTHER WATER QUALITY TREATMENT CENTERS

All non-regional WQTCs owned or operated by MSD have been eliminated as of May 27, 2016.

### 5.4. CMOM ACTIVITY SCHEDULE

CMOM capital project milestones for the current reporting period as well as a look-ahead for the upcoming reporting period are provided in Figure 5.1.



Figure 5.1. CMOM Quarterly Commitments Schedule

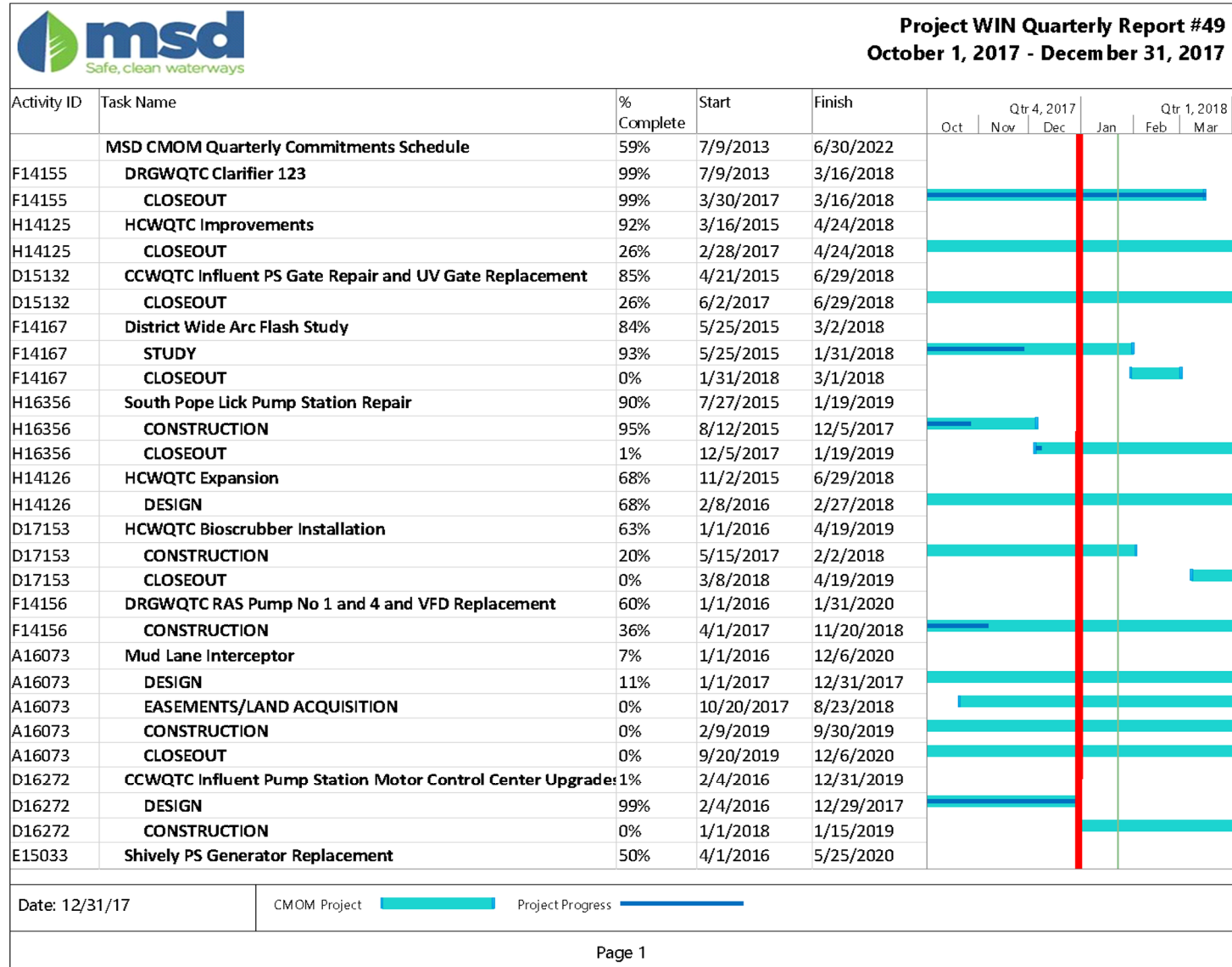




Figure 5.1. CMOM Quarterly Commitments Schedule

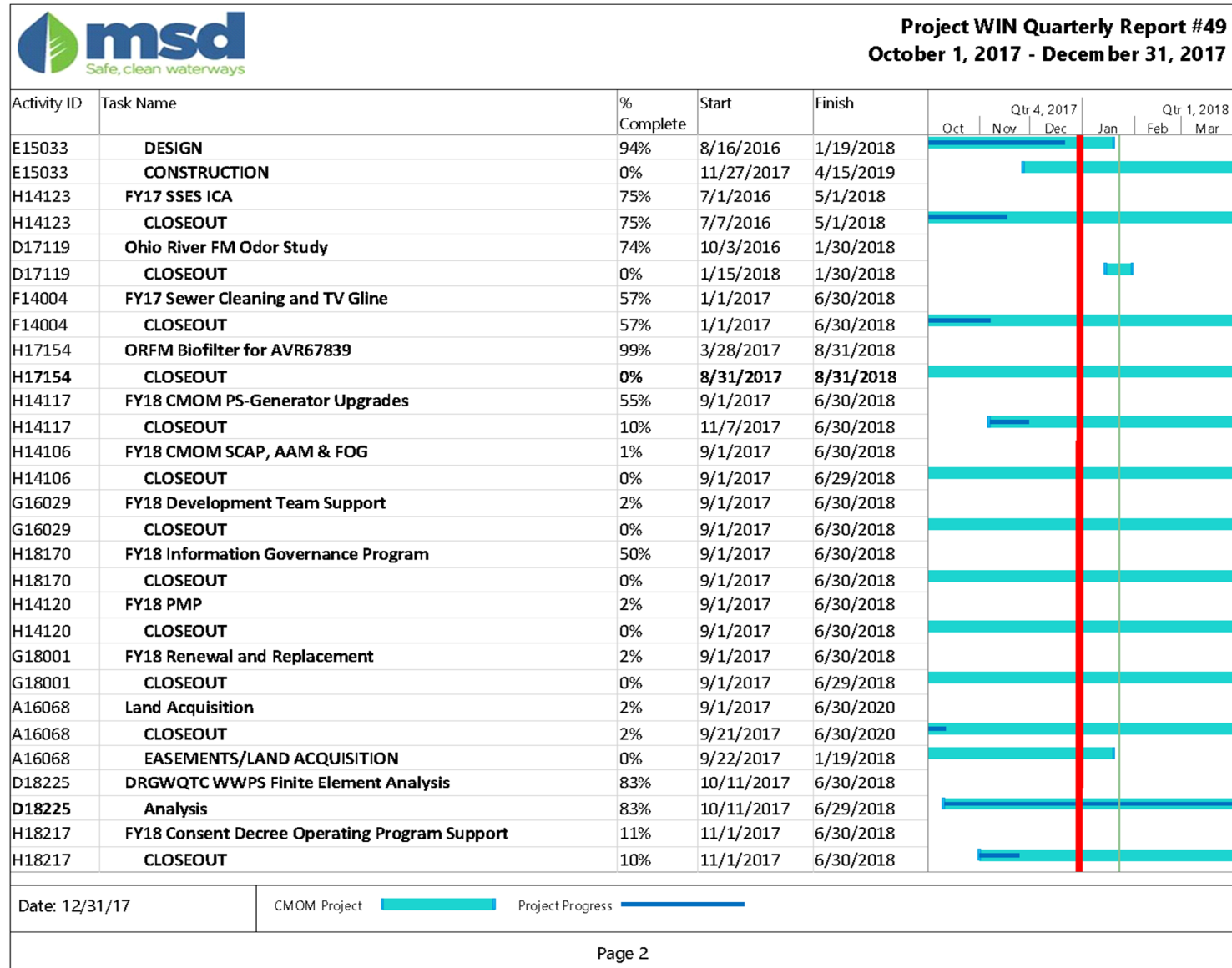
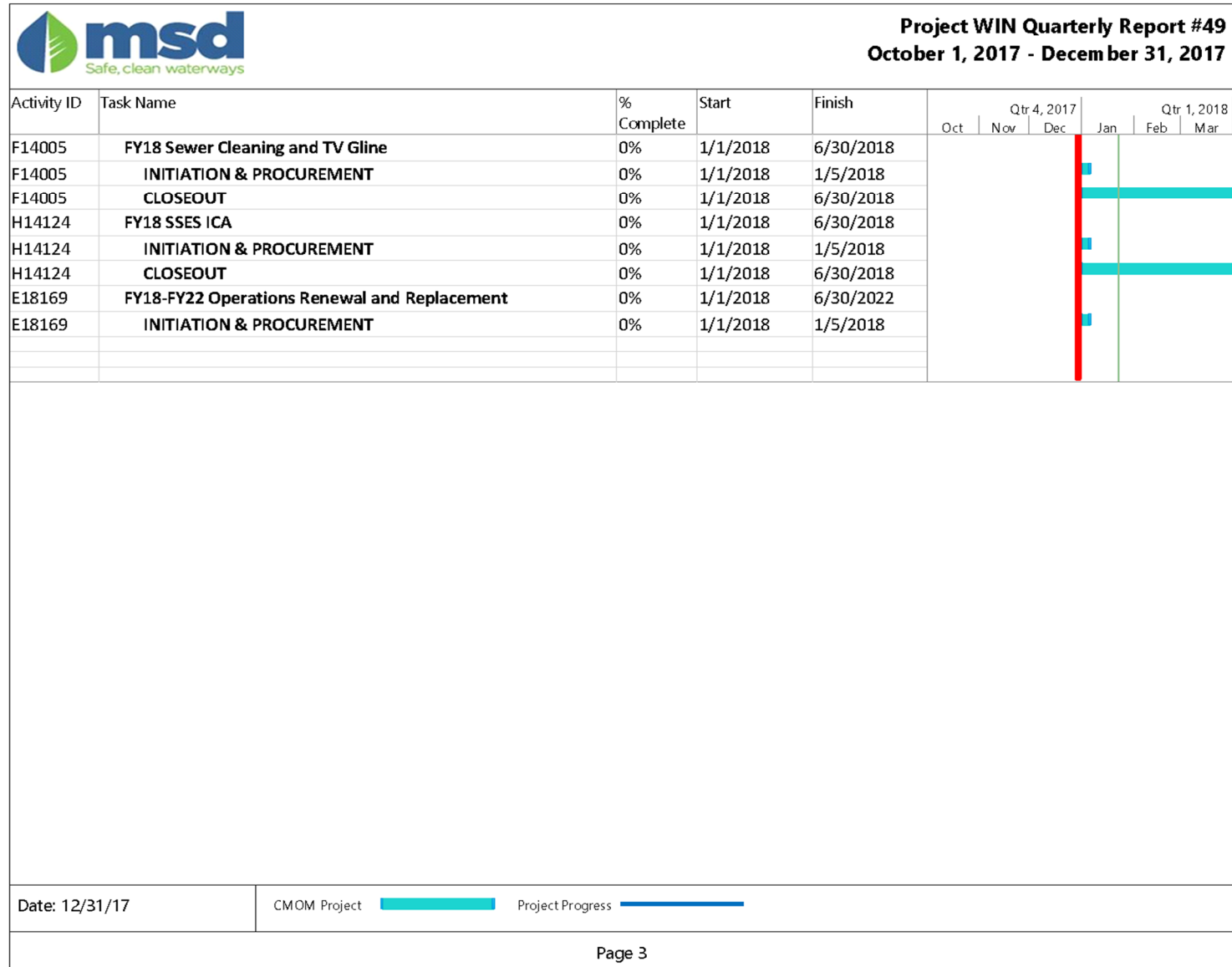


Figure 5.1. CMOM Quarterly Commitments Schedule



## SECTION 6: PROJECT WATERWAY IMPROVEMENTS NOW (WIN) PERFORMANCE OVERVIEW

### 6.1. COMBINED SEWER OVERFLOW REDUCTION AND SANITARY SEWER OVERFLOW ABATEMENT ACTIVITIES

The following sections outline the activities performed during the reporting period to reduce or control CSOs and eliminate SSOs.

#### 6.1.1. SANITARY SEWER OVERFLOW ELIMINATION ACTIVITIES

Refer to Section 3.4.1 for Final SSDP project updates.

#### 6.1.2. COMBINED SEWER OVERFLOW REDUCTION AND CONTROL ACTIVITIES

Refer to Section 3.4.2 for CSO LTCP project updates.

### 6.2. SYSTEMWIDE PERFORMANCE

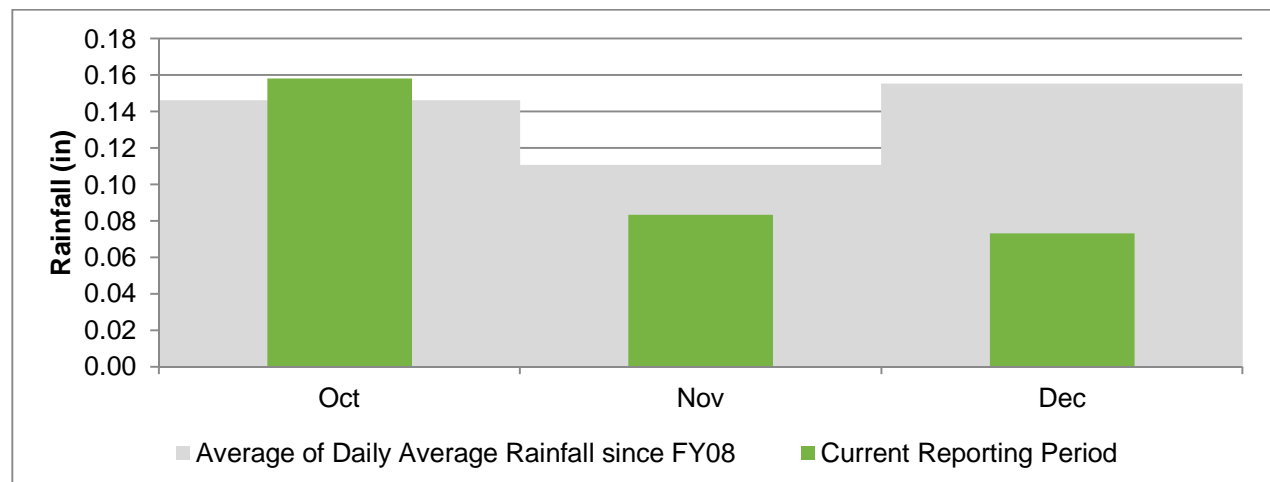
#### 6.2.1. RAINFALL

The number and the volume of wet weather overflows are directly related to the amount of rain that has fallen during the reporting period. Figure 6.1 shows the Jefferson County daily average rainfall amounts for each month of the last quarter, compared with the average of the daily average rainfall since FY08. Data was pulled from MSD's Rain Gauge Network.

#### Weather Event Summary

Daily average rainfall was slightly above average for October and below average for November and December when compared with the previous fiscal year average for these months.

**Figure 6.1. Daily Average Rainfall by Month**



## 6.3. WATER QUALITY TREATMENT CENTER PERFORMANCE

### 6.3.1. BYPASSES

No bypass events occurred during this reporting period as reflected in Appendix A-2 .

### 6.3.2. JEFFERSONTOWN WATER QUALITY TREATMENT CENTER

A letter dated December 23, 2015 certified the elimination of Jeffersontown WQTC. Inspections were conducted upstream of what was previously Jeffersontown WQTC Headworks during the reporting period. There were no overflows reported as a result of these inspections. Refer to Section 2.2 for SSO Route information.

### 6.3.3. PHOSPHORUS MONITORING AT THE PROSPECT WQTCs

An elimination plan for the five WQTCs serving Prospect (Timberlake, Hunting Creek North, Hunting Creek South, Ken Carla, and Shadow Wood) was submitted to EPA/KDEP on March 31, 2009. Approval of this plan was received on September 24, 2009, and work is now complete. A certification letter dated December 15, 2015, was submitted finalizing the completion of the project.

## 6.4. COMBINED SEWER OVERFLOW PERFORMANCE

### 6.4.1. AUTHORIZED DISCHARGES – WET WEATHER CSOs

The observed CSO data for the reporting period for each monitored overflow has been tabulated, along with rainfall information from the nearest rain gauge to facilitate review of the overflows that occurred. This data is included as Appendix B.

### 6.4.2. UNAUTHORIZED DISCHARGES – DRY WEATHER CSOs

MSD recorded information related to dry weather overflows from permitted combined sewer overflow outfalls. This information is entered and maintained in Hansen utilizing procedures reviewed and improved through efforts associated with various components of the Amended Consent Decree. A detailed report of these overflows will be included in the Annual Report for the current reporting period. There were seven dry weather overflows reported at CSOs during the reporting period, as shown in Table 6.1 and detailed in Appendix A-1 .

**Table 6.1. Unauthorized Discharges – Dry Weather CSOs**

START DATE	CSO	PROBLEM	CAUSE	VOLUME (GAL)
12/12/2017	CSO149	UTILITY DAMAGED MSD ASSET	LOUISVILLE WATER 48" WATER MAIN BREAK	2,624,000
12/12/2017	CSO180	UTILITY DAMAGED MSD ASSET	LOUISVILLE WATER 48" WATER MAIN BREAK	9,189,000
12/12/2017	CSO187	UTILITY DAMAGED MSD ASSET	LOUISVILLE WATER 48" WATER MAIN BREAK	944,000

**Table 6.1. Unauthorized Discharges – Dry Weather CSOs**

START DATE	CSO	PROBLEM	CAUSE	VOLUME (GAL)
12/12/2017	CSO188	UTILITY DAMAGED MSD ASSET	LOUISVILLE WATER 48" WATER MAIN BREAK	1,430,000
12/12/2017	CSO117	UTILITY DAMAGED MSD ASSET	LOUISVILLE WATER 48" WATER MAIN BREAK	12,700,000
12/12/2017	CSO183	UTILITY DAMAGED MSD ASSET	LOUISVILLE WATER 48" WATER MAIN BREAK	1,000
12/12/2017	CSO015	ELECTRICAL PROBLEMS AT MSD	PLC MALFUNCTION AT STRUCTURE	142,000

#### 6.4.3. CSO FLOW MONITORING QUALITY IMPROVEMENT

During the July 2016 – September 2016 reporting period, MSD identified a potential for inaccurate volume reporting at some CSOs. This was identified by comparing measured overflow volumes against modeled overflow volumes for similar storms. It was determined that several CSO flow monitors are affected by backwater levels from the receiving streams causing a discrepancy actual overflow volume, along with other potential variables at some locations. MSD notified EPA and KDEP of data discrepancies on September 29, 2016.

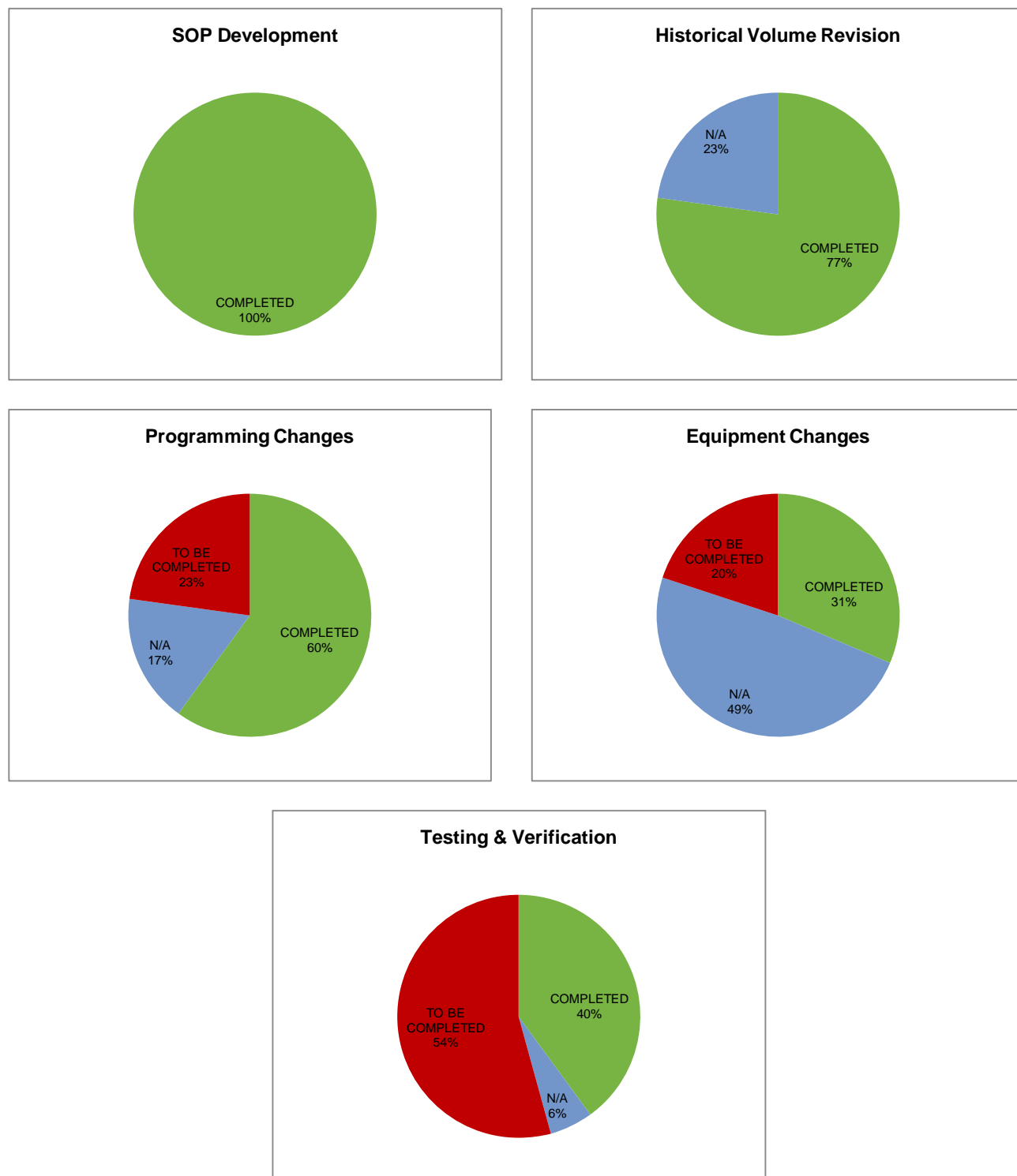
A workgroup was established to review CSO flow monitoring and resolve potential over-reporting of overflow volumes. Initial findings indicated that potentially significant discrepancies between modeling and monitoring data existed at 33 of MSD's 98 CSO locations. This set of 33 CSOs was the highest priority to review, correct data, document SOPs, and implement changes. For these CSO locations, MSD performed site visits including elevation surveys, performed detailed analysis, investigated equipment configurations, and investigated PLC programming or monitoring program logic. This has led to the development of an SOP for each CSO that describes the existing monitoring equipment, configuration, and flow calculation in use as of December 31, 2016, and evaluates the effectiveness of the existing setup. If a more effective arrangement was recommended, MSD added the proposed arrangement to the SOP for implementation and determined if historical data could be updated. In cases where the historical data could be updated, MSD has developed revised volumes for reporting. Locations for which revised volumes have been developed are detailed in Appendix F. In some cases, historical volumes could not be recalculated based on the available data. For instance, CSOs influenced by river or creek elevation for which there was no available historic level data could not be recalculated for historical volumes but will be calculated or measured according to the revised SOPs as they are implemented.

To date, SOPs have been drafted and historical volume data corrections (where possible) have been made for all of the 33 initial CSO locations. These changes have also been made for two additional CSO locations included in the review due to interaction with priority CSOs. Multiple SOPs require programming or equipment changes in order to implement the final SOPs. During the upcoming reporting period, MSD will continue working to procure and replace equipment as required and update the programming at the PLC or with monitoring program logic, as summarized in Figure 6.2 and detailed in Appendix F, to complete implementation of the SOPs.

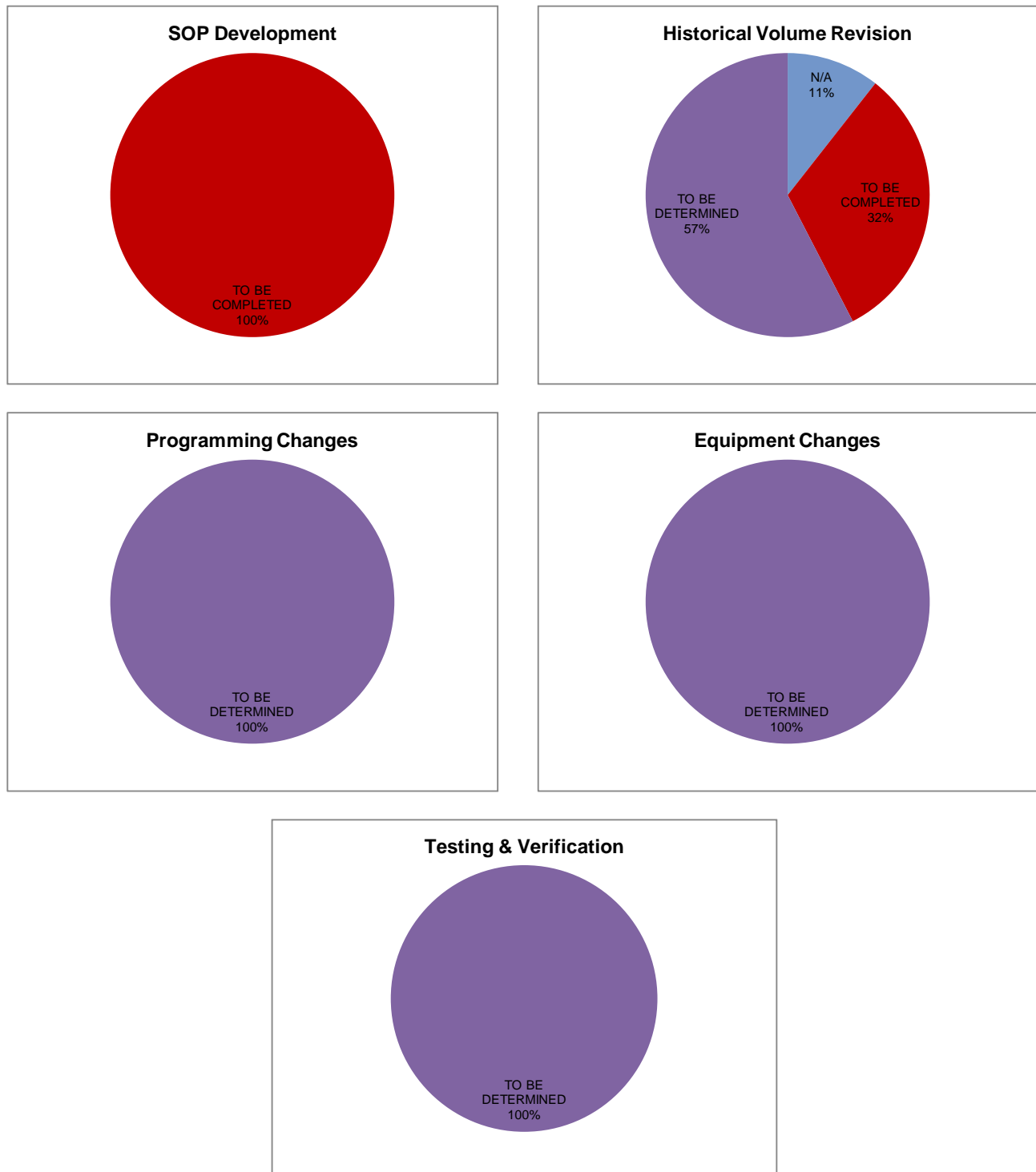
The remaining 65 active CSO locations are being reviewed during the current fiscal year. MSD has also identified two inactive sites with historic data that will be reviewed. MSD has developed a schedule for review of these sites and begun site visits, calculation review, and SOP development. Status for these remaining CSOs is summarized in Figure 6.3 and detailed in Appendix F.

Until the review is complete, CSO flow monitoring data will continue to be included as an appendix to each quarterly report, will be listed as “Draft”, and will include the statement “CSO data monitoring procedures are currently being revised”. As changes are made to flow meter locations and or flow meter calculation algorithms, MSD will provide status updates in the quarterly reports on progress to evaluate data accuracy, revise monitoring data records, update monitoring procedures, and implement recommendations. CSO flow monitoring data reported quarterly will include updated volumes based on completion of the review and update of the reporting standards for each CSO. Revised volumes for previous reporting periods up to and including FY17 for the 33 CSO locations initially reviewed were included as an appendix to the FY17 Consent Decree Annual Report. Any subsequently developed revised volumes for previous reporting periods up to and including FY18 will be included as an appendix to the FY18 Consent Decree Annual Report.

**Figure 6.2. CSO Flow Monitoring Quality Improvement Status – Phase 1**



**Figure 6.3. CSO Flow Monitoring Quality Improvement Status – Phase 2**





## 6.5. COLLECTION SYSTEM OVERFLOW PERFORMANCE

### 6.5.1. UNAUTHORIZED DISCHARGES TO WATERS OF US

MSD recorded information related to overflows reaching Waters of the United States (WUS) for the reporting period. This information is entered and maintained in Hansen utilizing procedures reviewed and improved through efforts associated with various components of the Amended Consent Decree. Details of these overflows are included in Appendix A-3 . During this quarter, 12 unauthorized discharges to WUS were reported, summarized in Table 6.2.

**Table 6.2. Dry and Wet Weather SSOs by Cause – Unauthorized Discharges to Waters of US**

PROBLEM	DRY WEATHER	WET WEATHER
ELECTRICAL PROBLEMS AT MSD	0	1
LACK OF SYSTEM CAPACITY	0	8
MECHANICAL FAILURE	1	2
OBSTRUCTION-NOT GREASE / ROOTS	0	0
STRUCTURAL FAILURE	0	0
UTILITY DAMAGED MSD ASSET	0	0

### 6.5.2. OVERFLOWS TO THE EXTERIOR

MSD recorded information related to overflows to the ground that did not reach Waters of the United States for the reporting period. This information is entered and maintained in Hansen utilizing procedures reviewed and improved through efforts associated with various components of the Amended Consent Decree. These overflows will be included in the Annual Report for the reporting period.

### 6.5.3. OVERFLOWS TO INTERIOR

MSD recorded information related to overflows to building interiors for the reporting period. This information is entered and maintained in Hansen utilizing procedures reviewed and improved through efforts associated with various components of the Amended Consent Decree. These overflows, that are the result of an issue in the main line, will be included in the Annual Report for the reporting period.

## 6.6. GRAVITY LINE PREVENTIVE MAINTENANCE (GLPM)

Each quarter, data and statistics relating to the cleaning, inspection and maintenance of sewer assets performed under the Gravity Line Preventive Maintenance are reported. Data for the current and previous three reporting periods are shown in Table 6.3.

Targets have been developed for planned maintenance (PM) only, which includes any activities that are routinely scheduled to maintain asset condition and decrease its likelihood of failure. Unscheduled maintenance (UM) activities include those activities performed as a reaction to correct asset deficiencies.

**Table 6.3. Rolling Quarterly GLPM Performance with Targets**

ACTIVITY	ACTIVITY TYPE	AREA	JAN-MAR	APR-JUN	JUL-SEP	OCT-DEC	TOTAL	TARGET/QTR	% OF ANNUAL TARGET
Catch Basins Cleaned	PM	Combined System	6,995	6,799	6,317	5,524	25,635	4,460	31%
		Separate System	45	2,551	1,587	184	4,367	1,144	4%
	UM	Combined System	323	259	54	274	910	-	-
		Separate System	94	49	367	45	555	-	-
CSO Inspections	PM	Combined System	1,276	1,273	1,279	1,260	5,088	1,272	25%
CSO Debris Removal WO	UM		132	177	149	139	597	-	-
Sewer Main Chemical Root Treatment (LF)	UM	Combined System	602	0	0	0	602	-	-
		Separate System	267,194	0	0	0	267,194	-	-
Sewer Main Flushing and Cleaning (LF)	UM	Combined System	2,735	2,624	6,159	1,720	13,238	-	-
		Separate System	154,286	61,634	58,818	29,288	304,026	-	-
Sewer Main Inspections (LF)	PM	County Wide	265,419	235,246	93,687	115,147	709,499	396,000	7%
Sewer Main Root Cutting (LF)	UM	Combined System	0	1,067	310	0	1,377	-	-
		Separate System	13,357	13,357	6,228	83,418	124,867	-	-

## APPENDICES

Appendix A	Discharge Work Orders
Appendix A-1	Discharge Work Orders – Dry Weather CSOs
Appendix A-2	Discharge Work Orders – Bypass
Appendix A-3	Discharge Work Orders – Unauthorized Discharges
Appendix B	CSO Flow Monitoring Data
Appendix C	Acronyms
Appendix D	SCAP Balance
Appendix E	IOAP Project Crosswalk
Appendix F	CSO Flow Monitoring Quality Improvement
Appendix G	CSO108 Semi-Annual Report

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Appendix A-1      Discharge Work Orders – Dry Weather CSOs

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Appendix A-1 Discharge Work Orders – Dry Weather CSOs

ASSOCIATED WASTEWATER TREATMENT PLANT NAME	ASSOCIATED TREATMENT PLANT KPDES #	OVERFLOW LOCATION	OVERFLOW START DATE & TIME	OVERFLOW STOP DATE & TIME	VOLUME OF OVERFLOW (GAL)	SOURCE ASSET TYPE	SOURCE ASSET ID	FACILITY DISCHARGES TO	RECEIVING STREAM	CAUSE OF OVERFLOW	DUE TO	WEATHER	WO #	CLEANUP EFFORTS BY MSD	REPAIR EFFORTS BY MSD
MORRIS FORMAN	KY0022411	623 E KENTUCKY ST	12/12/2017 8:05	12/12/2017 16:30	2,624,000	SEWER MANHOLE	CSO149	STREAM	SOUTH FORK BEARGRASS CREEK	LOUISVILLE WATER 48" WATER MAIN BREAK	UTILITY DAMAGED MSD ASSET	DISDW DRY WEATHER DISCHARGE	2839599	MSD Crews will inspect creek and clean as appropriate.	LOUISVILLE WATER TO REPAIR 48" MAIN
MORRIS FORMAN	KY0022411	938 LOGAN ST	12/12/2017 8:05	12/12/2017 18:30	12,700,000	SEWER MANHOLE	CSO117	STREAM	SOUTH FORK BEARGRASS CREEK	LOUISVILLE WATER CO. 48" MAIN BREAK	UTILITY DAMAGED MSD ASSET	DISDW DRY WEATHER DISCHARGE	2839616	MSD Crews will inspect creek and clean as appropriate.	LOUISVILLE WATER CO. TO REPAIR 48" MAIN BREAK
MORRIS FORMAN	KY0022411	636 E ORMSBY AVE	12/12/2017 8:05	12/12/2017 18:30	9,189,000	SEWER MANHOLE	CSO180	STREAM	SOUTH FORK BEARGRASS CREEK	LOUISVILLE WATER CO. 48" MAIN BREAK.	UTILITY DAMAGED MSD ASSET	DISDW DRY WEATHER DISCHARGE	2839653	MSD Crews will inspect creek and clean as appropriate.	LOUISVILLE WATER CO. TO REPAIR 48" MAIN BREAK.
MORRIS FORMAN	KY0022411	1260 S SHELBY ST	12/12/2017 8:05	12/12/2017 13:00	944,000	SEWER MANHOLE	CSO187	STREAM	SOUTH FORK BEARGRASS CREEK	LOUISVILLE WATER CO. 48" MAIN BREAK.	UTILITY DAMAGED MSD ASSET	DISDW DRY WEATHER DISCHARGE	2839651	MSD Crews will inspect creek and clean as appropriate.	LOUISVILLE WATER CO. TO REPAIR 48" MAIN BREAK.
MORRIS FORMAN	KY0022411	1245 S CLAY ST	12/12/2017 8:05	12/12/2017 16:00	1,430,000	SEWER MANHOLE	CSO188	STREAM	SOUTH FORK BEARGRASS CREEK	LOUISVILLE WATER CO. 48" MAIN BREAK.	UTILITY DAMAGED MSD ASSET	DISDW DRY WEATHER DISCHARGE	2839652	MSD Crews will inspect creek and clean as appropriate.	LOUISVILLE WATER CO. TO REPAIR 48" MAIN BREAK.
MORRIS FORMAN	KY0022411	819 KESWICK BLVD	12/12/2017 9:09	12/12/2017 14:30	1,000	SEWER MANHOLE	CSO183	STREAM	SOUTH FORK BEARGRASS CREEK	LOUISVILLE WATER MAIN BREAK 48" LINE	UTILITY DAMAGED MSD ASSET	DISDW DRY WEATHER DISCHARGE	2839569	MSD Crews will inspect creek and clean as appropriate.	LOUISVILLE WATER CO. TO REPAIR 48" PIPE MAIN
MORRIS FORMAN	KY0022411	4010 BELLS LN	12/21/2017 18:20	12/22/2017 15:29	142,000	SEWER MANHOLE	CSO015	STREAM	OHIO RIVER	PLC MALFUNCTION AT STRUCTURE	ELECTRICAL PROBLEMS AT MSD	DISDW DRY WEATHER DISCHARGE	2844934	NO CLEAN UP PERFORMED – PIPE DISCHARGING UNDERWATER, DIRECTLY INTO STREAM	GATES WERE CLOSED

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Appendix A-2      Discharge Work Orders – Bypass

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Appendix A-2 Discharge Work Orders – Bypass

Associated Wastewater Treatment Plant Name	Associated Treatment Plant KPDES #	Overflow Location	Overflow Start Date & Time	Overflow Stop Date & Time	Volume of Overflow (gal)	Source Asset Type	Source Asset ID	Facility Discharges To	Receiving Stream	Cause of Overflow	Due To	Weather	WO #	Cleanup Efforts by MSD	Repair Efforts by MSD

No Bypasses Occurred  
During the Reporting  
Period

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Appendix A-3      Discharge Work Orders – Unauthorized Discharges

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Appendix A-3 Discharge Work Orders – Unauthorized Discharges

ASSOCIATED WASTEWATER TREATMENT PLANT NAME	ASSOCIATED TREATMENT PLANT KPDES #	OVERFLOW LOCATION	OVERFLOW START DATE & TIME	OVERFLOW STOP DATE & TIME	VOLUME OF OVERFLOW (GAL)	SOURCE ASSET TYPE	SOURCE ASSET ID	FACILITY DISCHARGES TO	RECEIVING STREAM	CAUSE OF OVERFLOW	DUE TO	WEATHER	WO #	CLEANUP EFFORTS BY MSD	REPAIR EFFORTS BY MSD
MORRIS FORMAN	KY0022411	1418 TREVILIAN WAY	10/8/2017 14:45	10/8/2017 16:48	100	SEWER MANHOLE	51594	DITCH	SOUTH FORK BEARGRASS CREEK	LACK OF SYSTEM CAPACITY-HEAVY RAIN.	LACK OF SYSTEM CAPACITY	DISREV RAIN EVENT DISCHARGE	2815966	WO# 2815969	LOCATION INCLUDED IN IOAP
MORRIS FORMAN	KY0022411	1726 FRASER DR	10/8/2017 15:00	10/8/2017 15:45	1,437	SEWER MANHOLE	16649	DITCH	SOUTH FORK BEARGRASS CREEK	LACK OF SYSTEM CAPACITY-HEAVY RAIN.	LACK OF SYSTEM CAPACITY	DISREV RAIN EVENT DISCHARGE	2815965	WO# 2816117	LOCATION INCLUDED IN IOAP
MORRIS FORMAN	KY0022411	1011 ALTA CIR	10/8/2017 16:03	10/9/2017 5:40	120,000	SEWER MANHOLE	45796	DITCH	MIDDLE FORK BEARGRASS CREEK	LACK OF SYSTEM CAPACITY-HEAVY RAIN.	LACK OF SYSTEM CAPACITY	DISREV RAIN EVENT DISCHARGE	2815962	WO# 2816112	LOCATION INCLUDED IN IOAP
MORRIS FORMAN	KY0022411	4010 BELLS LN	10/23/2017 8:00	10/26/2017 12:01	3,000	SEWER LIFT STATION	MSD0080-PS	GROUND	PADDY RUN	WEST HEADWORKS AT MORRIS FORMAN WAS NOT AVAILABLE THUS REDUCING THE PLANT FLOW TO 160 MGD. THIS CAUSED THE JUNCTION BOX AT SWPS TO SURCHARGE FLOW.	MECHANICAL FAILURE	DISREV RAIN EVENT DISCHARGE	2819935	NO CLEAN UP PERFORMED – PIPE DISCHARGING UNDERWATER, DIRECTLY INTO STREAM	BELLS LANE TREATMENT CENTER WAS PLACED INTO SERVICE
MORRIS FORMAN	KY0022411	4010 BELLS LN	10/24/2017 7:04	10/23/2017 8:24	7,000	SEWER LIFT STATION	MSD0080-PS	GROUND	PADDY RUN	ELECTRICAL PROBLEM WITH MSD EQUIPMENT, PUMPS DID NOT START IN A TIMELY MANNER WHEN FLOW INCREASED	ELECTRICAL PROBLEMS AT MSD	DISREV RAIN EVENT DISCHARGE	2820093	CLEANUP NOT POSSIBLE DUE TO MAGNITUDE OF STORM	SITE FOUND DURING RAIN EVENT RECON - WILL BE MONITORED AND EVALUATED FOR REPAIR
MORRIS FORMAN	KY0022411	1726 FRASER DR	10/28/2017 0:45	10/28/2017 12:15	40,986	SEWER MANHOLE	16649	DITCH	SOUTH FORK BEARGRASS CREEK	LACK OF SYSTEM CAPACITY-HEAVY RAIN.	LACK OF SYSTEM CAPACITY	DISREV RAIN EVENT DISCHARGE	2823034	WO# 2823093	LOCATION INCLUDED IN IOAP
MORRIS FORMAN	KY0022411	1726 FRASER DR	11/3/2017 6:15	11/3/2017 11:00	20,000	SEWER MANHOLE	16649	DITCH	SOUTH FORK BEARGRASS CREEK	LACK OF SYSTEM CAPACITY-HEAVY RAIN.	LACK OF SYSTEM CAPACITY	DISREV RAIN EVENT DISCHARGE	2827366	WO# 2827517	LOCATION INCLUDED IN IOAP
MORRIS FORMAN	KY0022411	1001 BRECKENRIDGE LN	11/3/2017 8:15	11/3/2017 11:24	36,424	SEWER MANHOLE	08935-SM	STREAM	MIDDLE FORK BEARGRASS CREEK	LACK OF SYSTEM CAPACITY-HEAVY RAIN.	LACK OF SYSTEM CAPACITY	DISREV RAIN EVENT DISCHARGE	2827355	NO CLEAN UP PERFORMED – PIPE DISCHARGING UNDERWATER, DIRECTLY INTO STREAM	LOCATION INCLUDED IN IOAP
MORRIS FORMAN	KY0022411	1011 ALTA CIR	11/3/2017 8:30	11/3/2017 13:53	7,500	SEWER MANHOLE	45796	DITCH	MIDDLE FORK BEARGRASS CREEK	LACK OF SYSTEM CAPACITY-HEAVY RAIN.	LACK OF SYSTEM CAPACITY	DISREV RAIN EVENT DISCHARGE	2827362	WO# 2827462	LOCATION INCLUDED IN IOAP
DEREK R. GUTHRIE	KY0078956	7504 PRESTON HWY	11/16/2017 13:00	11/16/2017 15:00	50	SEWER MANHOLE	58082	CATCH BASIN	WET WOODS	PUMP AROUND IMPLEMENTATION	MECHANICAL FAILURE	DISDW DRY WEATHER DISCHARGE	2831396	CONTRACTOR TO CLEAN AND SANITIZE AFFECTED AREA	CONNECTED PUMP
MORRIS FORMAN	KY0022411	4010 BELLS LN	12/22/2017 23:30	12/23/2017	10,000	SEWER LIFT STATION	MSD0080-PS	GROUND	PADDY RUN	MECHANICAL FAILURE OF GATE ON SPLITTER STRUCTURE ONE	MECHANICAL FAILURE	DISREV RAIN EVENT DISCHARGE	2845035	NO DEBRIS	GATE WAS ADJUSTED TO 20%
MORRIS FORMAN	KY0022411	1726 FRASER DR	12/23/2017 2:30	12/23/2017 23:45	55,000	SEWER MANHOLE	16649	DITCH	SOUTH FORK BEARGRASS CREEK	LACK OF SYSTEM CAPACITY-HEAVY RAIN.	LACK OF SYSTEM CAPACITY	DISREV RAIN EVENT DISCHARGE	2845074	WO# 2845114	LOCATION INCLUDED IN IOAP

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Appendix B      CSO Flow Monitoring Data

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CSO	Start Date-Time	End Date-Time	Duration (Minutes)	Rain Total (Inch)	Discharge Volume per Rainfall	Antecedent Rain	Frequency	Period	Standard	Comments	Sum of Overflow Volume (Gal)	Events
CSO015	10/7/2017 21:45	10/8/2017	135	2.48	10,009,729.84	1.18	0.94	24	Atlas		24,824,130	1
	10/8/2017 11:00	10/8/2017 16:00	300	2.48	16,619,462.90	2.4	0.94	24	Atlas		41,216,268	1
	10/10/2017 15:15	10/10/2017 17:30	135	0.74	10,398,297.30	3.17	0.41	3	Atlas		7,694,740	1
	10/23/2017 6:30	10/23/2017 7:30	60	0.47	8,003,617.02	0.39	0.25	6	Atlas		3,761,700	1
	10/28/2017 8:45	10/28/2017 10:00	75	1.14	99,407.89	1.75	0.52	12	Atlas		113,325	1
	11/3/2017 4:30	11/3/2017 7:30	180	1.33	92,009,581.20	2.65	1.30	1	Atlas		122,372,743	1
	12/23/2017 1:15	12/23/2017 7:30	375	1.88	12,166,385.11	1.65	0.74	12	Atlas		22,872,804	1
	<b>CSO015 Total</b>										<b>222,855,710</b>	<b>7</b>
CSO016	10/27/2017 18:15	10/28/2017 7:00	765	1.1	23,856,957.27	1.74	0.50	12	Atlas		26,242,653	1
	11/3/2017 4:45	11/3/2017 11:00	375	0.89	14,880,180.90	2.16	0.68	1	Atlas		13,243,361	1
	11/6/2017 1:45	11/6/2017 5:45	240	0.35	16,715,120.00	1.41	0.21	1	Atlas		5,850,292	1
	11/7/2017 6:45	11/7/2017 9:30	165	0.24	1,793,083.33	1.65	0.11	6	Atlas		430,340	1
	11/15/2017 14:00	11/15/2017 17:15	195	0.33	9,340,803.03	0.37	0.21	1	Atlas		3,082,465	1
	11/18/2017 17:30	11/18/2017 22:00	270	0.31	25,703,048.39	0.69	0.17	1	Atlas		7,967,945	1
	12/5/2017 4:00	12/5/2017 10:45	405	0.8	16,636,041.25	0.81	0.43	3	Atlas		13,308,833	1
	12/22/2017 22:00	12/24/2017 4:15	1815	1.8	32,151,285.00	1.81	0.71	12	Atlas		57,872,313	1
<b>CSO016 Total</b>											<b>127,998,202</b>	<b>8</b>
CSO019	10/7/2017 21:45	10/9/2017 9:00	2115	2.25	5,343,080.89	2.26	0.84	24	Atlas		12,021,932	1
	10/10/2017 14:30	10/10/2017 23:00	510	0.49	5,194,061.22	2.75	0.30	3	Atlas		2,545,090	1
	10/23/2017 6:15	10/23/2017 9:30	195	0.53	3,907,522.64	0.51	0.28	6	Atlas		2,070,987	1
	10/24/2017 12:45	10/25/2017 7:45	1140	0.16	909,093.75	0.69	0.07	12	Atlas		145,455	1
	10/27/2017 18:00	10/28/2017 6:45	765	1.12	4,832,907.14	1.82	0.51	12	Atlas		5,412,856	1
	11/3/2017 4:30	11/3/2017 11:00	390	1.09	6,756,079.82	2.37	0.83	1	Atlas		7,364,127	1
	11/6/2017 1:30	11/6/2017 13:15	705	1.17	7,075,734.19	2.42	0.94	1	Atlas		8,278,609	1
	11/7/2017 6:00	11/7/2017 11:00	300	0.26	1,409,303.85	2.68	0.12	12	Atlas		366,419	1
	11/15/2017 13:45	11/15/2017 16:30	165	0.33	3,750,136.36	0.39	0.22	1	Atlas		1,237,545	1
	11/18/2017 17:30	11/18/2017 20:45	195	0.46	3,126,245.65	0.84	0.25	3	Atlas		1,438,073	1
	12/5/2017 4:00	12/5/2017 9:15	315	0.86	3,959,902.33	0.87	0.50	3	Atlas		3,405,516	1
	12/22/2017 19:15	12/23/2017 19:45	1470	1.41	4,585,680.14	1.42	0.58	12	Atlas		6,465,809	1
<b>CSO019 Total</b>											<b>50,752,418</b>	<b>12</b>
CSO020	10/7/2017 21:30	10/8/2017	150	1.76	924,757.95	0.83	0.66	24	Atlas		1,627,574	1
	10/8/2017 11:00	10/8/2017 21:30	630	1.76	3,649,343.75	1.76	0.66	24	Atlas		6,422,845	1
	10/10/2017 15:00	10/10/2017 22:15	435	0.57	4,832,491.23	2.34	0.30	6	Atlas		2,754,520	1
	10/23/2017 7:15	10/23/2017 9:00	105	0.41	231,770.73	0.39	0.21	6	Atlas		95,026	1
	10/27/2017 23:15	10/28/2017 1:30	135	0.83	317,068.67	1.29	0.38	12	Atlas		263,167	1
	11/3/2017 4:15	11/3/2017 8:30	255	1.34	2,709,464.18	2.32	1.26	1	Atlas		3,630,682	1
	11/6/2017 1:30	11/6/2017 3:15	105	0.65	1,511,153.85	2.14	0.49	1	Atlas		982,250	1
	11/15/2017 13:45	11/15/2017 14:45	60	0.29	504,093.10	0.32	0.19	1	Atlas		146,187	1
	11/18/2017 17:15	11/18/2017 18:30	75	0.33	1,450,930.30	0.63	0.19	3	Atlas		478,807	1
	12/5/2017 3:30	12/5/2017 7:15	225	0.54	4,860,903.70	0.55	0.27	3	Atlas		2,624,888	1
	12/22/2017 23:00	12/23/2017 14:45	945	1.21	9,334,065.29	1.21	0.47	24	Atlas		11,294,219	1
<b>CSO020 Total</b>											<b>30,320,165</b>	<b>11</b>
CSO022	10/7/2017 21:30	10/7/2017 22:15	45	1.77	543,787.01	0.73	0.66	24	Atlas		962,503	1
	10/23/2017 6:15	10/23/2017 7:00	45	0.36	394,938.89	0.23	0.19	6	Atlas		142,178	1
	11/3/2017 4:30	11/3/2017 5:30	60	1.26	1,219,527.78	2.31	0.90	1	Atlas		1,536,605	1
	11/6/2017 1:45	11/6/2017 2:15	30	0.74	1,306,981.08	2.16	0.57	1	Atlas		967,166	1
	12/5/2017 3:45	12/5/2017 4:45	60	0.65	377,576.92	0.54	0.34	3	Atlas		245,425	1
	12/22/2017 23:45	12/23/2017	15	1.28	24,807.81	0.39	0.49	24	Atlas		31,754	1
	10/8/2017 11:15	10/8/2017 14:45	210	1.77	248,968.36	1.7	0.66	24	Atlas		440,674	1
<b>CSO022 Total</b>											<b>4,326,305</b>	<b>7</b>
CSO023	10/8/2017 10:15	10/8/2017 15:45	330	1.77	5,087,959.32	1.72	0.66	24	Atlas		9,005,688	1
	11/3/2017 4:45	11/3/2017 9:15	270	1.26	7,611,952.38	2.31	0.90	1	Atlas		9,591,060	1
	11/6/2017 1:45	11/6/2017 2:00	15	0.74	72,137.84	2.16	0.57	1	Atlas		53,382	1
	12/5/2017 4:00	12/5/2017 5:45	105	0.65	411,698.46	0.64	0.34	3	Atlas		267,604	1
	12/22/2017 23:45	12/23/2017 3:00	195	1.28	505,950.00	0.84	0.49	24	Atlas		647,616	1
	10/23/2017 7:30	10/23/2017 7:30	0	0.36	2,169.44	0.28	0.19	6	Atlas		781	1
	10/7/2017 23:15	10/7/2017 23:15	0	1.77	662.71	0.81	0.66	24	Atlas		1,173	1
	10/10/2017 15:30	10/10/2017 21:15	345	0.61	4,057,275.41	2.39	0.33	3	Atlas		2,474,938	1
	10/27/2017 21:45	10/28/2017 1:30	225	0.89	5,101,004.49	1.31	0.40	12	Atlas		4,539,894	1
<b>CSO023 Total</b>											<b>26,582,136</b>	<b>9</b>
CSO028	10/7/2017 22:00	10/7/2017 22:00	0	1.65	418.79	0.53	0.62	24	Atlas		691	1
	11/1/2017 9:00	11/1/2017 21:00	720	0.14	21.43	0.96	0.06	6	Atlas		3	1
	11/3/2017 4:30	11/3/2017 11:30	420	0.99	3,159.60	1.94	0.77	1	Atlas		3,128	1
<b>CSO028 Total</b>											<b>3,822</b>	<b>3</b>

CSO	Start Date-Time	End Date-Time	Duration (Minutes)	Rain Total (Inch)	Discharge Volume per Rainfall	Antecedent Rain	Frequency	Period	Standard	Comments	Sum of Overflow Volume (Gal)	Events
CSO029	10/7/2017 22:15	10/7/2017 22:15	0	1.65	6,927.27	0.53	0.62	24	Atlas		11,430	1
	10/8/2017 13:45	10/8/2017 14:15	30	1.65	14,163.64	1.53	0.62	24	Atlas		23,370	1
	10/23/2017 6:30	10/23/2017 6:30	0	0.39	1,271.79	0.22	0.21	6	Atlas		496	1
	11/3/2017 4:30	11/3/2017 5:00	30	0.99	49,204.04	1.9	0.77	1	Atlas		48,712	1
	11/6/2017 1:45	11/6/2017 2:00	15	0.32	3,009.38	1.45	0.22	1	Atlas		963	1
	12/5/2017 4:00	12/5/2017 4:00	0	0.65	1,067.69	0.35	0.33	3	Atlas		694	1
	12/22/2017 23:30	12/22/2017 23:45	15	1.26	11,215.08	0.39	0.48	24	Atlas		14,131	1
CSO029 Total											99,796	7
CSO031	11/3/2017 5:00	11/3/2017 5:15	15	0.99	207.07	1.94	0.77	1	Atlas		205	1
CSO031 Total											205	1
CSO034	10/7/2017 21:45	10/7/2017 22:00	15	1.65	5,004.24	0.53	0.62	24	Atlas		8,257	1
	10/8/2017 13:45	10/8/2017 14:00	15	1.65	10.91	1.5	0.62	24	Atlas		18	1
	11/3/2017 4:45	11/3/2017 5:15	30	0.99	178,113.13	1.94	0.77	1	Atlas		176,332	1
	11/6/2017 2:00	11/6/2017 2:00	0	0.32	19,400.00	1.45	0.22	1	Atlas		6,208	1
	12/5/2017 3:15	12/5/2017 3:45	30	0.65	515.38	0.3	0.33	3	Atlas		335	1
	12/22/2017 23:30	12/23/2017 3:00	210	1.26	110.32	0.83	0.48	24	Atlas		139	1
CSO034 Total											191,289	6
CSO035	10/7/2017 21:45	10/7/2017 22:15	30	1.64	308,137.80	0.53	0.62	24	Atlas		505,346	1
	10/8/2017 14:00	10/8/2017 14:15	15	1.64	92,514.02	1.52	0.62	24	Atlas		151,723	1
	10/23/2017 6:30	10/23/2017 6:30	0	0.38	300,657.89	0.19	0.20	6	Atlas		114,250	1
	11/3/2017 4:45	11/3/2017 5:15	30	0.89	788,517.98	1.74	0.69	1	Atlas		701,781	1
	11/6/2017 1:45	11/6/2017 2:00	15	0.28	801,539.29	1.29	0.17	1	Atlas		224,431	1
	12/5/2017 3:45	12/5/2017 4:00	15	0.67	464,761.19	0.37	0.36	3	Atlas		311,390	1
	12/22/2017 23:45	12/22/2017 23:45	0	1.23	6,872.36	0.36	0.47	24	Atlas		8,453	1
CSO035 Total											2,017,374	7
CSO036	10/7/2017 21:45	10/7/2017 23:00	75	1.64	180,360.37	0.65	0.62	24	Atlas		295,791	1
	10/8/2017 10:15	10/8/2017 15:00	285	1.64	62,594.51	1.56	0.62	24	Atlas		102,655	1
	10/10/2017 14:15	10/10/2017 21:00	405	0.63	14,058.73	2.28	0.35	3	Atlas		8,857	1
	10/23/2017 6:30	10/23/2017 7:15	45	0.38	103,292.11	0.26	0.20	6	Atlas		39,251	1
	10/27/2017 17:15	10/27/2017 18:00	45	0.74	11,798.65	0.61	0.34	12	Atlas		8,731	1
	11/3/2017 4:30	11/3/2017 5:30	60	0.89	457,266.29	1.76	0.69	1	Atlas		406,967	1
	11/6/2017 1:45	11/6/2017 2:15	30	0.28	569,700.00	1.3	0.17	1	Atlas		159,516	1
	11/15/2017 13:15	11/15/2017 13:45	30	0.26	25,561.54	0.28	0.17	3	Atlas		6,646	1
	11/18/2017 16:45	11/18/2017 17:30	45	0.34	13,323.53	0.6	0.19	3	Atlas		4,530	1
	12/5/2017 3:30	12/5/2017 5:00	90	0.67	229,301.49	0.57	0.36	3	Atlas		153,632	1
	12/22/2017 23:30	12/23/2017 5:15	345	1.23	39,288.62	0.96	0.47	24	Atlas		48,325	1
CSO036 Total											1,234,901	11
CSO038	11/3/2017 5:00	11/3/2017 5:00	0	0.99	22.22	1.9	0.77	1	Atlas		22	1
CSO038 Total											22	1
CSO050	10/7/2017 21:30	10/7/2017 23:30	120	2.05	299,192.68	0.9	0.76	24	Atlas		613,345	1
	10/8/2017 10:00	10/8/2017 23:00	780	2.05	475,014.63	2.06	0.76	24	Atlas		973,780	1
	10/10/2017 13:45	10/10/2017 21:45	480	0.66	1,135,006.06	2.72	0.36	3	Atlas		749,104	1
	10/23/2017 6:15	10/23/2017 9:00	165	0.4	699,940.00	0.38	0.21	6	Atlas		279,976	1
	10/27/2017 17:00	10/28/2017 3:00	600	1.06	1,091,585.85	1.58	0.48	12	Atlas		1,157,081	1
	11/3/2017 4:30	11/3/2017 9:45	315	1.02	814,209.80	2.24	0.78	1	Atlas		830,494	1
	11/6/2017 1:30	11/6/2017 4:15	165	0.82	578,252.44	2	0.63	1	Atlas		474,167	1
	11/7/2017 2:15	11/7/2017 6:30	255	0.25	94,436.00	2.25	0.11	12	Atlas		23,609	1
	11/15/2017 13:00	11/15/2017 14:00	60	0.36	421,902.78	0.39	0.25	1	Atlas		151,885	1
	11/18/2017 16:30	11/18/2017 17:45	75	0.46	566,997.83	0.83	0.26	3	Atlas		260,819	1
	12/4/2017 21:30	12/5/2017 6:30	540	0.65	843,510.77	0.66	0.35	3	Atlas		548,282	1
	12/22/2017 18:15	12/23/2017 12:30	1095	1.59	814,854.72	1.59	0.61	24	Atlas		1,295,619	1
CSO050 Total											7,358,161	12
CSO051	10/7/2017 21:30	10/7/2017 21:45	15	2.05	9,717.56	0.65	0.76	24	Atlas		19,921	1
	10/8/2017 10:00	10/8/2017 15:30	330	2.05	20,255.12	1.98	0.76	24	Atlas		41,523	1
	10/10/2017 16:15	10/10/2017 21:00	285	0.66	5,009.09	2.72	0.36	3	Atlas		3,306	1
	10/23/2017 6:15	10/23/2017 6:15	0	0.4	15,485.00	0.2	0.21	6	Atlas		6,194	1
	10/28/2017	10/28/2017 0:45	45	1.06	1,334.91	1.54	0.48	12	Atlas		1,415	1
	11/3/2017 4:30	11/3/2017 6:30	120	1.02	44,986.27	2.24	0.78	1	Atlas		45,886	1
	11/6/2017 1:30	11/6/2017 1:45	15	0.82	24,654.88	1.99	0.63	1	Atlas		20,217	1
	11/18/2017 16:30	11/18/2017 17:15	45	0.46	20,247.83	0.82	0.26	3	Atlas		9,314	1
	12/5/2017 3:15	12/5/2017 3:45	30	0.65	140.00	0.3	0.35	3	Atlas		91	1
	12/23/2017 3:00	12/23/2017 3:00	0	1.59	177.36	1.05	0.61	24	Atlas		282	1
CSO051 Total											148,149	10
CSO052	10/7/2017 21:15	10/7/2017 23:00	105	1.91	23,903.66	0.86	0.71	24	Atlas		45,656	1

CSO	Start Date-Time	End Date-Time	Duration (Minutes)	Rain Total (Inch)	Discharge Volume per Rainfall	Antecedent Rain	Frequency	Period	Standard	Comments	Sum of Overflow Volume (Gal)	Events
CSO052	10/8/2017 10:00	10/8/2017 15:30	330	1.91	48,198.95	1.85	0.71	24	Atlas		92,060	1
	10/10/2017 15:45	10/10/2017 21:15	330	0.65	164,338.46	2.57	0.35	3	Atlas		106,820	1
	10/23/2017 6:00	10/23/2017 6:00	0	0.38	19,257.89	0.15	0.20	6	Atlas		7,318	1
	10/27/2017 19:45	10/28/2017 1:45	360	0.92	103,823.91	1.4	0.42	12	Atlas		95,518	1
	11/3/2017 4:15	11/3/2017 9:00	285	1	68,721.00	2.09	0.73	1	Atlas		68,721	1
	11/6/2017 1:15	11/6/2017 1:45	30	0.91	24,350.55	2.07	0.70	1	Atlas		22,159	1
	11/18/2017 17:00	11/18/2017 17:00	0	0.63	2,709.52	0.66	0.40	1	Atlas		1,707	1
	12/5/2017 3:30	12/5/2017 5:45	135	0.6	38,056.67	0.59	0.31	3	Atlas		22,834	1
	12/22/2017 23:30	12/23/2017 5:15	345	1.36	52,057.35	1.08	0.52	24	Atlas		70,798	1
CSO052 Total											533,591	10
CSO053	10/7/2017 22:00	10/7/2017 22:15	15	1.91	5,266.49	0.76	0.71	24	Atlas		10,059	1
	10/8/2017 13:00	10/8/2017 14:00	60	1.91	3,143.46	1.76	0.71	24	Atlas		6,004	1
	10/23/2017 6:15	10/23/2017 6:30	15	0.38	11,473.68	0.22	0.20	6	Atlas		4,360	1
	11/3/2017 5:00	11/3/2017 5:00	0	1	374.00	2.04	0.73	1	Atlas		374	1
	11/6/2017 1:45	11/6/2017 1:45	0	0.91	261.54	2.07	0.70	1	Atlas		238	1
	11/18/2017 17:30	11/18/2017 17:30	0	0.63	157.14	0.98	0.40	1	Atlas		99	1
	12/5/2017 3:45	12/5/2017 3:45	0	0.6	91.67	0.28	0.31	3	Atlas		55	1
CSO053 Total											21,189	7
CSO054	10/10/2017 16:00	10/10/2017 21:00	300	0.65	42,396.92	2.57	0.35	3	Atlas		27,558	1
	10/27/2017 23:30	10/28/2017 1:00	90	0.92	29,120.65	1.39	0.42	12	Atlas		26,791	1
	11/3/2017 4:30	11/3/2017 6:30	120	1	86,065.00	2.09	0.73	1	Atlas		86,065	1
	11/6/2017 1:30	11/6/2017 1:45	15	0.91	26,679.12	2.07	0.70	1	Atlas		24,278	1
	12/5/2017 3:30	12/5/2017 3:30	0	0.6	755.00	0.22	0.31	3	Atlas		453	1
	12/23/2017	12/23/2017 3:00	180	1.36	9,718.38	0.88	0.52	24	Atlas		13,217	1
CSO054 Total											178,362	6
CSO055	10/7/2017 21:45	10/7/2017 23:30	105	1.91	49,390.58	0.86	0.71	24	Atlas		94,336	1
	10/8/2017 10:00	10/8/2017 16:00	360	1.91	117,693.19	1.86	0.71	24	Atlas		224,794	1
	10/10/2017 14:15	10/10/2017 21:45	450	0.65	265,841.54	2.57	0.35	3	Atlas		172,797	1
	10/23/2017 6:15	10/23/2017 7:00	45	0.38	3,628.95	0.27	0.20	6	Atlas		1,379	1
	10/27/2017 17:00	10/28/2017 2:45	585	0.92	397,581.52	1.42	0.42	12	Atlas		365,775	1
	11/3/2017 4:30	11/3/2017 9:45	315	1	347,491.00	2.09	0.73	1	Atlas		347,491	1
	11/6/2017 1:45	11/6/2017 4:00	135	0.91	46,106.59	2.08	0.70	1	Atlas		41,957	1
	11/15/2017 13:30	11/15/2017 13:30	0	0.33	39.39	0.37	0.22	1	Atlas		13	1
	11/18/2017 16:30	11/18/2017 17:30	60	0.63	1,022.22	0.98	0.40	1	Atlas		644	1
	12/5/2017 4:00	12/5/2017 6:30	150	0.6	30,420.00	0.6	0.31	3	Atlas		18,252	1
	12/22/2017 23:30	12/23/2017 12:30	780	1.36	150,447.79	1.36	0.52	24	Atlas		204,609	1
CSO055 Total											1,472,047	11
CSO056	11/3/2017 4:45	11/3/2017 5:45	60	1	197,635.00	2.09	0.73	1	Atlas		197,635	1
CSO056 Total											197,635	1
CSO057	10/7/2017 21:45	10/7/2017 22:15	30	1.78	966.29	0.68	0.66	24	Atlas		1,720	1
	10/8/2017 13:45	10/8/2017 14:00	15	1.78	496.07	1.62	0.66	24	Atlas		883	1
	10/23/2017 6:15	10/23/2017 7:00	45	0.46	32.61	0.24	0.19	6	Atlas		15	1
	10/24/2017 1:45	10/24/2017 2:15	30	0.46	28.26	0.45	0.19	6	Atlas		13	1
	10/27/2017 17:30	10/28/2017 4:30	660	0.88	873.86	1.34	0.40	12	Atlas		769	1
	11/1/2017 3:30	11/1/2017 15:45	735	0.15	213.33	1.02	0.07	6	Atlas		32	1
	11/3/2017 4:30	11/3/2017 5:00	30	1.18	419.49	2.17	0.84	1	Atlas		495	1
	11/6/2017 1:45	11/6/2017 2:00	15	0.53	3,596.23	1.86	0.38	1	Atlas		1,906	1
	11/7/2017 1:00	11/7/2017 6:15	315	0.22	1,250.00	2.08	0.10	12	Atlas		275	1
	11/15/2017 13:30	11/15/2017 20:30	420	0.31	2,048.39	0.34	0.20	3	Atlas		635	1
	12/5/2017 3:00	12/5/2017 7:00	240	0.68	1,157.35	0.7	0.35	3	Atlas		787	1
	12/9/2017 21:00	12/9/2017 21:45	45	0.01	1,000.00	0.69	0.01	1	Atlas		10	1
	12/22/2017 18:45	12/23/2017 10:15	930	1.16	365.52	0.97	0.45	24	Atlas		424	1
	12/24/2017 18:00	12/24/2017 18:00	0	0.08	25.00	1.2	0.04	12	Atlas		2	1
CSO057 Total											7,966	14
CSO058	10/23/2017 6:15	10/23/2017 8:00	105	0.38	56,444.74	0.33	0.20	6	Atlas		21,449	1
	10/27/2017 17:00	10/28/2017 1:00	480	0.87	123,748.28	1.31	0.40	12	Atlas		107,661	1
	11/3/2017 4:30	11/3/2017 7:15	165	1.18	56,083.90	2.19	0.87	1	Atlas		66,179	1
	11/6/2017 1:30	11/6/2017 2:00	30	0.51	84,162.75	1.83	0.37	1	Atlas		42,923	1
	11/7/2017 1:45	11/7/2017 6:15	270	0.22	43,177.27	2.05	0.10	12	Atlas		9,499	1
	11/7/2017 22:15	11/7/2017 22:15	0	0.03	96,100.00	2.06	0.02	3	Atlas		2,883	1
	11/15/2017 12:45	11/15/2017 19:00	375	0.32	148,746.88	0.35	0.21	1	Atlas		47,599	1
	11/18/2017 16:30	11/18/2017 18:15	105	0.35	172,731.43	0.66	0.19	3	Atlas		60,456	1
	12/5/2017 3:00	12/5/2017 8:15	315	0.67	151,617.91	0.69	0.35	3	Atlas		101,584	1
	12/22/2017 18:15	12/23/2017 12:00	1065	1.14	202,126.32	1.14	0.44	24	Atlas		230,424	1

CSO	Start Date-Time	End Date-Time	Duration (Minutes)	Rain Total (Inch)	Discharge Volume per Rainfall	Antecedent Rain	Frequency	Period	Standard	Comments	Sum of Overflow Volume (Gal)	Events
<b>CSO058 Total</b>											<b>690,657</b>	<b>10</b>
CSO082	10/7/2017 22:00	10/7/2017 23:00	60	1.59	15,992.45	0.64	0.60	24	Atlas		25,428	1
	10/8/2017 11:45	10/8/2017 20:00	495	1.59	115,188.68	1.59	0.60	24	Atlas		183,150	1
	10/10/2017 15:15	10/10/2017 16:45	90	0.66	64,743.94	2.17	0.34	3	Atlas		42,731	1
	11/3/2017 4:45	11/3/2017 7:15	150	1.05	270,793.33	1.99	0.83	1	Atlas		284,333	1
	11/6/2017 2:00	11/6/2017 2:30	30	0.46	58,869.57	1.64	0.32	1	Atlas		27,080	1
	12/5/2017 4:00	12/5/2017 6:15	135	0.63	131,728.57	0.65	0.33	3	Atlas		82,989	1
	12/22/2017 23:30	12/23/2017 13:00	810	1.15	328,051.30	1.15	0.44	24	Atlas		377,259	1
<b>CSO082 Total</b>											<b>1,022,970</b>	<b>7</b>
CSO083	10/7/2017 21:45	10/7/2017 21:45	0	1.6	9,536.25	0.37	0.60	24	Atlas		15,258	1
	11/3/2017 4:30	11/3/2017 4:45	15	1	45,836.00	1.74	0.79	1	Atlas		45,836	1
<b>CSO083 Total</b>											<b>61,094</b>	<b>2</b>
CSO084	10/7/2017 22:30	10/7/2017 22:30	0	1.6	269.38	0.46	0.60	24	Atlas		431	1
	10/8/2017 14:30	10/8/2017 14:45	15	1.6	761.25	1.52	0.60	24	Atlas		1,218	1
	10/10/2017 15:15	10/10/2017 16:30	75	0.68	7,355.88	2.2	0.36	6	Atlas		5,002	1
	10/23/2017 6:30	10/23/2017 7:00	30	0.47	1,314.89	0.31	0.25	6	Atlas		618	1
	10/27/2017 17:45	10/27/2017 18:00	15	0.8	1,806.25	0.71	0.37	12	Atlas		1,445	1
	11/3/2017 4:30	11/3/2017 6:45	135	1	747,817.00	1.93	0.79	1	Atlas		747,817	1
	11/6/2017 2:00	11/6/2017 3:15	75	0.31	192,812.90	1.44	0.21	1	Atlas		59,772	1
<b>CSO084 Total</b>											<b>816,303</b>	<b>7</b>
CSO088	10/7/2017 22:00	10/7/2017 22:30	30	1.73	7,608.67	0.7	0.65	24	Atlas		13,163	1
	10/8/2017 13:45	10/8/2017 14:15	30	1.73	10,179.19	1.6	0.65	24	Atlas		17,610	1
	10/10/2017 16:45	10/10/2017 16:45	0	0.59	1,586.44	2.25	0.31	3	Atlas		936	1
<b>CSO088 Total</b>											<b>31,709</b>	<b>3</b>
CSO092	10/7/2017 21:30	10/7/2017 21:45	15	1.76	450.00	0.5	0.67	24	Atlas		792	1
	10/8/2017 13:45	10/8/2017 13:45	0	1.76	16.48	1.54	0.67	24	Atlas		29	1
	11/6/2017 1:45	10/27/2017 18:00	0	0.22	4,454.55	1.94	0.13	1	Atlas		980	1
	12/5/2017 3:45	12/5/2017 3:45	0	0.65	49.23	0.38	0.37	3	Atlas		32	1
<b>CSO092 Total</b>											<b>1,833</b>	<b>4</b>
CSO093	11/3/2017 4:45	11/3/2017 5:00	15	0.91	1,419.78	1.8	0.71	1	Atlas		1,292	1
<b>CSO093 Total</b>											<b>1,292</b>	<b>1</b>
CSO097	10/7/2017 21:30	10/8/2017	150	1.88	43,273.40	0.6	0.71	24	Atlas		81,354	1
	10/8/2017 11:00	10/8/2017 21:00	600	1.88	105,621.81	1.88	0.71	24	Atlas		198,569	1
	10/10/2017 14:30	10/10/2017 23:00	510	0.79	225,984.81	2.68	0.42	3	Atlas		178,528	1
	10/23/2017 6:30	10/23/2017 8:00	90	0.54	44,264.81	0.45	0.29	6	Atlas		23,903	1
	10/27/2017 17:45	10/28/2017 4:30	645	1.03	288,234.95	1.69	0.47	12	Atlas		296,882	1
	11/3/2017 4:15	11/3/2017 8:30	255	1.87	69,648.66	3.04	6.92	1	Atlas		130,243	1
	11/6/2017 1:45	11/6/2017 3:45	120	0.19	298,136.84	2.2	0.12	1	Atlas		56,646	1
	11/15/2017 13:30	11/15/2017 15:00	90	0.23	68,356.52	0.27	0.15	1	Atlas		15,722	1
	11/18/2017 17:00	11/18/2017 18:00	60	0.33	68,624.24	0.56	0.21	1	Atlas		22,646	1
	12/5/2017 3:15	12/5/2017 8:00	285	0.62	250,772.58	0.63	0.35	3	Atlas		155,479	1
	12/22/2017 23:00	12/23/2017 5:30	390	1.16	32,279.31	1.04	0.47	12	Atlas		37,444	1
<b>CSO097 Total</b>											<b>1,197,416</b>	<b>11</b>
CSO104	10/7/2017 22:00	10/7/2017 23:00	60	2.35	20,953.62	1.06	0.88	24	Atlas		49,241	1
	10/8/2017 14:30	10/8/2017 14:30	0	2.35	527.23	2.19	0.88	24	Atlas		1,239	1
	11/3/2017 5:00	11/3/2017 6:15	75	0.78	64,544.87	2.02	0.55	1	Atlas		50,345	1
	11/6/2017 2:15	11/6/2017 2:30	15	0.77	2,138.96	1.71	0.60	1	Atlas		1,647	1
	12/23/2017 3:15	12/23/2017 4:00	45	1.49	940.27	1.15	0.57	12	Atlas		1,401	1
<b>CSO104 Total</b>											<b>103,873</b>	<b>5</b>
CSO105	10/7/2017 21:45	10/8/2017 1:00	195	2.35	2,750,037.02	1.07	0.88	24	Atlas		6,462,587	1
	10/8/2017 11:00	10/8/2017 17:30	390	2.35	4,313,893.19	2.29	0.88	24	Atlas		10,137,649	1
	10/10/2017 14:45	10/10/2017 19:30	285	0.51	5,036,080.39	2.85	0.29	3	Atlas		2,568,401	1
	10/23/2017 6:45	10/23/2017 9:30	165	0.53	5,437,511.32	0.52	0.28	6	Atlas		2,881,881	1
	10/27/2017 18:00	10/28/2017 2:15	495	1.08	3,793,468.52	1.78	0.49	12	Atlas		4,096,946	1
	11/3/2017 5:00	11/3/2017 8:00	180	0.78	8,793,587.18	2.02	0.55	1	Atlas		6,858,998	1
	11/6/2017 2:00	11/6/2017 4:15	135	0.77	5,215,371.43	1.71	0.60	1	Atlas		4,015,836	1
	11/15/2017 13:45	11/15/2017 15:30	105	0.34	2,355,500.00	0.39	0.22	1	Atlas		800,870	1
	11/18/2017 17:30	11/18/2017 19:30	120	0.27	6,711,085.19	0.66	0.14	6	Atlas		1,811,993	1
	12/5/2017 4:00	12/5/2017 7:45	225	0.76	5,999,775.00	0.78	0.41	3	Atlas		4,559,829	1
	12/22/2017 22:45	12/23/2017 7:15	510	1.49	7,588,802.01	1.27	0.57	12	Atlas		11,307,315	1
<b>CSO105 Total</b>											<b>55,502,305</b>	<b>11</b>
CSO108	10/8/2017 7:30	10/9/2017 20:15	2205	2.15	98.60	2.16	0.81	24	Atlas		212	1
	11/3/2017 5:00	11/3/2017 5:45	45	1.54	327,859.09	3.06	2.84	1	Atlas		504,903	1
<b>CSO108 Total</b>											<b>505,115</b>	<b>2</b>

CSO	Start Date-Time	End Date-Time	Duration (Minutes)	Rain Total (Inch)	Discharge Volume per Rainfall	Antecedent Rain	Frequency	Period	Standard	Comments	Sum of Overflow Volume (Gal)	Events
CSO109	10/7/2017 22:00	10/7/2017 22:15	15	2.15	236,728.84	0.53	0.81	24	Atlas		508,967	1
	10/8/2017 14:00	10/8/2017 14:00	0	2.15	46,087.44	1.91	0.81	24	Atlas		99,088	1
	11/3/2017 4:45	11/3/2017 5:30	45	1.57	225,172.61	3.03	3.03	1	Atlas		353,521	1
	12/5/2017 4:15	12/5/2017 4:15	0	0.84	11,640.48	0.63	0.50	3	Atlas		9,778	1
CSO109 Total											971,354	4
CSO110	10/7/2017 22:15	10/8/2017	105	1.83	230,961.75	0.6	0.70	24	Atlas		422,660	1
	10/8/2017 11:30	10/8/2017 20:30	540	1.83	407,620.22	1.82	0.70	24	Atlas		745,945	1
	10/10/2017 15:00	10/10/2017 22:00	420	0.69	775,100.00	2.52	0.35	3	Atlas		534,819	1
	10/23/2017 7:00	10/23/2017 8:15	75	0.57	234,919.30	0.51	0.30	6	Atlas		133,904	1
	10/27/2017 18:15	10/28/2017 4:00	585	0.86	710,274.42	1.52	0.39	12	Atlas		610,836	1
	11/3/2017 5:00	11/3/2017 6:45	105	1.51	311,074.17	2.49	2.75	1	Atlas		469,722	1
	11/6/2017 2:15	11/6/2017 3:30	75	0.16	1,754,031.25	1.79	0.10	1	Atlas		280,645	1
	11/15/2017 14:00	11/15/2017 14:45	45	0.25	212,020.00	0.29	0.16	1	Atlas		53,005	1
	11/18/2017 17:30	11/18/2017 18:15	45	0.32	110,931.25	0.56	0.20	1	Atlas		35,498	1
	12/5/2017 3:45	12/5/2017 7:30	225	0.58	1,202,431.03	0.59	0.33	3	Atlas		697,410	1
	12/22/2017 23:30	12/23/2017 6:00	390	1.05	816,940.00	0.93	0.42	12	Atlas		857,787	1
CSO110 Total											4,842,231	11
CSO111	10/7/2017 22:00	10/7/2017 22:15	15	1.83	30,370.49	0.52	0.70	24	Atlas		55,578	1
	10/8/2017 14:00	10/8/2017 14:15	15	1.83	2,397.81	1.66	0.70	24	Atlas		4,388	1
	11/3/2017 4:45	11/3/2017 5:15	30	1.51	29,076.82	2.47	2.75	1	Atlas		43,906	1
	11/6/2017 8:45	11/6/2017 21:30	765	0.16	888,325.00	1.8	0.10	1	Atlas		142,132	1
	11/15/2017 13:45	11/15/2017 14:45	60	0.25	13,024.00	0.29	0.16	1	Atlas		3,256	1
	12/5/2017 3:30	12/5/2017 6:15	165	0.58	248,917.24	0.58	0.33	3	Atlas		144,372	1
	12/23/2017	12/23/2017 5:30	330	1.05	131,816.19	0.92	0.42	12	Atlas		138,407	1
CSO111 Total											532,039	7
CSO118	10/7/2017 21:30	10/7/2017 23:15	105	1.6	1,671,390.63	0.55	0.60	24	Atlas		2,674,225	1
	10/8/2017 10:15	10/8/2017 19:45	570	1.6	1,826,111.88	1.59	0.60	24	Atlas		2,921,779	1
	10/10/2017 14:00	10/10/2017 21:00	420	0.68	2,225,930.88	2.29	0.36	6	Atlas		1,513,633	1
	10/23/2017 6:30	10/23/2017 8:00	90	0.47	1,436,738.30	0.4	0.25	6	Atlas		675,267	1
	10/27/2017 17:15	10/28/2017 0:45	450	0.8	1,035,870.00	1.32	0.37	12	Atlas		828,696	1
	11/3/2017 4:30	11/3/2017 6:00	90	1	3,940,038.00	1.93	0.79	1	Atlas		3,940,038	1
	11/6/2017 1:45	11/6/2017 2:15	30	0.31	3,427,980.65	1.44	0.21	1	Atlas		1,062,674	1
	11/15/2017 13:15	11/15/2017 14:00	45	0.26	1,355,584.62	0.28	0.16	3	Atlas		352,452	1
	11/18/2017 16:30	11/18/2017 17:45	75	0.31	1,398,206.45	0.55	0.17	3	Atlas		433,444	1
	12/5/2017 3:45	12/5/2017 6:15	150	0.77	3,098,619.48	0.77	0.45	3	Atlas		2,385,937	1
	12/22/2017 23:00	12/23/2017 12:15	795	1.09	3,423,970.64	1.08	0.42	24	Atlas		3,732,128	1
CSO118 Total											20,520,273	11
CSO119	10/7/2017 21:30	10/7/2017 22:45	75	1.6	84,016.25	0.54	0.60	24	Atlas		134,426	1
	10/8/2017 10:30	10/8/2017 15:00	270	1.6	145,478.13	1.52	0.60	24	Atlas		232,765	1
	10/10/2017 14:30	10/10/2017 16:30	120	0.68	208,229.41	2.2	0.36	6	Atlas		141,596	1
	10/23/2017 6:15	10/23/2017 7:00	45	0.47	105,663.83	0.31	0.25	6	Atlas		49,662	1
	10/27/2017 17:30	10/28/2017 0:15	405	0.8	90,837.50	1.29	0.37	12	Atlas		72,670	1
	11/3/2017 4:15	11/3/2017 5:45	90	1	218,649.00	1.93	0.79	1	Atlas		218,649	1
	11/6/2017 1:45	11/6/2017 2:15	30	0.31	214,461.29	1.44	0.21	1	Atlas		66,483	1
	11/15/2017 13:15	11/15/2017 13:45	30	0.26	113,403.85	0.28	0.16	3	Atlas		29,485	1
	11/18/2017 17:00	11/18/2017 17:30	30	0.31	98,187.10	0.55	0.17	3	Atlas		30,438	1
	12/5/2017 3:15	12/5/2017 6:00	165	0.77	319,659.74	0.77	0.45	3	Atlas		246,138	1
	12/22/2017 23:15	12/23/2017 5:15	360	1.09	462,398.17	0.9	0.42	24	Atlas		504,014	1
CSO119 Total											1,726,326	11
CSO120	10/7/2017 21:30	10/7/2017 22:45	75	1.59	116,277.99	0.63	0.60	24	Atlas		184,882	1
	10/8/2017 10:30	10/8/2017 14:30	240	1.59	136,472.33	1.5	0.60	24	Atlas		216,991	1
	10/10/2017 14:45	10/10/2017 16:15	90	0.66	166,380.30	2.16	0.34	3	Atlas		109,811	1
	10/23/2017 6:45	10/23/2017 6:45	0	0.46	11,582.61	0.3	0.24	6	Atlas		5,328	1
	10/27/2017 17:45	10/28/2017	375	0.81	17,934.57	1.25	0.37	12	Atlas		14,527	1
	11/3/2017 5:15	11/3/2017 5:30	15	1.05	21,364.76	1.99	0.83	1	Atlas		22,433	1
	11/6/2017 2:00	11/6/2017 2:00	0	0.46	23,884.78	1.64	0.32	1	Atlas		10,987	1
	11/15/2017 13:00	11/15/2017 13:15	15	0.31	140,683.87	0.26	0.20	3	Atlas		43,612	1
	11/18/2017 17:00	11/18/2017 17:00	0	0.31	987.10	0.56	0.17	3	Atlas		306	1
	12/5/2017 3:15	12/5/2017 5:45	150	0.63	158,473.02	0.63	0.33	3	Atlas		99,838	1
	12/22/2017 22:30	12/23/2017 11:45	795	1.15	340,844.35	1.08	0.44	24	Atlas		391,971	1
CSO120 Total											1,100,686	11
CSO121	10/7/2017 22:00	10/7/2017 23:00	60	1.59	48,312.58	0.64	0.60	24	Atlas		76,817	1
	10/8/2017 10:30	10/8/2017 19:30	540	1.59	85,173.58	1.59	0.60	24	Atlas		135,426	1
	10/10/2017 15:00	10/10/2017 21:00	360	0.66	211,710.61	2.26	0.34	3	Atlas		139,729	1

CSO	Start Date-Time	End Date-Time	Duration (Minutes)	Rain Total (Inch)	Discharge Volume per Rainfall	Antecedent Rain	Frequency	Period	Standard	Comments	Sum of Overflow Volume (Gal)	Events
CSO121	10/23/2017 6:30	10/23/2017 7:00	30	0.46	74,517.39	0.31	0.24	6	Atlas		34,278	1
	10/27/2017 17:30	10/28/2017 0:15	405	0.81	32,702.47	1.28	0.37	12	Atlas		26,489	1
	11/3/2017 4:30	11/3/2017 5:45	75	1.05	255,603.81	1.99	0.83	1	Atlas		268,384	1
	11/6/2017 2:00	11/6/2017 2:00	0	0.46	451,447.83	1.64	0.32	1	Atlas		207,666	1
	11/15/2017 13:30	11/15/2017 13:45	15	0.31	86,206.45	0.33	0.20	3	Atlas		26,724	1
	11/18/2017 16:45	11/18/2017 17:30	45	0.31	96,580.65	0.61	0.17	3	Atlas		29,940	1
	12/5/2017 3:30	12/5/2017 5:15	105	0.63	172,469.84	0.57	0.33	3	Atlas		108,656	1
	12/22/2017 23:30	12/23/2017 5:30	360	1.15	289,914.78	0.91	0.44	24	Atlas		333,402	1
CSO121 Total											1,387,511	11
CSO125	10/7/2017 22:15	10/7/2017 23:15	60	2.09	57,796.65	0.78	0.78	24	Atlas		120,795	1
	10/8/2017 10:45	10/8/2017 19:45	540	2.09	255,884.21	2.07	0.78	24	Atlas		534,798	1
	10/10/2017 15:00	10/10/2017 17:00	120	0.84	212,728.57	2.82	0.42	3	Atlas		178,692	1
	10/23/2017 6:15	10/23/2017 7:15	60	0.66	240,898.48	0.37	0.30	6	Atlas		158,993	1
	10/27/2017 18:00	10/28/2017 0:30	390	1.06	100,629.25	1.64	0.49	12	Atlas		106,667	1
	11/3/2017 4:45	11/3/2017 13:00	495	0.88	617,004.55	2.09	0.65	1	Atlas		542,964	1
	11/6/2017 2:00	11/6/2017 2:30	30	0.56	79,000.00	1.59	0.43	1	Atlas		44,240	1
	11/15/2017 13:30	11/15/2017 14:00	30	0.23	26,726.09	0.25	0.15	1	Atlas		6,147	1
	11/18/2017 17:00	11/18/2017 18:00	60	0.26	219,134.62	0.49	0.14	3	Atlas		56,975	1
	12/5/2017 4:00	12/5/2017 6:15	135	0.75	66,525.33	0.76	0.43	3	Atlas		49,894	1
	12/22/2017 23:45	12/23/2017 6:00	375	1.25	214,229.60	1.07	0.49	12	Atlas		267,787	1
CSO125 Total											2,067,952	11
CSO126	10/7/2017 22:15	10/7/2017 22:15	0	2.09	155.50	0.71	0.78	24	Atlas		325	1
	10/8/2017 14:00	10/8/2017 15:15	75	2.09	12,271.77	1.95	0.78	24	Atlas		25,648	1
	11/3/2017 4:45	11/3/2017 7:00	135	0.88	100,327.27	2.09	0.65	1	Atlas		88,288	1
	11/6/2017 2:00	11/6/2017 2:00	0	0.56	27,194.64	1.59	0.43	1	Atlas		15,229	1
	12/5/2017 4:00	12/5/2017 4:00	0	0.75	258.67	0.51	0.43	3	Atlas		194	1
	12/23/2017 4:15	12/23/2017 6:00	105	1.25	708.80	1.07	0.49	12	Atlas		886	1
CSO126 Total											130,570	6
CSO127	10/7/2017 22:00	10/8/2017 20:00	1320	2.08	387,993.27	2.06	0.78	24	Atlas		807,026	1
	10/10/2017 14:15	10/10/2017 21:30	435	0.89	153,565.17	2.97	0.46	3	Atlas		136,673	1
	10/23/2017 7:00	10/23/2017 8:15	75	0.67	19,720.90	0.5	0.30	6	Atlas		13,213	1
	10/27/2017 17:45	10/28/2017 1:30	465	1.18	95,730.51	1.79	0.54	12	Atlas		112,962	1
	11/3/2017 4:45	11/3/2017 7:15	150	1.47	1,017,722.45	2.8	2.00	1	Atlas		1,496,052	1
	11/6/2017 2:00	11/6/2017 3:00	60	0.5	160,600.00	2.12	0.37	1	Atlas		80,300	1
	11/7/2017 2:30	11/7/2017 2:45	15	0.26	12,823.08	2.35	0.12	12	Atlas		3,334	1
	11/15/2017 13:30	11/15/2017 14:30	60	0.24	168,562.50	0.27	0.17	1	Atlas		40,455	1
	11/18/2017 16:45	11/18/2017 18:15	90	0.3	163,060.00	0.55	0.17	3	Atlas		48,918	1
	12/5/2017 3:30	12/5/2017 6:45	195	0.85	84,778.82	0.86	0.49	3	Atlas		72,062	1
	12/22/2017 18:45	12/23/2017 12:30	1065	1.35	321,909.63	1.36	0.54	12	Atlas		434,578	1
CSO127 Total											3,245,573	11
CSO131	10/7/2017 21:30	10/7/2017 21:45	15	1.73	23,901.73	0.57	0.65	24	Atlas		41,350	1
	10/8/2017 13:45	10/8/2017 13:45	0	1.73	2,388.44	1.54	0.65	24	Atlas		4,132	1
	11/3/2017 4:15	11/3/2017 5:00	45	1.16	121,356.90	2.07	0.94	1	Atlas		140,774	1
	11/6/2017 1:30	11/6/2017 1:45	15	0.74	84,113.51	2.03	0.57	1	Atlas		62,244	1
	12/5/2017 3:30	12/5/2017 3:30	0	0.55	50,230.91	0.25	0.29	3	Atlas		27,627	1
CSO131 Total											276,127	5
CSO132	10/7/2017 21:45	10/7/2017 23:30	105	1.74	49,910.92	0.65	0.66	24	Atlas		86,845	1
	10/8/2017 10:30	10/8/2017 20:00	570	1.74	432,748.28	1.74	0.66	24	Atlas		752,982	1
	10/10/2017 14:15	10/10/2017 21:15	420	0.68	921,183.82	2.44	0.35	3	Atlas		626,405	1
	10/17/2017 10:00	10/17/2017 17:30	450	Discharge		0.67					360,352	1
	10/23/2017 6:30	10/23/2017 8:00	90		436,943.40	0.44	0.28	6	Atlas		231,580	1
	10/27/2017 17:45	10/28/2017 1:15	450	0.89	612,456.18	1.47	0.41	12	Atlas		545,086	1
	11/3/2017 4:30	11/3/2017 6:45	135	0.86	1,262,726.74	1.89	0.66	1	Atlas		1,085,945	1
	11/6/2017 1:30	11/6/2017 3:00	90	0.68	135,201.47	1.68	0.53	1	Atlas		91,937	1
	11/15/2017 13:15	11/15/2017 14:00	45	0.26	833,646.15	0.27	0.17	1	Atlas		216,748	1
	11/18/2017 16:45	11/18/2017 18:00	75	0.24	297,658.33	0.49	0.13	3	Atlas		71,438	1
	12/5/2017 3:15	12/5/2017 6:30	195	0.67	310,825.37	0.68	0.36	3	Atlas		208,253	1
	12/22/2017 23:00	12/23/2017 12:30	810	1.18	201,841.53	1.18	0.45	24	Atlas		238,173	1
CSO132 Total											4,515,744	12
CSO140	10/7/2017 21:45	10/7/2017 22:15	30	1.77	429,557.06	0.62	0.66	24	Atlas		760,316	1
	10/8/2017 10:30	10/8/2017 14:45	255	1.77	724,516.95	1.69	0.66	24	Atlas		1,282,395	1
	10/10/2017 14:45	10/10/2017 16:15	90	0.75	918,234.67	2.38	0.37	3	Atlas		688,676	1
	12/5/2017 8:45	12/5/2017 12:15	210	0.7	72.86	0.71	0.38	3	Atlas		51	1
	12/23/2017 4:00	12/23/2017 15:30	690	1.17	4,301.71	1.18	0.45	24	Atlas		5,033	1



CSO	Start Date-Time	End Date-Time	Duration (Minutes)	Rain Total (Inch)	Discharge Volume per Rainfall	Antecedent Rain	Frequency	Period	Standard	Comments	Sum of Overflow Volume (Gal)	Events
<b>CSO140 Total</b>											<b>2,736,471</b>	<b>5</b>
CSO141	10/1/2017	1/1/2018	132480	Discharge		8.06	(blank)	(blank)	(blank)	Flow meter is Upstream, Raw Flow reported	14,494,255	
<b>CSO141 Total</b>											<b>14,494,255</b>	
CSO142	10/7/2017 21:45	10/7/2017 22:00	15	1.68	14,933.93	0.53	0.64	24	Atlas	Retained by Sneads Branch FPS	25,089	1
	10/8/2017 13:45	10/8/2017 14:00	15	1.68	5,859.52	1.49	0.64	24	Atlas	Retained by Sneads Branch FPS	9,844	1
	11/3/2017 4:30	11/3/2017 5:15	45	1.52	63,414.47	2.41	2.66	1	Atlas	Partially Retained by Sneads Branch FPS	96,390	1
	11/6/2017 2:00	11/6/2017 2:00	0	0.19	98,889.47	1.83	0.11	1	Atlas	Retained by Sneads Branch FPS	18,789	1
	12/5/2017 4:00	12/5/2017 4:00	0	0.62	1,598.39	0.37	0.35	3	Atlas	Retained by Sneads Branch FPS	991	1
<b>CSO142 Total</b>											<b>151,103</b>	<b>5</b>
CSO144	11/3/2017 4:30	11/3/2017 5:00	30	0.81	4,854.32	1.79	0.61	1	Atlas		3,932	1
<b>CSO144 Total</b>											<b>3,932</b>	<b>1</b>
CSO148	10/7/2017 21:45	10/7/2017 22:15	30	1.88	7,593.62	0.51	0.71	24	Atlas		14,276	1
	10/8/2017 10:30	10/8/2017 14:00	210	1.88	9,753.72	1.66	0.71	24	Atlas		18,337	1
	10/10/2017 15:00	10/10/2017 20:45	345	0.79	925.32	2.68	0.42	3	Atlas		731	1
	10/23/2017 6:30	10/23/2017 7:00	30	0.54	8,090.74	0.35	0.29	6	Atlas		4,369	1
	10/27/2017 17:30	10/28/2017 0:15	405	1.03	1,218.45	1.57	0.47	12	Atlas		1,255	1
	11/3/2017 4:30	11/3/2017 5:30	60	1.87	95,015.51	3.04	6.92	1	Atlas		177,679	1
	11/6/2017 2:00	11/6/2017 2:00	0	0.19	67,821.05	2.19	0.12	1	Atlas		12,886	1
	11/15/2017 13:30	11/15/2017 13:45	15	0.23	1,647.83	0.25	0.15	1	Atlas		379	1
	11/18/2017 17:15	11/18/2017 17:15	0	0.33	16,866.67	0.55	0.21	1	Atlas		5,566	1
	12/5/2017 3:15	12/5/2017 5:00	105	0.62	69,814.52	0.55	0.35	3	Atlas		43,285	1
	12/22/2017 23:15	12/23/2017 5:15	360	1.16	19,189.66	1.04	0.47	12	Atlas		22,260	1
<b>CSO148 Total</b>											<b>301,023</b>	<b>11</b>
CSO149	10/7/2017 21:45	10/8/2017 19:45	1320	1.68	1,315,201.79	1.67	0.64	24	Atlas		2,209,539	1
	10/10/2017 14:30	10/10/2017 21:15	405	0.65	2,184,352.31	2.33	0.32	3	Atlas		1,419,829	1
	10/23/2017 6:30	10/23/2017 8:15	105	0.49	1,312,177.55	0.44	0.26	6	Atlas		642,967	1
	10/27/2017 17:45	10/28/2017 1:15	450	0.8	839,555.00	1.35	0.37	12	Atlas		671,644	1
	11/3/2017 5:00	11/3/2017 6:30	90	1.52	2,089,721.71	2.44	2.66	1	Atlas		3,176,377	1
	11/6/2017 2:00	11/6/2017 2:45	45	0.19	2,856,163.16	1.83	0.11	1	Atlas		542,671	1
	11/15/2017 13:30	11/15/2017 14:15	45	0.28	386,046.43	0.31	0.17	3	Atlas		108,093	1
	11/18/2017 17:00	11/18/2017 18:00	60	0.35	744,545.71	0.62	0.20	1	Atlas		260,591	1
	12/5/2017 3:30	12/5/2017 6:30	180	0.62	2,165,117.74	0.62	0.35	3	Atlas		1,342,373	1
	12/12/2017 8:15	12/12/2017 16:15	480	0.01	262,387,000.00	0.01	0.01	1	Atlas		2,623,870	1
	12/22/2017 22:30	12/23/2017 5:45	435	1.09	1,386,318.35	0.91	0.42	24	Atlas		1,511,087	1
<b>CSO149 Total</b>											<b>14,509,041</b>	<b>11</b>
CSO150	10/7/2017 21:45	10/7/2017 23:30	105	1.91	17,210.47	0.86	0.71	24	Atlas		32,872	1
	10/8/2017 13:00	10/8/2017 16:00	180	1.91	89,323.04	1.86	0.71	24	Atlas		170,607	1
	10/10/2017 16:00	10/10/2017 21:45	345	0.65	195,963.08	2.57	0.35	3	Atlas		127,376	1
	10/23/2017 6:15	10/23/2017 6:15	0	0.38	1,455.26	0.19	0.20	6	Atlas		553	1
	10/27/2017 20:00	10/28/2017 2:45	405	0.92	223,698.91	1.42	0.42	12	Atlas		205,803	1
	11/3/2017 4:30	11/3/2017 9:30	300	1	93,673.00	2.09	0.73	1	Atlas		93,673	1
	11/6/2017 1:30	11/6/2017 3:45	135	0.91	10,452.75	2.08	0.70	1	Atlas		9,512	1
	12/5/2017 5:00	12/5/2017 6:15	75	0.6	72,953.33	0.6	0.31	3	Atlas		43,772	1
	12/22/2017 23:45	12/23/2017 12:15	750	1.36	145,700.74	1.36	0.52	24	Atlas		198,153	1
<b>CSO150 Total</b>											<b>882,321</b>	<b>9</b>
CSO151	10/7/2017 22:00	10/9/2017 0:30	1590	1.82	1,275,243.41	1.83	0.69	24	Atlas		2,320,943	1
	10/10/2017 14:15	10/10/2017 23:00	525	0.75	1,126,806.67	2.58	0.39	3	Atlas		845,105	1
	10/23/2017 5:45	10/23/2017 9:45	240	0.52	844,101.92	0.51	0.27	6	Atlas		438,933	1
	10/24/2017 2:00	10/24/2017 2:00	0	0.09	8,955.56	0.61	0.04	1	Atlas		806	1
	10/27/2017 17:45	10/28/2017 4:45	660	0.9	1,095,347.78	1.52	0.41	12	Atlas		985,813	1
	11/3/2017 4:45	11/3/2017 9:30	285	1.96	1,240,523.47	2.99	8.46	1	Atlas		2,431,426	1
	11/6/2017 2:15	11/6/2017 4:15	120	0.25	1,925,828.00	2.34	0.16	1	Atlas		481,457	1
	11/7/2017 2:15	11/7/2017 7:45	330	0.22	474,386.36	2.56	0.10	12	Atlas		104,365	1
	11/15/2017 13:30	11/15/2017 16:15	165	0.25	812,576.00	0.28	0.16	1	Atlas		203,144	1
	11/18/2017 17:00	11/18/2017 18:30	90	0.38	502,907.89	0.62	0.24	1	Atlas		191,105	1
<b>CSO151 Total</b>											<b>8,003,097</b>	<b>10</b>
CSO152	10/7/2017 21:45	10/8/2017 20:00	1335	1.76	155,267.05	1.75	0.67	24	Atlas		273,270	1
	10/10/2017 14:15	10/10/2017 21:30	435	0.7	322,312.86	2.46	0.35	3	Atlas		225,619	1
	10/23/2017 6:30	10/23/2017 9:00	150	0.53	198,316.98	0.5	0.28	6	Atlas		105,108	1
	10/27/2017 17:45	10/28/2017 1:30	465	0.81	412,561.73	1.4	0.37	12	Atlas		334,175	1
	11/3/2017 5:15	11/3/2017 6:30	75	1.61	102,455.90	2.54	3.50	1	Atlas		164,954	1
	11/6/2017 2:30	11/6/2017 2:45	15	0.22	161,618.18	1.95	0.13	1	Atlas		35,556	1
	11/7/2017 2:30	11/7/2017 6:45	255	0.23	33,982.61	2.18	0.11	6	Atlas		7,816	1
	11/15/2017 13:15	11/15/2017 14:30	75	0.27	774,918.52	0.3	0.17	1	Atlas		209,228	1

CSO	Start Date-Time	End Date-Time	Duration (Minutes)	Rain Total (Inch)	Discharge Volume per Rainfall	Antecedent Rain	Frequency	Period	Standard	Comments	Sum of Overflow Volume (Gal)	Events
CSO152	11/18/2017 16:45	11/18/2017 18:15	90	0.36	485,291.67	0.63	0.23	1	Atlas		174,705	1
	12/5/2017 3:30	12/5/2017 6:45	195	0.65	1,117,315.38	0.67	0.37	3	Atlas		726,255	1
	12/22/2017 18:30	12/23/2017 12:45	1095	1.06	1,068,444.34	1.07	0.41	12	Atlas		1,132,551	1
<b>CSO152 Total</b>											<b>3,389,237</b>	<b>11</b>
CSO153	10/7/2017 21:45	10/7/2017 23:15	90	1.59	122,520.75	0.64	0.60	24	Atlas		194,808	1
	10/8/2017 10:30	10/8/2017 19:30	540	1.59	246,026.42	1.59	0.60	24	Atlas		391,182	1
	10/10/2017 14:15	10/10/2017 21:00	405	0.66	190,690.91	2.26	0.34	3	Atlas		125,856	1
	10/23/2017 6:30	10/23/2017 7:00	30	0.46	57,969.57	0.31	0.24	6	Atlas		26,666	1
	10/27/2017 17:30	10/28/2017 0:45	435	0.81	133,071.60	1.31	0.37	12	Atlas		107,788	1
	11/3/2017 4:30	11/3/2017 5:30	60	1.05	582,001.90	1.99	0.83	1	Atlas		611,102	1
	11/6/2017 1:45	11/6/2017 2:30	45	0.46	382,369.57	1.64	0.32	1	Atlas		175,890	1
	11/15/2017 13:15	11/15/2017 14:00	45	0.31	121,751.61	0.33	0.20	3	Atlas		37,743	1
	11/18/2017 16:30	11/18/2017 17:45	75	0.31	167,719.35	0.61	0.17	3	Atlas		51,993	1
	12/5/2017 3:15	12/5/2017 6:15	180	0.63	583,188.89	0.65	0.33	3	Atlas		367,409	1
	12/22/2017 22:30	12/23/2017 12:45	855	1.15	410,039.13	1.15	0.44	24	Atlas		471,545	1
<b>CSO153 Total</b>											<b>2,561,982</b>	<b>11</b>
CSO154	12/5/2017 4:15	12/5/2017 5:15	60	0.67	18,959.70	0.61	0.36	3	Atlas		12,703	1
	12/23/2017	12/23/2017 9:15	555	1.18	20,980.51	0.99	0.45	24	Atlas		24,757	1
<b>CSO154 Total</b>											<b>37,460</b>	<b>2</b>
CSO155	10/7/2017 21:45	10/7/2017 22:15	30	2.05	6,081.95	0.8	0.76	24	Atlas		12,468	1
	10/8/2017 13:45	10/8/2017 14:15	30	2.05	1,036.59	1.91	0.76	24	Atlas		2,125	1
	10/23/2017 6:15	10/23/2017 6:30	15	0.4	25,830.00	0.23	0.21	6	Atlas		10,332	1
	11/3/2017 4:30	11/3/2017 5:15	45	1.02	89,294.12	2.24	0.78	1	Atlas		91,080	1
	11/6/2017 1:45	11/6/2017 2:00	15	0.82	19,682.93	2	0.63	1	Atlas		16,140	1
	11/18/2017 17:30	11/18/2017 17:30	0	0.46	3,117.39	0.83	0.26	3	Atlas		1,434	1
	12/5/2017 3:45	12/5/2017 3:45	0	0.65	13,901.54	0.3	0.35	3	Atlas		9,036	1
	12/23/2017 3:00	12/23/2017 3:15	15	1.59	610.06	1.09	0.61	24	Atlas		970	1
<b>CSO155 Total</b>											<b>143,585</b>	<b>8</b>
CSO160	11/3/2017 5:00	11/3/2017 5:00	0	1.18	256.78	2.17	0.84	1	Atlas		303	1
	12/5/2017 3:45	12/5/2017 3:45	0	0.68	1,373.53	0.36	0.35	3	Atlas		934	1
<b>CSO160 Total</b>											<b>1,237</b>	<b>2</b>
CSO161	11/3/2017 4:30	11/3/2017 4:30	0	1.18	1,970.34	1.88	0.84	1	Atlas		2,325	1
	11/6/2017 1:45	11/6/2017 1:45	0	0.53	2,166.04	1.85	0.38	1	Atlas		1,148	1
<b>CSO161 Total</b>											<b>3,473</b>	<b>2</b>
CSO166	10/7/2017 22:00	10/7/2017 23:45	105	2.08	716,165.87	0.7	0.78	24	Atlas		1,489,625	1
	10/8/2017 10:45	10/8/2017 20:00	555	2.08	480,786.54	2.06	0.78	24	Atlas		1,000,036	1
	10/23/2017 6:45	10/23/2017 8:15	90	0.67	443,429.85	0.5	0.30	6	Atlas		297,098	1
	10/27/2017 18:15	10/28/2017 2:00	465	1.18	231,152.54	1.8	0.54	12	Atlas		272,760	1
	11/3/2017 4:45	11/3/2017 13:15	510	1.47	2,426,025.85	2.8	2.00	1	Atlas		3,566,258	1
	11/6/2017 2:00	11/6/2017 3:15	75	0.5	4,056,744.00	2.12	0.37	1	Atlas		2,028,372	1
	11/15/2017 14:00	11/15/2017 14:30	30	0.24	210,466.67	0.27	0.17	1	Atlas		50,512	1
	11/18/2017 17:45	11/18/2017 18:15	30	0.3	354,326.67	0.55	0.17	3	Atlas		106,298	1
	12/5/2017 3:45	12/5/2017 6:45	180	0.85	641,918.82	0.86	0.49	3	Atlas		545,631	1
	12/23/2017	12/23/2017 6:30	390	1.35	940,142.22	1.2	0.54	12	Atlas		1,269,192	1
<b>CSO166 Total</b>											<b>10,625,782</b>	<b>10</b>
CSO167	10/10/2017 14:30	10/10/2017 21:15	405	0.68	154,551.47	2.44	0.35	3	Atlas		105,095	1
	10/23/2017 6:45	10/23/2017 7:30	45	0.53	84,252.83	0.39	0.28	6	Atlas		44,654	1
	10/27/2017 17:45	10/28/2017 1:15	450	0.89	78,612.36	1.47	0.41	12	Atlas		69,965	1
	11/3/2017 4:30	11/3/2017 6:30	120	0.86	299,597.67	1.89	0.66	1	Atlas		257,654	1
	11/6/2017 1:45	11/6/2017 3:00	75	0.68	187,864.71	1.68	0.53	1	Atlas		127,748	1
	11/15/2017 13:30	11/15/2017 14:15	45	0.26	122,284.62	0.27	0.17	1	Atlas		31,794	1
	11/18/2017 16:45	11/18/2017 17:45	60	0.24	279,816.67	0.49	0.13	3	Atlas		67,156	1
	12/5/2017 3:15	12/5/2017 6:00	165	0.67	236,717.91	0.67	0.36	3	Atlas		158,601	1
	12/22/2017 23:15	12/23/2017 12:15	780	1.18	235,774.58	1.17	0.45	24	Atlas		278,214	1
<b>CSO167 Total</b>											<b>1,140,881</b>	<b>9</b>
CSO174	10/7/2017 21:45	10/7/2017 22:15	30	1.68	223,556.55	0.54	0.64	24	Atlas	Retained by Sneads Branch FPS	375,575	1
	10/8/2017 13:45	10/8/2017 14:30	45	1.68	264,916.07	1.57	0.64	24	Atlas	Retained by Sneads Branch FPS	445,059	1
	10/10/2017 15:15	10/10/2017 15:15	0	0.65	5,143.08	2.06	0.32	3	Atlas	Retained by Sneads Branch FPS	3,343	1
	10/23/2017 6:30	10/23/2017 6:45	15	0.49	88,700.00	0.31	0.26	6	Atlas	Retained by Sneads Branch FPS	43,463	1
	10/27/2017 17:45	10/27/2017 17:45	0	0.8	12,280.00	0.73	0.37	12	Atlas	Retained by Sneads Branch FPS	9,824	1
	11/3/2017 4:30	11/3/2017 5:45	75	1.52	1,958,154.61	2.44	2.66	1	Atlas	Partially Retained by Sneads Branch FPS	2,976,395	1
	11/6/2017 2:00	11/6/2017 2:15	15	0.19	594,747.37	1.83	0.11	1	Atlas	Retained by Sneads Branch FPS	113,002	1
	11/18/2017 17:15	11/18/2017 17:30	15	0.35	72,220.00	0.62	0.20	1	Atlas	Retained by Sneads Branch FPS	25,277	1
<b>CSO174 Total</b>											<b>3,991,938</b>	<b>8</b>

CSO	Start Date-Time	End Date-Time	Duration (Minutes)	Rain Total (Inch)	Discharge Volume per Rainfall	Antecedent Rain	Frequency	Period	Standard	Comments	Sum of Overflow Volume (Gal)	Events
CSO178	10/7/2017 21:45	10/7/2017 22:00	15	1.65	63,746.06	0.53	0.62	24	Atlas		105,181	1
	11/3/2017 4:45	11/3/2017 5:15	30	0.99	532,890.91	1.94	0.77	1	Atlas		527,562	1
	11/6/2017 2:00	11/6/2017 2:00	0	0.32	100,896.88	1.45	0.22	1	Atlas		32,287	1
CSO178 Total											665,030	3
CSO179	10/7/2017 22:00	10/7/2017 22:15	15	1.68	5,289.88	0.54	0.64	24	Atlas		8,887	1
	11/3/2017 4:45	11/3/2017 5:30	45	1.52	106,412.50	2.44	2.66	1	Atlas		161,747	1
CSO179 Total											170,634	2
CSO180	10/7/2017 21:30	10/7/2017 22:00	30	1.68	62,662.50	0.53	0.64	24	Atlas	Retained by Sneads Branch FPS	105,273	1
	10/8/2017 13:45	10/8/2017 14:00	15	1.68	25,082.14	1.49	0.64	24	Atlas	Retained by Sneads Branch FPS	42,138	1
	10/23/2017 6:15	10/23/2017 6:15	0	0.49	2,636.73	0.23	0.26	6	Atlas	Retained by Sneads Branch FPS	1,292	1
	10/27/2017 17:30	10/27/2017 17:30	0	0.8	571.25	0.71	0.37	12	Atlas	Retained by Sneads Branch FPS	457	1
	11/3/2017 4:30	11/3/2017 5:30	60	1.52	333,342.76	2.44	2.66	1	Atlas	Partially Retained by Sneads Branch FPS	506,681	1
	11/6/2017 1:45	11/6/2017 2:00	15	0.19	257,747.37	1.83	0.11	1	Atlas	Retained by Sneads Branch FPS	48,972	1
	11/18/2017 17:15	11/18/2017 17:15	0	0.35	20,360.00	0.61	0.20	1	Atlas	Retained by Sneads Branch FPS	7,126	1
	12/5/2017 3:45	12/5/2017 4:00	15	0.62	44,398.39	0.37	0.35	3	Atlas	Retained by Sneads Branch FPS	27,527	1
	12/12/2017 7:45	12/12/2017 18:15	630	0.01	918,925,000.00	0.01	0.01	1	Atlas	Partially Retained by Sneads Branch FPS	9,189,250	1
	12/22/2017 23:45	12/23/2017 2:45	180	1.09	2,824.77	0.68	0.42	24	Atlas	Retained by Sneads Branch FPS	3,079	1
CSO180 Total											9,931,795	10
CSO181	10/7/2017 22:00	10/7/2017 22:30	30	1.64	47,719,538.41	0.55	0.62	24	Atlas		78,260,043	1
	11/3/2017 5:00	11/3/2017 5:30	30	0.89	438,156,777.53	1.76	0.69	1	Atlas		389,959,532	1
	11/6/2017 2:15	11/6/2017 2:15	0	0.28	130,425,700.00	1.3	0.17	1	Atlas		36,519,196	1
	12/5/2017 4:15	12/5/2017 4:15	0	0.67	2,223,304.48	0.42	0.36	3	Atlas		1,489,614	1
CSO181 Total											506,228,385	4
CSO182	10/7/2017 22:30	10/8/2017 19:45	1275	1.77	37,914.12	1.77	0.67	24	Atlas	Retained by Sneads Branch FPS	67,108	1
	10/10/2017 14:00	10/10/2017 21:15	435	0.67	74,076.12	2.45	0.34	3	Atlas	Retained by Sneads Branch FPS	49,631	1
	10/23/2017 7:15	10/23/2017 8:15	60	0.55	48,154.55	0.5	0.29	6	Atlas	Retained by Sneads Branch FPS	26,485	1
	10/27/2017 17:30	10/28/2017 1:15	465	0.77	179,187.01	1.38	0.35	12	Atlas	Retained by Sneads Branch FPS	137,974	1
	11/3/2017 4:30	11/3/2017 4:30	0	1.5	6,954.00	1.55	2.66	1	Atlas	Partially Retained by Sneads Branch FPS	10,431	1
	12/22/2017 18:30	12/23/2017 12:30	1080	1.03	243,009.71	1.03	0.41	12	Atlas	Retained by Sneads Branch FPS	250,300	1
CSO182 Total											541,929	6
CSO183	10/7/2017 22:00	10/7/2017 22:00	0	1.91	1,231.94	0.52	0.71	24	Atlas	Retained by Sneads Branch FPS	2,353	1
	10/8/2017 13:45	10/8/2017 13:45	0	1.91	482.72	1.65	0.71	24	Atlas	Retained by Sneads Branch FPS	922	1
	11/3/2017 4:45	11/3/2017 12:15	450	1.43	12,921.68	2.37	2.00	1	Atlas	Partially Retained by Sneads Branch FPS	18,478	1
	11/8/2017 10:30	11/8/2017 10:30	0	0.05	18,860.00	1.85	0.03	1	Atlas	Retained by Sneads Branch FPS	943	1
	11/10/2017 7:15	11/10/2017 23:45	990	Discharge		0.39				Retained by Sneads Branch FPS	3,381	1
	11/11/2017 9:15	11/11/2017 11:45	150	Discharge		0.39				Retained by Sneads Branch FPS	423	1
	11/13/2017 21:00	11/13/2017 21:00	0	Discharge		0.29				Retained by Sneads Branch FPS	1,843	1
	11/18/2017 21:45	11/23/2017 14:30	6765	0.27	3,422,151.85	0.56	0.15	1	Atlas	Retained by Sneads Branch FPS	923,981	1
	11/23/2017 23:00	11/23/2017 23:00	0	Discharge		0.27				Retained by Sneads Branch FPS	29	1
	11/25/2017 4:15	11/25/2017 4:15	0	Discharge		0.27				Retained by Sneads Branch FPS	2,296	1
	11/25/2017 21:30	11/27/2017 21:15	2865	Discharge		0.04				Retained by Sneads Branch FPS	26,879	1
	11/28/2017 13:45	11/29/2017 9:00	1155	Discharge		0				Retained by Sneads Branch FPS	3,728	1
CSO183 Total											985,256	12
CSO184	10/7/2017 22:00	10/7/2017 22:00	0	1.91	72,189.01	0.52	0.71	24	Atlas	Retained by Sneads Branch FPS	137,881	1
	11/3/2017 4:45	11/3/2017 5:15	30	1.43	253,754.55	2.35	2.00	1	Atlas	Partially Retained by Sneads Branch FPS	362,869	1
CSO184 Total											500,750	2
CSO185	10/7/2017 22:00	10/7/2017 22:15	15	1.91	108,843.98	0.53	0.71	24	Atlas	Retained by Sneads Branch FPS	207,892	1
	10/8/2017 14:00	10/8/2017 14:00	0	1.91	10,609.95	1.68	0.71	24	Atlas	Retained by Sneads Branch FPS	20,265	1
	12/5/2017 3:30	12/5/2017 4:15	45	0.62	18,556.45	0.41	0.35	3	Atlas	Retained by Sneads Branch FPS	11,505	1
	12/23/2017	12/23/2017 3:00	180	1.07	4,391.59	0.75	0.43	12	Atlas	Retained by Sneads Branch FPS	4,699	1
CSO185 Total											244,361	4
CSO186											4,638	1
CSO186 Total											4,638	1
CSO187	10/7/2017 21:30	10/7/2017 21:30	0	1.68	4,659.52	0.27	0.64	24	Atlas	Retained by Sneads Branch FPS	7,828	1
	11/3/2017 4:15	11/3/2017 4:30	15	1.52	28,861.84	1.63	2.66	1	Atlas	Partially Retained by Sneads Branch FPS	43,870	1
	12/12/2017 7:45	12/12/2017 12:45	300	0.01	94,438,300.00	0.01	0.01	1	Atlas	Partially Retained by Sneads Branch FPS	944,383	1
CSO187 Total											996,081	3
CSO188	11/3/2017 5:15	11/3/2017 5:15	0	1.52	7,324.34	2.41	2.66	1	Atlas	Partially Retained by Sneads Branch FPS	11,133	1
	12/12/2017 8:30	12/12/2017 15:45	435	0.01	142,989,600.00	0.01	0.01	1	Atlas	Partially Retained by Sneads Branch FPS	1,429,896	1
CSO188 Total											1,441,029	2
CSO189	10/7/2017 21:45	10/8/2017 0:15	150	2.35	2,294,891.91	1.07	0.88	24	Atlas		5,392,996	1
	10/8/2017 11:00	10/8/2017 17:00	360	2.35	3,133,220.43	2.29	0.88	24	Atlas		7,363,068	1
	10/10/2017 14:45	10/10/2017 19:15	270	0.51	2,721,519.61	2.85	0.29	3	Atlas		1,387,975	1
	10/23/2017 6:45	10/23/2017 9:00	135	0.53	2,309,147.17	0.51	0.28	6	Atlas		1,223,848	1

CSO	Start Date-Time	End Date-Time	Duration (Minutes)	Rain Total (Inch)	Discharge Volume per Rainfall	Antecedent Rain	Frequency	Period	Standard	Comments	Sum of Overflow Volume (Gal)	Events
CSO189	10/27/2017 18:00	10/28/2017 1:45	465	1.08	3,306,772.22	1.77	0.49	12	Atlas		3,571,314	1
	11/3/2017 4:45	11/3/2017 7:45	180	0.78	12,673,111.54	2.02	0.55	1	Atlas		9,885,027	1
	11/6/2017 1:30	11/6/2017 4:00	150	0.77	8,728,845.45	1.71	0.60	1	Atlas		6,721,211	1
	11/15/2017 13:45	11/15/2017 14:45	60	0.34	632,914.71	0.39	0.22	1	Atlas		215,191	1
	11/18/2017 17:30	11/18/2017 19:00	90	0.27	4,762,911.11	0.66	0.14	6	Atlas		1,285,986	1
	12/5/2017 4:00	12/5/2017 7:15	195	0.76	3,289,871.05	0.78	0.41	3	Atlas		2,500,302	1
	12/22/2017 23:15	12/23/2017 13:15	840	1.49	5,531,048.32	1.49	0.57	12	Atlas		8,241,262	1
	<b>CSO189 Total</b>										<b>47,788,180</b>	<b>11</b>
CSO190	10/7/2017 21:30	10/7/2017 22:15	45	2.05	303,010.73	0.8	0.76	24	Atlas		621,172	1
	10/8/2017 10:15	10/8/2017 15:00	285	2.05	232,858.05	1.97	0.76	24	Atlas		477,359	1
	10/10/2017 14:00	10/10/2017 16:15	135	0.66	59,104.55	2.64	0.36	3	Atlas		39,009	1
	10/23/2017 6:15	10/23/2017 7:00	45	0.4	522,687.50	0.28	0.21	6	Atlas		209,075	1
	10/27/2017 17:15	10/28/2017	405	1.06	38,895.28	1.51	0.48	12	Atlas		41,229	1
	11/3/2017 4:30	11/3/2017 5:30	60	1.02	341,706.86	2.24	0.78	1	Atlas		348,541	1
	11/6/2017 1:30	11/6/2017 2:15	45	0.82	466,123.17	2	0.63	1	Atlas		382,221	1
	11/15/2017 13:15	11/15/2017 13:30	15	0.36	3,200.00	0.39	0.25	1	Atlas		1,152	1
	11/18/2017 17:00	11/18/2017 17:30	30	0.46	79,513.04	0.83	0.26	3	Atlas		36,576	1
	12/5/2017 3:45	12/5/2017 5:00	75	0.65	188,040.00	0.55	0.35	3	Atlas		122,226	1
	12/22/2017 23:15	12/23/2017 4:00	285	1.59	135,425.16	1.18	0.61	24	Atlas		215,326	1
	<b>CSO190 Total</b>										<b>2,493,886</b>	<b>11</b>
CSO193	10/7/2017 21:45	10/7/2017 22:00	15	1.65	4,032.73	0.53	0.62	24	Atlas		6,654	1
	10/8/2017 14:00	10/8/2017 14:00	0	1.65	464.24	1.5	0.62	24	Atlas		766	1
	11/3/2017 4:45	11/3/2017 5:15	30	0.99	43,544.44	1.94	0.77	1	Atlas		43,109	1
	11/6/2017 2:00	11/6/2017 2:00	0	0.32	17,731.25	1.45	0.22	1	Atlas		5,674	1
	12/5/2017 3:45	12/5/2017 4:30	45	0.65	1,972.31	0.46	0.33	3	Atlas		1,282	1
	12/23/2017	12/23/2017 3:15	195	1.26	94.44	0.86	0.48	24	Atlas		119	1
	<b>CSO193 Total</b>										<b>57,604</b>	<b>6</b>
CSO195	11/3/2017 5:00	11/3/2017 5:00	0	1.34	35,234.33	2.22	1.57	1	Atlas		47,214	1
<b>CSO195 Total</b>											<b>47,214</b>	<b>1</b>
CSO196	10/7/2017 22:00	10/7/2017 22:15	15	1.8	4,617.22	0.62	0.68	24	Atlas		8,311	1
	10/8/2017 10:15	10/8/2017 14:30	255	1.8	3,021.11	1.7	0.68	24	Atlas		5,438	1
	10/27/2017 17:45	10/27/2017 17:45	0	0.81	17.28	0.69	0.37	12	Atlas		14	1
	11/3/2017 4:30	11/3/2017 5:30	60	1.34	71,647.76	2.27	1.57	1	Atlas		96,008	1
	11/6/2017 2:00	11/6/2017 2:15	15	0.22	30,522.73	1.68	0.13	1	Atlas		6,715	1
	12/5/2017 3:45	12/5/2017 4:15	30	0.64	6,000.00	0.4	0.35	3	Atlas		3,840	1
	12/22/2017 23:45	12/23/2017 3:00	195	1.22	889.34	0.81	0.47	24	Atlas		1,085	1
	<b>CSO196 Total</b>										<b>121,411</b>	<b>7</b>
CSO197	10/7/2017 21:30	10/7/2017 23:00	90	1.8	13,768.89	0.7	0.68	24	Atlas		24,784	1
	10/8/2017 10:00	10/8/2017 19:15	555	1.8	32,918.33	1.79	0.68	24	Atlas		59,253	1
	10/10/2017 14:00	10/10/2017 21:00	420	0.62	77,675.81	2.43	0.33	3	Atlas		48,159	1
	10/23/2017 6:15	10/23/2017 7:45	90	0.45	64,120.00	0.38	0.23	6	Atlas		28,854	1
	11/12/2017 20:45	11/13/2017 7:30	645	0.05	87,281,980.00	0.55	0.03	3	Atlas		4,364,099	1
	11/15/2017 13:00	11/15/2017 13:45	45	0.28	23,678.57	0.32	0.18	3	Atlas		6,630	1
	11/18/2017 16:45	11/18/2017 17:30	45	0.35	21,822.86	0.65	0.21	1	Atlas		7,638	1
	12/5/2017 3:15	12/5/2017 5:45	150	0.64	64,481.25	0.63	0.35	3	Atlas		41,268	1
	12/22/2017 23:15	12/23/2017 5:15	360	1.22	25,569.67	1.01	0.47	24	Atlas		31,195	1
	<b>CSO197 Total</b>										<b>4,611,880</b>	<b>9</b>
CSO198	10/7/2017 21:30	10/7/2017 22:15	45	1.8	30,863.33	0.62	0.68	24	Atlas		55,554	1
	10/8/2017 10:00	10/8/2017 14:45	285	1.8	27,820.56	1.71	0.68	24	Atlas		50,077	1
	10/10/2017 14:45	10/10/2017 20:45	360	0.62	45,038.71	2.43	0.33	3	Atlas		27,924	1
	10/23/2017 6:15	10/23/2017 7:00	45	0.45	46,113.33	0.32	0.23	6	Atlas		20,751	1
	10/27/2017 17:30	10/28/2017	390	0.81	9,301.23	1.25	0.37	12	Atlas		7,534	1
	11/3/2017 4:15	11/3/2017 6:00	105	1.34	254,060.45	2.27	1.57	1	Atlas		340,441	1
	11/6/2017 1:45	11/6/2017 2:15	30	0.22	120,350.00	1.68	0.13	1	Atlas		26,477	1
	11/15/2017 13:15	11/15/2017 13:45	30	0.28	15,828.57	0.32	0.18	3	Atlas		4,432	1
	11/18/2017 17:00	11/18/2017 17:30	30	0.35	15,477.14	0.65	0.21	1	Atlas		5,417	1
	12/5/2017 3:30	12/5/2017 5:00	90	0.64	76,459.38	0.55	0.35	3	Atlas		48,934	1
	12/22/2017 23:00	12/23/2017 5:15	375	1.22	39,750.00	1.01	0.47	24	Atlas		48,495	1
	<b>CSO198 Total</b>										<b>636,036</b>	<b>11</b>
CSO199	10/7/2017 21:45	10/7/2017 22:30	45	1.8	2,034.44	0.63	0.68	24	Atlas		3,662	1
	10/8/2017 14:00	10/8/2017 14:00	0	1.8	42.22	1.64	0.68	24	Atlas		76	1
	10/23/2017 6:30	10/23/2017 6:30	0	0.45	153.33	0.24	0.23	6	Atlas		69	1
	11/3/2017 4:30	11/3/2017 6:00	90	1.34	19,397.76	2.27	1.57	1	Atlas		25,993	1
	11/6/2017 2:15	11/6/2017 2:15	0	0.22	9.09	1.68	0.13	1	Atlas		2	1

CSO	Start Date-Time	End Date-Time	Duration (Minutes)	Rain Total (Inch)	Discharge Volume per Rainfall	Antecedent Rain	Frequency	Period	Standard	Comments	Sum of Overflow Volume (Gal)	Events
CSO199	11/18/2017 17:30	11/18/2017 17:30	0	0.35	5.71	0.65	0.21	1	Atlas		2	1
	12/5/2017 3:30	12/5/2017 4:30	60	0.64	4,273.44	0.47	0.35	3	Atlas		2,735	1
	12/22/2017 23:15	12/23/2017 3:00	225	1.22	78.69	0.81	0.47	24	Atlas		96	1
<b>CSO199 Total</b>											<b>32,635</b>	<b>8</b>
CSO200	10/7/2017 21:45	10/7/2017 22:15	30	1.8	6,290.56	0.62	0.68	24	Atlas		11,323	1
	10/8/2017 14:00	10/8/2017 14:00	0	1.8	739.44	1.64	0.68	24	Atlas		1,331	1
	10/23/2017 6:15	10/23/2017 6:30	15	0.45	866.67	0.24	0.23	6	Atlas		390	1
	11/3/2017 4:30	11/3/2017 5:45	75	1.34	73,233.58	2.27	1.57	1	Atlas		98,133	1
	11/6/2017 2:00	11/6/2017 2:00	0	0.22	1,131.82	1.67	0.13	1	Atlas		249	1
	12/5/2017 3:45	12/5/2017 4:00	15	0.64	3,798.44	0.36	0.35	3	Atlas		2,431	1
<b>CSO200 Total</b>											<b>113,857</b>	<b>6</b>
CSO201	10/7/2017 22:00	10/7/2017 22:00	0	1.65	39,092.12	0.53	0.62	24	Atlas		64,502	1
	11/3/2017 5:15	11/3/2017 5:15	0	0.99	28,239.39	1.94	0.77	1	Atlas		27,957	1
<b>CSO201 Total</b>											<b>92,459</b>	<b>2</b>
CSO202	10/7/2017 21:45	10/7/2017 22:15	30	1.8	3,040.56	0.62	0.68	24	Atlas		5,473	1
	10/8/2017 13:45	10/8/2017 14:30	45	1.8	271.67	1.7	0.68	24	Atlas		489	1
	10/10/2017 20:45	10/10/2017 20:45	0	0.62	1,032.26	2.43	0.33	3	Atlas		640	1
	10/23/2017 6:15	10/23/2017 6:30	15	0.45	1,591.11	0.24	0.23	6	Atlas		716	1
	10/27/2017 17:45	10/27/2017 17:45	0	0.81	359.26	0.69	0.37	12	Atlas		291	1
	11/3/2017 4:30	11/3/2017 5:30	60	1.34	32,398.51	2.27	1.57	1	Atlas		43,414	1
	11/6/2017 2:00	11/6/2017 2:00	0	0.22	6,986.36	1.67	0.13	1	Atlas		1,537	1
	12/5/2017 3:30	12/5/2017 4:00	30	0.64	3,301.56	0.36	0.35	3	Atlas		2,113	1
	12/22/2017 23:15	12/22/2017 23:45	30	1.22	184.43	0.36	0.47	24	Atlas		225	1
<b>CSO202 Total</b>											<b>54,898</b>	<b>9</b>
CSO203	10/7/2017 21:45	10/7/2017 22:00	15	1.8	2,558.89	0.61	0.68	24	Atlas		4,606	1
	11/3/2017 4:30	11/3/2017 5:15	45	1.34	27,841.04	2.25	1.57	1	Atlas		37,307	1
	11/6/2017 2:00	11/6/2017 2:00	0	0.22	2,363.64	1.67	0.13	1	Atlas		520	1
	12/5/2017 3:45	12/5/2017 3:45	0	0.64	62.50	0.31	0.35	3	Atlas		40	1
<b>CSO203 Total</b>											<b>42,473</b>	<b>4</b>
CSO210	10/24/2017 9:00	10/24/2017 9:00	0	0.14	387,800.00	0.61	0.07	3	Atlas		54,292	1
	10/27/2017 18:15	10/28/2017 7:00	765	1.1	18,741,944.55	1.74	0.50	12	Atlas		20,616,139	1
	11/3/2017 4:30	11/3/2017 11:00	390	0.89	8,376,708.99	2.16	0.68	1	Atlas		7,455,271	1
	11/6/2017 1:30	11/6/2017 5:45	255	0.35	18,712,797.14	1.41	0.21	1	Atlas		6,549,479	1
	11/7/2017 6:45	11/7/2017 9:30	165	0.24	15,001,329.17	1.65	0.11	6	Atlas		3,600,319	1
	11/15/2017 14:00	11/15/2017 17:15	195	0.33	11,938,448.48	0.37	0.21	1	Atlas		3,939,688	1
	11/18/2017 17:30	11/18/2017 22:00	270	0.31	18,899,483.87	0.69	0.17	1	Atlas		5,858,840	1
	12/5/2017 4:00	12/5/2017 10:45	405	0.8	10,137,473.75	0.81	0.43	3	Atlas		8,109,979	1
	12/22/2017 22:00	12/24/2017 4:00	1800	1.8	22,297,341.67	1.81	0.71	12	Atlas		40,135,215	1
<b>CSO210 Total</b>											<b>96,319,222</b>	<b>9</b>
CSO211	10/23/2017 6:45	10/23/2017 10:30	225	0.47	20,521,953.19	0.47	0.25	6	Atlas		9,645,318	1
	10/27/2017 19:00	10/28/2017 3:30	510	1.1	16,945,590.00	1.72	0.50	12	Atlas		18,640,149	1
	11/3/2017 4:45	11/3/2017 8:45	240	0.89	9,645,923.60	2.16	0.68	1	Atlas		8,584,872	1
	11/6/2017 2:30	11/6/2017 4:15	105	0.35	1,917,714.29	1.41	0.21	1	Atlas		671,200	1
<b>CSO211 Total</b>											<b>37,851,541</b>	<b>5</b>
<b>Grand Total</b>											<b>1,352,500,400</b>	<b>598</b>

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Appendix C

Acronyms

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## Appendix C                      Acronyms

ACD	Amended Consent Decree
AAOV	Average Annual Overflow Volume
BOD	Biological Oxygen Demand
CCP	Composite Correction Plan
CMF	Central Maintenance Facility
CMOM	Capacity Management Operations and Maintenance
CPE	Comprehensive Performance Evaluations
CSO	Combined Sewer Overflow
CSOFT	Software Name
CSS	Combined Sewer System
DAP	Discharge Abatement Plans
DRG	Derek R. Guthrie Water Quality Treatment Center
DWO	Dry Weather Overflow
EPA	Environmental Protection Agency
FEPS	Final Effluent Pump Station
FY	Fiscal Year
GLPM	Gravity Line Preventive Maintenance
HMI	Human Machine Interface
ICM	Integrated Catchment Model
ID	Identification
IFIX	Software Name
I/O	Input/ Output
IOAP	Integrated Overflow Abatement Plan
ISSDP	Interim Sanitary Sewer Discharge Plan
KDEP	Kentucky Department of Environmental Protection
KPDES	Kentucky Pollutant Discharge Elimination System
LG&E	Louisville Gas & Electric Company
LWC	Louisville Water Company
LTCP	Long Term Control Plan
MG	Million Gallons
MGD	Million Gallons per Day
MSD	Metropolitan Sewer District (Louisville and Jefferson County)
NGPS	Nightingale Pump Station
NMC	Nine Minimum Controls
PLC	Programmable Logic Controller
PM	Preventive Maintenance
PS	Pump Station
RAS	Return Activated Sludge
RTC	Real Time Control
SCAP	System Capacity Assurance Plan
SCS	Soil Conservation Service
SOP	Standard Operating Procedure

## Appendix C                      Acronyms

SOR1	Southern Outfall Retention Facility 1
SORP	Sewer Overflow Response Protocol
SSDP	Sanitary Sewer Discharge Plan
SSO	Sanitary Sewer Overflow
SSOP	Sanitary Sewer Overflow Plan
SWOR1	Southwestern Outfall Retention – Phase 1
SWOR2	Southwestern Outfall Retention – Phase 2
SWPS	Southwestern Pump Station
SWSG	Southwest Sluice Gate
TSS	Total Suspended Solids
TV	Television
US	United States
UM	Unplanned Maintenance
VFD	Variable Frequency Drive
WIN	Waterway Improvements Now
WQTC	Water Quality Treatment Center
WUS	Waters of the United States

Appendix D      SCAP Balance

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# Capacity Credit Balance Sheet per Credit Basin

<u>APNO</u>	<u>APNAME</u>	<u>APTTYPE</u>	<u>FLOW</u>	<u>Release Date</u>	<u>Approved Credit Required/ Flow Reduction</u>	<u>Running Total</u>
<b>CCREEK</b>						
235533	MAINTENANCE WORK FY06 AUG-FY09	SCAPCREDIT		11/1/08	6,521	6,521
362688	MAINTENANCE WORK FY09A - CEDAR	SCAPCREDIT		12/31/08	5	6,526
236380	FAIRMOUNT ROAD MH REHAB	SCAPCREDIT		6/5/09	10,734	17,260
362689	MAINTENANCE WORK FY09B - CEDAR	SCAPCREDIT		6/30/09	201	17,461
SC1011254	MAINTENANCE WORK FY10A - CEDAR	SCAPCREDIT		12/31/09	347	17,808
SC1011255	MAINTENANCE WORK FY10B - CEDAR	SCAPCREDIT		6/30/10	194	18,002
SC1011259	MAINTENANCE WORK FY11A - CEDAR	SCAPCREDIT		12/31/10	1,720	19,722
SC1011262	MAINTENANCE WORK FY11B - CEDAR	SCAPCREDIT		6/30/11	934	20,656
SC1011264	MAINTENANCE WORK FY12A - CEDAR	SCAPCREDIT		12/31/11	269	20,925
SC1011267	MAINTENANCE WORK FY12B - CEDAR	SCAPCREDIT		6/30/12	814	21,739
SC1005519	CONTRACTED WORK FY12 - CEDAR	SCAPCREDIT		9/10/12	21,321	43,060
320989	LITTLE CEDAR CREEK I/I REHABIL	SCAPCREDIT		9/27/12	652,907	695,967
263934	ST JAMES CROSSINGS	LAT EXT	9,000	11/30/12	-19,575	676,392
196927	SONIC SPRINGS	LAT EXT	3,600	12/5/12	-7,830	668,562
SC1005524	CONTRACTED WORK FY13 - CEDAR	SCAPCREDIT		8/19/13	425	668,987
14SC1000	MAINTENANCE WORK FY13A - CEDAR	SCAPCREDIT		12/31/13	2,220	671,207
13LE1155	RAISING CANE'S CEDARLOOK DRIVE	LAT EXT	1,175	5/23/14	-2,556	668,651
239030	POPLAR LAKES PH 1	LAT EXT	18,000	1/26/15	-39,150	629,501
13LE1003	Bardstown Woods Sec 6	LAT EXT	5,200	5/26/15	-11,310	618,191
LE916330	Altawood Development	LAT EXT	1,600	9/14/15	-3,480	614,711
SC1003694	CONTRACTED WORK FY16 - CEDAR	SCAPCREDIT		9/25/15	328	615,039
SC1006188	CONTRACTED WORK FY15 - CEDAR	SCAPCREDIT		9/25/15	1	615,040
LE915727	BARDSTOWN WOODS SEC 7	LAT EXT	4,400	5/25/16	-9,570	605,470
SC1006171	CONTRACTED WORK FY14 - CEDAR	SCAPCREDIT		10/26/16	45,900	651,370

## Capacity Credit Balance Sheet per Credit Basin

<u>APNO</u>	<u>APNAME</u>	<u>APTYPE</u>	<u>FLOW</u>	<u>Release Date</u>	<u>Approved Credit Required/ Flow Reduction</u>	<u>Running Total</u>
LE983107	Poplar Lakes Phase 3	LAT EXT	12,000	8/14/17	-26,100	625,270
LE971176	Cedar Ridge	LAT EXT	18,800	10/24/17	-40,890	584,380
<b>FFORK</b>						
235557	MAINTENANCE WORK FY06 AUG-FY09	SCAPCREDIT		11/1/08	14,540	14,540
362638	MAINTENANCE WORK FY09A - FLOYDS	SCAPCREDIT		12/31/08	1	14,541
362647	MAINTENANCE WORK FY09B - FLOYDS	SCAPCREDIT		6/30/09	4	14,545
362651	MAINTENANCE WORK FY10A - FLOYDS	SCAPCREDIT		12/31/09	524	15,069
230379	SHAKES RUN SECTION 4	LAT EXT	3,770	1/5/10	-8,200	6,869
362655	MAINTENANCE WORK FY10B - FLOYDS	SCAPCREDIT		6/30/10	82	6,951
362661	MAINTENANCE WORK FY11A - FLOYDS	SCAPCREDIT		12/31/10	14,163	21,114
362669	MAINTENANCE WORK FY11B - FLOYDS	SCAPCREDIT		6/30/11	22,707	43,821
242480	CLAIBOURNE CROSSINGS PHASE 2	LAT EXT	0	10/17/11	0	43,821
359320	CALENDAR 2011 SUMP PUMP CREDIT	SCAPCREDIT		12/31/11	4,000	47,821
362674	MAINTENANCE WORK FY12A - FLOYDS	SCAPCREDIT		12/31/11	317	48,138
362678	MAINTENANCE WORK FY12B - FLOYDS	SCAPCREDIT		6/30/12	338	48,476
332823	SINGLE FAMILY HOME	LAT EXT	400	7/13/12	-870	47,606
315945	BROOKFIELD SEC 3	LAT EXT	12,800	10/26/12	-27,840	19,766
361689	LAKE FOREST REHAB PH1	SCAPCREDIT		12/18/12	174,769	194,535
362683	MAINTENANCE WORK FY13A - FLOYDS	SCAPCREDIT		12/31/12	10	194,545
331397	BROOKFIELD SEC 2A	LAT EXT	14,400	5/8/13	-31,320	163,225
13SC1000	FY14 STARVIEW REHABILITATION	SCAPCREDIT		6/30/13	14,183	177,408
13LE1062	SPEEDWAY #9451	LAT EXT	540	2/18/15	-1,175	176,234
SC1003809	BERRYTOWN WQTC I/I REMEDIATION	SCAPCREDIT		6/30/15	116,834	293,068
SC1003723	MIDDLETOWN SSR P2S2 I/I REMEDIATION	SCAPCREDIT		11/6/15	102	293,170
LE941673	Locust Creek Section 8B	LAT EXT	2,000	1/7/16	-4,350	288,820

## Capacity Credit Balance Sheet per Credit Basin

<u>APNO</u>	<u>APNAME</u>	<u>APTYPE</u>	<u>FLOW</u>	<u>Release Date</u>	<u>Approved Credit Required/ Flow Reduction</u>	<u>Running Total</u>
SC1003331	CONTRACTED WORK FY16 - FLOYDS	SCAPCREDIT		7/7/16	35	288,855
LE932677	Shakes Run Sec 9	LAT EXT	12,000	9/20/16	-26,100	262,755
LE945783	Urton Woods, Section 2B	LAT EXT	17,200	1/4/17	-37,410	225,345
LE971261	Notting Hills Section 4 and Clubhouse	LAT EXT	10,400	2/27/17	-22,620	202,725
LE992628	Blankenbaker Centre II	LAT EXT	2,340	10/9/17	-5,090	197,635

### HCREEK

SC1006307	CONTRACTED WORK FY06 - HITE CREEK	SCAPCREDIT		5/15/06	656	656
235561	MAINTENANCE WORK FY06 AUG-FY09	SCAPCREDIT		11/1/08	6,404	7,060
362641	MAINTENANCE WORK FY09A - HITE	SCAPCREDIT		12/31/08	2	7,062
SC1006214	CONTRACTED WORK FY09 - HITE CREEK	SCAPCREDIT		6/1/09	328	7,390
362648	MAINTENANCE WORK FY09B - HITE	SCAPCREDIT		6/30/09	7	7,397
362652	MAINTENANCE WORK FY10A - HITE	SCAPCREDIT		12/31/09	10	7,407
362657	MAINTENANCE WORK FY10B - HITE	SCAPCREDIT		6/30/10	332	7,739
320906	FLOYDSBURG ROAD I/I REHABILITA	SCAPCREDIT		12/17/10	28,437	36,176
362662	MAINTENANCE WORK FY11A - HITE	SCAPCREDIT		12/31/10	9	36,185
362670	MAINTENANCE WORK FY11B - HITE	SCAPCREDIT		6/30/11	9	36,194
SC1011058	Meadow Stream Pump Station & Force Main	SCAPCREDIT		9/7/11	2,304,000	2,340,194
246638	CHAPMAN COURT S/S	LAT EXT	800	9/28/11	-1,740	2,338,454
362675	MAINTENANCE WORK FY12A - HITE	SCAPCREDIT		12/31/11	340	2,338,794
362679	MAINTENANCE WORK FY12B - HITE	SCAPCREDIT		6/30/12	5,007	2,343,801
290181	CAMDEN WOOD APARTMENTS	LAT EXT	12,400	8/31/12	-26,970	2,316,831
304536	MAGNOLIA SPRINGS EAST PRIV P/S	LAT EXT	9,500	12/1/12	-20,663	2,296,169
335610	ROCK SPRINGS FARM SEC 4B	LAT EXT	6,400	12/7/12	-13,920	2,282,249
362684	MAINTENANCE WORK FY13A - HITE	SCAPCREDIT		12/31/12	7	2,282,256
SC1005530	CONTRACTED WORK FY13 - HITE CREEK	SCAPCREDIT		4/11/13	1,442	2,283,698

## Capacity Credit Balance Sheet per Credit Basin

<u>APNO</u>	<u>APNAME</u>	<u>APTYPE</u>	<u>FLOW</u>	<u>Release Date</u>	<u>Approved Credit Required/ Flow Reduction</u>	<u>Running Total</u>
SC1006178	CONTRACTED WORK FY14 - HITE CREEK	SCAPCREDIT		1/27/15	77,660	2,361,358
SC983697	MEADOWSTREAM REHABILITATION -	SCAPCREDIT		3/13/15	448,447	2,809,805
LE943178	Rock Springs Farm Section 5A	LAT EXT	6,800	9/13/16	-14,790	2,795,015
SC1006192	CONTRACTED WORK FY15 - HITE CREEK	SCAPCREDIT		10/26/16	1	2,795,016
LE971406	Old Henry Business Park	LAT EXT	930	3/17/17	-2,023	2,792,993
<b>JTOWN</b>						
235563	MAINTENANCE WORK FY06 AUG-FY09	SCAPCREDIT		11/1/08	6,203	6,203
359323	CALENDAR 2008 SUMP PUMP CREDIT	SCAPCREDIT		12/31/08	4,000	10,203
254871	LAKESIDE BAPT CHURCH PRIV PS	LAT EXT	2,500	8/10/10	-5,438	4,766
340213	JEFFERSONTOWN ENG REHAB	SCAPCREDIT		8/11/11	997,448	1,002,214
359324	CALENDAR 2011 SUMP PUMP CREDIT	SCAPCREDIT		12/31/11	4,000	1,006,214
14SC1002	MAINTENANCE WORK FY13A -	SCAPCREDIT		12/31/12	3,490	1,009,704
337261	SINGLE FAMILY 2909 PELHAM CT	LAT EXT	400	5/28/13	-870	1,008,834
13LE1010	SWOPE HR & TRAINING BLDG	LAT EXT	400	6/28/13	-870	1,007,964
13LE1092	BALE EQUIPMENT	LAT EXT	450	10/25/13	-979	1,006,985
13LE1098	UNIPAK	LAT EXT	720	2/27/14	-1,566	1,005,419
LE924043	Bluegrass Indoor Carting	LAT EXT	400	5/1/14	-870	1,004,549
13LE1067	PARK COMMUNITY	LAT EXT	2,220	12/31/14	-4,829	999,720
14LE1149	Grand Lakes Section 3	LAT EXT	5,600	2/1/16	-12,180	987,540
LE924049	Blankenbaker Road S/S	LAT EXT	9,010	3/10/16	-19,597	967,944
326360	WATTERSON TRAIL CENTER	LAT EXT	2,745	5/4/16	-5,970	961,973
LE930127	Vantage Point Sec 3B	LAT EXT	7,200	6/21/16	-15,660	946,313
14LE1148	Grand Lakes Section 2	LAT EXT	4,400	11/8/16	-9,570	936,743
LE926081	Monticello Manors Sec 2	LAT EXT	7,600	3/23/17	-16,530	920,213



## Capacity Credit Balance Sheet per Credit Basin

<u>APNO</u>	<u>APNAME</u>	<u>APTTYPE</u>	<u>FLOW</u>	<u>Release Date</u>	<u>Approved Credit Required/ Flow Reduction</u>	<u>Running Total</u>
<b>MCREEK</b>						
359380	CALENDAR 2005 DOWNSPOUT CREDIT	SCAPCREDIT		12/31/05	12,000	12,000
359381	CALENDAR 2007 DOWNSPOUT CREDIT	SCAPCREDIT		12/31/07	24,000	36,000
235568	MAINTENANCE WORK FY06 AUG-FY09	SCAPCREDIT		11/1/08	51,530	87,530
359382	CALENDAR 2008 DOWNSPOUT CREDIT	SCAPCREDIT		12/31/08	16,000	103,530
362642	MAINTENANCE WORK FY09A - MILL	SCAPCREDIT		12/31/08	93	103,623
362649	MAINTENANCE WORK FY09B - MILL	SCAPCREDIT		6/30/09	1,507	105,130
236614	DEVEROES	LAT EXT	960	9/9/09	-2,088	103,042
362653	MAINTENANCE WORK FY10A - MILL	SCAPCREDIT		12/31/09	25,272	128,314
359383	CALENDAR 2009 DOWNSPOUT CREDIT	SCAPCREDIT		12/31/09	32,000	160,314
253586	KINGSFORD RETAIL CENTER	LAT EXT	480	1/6/10	-1,044	159,270
238421	6840 DIXIE HWY OUTLOT	LAT EXT	2,100	4/28/10	-4,568	154,703
362658	MAINTENANCE WORK FY10B - MILL	SCAPCREDIT		6/30/10	6,216	160,919
259408	FAMILY DOLLAR 5105 DIXIE	LAT EXT	1,200	7/2/10	-2,610	158,309
264294	SAINT PETER THE APOSTLE CATHOL	LAT EXT	2,000	7/23/10	-4,350	153,959
276215	FAMILY DOLLAR - KRISTIN WAY	LAT EXT	400	10/12/10	-870	153,089
362664	MAINTENANCE WORK FY11A - MILL	SCAPCREDIT		12/31/10	22,745	175,834
359384	CALENDAR 2010 DOWNSPOUT CREDIT	SCAPCREDIT		12/31/10	4,000	179,834
359325	CALENDAR 2010 SUMP PUMP CREDIT	SCAPCREDIT		12/31/10	8,000	187,834
320916	SONNE AVE PS REHABILITATION -	SCAPCREDIT		6/30/11	120,800	308,634
362671	MAINTENANCE WORK FY11B - MILL	SCAPCREDIT		6/30/11	11,745	320,379
299399	FAMILY DOLLAR - GREENWOOD RD	LAT EXT	800	10/4/11	-1,740	318,639
309018	PRP PERFORMING ARTS ADDITION	LAT EXT	1,134	11/9/11	-2,466	316,172
359385	CALENDAR 2011 DOWNSPOUT CREDIT	SCAPCREDIT		12/31/11	12,000	328,172
362676	MAINTENANCE WORK FY12A - MILL	SCAPCREDIT		12/31/11	4,800	332,972
359326	CALENDAR 2011 SUMP PUMP CREDIT	SCAPCREDIT		12/31/11	12,000	344,972

## Capacity Credit Balance Sheet per Credit Basin

<u>APNO</u>	<u>APNAME</u>	<u>APTYPE</u>	<u>FLOW</u>	<u>Release Date</u>	<u>Approved Credit Required/ Flow Reduction</u>	<u>Running Total</u>
318096	CRACKER BARREL OLD COUNTRY	LAT EXT	6,000	1/19/12	-13,050	331,922
SC1005678	CONTRACTED WORK FY12 - MILL CREEK	SCAPCREDIT		3/16/12	22	331,944
262545	DIXIE MANOR SHOPPING CENTER	LAT EXT	965	5/21/12	-2,099	329,845
300374	FORT KNOX FEDERAL CREDIT UNION	LAT EXT	400	6/26/12	-870	328,975
362680	MAINTENANCE WORK FY12B - MILL	SCAPCREDIT		6/30/12	4,133	333,108
361693	FY12 MILL CREEK REHAB	SCAPCREDIT		6/30/12	81,675	414,783
231800	PIONEER MOBILE HOME PARK	LAT EXT	11,200	7/24/12	-24,360	390,423
237457	WAVERLY HILLS	LAT EXT	400	9/18/12	-870	389,553
341883	NHK SPRING PRECISION	LAT EXT	17,800	10/19/12	-38,715	350,838
334997	BEECHLAND BAPTIST CHURCH	LAT EXT	2,715	12/5/12	-5,905	344,933
359327	CALENDAR 2012 SUMP PUMP CREDIT	SCAPCREDIT		12/31/12	148,000	492,933
362685	MAINTENANCE WORK FY13A - MILL	SCAPCREDIT		12/31/12	22,996	515,929
359386	CALENDAR 2012 DOWNSPOUT CREDIT	SCAPCREDIT		12/31/12	4,000	519,929
343763	SOUTHEAST CHRISTIAN CHURCH SW	LAT EXT	6,000	1/18/13	-13,050	506,879
224875	ASHBY GREEN APARTMENT HOMES	LAT EXT	36,400	3/20/13	-79,170	427,709
265944	RIVERPORT PHASE 4A - MICHELIN	LAT EXT	400	6/6/13	-870	426,839
314887	DAYTON FREIGHT	LAT EXT	1,200	9/10/13	-2,610	424,229
13LE1014	LOUISVILLE FREE PUBLIC LIBRARY	LAT EXT	8,200	9/26/13	-17,835	406,394
357140	FAMILY DOLLAR CANE RUN ROAD	LAT EXT	832	10/3/13	-1,810	404,584
13LE1171	SINGLE FAMILY HOME 3700 ROMANIA DR	LAT EXT	400	1/29/14	-870	403,714
SC1005536	ROSA TERRACE I/I REHABILITATION FY13	SCAPCREDIT		3/10/15	156,635	560,349
SC1003690	CONTRACTED WORK FY15 - MILL CREEK	SCAPCREDIT		7/31/15	58	560,407
LE937142	ZAXBYS DIXIE HWY	LAT EXT	924	8/10/15	-2,010	558,398
LE944727	Britz Deer Hollow Lane	LAT EXT	800	7/28/16	-1,740	556,658

MFORK

## Capacity Credit Balance Sheet per Credit Basin

<u>APNO</u>	<u>APNAME</u>	<u>APTYPE</u>	<u>FLOW</u>	<u>Release Date</u>	<u>Approved Credit Required/ Flow Reduction</u>	<u>Running Total</u>
359400	CALENDAR 2007 DOWNSPOUT CREDIT	SCAPCREDIT		12/31/07	84,000	84,000
359328	CALENDAR 2007 SUMP PUMP CREDIT	SCAPCREDIT		12/31/07	20,000	104,000
235566	MAINTENANCE WORK FY06 AUG-FY09	SCAPCREDIT		11/1/08	43,779	147,779
359329	CALENDAR 2008 SUMP PUMP CREDIT	SCAPCREDIT		12/31/08	8,000	155,779
SC1011287	MAINTENANCE WORK FY09A - MIDDLE	SCAPCREDIT		12/31/08	13	155,792
236517	ANCHOR ESTATES MH REHAB	SCAPCREDIT		1/16/09	15,552	171,344
217235	SINKING FORK ICA PHASE I REHAB	SCAPCREDIT		3/30/09	437,967	609,311
235376	MIDDLE FORK INT REHAB PH1	SCAPCREDIT		5/15/09	487,744	1,097,055
179246	SHADY GLEN OF LYNDON PERSONAL	LAT EXT	-500	5/26/09	1,088	1,098,143
SC1011288	MAINTENANCE WORK FY09B - MIDDLE	SCAPCREDIT		6/30/09	4,208	1,102,351
250572	1316 WITAWANGA AVE	LAT EXT	400	11/4/09	-870	1,101,481
359331	CALENDAR 2009 SUMP PUMP CREDIT	SCAPCREDIT		12/31/09	24,000	1,125,481
359401	CALENDAR 2009 DOWNSPOUT CREDIT	SCAPCREDIT		12/31/09	4,000	1,129,481
SC1011290	MAINTENANCE WORK FY10A - MIDDLE	SCAPCREDIT		12/31/09	50	1,129,531
197432	ALMOST HOME KENNELS - ALL PET	LAT EXT	3,700	3/16/10	-8,048	1,121,483
260064	OXMOOR GOLF FRONT 9	LAT EXT	400	4/15/10	-870	1,120,613
260065	OXMOOR GOLF BACK 9	LAT EXT	400	4/15/10	-870	1,119,743
229834	THE BROOK HOS- DUPONT ADDITION	LAT EXT	1,763	4/27/10	-3,835	1,115,908
SC1011292	MAINTENANCE WORK FY10B - MIDDLE	SCAPCREDIT		6/30/10	1,113	1,117,021
265723	Z-XPRESS CAR WASH	LAT EXT	5,449	7/2/10	-11,852	1,105,170
255793	HERR LANE APARTMENTS - 4 PLEX	LAT EXT	1,200	7/14/10	-2,610	1,102,560
255792	HERR LANE APARTMENTS - 8 PLEX	LAT EXT	2,400	7/14/10	-5,220	1,097,340
274303	FARM CREDIT SERVICES	LAT EXT	525	9/9/10	-1,142	1,096,198
278015	METROPOLITAN UROLOGY	LAT EXT	400	12/15/10	-870	1,095,328
359402	CALENDAR 2010 DOWNSPOUT CREDIT	SCAPCREDIT		12/31/10	8,000	1,103,328
359333	CALENDAR 2010 SUMP PUMP CREDIT	SCAPCREDIT		12/31/10	12,000	1,115,328

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SC1011293	MAINTENANCE WORK FY11A - MIDDLE	SCAPCREDIT		12/31/10	1,205	1,116,533
285637	SHELBYHURST OFFICE BUILDING 1	LAT EXT	6,600	1/20/11	-14,355	1,102,178
313465	DORSEY POINTE/CODOMINIUMS 8-13	LAT EXT	2,400	1/27/11	-5,220	1,096,958
291263	BROWNS LANE BUILDING	LAT EXT	400	4/14/11	-870	1,096,088
293400	FOUR PLEX APARTMENTS	LAT EXT	1,200	6/14/11	-2,610	1,093,478
SC1011294	MAINTENANCE WORK FY11B - MIDDLE	SCAPCREDIT		6/30/11	7,183	1,100,661
330019	FY11 ANCHOR ESTATES REHAB	SCAPCREDIT		8/11/11	1,359	1,102,020
310046	EL NAPEL - MCMAHAN CENTER	LAT EXT	3,100	10/31/11	-6,743	1,095,278
314591	CHOCOLATE MARTINI BAR/REST	LAT EXT	3,275	11/29/11	-7,123	1,088,154
320983	HURSTBOURNE I/I INVESTIGATION	SCAPCREDIT		12/27/11	1,408,279	2,496,433
359335	CALENDAR 2011 SUMP PUMP CREDIT	SCAPCREDIT		12/31/11	16,000	2,512,433
SC1011295	MAINTENANCE WORK FY12A - MIDDLE	SCAPCREDIT		12/31/11	919	2,513,352
321228	SINGLE FAMILY UNIT	LAT EXT	400	2/15/12	-870	2,512,482
SC1005671	CONTRACTED WORK FY12 - MIDDLE	SCAPCREDIT		3/16/12	7,305	2,519,787
321647	SINGLE FAMILY	LAT EXT	400	3/27/12	-870	2,518,917
328074	SINGLE FAMILY-703 FOUNTAIN AVE	LAT EXT	400	6/22/12	-870	2,518,047
SC1011297	MAINTENANCE WORK FY12B - MIDDLE	SCAPCREDIT		6/30/12	949	2,518,996
193195	CEDAR LAKE LODGE WASHBURN	LAT EXT	1,900	8/20/12	-4,133	2,514,864
320923	ST MATTHEWS I/I REHABILITATION	SCAPCREDIT		8/23/12	20,841	2,535,705
337796	CHAMPPS	LAT EXT	635	9/5/12	-1,381	2,534,324
347126	ADVANCE PRODUCTION SYSTEMS	LAT EXT	400	12/28/12	-870	2,533,454
359336	CALENDAR 2012 SUMP PUMP CREDIT	SCAPCREDIT		12/31/12	92,000	2,625,454
14SC1003	MAINTENANCE WORK FY13A - MIDDLE	SCAPCREDIT		12/31/12	3,309	2,628,763
339367	BAPTIST RADIATION ONCOLOGY	LAT EXT	1,500	1/4/13	-3,263	2,625,500
340778	PANDA RESTAURANT	LAT EXT	1,725	1/16/13	-3,752	2,621,748
349044	BLAIRWOOD POOL ADDITION	LAT EXT	400	1/29/13	-870	2,620,878

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328659	SINGLE FAMILY HOME - 6911 AMBR	LAT EXT	400	2/4/13	-870	2,620,008
352805	POOL HOUSE 9213 REIGATE COURT	LAT EXT	200	2/20/13	-435	2,619,573
14LE1001	MIRANDA LAGRANGE RD	LAT EXT	400	3/19/13	-870	2,618,703
350246	SINGLE FAMILY - 218 BLISS AVE	LAT EXT	400	3/20/13	-870	2,617,833
349974	SINGLE FAMILY 205 N WATTERSON	LAT EXT	400	3/26/13	-870	2,616,963
342433	SHELBYHURST 700 OFFICE BLDG	LAT EXT	7,500	4/15/13	-16,313	2,600,651
350340	JARED THE GALLERY OF JEWELRY	LAT EXT	770	4/16/13	-1,675	2,598,976
SC1005532	CONTRACTED WORK FY13 - MIDDLE	SCAPCREDIT		5/30/13	6,480	2,605,456
13LE1009	Single family 11716 Wetherby Ave	LAT EXT	400	6/7/13	-870	2,604,586
13LE1001	Single Family 835 Fountain Ave	LAT EXT	400	8/28/13	-870	2,603,716
355162	PROPOSED RESTAURANT	LAT EXT	7,540	9/10/13	-16,400	2,587,317
13LE1045	SINGLE FAMILY 8325 WHIPPS MILL RD	LAT EXT	400	9/30/13	-870	2,586,447
319292	WATERMARK ON HURSTBOURNE	LAT EXT	71,600	10/22/13	-155,730	2,430,717
331542	DENTAL/MEDICAL OFFICE BLDG	LAT EXT	400	10/28/13	-870	2,429,847
13LE1128	SINGLE FAMILY HOME 1327 ETAWAH AVE	LAT EXT	400	11/5/13	-870	2,428,977
13LE1144	SINGLE FAMILY 1329 ETAWAH AVE	LAT EXT	400	11/5/13	-870	2,428,107
13LE1165	SINGLE FAMILY 8504 LORE LANE	LAT EXT	400	11/25/13	-870	2,427,237
13LE1146	CITY OF ST MATTHEWS COMMUNITY CTR	LAT EXT	1,500	11/26/13	-3,263	2,423,974
13LE1099	NICKLIES - ST MATTHEWS	LAT EXT	1,920	12/11/13	-4,176	2,419,798
353963	DORSEY COMMONS TRACTS 1,2,3	LAT EXT	4,335	12/18/13	-9,429	2,410,370
352026	MCMAHAN PLAZA PHASE II BLDG B	LAT EXT	766	12/31/13	-1,666	2,408,703
13LE1117	THE VININGS	LAT EXT	850	4/10/14	-1,849	2,406,855
14LE1021	KODA KENTUCKY ORGAN DONOR	LAT EXT	400	6/18/14	-870	2,405,985
14LE1128	WALDORF SCHOOL OF LOUISVILLE	LAT EXT	400	6/30/14	-870	2,405,115
SC1006201	GOOSE CREEK PLANTATION I/I	SCAPCREDIT		2/10/15	163,919	2,569,034
SC1006179	CONTRACTED WORK FY14 - MIDDLE	SCAPCREDIT		2/11/15	15,043	2,584,077

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LE939199	Westport Road Apartments	LAT EXT	62,800	6/8/16	-136,590	2,447,487
LE971405	Lyndon Lane Office Condos	LAT EXT	2,652	8/30/16	-5,768	2,441,719
SC1003387	CONTRACTED WORK FY16 - MIDDLE	SCAPCREDIT		10/18/16	91,264	2,532,983
SC1006194	CONTRACTED WORK FY15 - MIDDLE	SCAPCREDIT		10/24/16	3	2,532,986
LE938563	The Paddock at Sawyer Park	LAT EXT	99,800	12/20/16	-217,065	2,315,921
<b>NDITCH</b>						
359404	CALENDAR 2007 DOWNSPOUT CREDIT	SCAPCREDIT		12/31/07	28,000	28,000
235569	MAINTENANCE WORK FY06 AUG-FY09	SCAPCREDIT		11/1/08	11,147	39,147
236363	NORTHERN DITCH INT REHAB PH1	SCAPCREDIT		11/25/08	108,760	147,907
SC1011338	MAINTENANCE WORK FY09A -	SCAPCREDIT		12/31/08	11	147,918
SC1011339	MAINTENANCE WORK FY09B -	SCAPCREDIT		6/30/09	1,884	149,802
359339	CALENDAR 2009 SUMP PUMP CREDIT	SCAPCREDIT		12/31/09	4,000	153,802
SC1011340	MAINTENANCE WORK FY10A -	SCAPCREDIT		12/31/09	1,177	154,979
234678	THE LIGHTHOUSE PROMISE COMPLEX	LAT EXT	2,825	3/5/10	-6,144	148,835
SC1011343	MAINTENANCE WORK FY10B -	SCAPCREDIT		6/30/10	2,532	151,367
284728	SUBWAY - NEW CUT RD	LAT EXT	1,314	12/21/10	-2,858	148,509
359340	CALENDAR 2010 SUMP PUMP CREDIT	SCAPCREDIT		12/31/10	4,000	152,509
SC1011344	MAINTENANCE WORK FY11A -	SCAPCREDIT		12/31/10	2,456	154,965
320908	PARKVIEW ESTATES REHABILITATIO	SCAPCREDIT		6/28/11	36	155,001
SC1011345	MAINTENANCE WORK FY11B -	SCAPCREDIT		6/30/11	1,989	156,990
312810	WILLOW PLACE APT COMMUNITY CEN	LAT EXT	400	11/11/11	-870	156,120
359341	CALENDAR 2011 SUMP PUMP CREDIT	SCAPCREDIT		12/31/11	24,000	180,120
359405	CALENDAR 2011 DOWNSPOUT CREDIT	SCAPCREDIT		12/31/11	12,000	192,120
SC1011346	MAINTENANCE WORK FY12A -	SCAPCREDIT		12/31/11	911	193,031
315723	JCPS EARLY CHILDHOOD DEVELOP	LAT EXT	6,000	1/26/12	-13,050	179,981

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312057	DOLLAR GENERAL - MEDALLION CT	LAT EXT	400	3/21/12	-870	179,111
SC1011336	MAINTENANCE WORK FY12B -	SCAPCREDIT		6/30/12	7,893	187,004
312659	KROGER L-350 FUEL STATION	LAT EXT	400	8/20/12	-870	186,134
359343	CALENDAR 2012 SUMP PUMP CREDIT	SCAPCREDIT		12/31/12	24,000	210,134
14SC1004	MAINTENANCE WORK FY13A -	SCAPCREDIT		12/31/12	4,239	214,373
13LE1147	CARLON ROOFING	LAT EXT	992	12/5/13	-2,158	212,215
13LE1126	JENNINGS CROSSING TRACT 3	LAT EXT	2,100	12/12/13	-4,568	207,648
SC1006180	CONTRACTED WORK FY14 - NORTHERN	SCAPCREDIT		10/21/14	5	207,653
LE947316	Heimbrock I	LAT EXT	400	8/14/15	-870	206,783
LE947318	Heimbrock II	LAT EXT	400	8/14/15	-870	205,913
<b>ORFM</b>						
359433	CALENDAR 2007 DOWNSPOUT CREDIT	SCAPCREDIT		12/31/07	56,000	56,000
359344	CALENDAR 2007 SUMP PUMP CREDIT	SCAPCREDIT		12/31/07	4,000	60,000
235572	MAINTENANCE WORK FY06 AUG-FY09	SCAPCREDIT		11/1/08	19,826	79,826
362643	MAINTENANCE WORK FY09A - ORFM	SCAPCREDIT		12/31/08	2	79,828
362650	MAINTENANCE WORK FY09B - ORFM	SCAPCREDIT		6/30/09	3,835	83,663
362654	MAINTENANCE WORK FY10A - ORFM	SCAPCREDIT		12/31/09	7,330	90,993
263548	SINGLE FAMILY CONNECTION	LAT EXT	400	5/18/10	-870	90,123
213488	NORTHEAST CHRISTIAN CHURCH	LAT EXT	10,000	6/28/10	-21,750	68,373
362660	MAINTENANCE WORK FY10B - ORFM	SCAPCREDIT		6/30/10	6,773	75,146
362665	MAINTENANCE WORK FY11A - ORFM	SCAPCREDIT		12/31/10	181	75,327
362672	MAINTENANCE WORK FY11B - ORFM	SCAPCREDIT		6/30/11	4,139	79,466
280837	SPRINGHURST TOWNE CTR LOT C	LAT EXT	400	9/20/11	-870	78,596
320920	SHADOW WOOD I/I REHABILITATION	SCAPCREDIT		9/30/11	14,279	92,875
311412	SPRINGHURST CHEVROLET	LAT EXT	855	10/14/11	-1,860	91,015



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359345	CALENDAR 2011 SUMP PUMP CREDIT	SCAPCREDIT		12/31/11	16,000	107,015
359434	CALENDAR 2011 DOWNSPOUT CREDIT	SCAPCREDIT		12/31/11	16,000	123,015
362677	MAINTENANCE WORK FY12A - ORFM	SCAPCREDIT		12/31/11	7,268	130,283
320921	DERINGTON COURT I/I REHABILITA	SCAPCREDIT		3/1/12	56,208	186,491
187028	GLENVIEW PARK SUBD SECTION 1	LAT EXT	4,400	3/5/12	-9,570	176,921
213450	GLENVIEW PARK SUB, SEC 2	LAT EXT	5,600	3/5/12	-12,180	164,741
322455	FIRST LADY NAILS	LAT EXT	400	3/12/12	-870	163,871
362681	MAINTENANCE WORK FY12B - ORFM	SCAPCREDIT		6/30/12	19,941	183,812
SC1011315	MAINTENANCE WORK FY12B - ORFM	SCAPCREDIT		6/30/12	19,941	203,753
292239	SPRINGHURST RESTAURANT/ RETAIL	LAT EXT	3,440	7/5/12	-7,482	196,271
323821	TIRE DISCOUNTERS WESTPORT RD	LAT EXT	400	12/11/12	-870	195,401
363238	FY13 PROSPECT MANHOLE REHAB	SCAPCREDIT		12/18/12	72,703	268,104
341319	RAISING CANES RETAIL CENTER	LAT EXT	1,225	12/18/12	-2,664	265,440
359346	CALENDAR 2012 SUMP PUMP CREDIT	SCAPCREDIT		12/31/12	24,000	289,440
363235	FY13 MUDDY FORK MH REHAB	SCAPCREDIT		12/31/12	41,653	331,093
362686	MAINTENANCE WORK FY13A - ORFM	SCAPCREDIT		12/31/12	1,161	332,254
360262	SINGLE FAMILY 3419 HILLVALE RD	LAT EXT	400	5/13/13	-870	331,384
343729	RETAIL & RESTAURANT	LAT EXT	3,500	6/21/13	-7,613	323,772
334154	GLENVIEW PARK SUBD SEC 4	LAT EXT	3,600	11/7/13	-7,830	315,942
13LE1024	Overlook at Beech Spring Farm Sec 4	LAT EXT	5,600	12/31/13	-12,180	303,762
199896	SPRINGDALE OFFICE BUILDING	LAT EXT	4,210	3/11/14	-9,157	294,605
225863	SPRING FARM LAKES SEC 1	LAT EXT	4,800	5/16/14	-10,440	284,165
177756	SUMMIT GARDENS PHASE 1	LAT EXT	32,000	9/22/14	-69,600	214,565
14LE1121	Riverside Sewer Extension	LAT EXT	1,200	11/10/14	-2,610	211,955
SC1006181	CONTRACTED WORK FY14 - ORFM	SCAPCREDIT		12/31/14	1,654	213,609
13LE1071	SPRING FARM LAKE SEC 2	LAT EXT	6,000	1/16/15	-13,050	200,559



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352634	BAUER PROPERTY	LAT EXT	2,920	2/12/15	-6,351	194,208
SC983704	PROSPECT I&I REHABILITATION - FY13	SCAPCREDIT		7/12/15	1,034,758	1,228,966
SC1003730	RIVER ROAD I/I REMEDIATION	SCAPCREDIT		8/5/15	120,418	1,349,384
LE929244	Summit Gardens Phase 2	LAT EXT	18,000	10/21/15	-39,150	1,310,234
SC1006195	CONTRACTED WORK FY15 - ORFM	SCAPCREDIT		11/19/15	1	1,310,235
LE938166	Spring Farm Lake Section 3	LAT EXT	3,200	12/14/15	-6,960	1,303,275
SC1003696	CONTRACTED WORK FY16 - ORFM	SCAPCREDIT		8/10/16	17,566	1,320,841
SC1003728	PROSPECT I&I REHABILITATION - FY16	SCAPCREDIT		10/6/16	199,036	1,519,877
LE923204	Indian Springs Hotel	LAT EXT	13,000	11/16/16	-28,275	1,491,602
<b>PCREEK</b>						
235574	MAINTENANCE WORK FY06 AUG-FY09	SCAPCREDIT		11/1/08	71,782	71,782
359347	CALENDAR 2008 SUMP PUMP CREDIT	SCAPCREDIT		12/31/08	4,000	75,782
359438	CALENDAR 2008 DOWNSPOUT CREDIT	SCAPCREDIT		12/31/08	4,000	79,782
SC1011298	MAINTENANCE WORK FY09A - POND	SCAPCREDIT		12/31/08	1,913	81,695
SC1011299	MAINTENANCE WORK FY09B - POND	SCAPCREDIT		6/30/09	6,403	88,098
359439	CALENDAR 2009 DOWNSPOUT CREDIT	SCAPCREDIT		12/31/09	12,000	100,098
359348	CALENDAR 2009 SUMP PUMP CREDIT	SCAPCREDIT		12/31/09	4,000	104,098
SC1011305	MAINTENANCE WORK FY10A - POND	SCAPCREDIT		12/31/09	22,337	126,435
192513	BANNON CROSSINGS SECTION 3A-1	LAT EXT	800	2/17/10	-1,740	124,695
261115	EMERGENCY RESTORATION	LAT EXT	400	4/27/10	-870	123,825
SC1011307	MAINTENANCE WORK FY10B - POND	SCAPCREDIT		6/30/10	11,060	134,885
276977	DADISMAN BUILDERS-POPLAR TREE	LAT EXT	400	10/13/10	-870	134,015
266833	THORNTONS @ PRESTON HWY	LAT EXT	400	12/1/10	-870	133,145
280751	NOTTINGTON HILLS SEC 1	LAT EXT	4,400	12/29/10	-9,570	123,575
359350	CALENDAR 2010 SUMP PUMP CREDIT	SCAPCREDIT		12/31/10	12,000	135,575

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SC1011308	MAINTENANCE WORK FY11A - POND	SCAPCREDIT		12/31/10	19,773	155,348
187739	GLENGARRY INDUSTRIAL PARK	LAT EXT	4,300	1/13/11	-9,353	145,996
277777	TIRE DISCOUNTERS - BOERSTE WAY	LAT EXT	2,960	3/21/11	-6,438	139,558
SC1011309	MAINTENANCE WORK FY11B - POND	SCAPCREDIT		6/30/11	10,562	150,120
304408	UPS SUPPLY CHAIN SOLUTIONS #7	LAT EXT	2,250	9/14/11	-4,894	145,226
320918	EDSEL I/I REHABILITATION - FY1	SCAPCREDIT		9/27/11	106,700	251,926
313444	PLANET FITNESS - JEFF BLVD	LAT EXT	1,600	11/4/11	-3,480	248,446
312391	LONGHORN STEAKHOUSE RESTAURANT	LAT EXT	4,840	11/29/11	-10,527	237,919
320919	LANTANA I/I REHABILITATION - F	SCAPCREDIT		12/29/11	5,000	242,919
359351	CALENDAR 2011 SUMP PUMP CREDIT	SCAPCREDIT		12/31/11	20,000	262,919
SC1011310	MAINTENANCE WORK FY12A - POND	SCAPCREDIT		12/31/11	5,380	268,299
310845	ZAXBY'S RESTAURANT	LAT EXT	3,750	2/28/12	-8,156	260,143
255044	ISA-RECYCLING CENTER	LAT EXT	400	3/13/12	-870	259,273
312814	MILLER TRANSPORTATION	LAT EXT	1,800	3/19/12	-3,915	255,358
324554	NORTONS TEMPORARY OFFICE	LAT EXT	900	4/16/12	-1,958	253,400
234102	ETHOS AT VALLEY FARM SR LIVING	LAT EXT	7,050	6/19/12	-15,334	238,066
322367	SHEPHERDS CARE MEMORY HOME	LAT EXT	2,000	6/21/12	-4,350	233,716
SC1011313	MAINTENANCE WORK FY12B - POND	SCAPCREDIT		6/30/12	3,877	237,593
307332	LOUISVILLE INDUSTRIAL BLDG B	LAT EXT	2,520	8/6/12	-5,481	232,112
SC1005684	CONTRACTED WORK FY12 - POND	SCAPCREDIT		8/10/12	3,812	235,924
279860	BANNON CROSSINGS SEC 3B-2	LAT EXT	9,600	8/10/12	-20,880	215,044
312053	DOLLAR GENERAL - CLEARWATER FA	LAT EXT	400	8/13/12	-870	214,174
343455	SINGLE FAMILY 1812 GREYLING DR	LAT EXT	400	10/12/12	-870	213,304
243109	OVERBROOK APARTMENTS	LAT EXT	41,200	11/9/12	-89,610	123,694
359354	CALENDAR 2012 SUMP PUMP CREDIT	SCAPCREDIT		12/31/12	56,000	179,694
14SC1005	MAINTENANCE WORK FY13A - POND	SCAPCREDIT		12/31/12	25,984	205,678

## Capacity Credit Balance Sheet per Credit Basin

<u>APNO</u>	<u>APNAME</u>	<u>APTYPE</u>	<u>FLOW</u>	<u>Release Date</u>	<u>Approved Credit Required/ Flow Reduction</u>	<u>Running Total</u>
329624	COPART	LAT EXT	400	2/20/13	-870	204,808
346082	ZAXBYS	LAT EXT	2,065	5/2/13	-4,491	200,317
320924	LEA ANN WAY INTERCEPTOR I&I RE	SCAPCREDIT		6/30/13	1,017,423	1,217,740
335385	HARRISON LOW PRESSURE S/S	LAT EXT	1,600	7/2/13	-3,480	1,214,260
SC1005534	PICADILLY I/I REHABILITATION FY13	SCAPCREDIT		7/12/13	187,564	1,401,824
320940	4 RESIDENCE SFU 7821 MANSCLICK	LAT EXT	400	8/16/13	-870	1,400,954
SC1005538	CONTRACTED WORK FY13 - POND	SCAPCREDIT		8/27/13	18,958	1,419,912
361336	RENAISSANCE SOUTH BUSINESS	LAT EXT	540	9/6/13	-1,175	1,418,737
324886	PNC BANK	LAT EXT	400	9/6/13	-870	1,417,867
13LE1083	SINGLE FAMILY HOME 5402 (H) E	LAT EXT	400	9/26/13	-870	1,416,997
SC1005319	FEGENBUSH I/I REHABILITATION FY13	SCAPCREDIT		11/12/13	226,201	1,643,198
353125	PEGASUS TRANSPORTATION	LAT EXT	250	12/9/13	-544	1,642,655
341439	PRESTON GARDENS APTS	LAT EXT	22,200	12/10/13	-48,285	1,594,370
308206	APPLEGATE FARMS	LAT EXT	57,200	12/10/13	-124,410	1,469,960
13LE1179	TIMBERBEND SUBDIVISION SEC 5B	LAT EXT	6,400	2/14/14	-13,920	1,456,040
13LE1035	RENAISSANCE SOUTH BUSINESS PARK	LAT EXT	5,415	4/10/14	-11,778	1,444,262
13LE1115	VERIZON-OUTER LOOP	LAT EXT	400	4/22/14	-870	1,443,392
348014	ASHTON PARK TOWN HOMES	LAT EXT	9,000	4/24/14	-19,575	1,423,817
280180	LOUISVILLE INDUSTRIAL CTR F	LAT EXT	2,480	5/16/14	-5,394	1,418,423
14LE1085	Williams Properties - Self Storage Facility	LAT EXT	400	5/28/14	-870	1,417,553
13LE1034	6300 GEIL LANE WAREHOUSE	LAT EXT	720	6/9/14	-1,566	1,415,987
284215	HURSTBOURNE POINTE APTS	LAT EXT	9,600	7/7/14	-20,880	1,395,107
344230	AUSTIN PARK APARTMENTS PH6	LAT EXT	27,600	8/25/14	-60,030	1,335,077
13LE1105	JEFFERSON COMMONS	LAT EXT	17,075	11/13/14	-37,138	1,297,939
SC1005323	FERN CREEK I/I REHABILITATION FY13	SCAPCREDIT		11/18/14	551,108	1,849,047
13LE1017	APEX ON PRESTON APT HOMES(Formerly	LAT EXT	84,400	1/13/15	-183,570	1,665,477

## Capacity Credit Balance Sheet per Credit Basin

<u>APNO</u>	<u>APNAME</u>	<u>APTYPE</u>	<u>FLOW</u>	<u>Release Date</u>	<u>Approved Credit Required/ Flow Reduction</u>	<u>Running Total</u>
SC1005541	STONY BROOK I/I REHABILITATION FY13	SCAPCREDIT		3/10/15	345,397	2,010,874
SC995942	CAVEN AVE I/I REMEDIATION - FY13	SCAPCREDIT		3/11/15	225,645	2,236,519
354207	COOPER FARMS SEC 11B	LAT EXT	12,400	4/29/15	-26,970	2,209,549
354209	COOPER FARMS SEC 11A	LAT EXT	13,200	4/29/15	-28,710	2,180,839
LE948692	Jim's Express Wash	LAT EXT	10,500	7/28/15	-22,838	2,158,001
LE951121	Allgeier Site	LAT EXT	400	8/7/15	-870	2,157,131
13LE1086	WOODS OF PENN RUN OFFSITE SS	LAT EXT	1,000	8/25/15	-2,175	2,154,956
13LE1140	JEFFERSON POST APARTMENTS	LAT EXT	28,800	10/2/15	-62,640	2,092,316
14LE1116	CATALPA SPRINGS	LAT EXT	2,800	12/30/15	-6,090	2,086,226
SC939830	Lea Ann Way West Quad 1 & 2 Rehabilitation	SCAPCREDIT		12/31/15	445,911	2,532,137
358356	WOODS OF PENN RUN Section 1	LAT EXT	18,800	2/12/16	-40,890	2,491,247
SC1003699	CONTRACTED WORK FY16 - POND	SCAPCREDIT		5/17/16	36,063	2,527,310
LE936598	Jefferson Commerce Center Tract 1A	LAT EXT	5,250	6/6/16	-11,419	2,515,892
LE918484	AUSTIN PARK SS PHASE 8	LAT EXT	16,800	6/21/16	-36,540	2,479,352
14LE1170	Austin Park Phase 7 & 8	LAT EXT	26,400	6/21/16	-57,420	2,421,932
SC1003087	HILLRIDGE I/I REMEDIATION	SCAPCREDIT		8/5/16	308,184	2,730,116
SC1003292	LEA ANN WAY WEST (LAWW) QUAD 3 I/I	SCAPCREDIT		8/31/16	311,526	3,041,642
SC1006197	CONTRACTED WORK FY15 - POND	SCAPCREDIT		10/24/16	310	3,041,952
SC1006182	CONTRACTED WORK FY14 - POND	SCAPCREDIT		10/26/16	8,390	3,050,342
SC1005639	SILVER HEIGHTS SEWER REHAB	SCAPCREDIT		10/31/16	284,936	3,335,278
SC1005631	LEA ANN WAY WEST (LAWW) QUAD 4 I/I	SCAPCREDIT		10/31/16	692,905	4,028,183
LE954229	Jefferson Commerce Center Bldg.2	LAT EXT	3,150	2/2/17	-6,851	4,021,331
<b>SEDIV</b>						
359355	CALENDAR 2007 SUMP PUMP CREDIT	SCAPCREDIT		12/31/07	8,000	8,000
359440	CALENDAR 2007 DOWNSPOUT CREDIT	SCAPCREDIT		12/31/07	128,000	136,000

## Capacity Credit Balance Sheet per Credit Basin

<u>APNO</u>	<u>APNAME</u>	<u>APTYPE</u>	<u>FLOW</u>	<u>Release Date</u>	<u>Approved Credit Required/ Flow Reduction</u>	<u>Running Total</u>
235575	MAINTENANCE WORK FY06 AUG-FY09	SCAPCREDIT		11/1/08	71,472	207,472
236214	GOLDSMITH BUECHB ICA PHI REHAB	SCAPCREDIT		12/22/08	314,808	522,280
236296	BEARGRASS INT REHAB PH1 SEDIV	SCAPCREDIT		12/22/08	122,688	644,968
359441	CALENDAR 2008 DOWNSPOUT CREDIT	SCAPCREDIT		12/31/08	16,000	660,968
359356	CALENDAR 2008 SUMP PUMP CREDIT	SCAPCREDIT		12/31/08	4,000	664,968
SC1011317	MAINTENANCE WORK FY09A - SE	SCAPCREDIT		12/31/08	1,555	666,523
SC1011318	MAINTENANCE WORK FY09B - SE	SCAPCREDIT		6/30/09	2,929	669,452
229854	TINY HANDS DAYCARE	LAT EXT	1,225	10/20/09	-2,664	666,788
359357	CALENDAR 2009 SUMP PUMP CREDIT	SCAPCREDIT		12/31/09	12,000	678,788
359443	CALENDAR 2009 DOWNSPOUT CREDIT	SCAPCREDIT		12/31/09	8,000	686,788
SC1011322	MAINTENANCE WORK FY10A - SE	SCAPCREDIT		12/31/09	16,974	703,762
235291	SULLIVAN COLLEGE OF TECHNOLOGY	LAT EXT	900	2/11/10	-1,958	701,804
238328	LOUISVILLE COLLEGIATE SPORTS	LAT EXT	400	3/1/10	-870	700,934
241759	FRISCHS BIG BOY RESTAURANT	LAT EXT	2,400	3/5/10	-5,220	695,714
257275	LOUISVILLE JUNIOR ACADEMY	LAT EXT	520	4/16/10	-1,131	694,583
SC1011326	MAINTENANCE WORK FY10B - SE	SCAPCREDIT		6/30/10	10,739	705,322
320993	BEARGRASS CREEK PHASE II - FY1	SCAPCREDIT		12/14/10	10,368	715,690
359358	CALENDAR 2010 SUMP PUMP CREDIT	SCAPCREDIT		12/31/10	4,000	719,690
359444	CALENDAR 2010 DOWNSPOUT CREDIT	SCAPCREDIT		12/31/10	24,000	743,690
SC1011328	MAINTENANCE WORK FY11A - SE	SCAPCREDIT		12/31/10	11,090	754,780
286513	GARDINER POINT RESIDENCE HALL	LAT EXT	10,800	2/16/11	-23,490	731,290
276378	TIRE DISCOUNTERS - BARDSTOWN	LAT EXT	1,500	5/6/11	-3,263	728,028
287888	BEVERAGE WAREHOUSE	LAT EXT	1,180	5/30/11	-2,567	725,461
SC1011330	MAINTENANCE WORK FY11B - SE	SCAPCREDIT		6/30/11	3,661	729,122
296295	KEN TOWERY -3800 S HURSTBOURNE	LAT EXT	400	7/1/11	-870	728,252
359445	CALENDAR 2011 DOWNSPOUT CREDIT	SCAPCREDIT		12/31/11	8,000	736,252

## Capacity Credit Balance Sheet per Credit Basin

<u>APNO</u>	<u>APNAME</u>	<u>APTYPE</u>	<u>FLOW</u>	<u>Release Date</u>	<u>Approved Credit Required/ Flow Reduction</u>	<u>Running Total</u>
359359	CALENDAR 2011 SUMP PUMP CREDIT	SCAPCREDIT		12/31/11	64,000	800,252
SC1011331	MAINTENANCE WORK FY12A - SE	SCAPCREDIT		12/31/11	5,071	805,323
SC1011316	MAINTENANCE WORK FY12B - SE	SCAPCREDIT		6/30/12	24,202	829,525
SC1011333	MAINTENANCE WORK FY12B - SE	SCAPCREDIT		6/30/12	6,141	835,666
307018	HOOK PROPERTY FAMILY DOLLAR	LAT EXT	400	8/10/12	-870	834,796
359361	CALENDAR 2012 SUMP PUMP CREDIT	SCAPCREDIT		12/31/12	68,000	902,796
359446	CALENDAR 2012 DOWNSPOUT CREDIT	SCAPCREDIT		12/31/12	4,000	906,796
14SC1006	MAINTENANCE WORK FY13A - SE	SCAPCREDIT		12/31/12	24,202	930,998
187741	BROOKSTONE SENIOR APARTMENTS	LAT EXT	16,800	3/11/13	-36,540	894,458
232601	RAINTREE/MARIAN CT P/S ELIM	LAT EXT	105,800	6/14/13	-230,115	664,343
SC1005539	CONTRACTED WORK FY13 - SOUTHEAST	SCAPCREDIT		9/18/13	25,344	689,687
330437	COLLEGIATE ATHLETIC FIELD	LAT EXT	800	11/26/13	-1,740	687,947
SC1006185	CONTRACTED WORK FY14 - SOUTHEAST	SCAPCREDIT		2/11/15	187,478	875,425
SC1006199	CONTRACTED WORK FY15 - SOUTHEAST	SCAPCREDIT		10/20/15	1	875,426
LE919560	Todd's Place Express Car Wash	LAT EXT	4,830	12/22/15	-10,505	864,921
SC1003718	SOUTHEAST DIVERSION AREA G (SEDG)	SCAPCREDIT		2/16/16	75,998	940,919
SC1003704	CONTRACTED WORK FY16 - SOUTHEAST	SCAPCREDIT		5/24/16	66	940,985
LE943171	Costco Wholesale and Fuel Facility	LAT EXT	8,000	7/28/16	-17,400	923,585

Appendix E      IOAP Project Crosswalk

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PROJECT NAME	PROGRAM	ASSET ID	PROJECT ID
13TH ST/ROWAN ST STORAGE BASIN	IOAP	CSO022	L_OR_MF_155_M_09B_B_B_4
13TH ST/ROWAN ST STORAGE BASIN	IOAP	CSO023	L_OR_MF_155_M_09B_B_B_4
13TH ST/ROWAN ST STORAGE BASIN	IOAP	CSO050	L_OR_MF_155_M_09B_B_B_4
13TH ST/ROWAN ST STORAGE BASIN	IOAP	CSO051	L_OR_MF_155_M_09B_B_B_4
13TH ST/ROWAN ST STORAGE BASIN	IOAP	CSO052	L_OR_MF_155_M_09B_B_B_4
13TH ST/ROWAN ST STORAGE BASIN	IOAP	CSO053	L_OR_MF_155_M_09B_B_B_4
13TH ST/ROWAN ST STORAGE BASIN	IOAP	CSO054	L_OR_MF_155_M_09B_B_B_4
13TH ST/ROWAN ST STORAGE BASIN	IOAP	CSO055	L_OR_MF_155_M_09B_B_B_4
13TH ST/ROWAN ST STORAGE BASIN	IOAP	CSO056	L_OR_MF_155_M_09B_B_B_4
13TH ST/ROWAN ST STORAGE BASIN	IOAP	CSO150	L_OR_MF_155_M_09B_B_B_4
13TH ST/ROWAN ST STORAGE BASIN	IOAP	CSO155	L_OR_MF_155_M_09B_B_B_4
17TH ST FPS DWO ELIMINATION	IOAP	MSD0306-FP	L_OR_MF_190_S_03_A_A
18TH/NORTHWESTERN STOR BASIN	IOAP	CSO190	L_OR_MF_190_S_09B_B_A_8
27TH STREET FPS DWO ELIM	IOAP	MSD0307-FP	L_OR_MF_019_S_03_A_A
34TH ST FPS DWO ELIMINATION	IOAP	MSD0308-FP	L_OR_MF_019_S_03_A_B
4TH STREET FPS DWO ELIMINATION	IOAP	MSD0303-FP	L_OR_MF_022_M_03_A_A
ADAMS STREET STORAGE BASIN	IOAP	CSO172	L_OR_MF_172_S_09B_B_A_0
ALGONQUIN PKY STORAGE BASIN	IOAP	CSO016	L_OR_MF_211_M_13_B_A_8
ALGONQUIN PKY STORAGE BASIN	IOAP	CSO210	L_OR_MF_211_M_13_B_A_8
ALGONQUIN PKY STORAGE BASIN	IOAP	CSO211	L_OR_MF_211_M_13_B_A_8
ANCHOR ESTATES PS ELIM 1	IOAP	01106	S_MI_MF_NB06_M_01_A_A - 1
ANCHOR ESTATES PS ELIM 2	IOAP	00056-W	S_MI_MF_NB06_M_01_A_A-2
ANCHOR ESTATES PS ELIM 2	IOAP	0057-W	S_MI_MF_NB06_M_01_A_A-2
ANCHOR ESTATES PS ELIM 2	IOAP	00746	S_MI_MF_NB06_M_01_A_A-2
ANCHOR ESTATES PS ELIM 2	IOAP	00817	S_MI_MF_NB06_M_01_A_A-2
ANCHOR ESTATES PS ELIM 2	IOAP	MSD0057-LS	S_MI_MF_NB06_M_01_A_A-2
ASHBURTON PS IMPR & DIVERSION	IOAP	MSD0165-PS	S_FF_FF_NB03_M_01_C_A
ASHBURTON PS IMPR & DIVERSION	IOAP	MSD0166-PS	S_FF_FF_NB03_M_01_C_A

PROJECT NAME	PROGRAM	ASSET ID	PROJECT ID
AVANTI PUMP STATION ELIMINATION	IOAP	21229	S_PO_WC_PC07_M_01_A
BARDSTOWN RD PS IMPROVEMENTS	IOAP	88545	S_CC_CC_MSD1025_S_03_B
BEARGRASS INTER REHAB PH 2	IOAP	51594	S_SD_MF_NB06_S_13_C
BEECHWOOD VILLAGE SEWER REPL	ISSDP	21061	BEECHWOOD VILLAGE SEWER REPL
BEECHWOOD VILLAGE SEWER REPL	ISSDP	21089	BEECHWOOD VILLAGE SEWER REPL
BEECHWOOD VILLAGE SEWER REPL	ISSDP	21089A	BEECHWOOD VILLAGE SEWER REPL
BEECHWOOD VILLAGE SEWER REPL	ISSDP	21101	BEECHWOOD VILLAGE SEWER REPL
BEECHWOOD VILLAGE SEWER REPL	ISSDP	21153	BEECHWOOD VILLAGE SEWER REPL
BEECHWOOD VILLAGE SEWER REPL	ISSDP	21156	BEECHWOOD VILLAGE SEWER REPL
CAMP TAYLOR SYSTEM IMPROVEMENT	IOAP	08717	S_SF_MF_30917_M_09_A
CAMP TAYLOR SYSTEM IMPROVEMENT	IOAP	104223	S_SF_MF_30917_M_09_A
CAMP TAYLOR SYSTEM IMPROVEMENT	IOAP	104224	S_SF_MF_30917_M_09_A
CAMP TAYLOR SYSTEM IMPROVEMENT	IOAP	104231	S_SF_MF_30917_M_09_A
CAMP TAYLOR SYSTEM IMPROVEMENT	IOAP	13931	S_SF_MF_30917_M_09_A
CAMP TAYLOR SYSTEM IMPROVEMENT	IOAP	13943	S_SF_MF_30917_M_09_A
CAMP TAYLOR SYSTEM IMPROVEMENT	IOAP	13946	S_SF_MF_30917_M_09_A
CAMP TAYLOR SYSTEM IMPROVEMENT	IOAP	34093542	S_SF_MF_30917_M_09_A
CAMP TAYLOR SYSTEM IMPROVEMENT	IOAP	36763	S_SF_MF_30917_M_09_A
CAMP TAYLOR SYSTEM IMPROVEMENT	IOAP	44396	S_SF_MF_30917_M_09_A
CAMP TAYLOR SYSTEM IMPROVEMENT	IOAP	44397	S_SF_MF_30917_M_09_A
CAMP TAYLOR SYSTEM IMPROVEMENT	IOAP	51301	S_SF_MF_30917_M_09_A
CAMP TAYLOR SYSTEM IMPROVEMENT	IOAP	66349	S_SF_MF_30917_M_09_A
CAMP TAYLOR SYSTEM IMPROVEMENT	IOAP	99259	S_SF_MF_30917_M_09_A

PROJECT NAME	PROGRAM	ASSET ID	PROJECT ID
CAMP TAYLOR SYSTEM IMPROVEMENT	IOAP	KK14815019	S_SF_MF_30917_M_09_A
CAMP TAYLOR SYSTEM IMPROVEMENT	IOAP	KK14855239	S_SF_MF_30917_M_09_A
CENTRAL RELIEF DRAIN CSO IN-LINE STORAGE, GREEN INFRASTRUCTURE, AND DISTRIBUTED STORAGE	IOAP	CSO028	L_OR_MF_155_M_09B_B_B_4-1
CENTRAL RELIEF DRAIN CSO IN-LINE STORAGE, GREEN INFRASTRUCTURE, AND DISTRIBUTED STORAGE	IOAP	CSO029	L_OR_MF_155_M_09B_B_B_4-1
CENTRAL RELIEF DRAIN CSO IN-LINE STORAGE, GREEN INFRASTRUCTURE, AND DISTRIBUTED STORAGE	IOAP	CSO034	L_OR_MF_155_M_09B_B_B_4-1
CENTRAL RELIEF DRAIN CSO IN-LINE STORAGE, GREEN INFRASTRUCTURE, AND DISTRIBUTED STORAGE	IOAP	CSO036	L_OR_MF_155_M_09B_B_B_4-1
CENTRAL RELIEF DRAIN CSO IN-LINE STORAGE, GREEN INFRASTRUCTURE, AND DISTRIBUTED STORAGE	IOAP	CSO178	L_OR_MF_155_M_09B_B_B_4-1
CENTRAL RELIEF DRAIN CSO IN-LINE STORAGE, GREEN INFRASTRUCTURE, AND DISTRIBUTED STORAGE	IOAP	CSO181	L_OR_MF_155_M_09B_B_B_4-1
CENTRAL RELIEF DRAIN CSO IN-LINE STORAGE, GREEN INFRASTRUCTURE, AND DISTRIBUTED STORAGE	IOAP	CSO193	L_OR_MF_155_M_09B_B_B_4-1
CENTRAL RELIEF DRAIN CSO IN-LINE STORAGE, GREEN INFRASTRUCTURE, AND DISTRIBUTED STORAGE	IOAP	CSO195	L_OR_MF_155_M_09B_B_B_4-1
CENTRAL RELIEF DRAIN CSO IN-LINE STORAGE, GREEN INFRASTRUCTURE, AND DISTRIBUTED STORAGE	IOAP	CSO196	L_OR_MF_155_M_09B_B_B_4-1
CENTRAL RELIEF DRAIN CSO IN-LINE STORAGE, GREEN INFRASTRUCTURE, AND DISTRIBUTED STORAGE	IOAP	CSO197	L_OR_MF_155_M_09B_B_B_4-1
CENTRAL RELIEF DRAIN CSO IN-LINE STORAGE, GREEN INFRASTRUCTURE, AND DISTRIBUTED STORAGE	IOAP	CSO199	L_OR_MF_155_M_09B_B_B_4-1
CENTRAL RELIEF DRAIN CSO IN-LINE STORAGE, GREEN INFRASTRUCTURE, AND DISTRIBUTED STORAGE	IOAP	CSO200	L_OR_MF_155_M_09B_B_B_4-1
CENTRAL RELIEF DRAIN CSO IN-LINE STORAGE, GREEN INFRASTRUCTURE, AND DISTRIBUTED STORAGE	IOAP	CSO202	L_OR_MF_155_M_09B_B_B_4-1
CHARLESWOOD INTERCEPTOR EXT	IOAP	25477	S_PO_WC_PC03_M_01_C
CHARLESWOOD INTERCEPTOR EXT	IOAP	25479	S_PO_WC_PC03_M_01_C

PROJECT NAME	PROGRAM	ASSET ID	PROJECT ID
CHARLESWOOD INTERCEPTOR EXT	IOAP	25480	S_PO_WC_PC03_M_01_C
CHARLESWOOD INTERCEPTOR EXT	IOAP	MSD0130-PS	S_PO_WC_PC03_M_01_C
CHENOWETH HILLS WQTC ELIM	IOAP	64096	S_JT_JT_NB01A_M_03_C
CHENOWETH HILLS WQTC ELIM	IOAP	86052	S_JT_JT_NB01A_M_03_C
CHENOWETH HILLS WQTC ELIM	IOAP	92061	S_JT_JT_NB01A_M_03_C
CHENOWETH HILLS WQTC ELIM	IOAP	MSD0196-PS	S_JT_JT_NB01A_M_03_C
CHENOWETH HILLS WQTC ELIM	IOAP	MSD0263	S_JT_JT_NB01A_M_03_C
CHENOWETH HILLS WQTC ELIM	IOAP	MSD0263A-PS	S_JT_JT_NB01A_M_03_C
CHENOWETH HILLS WQTC ELIM	IOAP	MSD1043-PS	S_JT_JT_NB01A_M_03_C
CINDERELLA PS ELIMINATION	IOAP	102339	S_PO_WC_PC04_M_01_C
CINDERELLA PS ELIMINATION	IOAP	35309	S_PO_WC_PC04_M_01_C
CINDERELLA PS ELIMINATION	IOAP	60679	S_PO_WC_PC04_M_01_C
CINDERELLA PS ELIMINATION	IOAP	MSD1013-PS	S_PO_WC_PC04_M_01_C
CLIFTON HEIGHTS STORAGE BASIN	IOAP	CSO083	L_MU_MF_154_M_09B_B_A_8
CLIFTON HEIGHTS STORAGE BASIN	IOAP	CSO088	L_MU_MF_154_M_09B_B_A_8
CLIFTON HEIGHTS STORAGE BASIN	IOAP	CSO131	L_MU_MF_154_M_09B_B_A_8
CLIFTON HEIGHTS STORAGE BASIN	IOAP	CSO132	L_MU_MF_154_M_09B_B_A_8
CLIFTON HEIGHTS STORAGE BASIN	IOAP	CSO154	L_MU_MF_154_M_09B_B_A_8
CLIFTON HEIGHTS STORAGE BASIN	IOAP	CSO167	L_MU_MF_154_M_09B_B_A_8
CSO 140 SEWER SEPARATION	IOAP	CSO140	L_MI_MF_140_S_08_A_A_0
CSO 160 SEWER SEPARATION	IOAP	CSO160	L_OR_MF_160_S_08_A_A_0
CSO 93 SEWER SEPARATION	IOAP	CSO093	L_SO_MF_093_S_08_A_A_0
CSO058 SEWER SEPARATION	IOAP	CSO058	L_OR_MF_058_S_08_A_A_0
CSO108 DAM MODIFICATION	IOAP	CSO108	L_SO_MF_108_S_09A_B_A_4
CSO206 SEWER SEPARATION	IOAP	CSO206	L_MI_MF_206_S_08_A_A_0
DELL RD/CHARLANE PKWY INT IMP	IOAP	104289	S_JT_JT_NB02_M_01_C
DELL RD/CHARLANE PKWY INT IMP	IOAP	28249	S_JT_JT_NB02_M_01_C

PROJECT NAME	PROGRAM	ASSET ID	PROJECT ID
DELL RD/CHARLANE PKWY INT IMP	IOAP	28250	S_JT_JT_NB02_M_01_C
DELL RD/CHARLANE PKWY INT IMP	IOAP	28336	S_JT_JT_NB02_M_01_C
DELL RD/CHARLANE PKWY INT IMP	IOAP	28340	S_JT_JT_NB02_M_01_C
DELL RD/CHARLANE PKWY INT IMP	IOAP	28413	S_JT_JT_NB02_M_01_C
DELL RD/CHARLANE PKWY INT IMP	IOAP	28414	S_JT_JT_NB02_M_01_C
DELL RD/CHARLANE PKWY INT IMP	IOAP	28415	S_JT_JT_NB02_M_01_C
DELL RD/CHARLANE PKWY INT IMP	IOAP	28416	S_JT_JT_NB02_M_01_C
DELL RD/CHARLANE PKWY INT IMP	IOAP	28417	S_JT_JT_NB02_M_01_C
DELL RD/CHARLANE PKWY INT IMP	IOAP	28451	S_JT_JT_NB02_M_01_C
DELL RD/CHARLANE PKWY INT IMP	IOAP	28453	S_JT_JT_NB02_M_01_C
DELL RD/CHARLANE PKWY INT IMP	IOAP	28711	S_JT_JT_NB02_M_01_C
DEREK R GUTHRIE WQTC UPGRADES	ISSDP	22307	DEREK R GUTHRIE WQTC UPGRADES
DEREK R GUTHRIE WQTC UPGRADES	ISSDP	22370	DEREK R GUTHRIE WQTC UPGRADES
DEREK R GUTHRIE WQTC UPGRADES	ISSDP	22385	DEREK R GUTHRIE WQTC UPGRADES
DEREK R GUTHRIE WQTC UPGRADES	ISSDP	32682	DEREK R GUTHRIE WQTC UPGRADES
DEREK R GUTHRIE WQTC UPGRADES	ISSDP	32688	DEREK R GUTHRIE WQTC UPGRADES
DEREK R GUTHRIE WQTC UPGRADES	ISSDP	59169	DEREK R GUTHRIE WQTC UPGRADES
DEREK R GUTHRIE WQTC UPGRADES	ISSDP	MSD0277	DEREK R GUTHRIE WQTC UPGRADES
DERINGTON CT PS I&I INVEST/REB	IOAP	20154-W	S_OR_MF_NB03_S_07_C
DERINGTON CT PS I&I INVEST/REB	IOAP	20155	S_OR_MF_NB03_S_07_C
DERINGTON CT PS I&I INVEST/REB	IOAP	MSD0095-PS	S_OR_MF_NB03_S_07_C
EAST ROCKFORD PS RELOCATION	IOAP	04699-W	S_MC_WC_NB02_S_03_C

PROJECT NAME	PROGRAM	ASSET ID	PROJECT ID
EDEN CARE PS SSO INVESTIGATION	IOAP	MSD1105-PS	S_FF_FF_NB02_S_13_C
EDSEL PS I&I INVEST & REHAB	IOAP	92098	S_PO_WC_PC11_M_07_C
EDSEL PS I&I INVEST & REHAB	IOAP	92099	S_PO_WC_PC11_M_07_C
EDSEL PS I&I INVEST & REHAB	IOAP	94009	S_PO_WC_PC11_M_07_C
EDSEL PS I&I INVEST & REHAB	IOAP	MSD1048-PS	S_PO_WC_PC11_M_07_C
FAIRMOUNT RD PS IMPROVEMENTS	IOAP	116106	S_FF_CC_81316_M_03_C_A
FAIRMOUNT RD PS IMPROVEMENTS	IOAP	81316	S_FF_CC_81316_M_03_C_A
FAIRMOUNT RD PS IMPROVEMENTS	IOAP	97362	S_FF_CC_81316_M_03_C_A
FAIRMOUNT RD PS IMPROVEMENTS	IOAP	97363	S_FF_CC_81316_M_03_C_A
FAIRMOUNT RD PS IMPROVEMENTS	IOAP	97365	S_FF_CC_81316_M_03_C_A
FAIRWAY VIEW PS IMPROVEMENTS	IOAP	MSD1065-PS	S_HC_HS_NB01_S_03_C_A
FLOYDSBURG RD I&I INVEST	IOAP	108953	S_HC_HC_MSD1086_M_07_C_A
FLOYDSBURG RD I&I INVEST	IOAP	108956	S_HC_HC_MSD1086_M_07_C_A
FLOYDSBURG RD I&I INVEST	IOAP	108957	S_HC_HC_MSD1086_M_07_C_A
FLOYDSBURG RD I&I INVEST	IOAP	108958	S_HC_HC_MSD1086_M_07_C_A
FLOYDSBURG RD I&I INVEST	IOAP	90776	S_HC_HC_MSD1086_M_07_C_A
FLOYDSBURG RD I&I INVEST	IOAP	MSD1086-PS	S_HC_HC_MSD1086_M_07_C_A
FOX HARBOR INLINE STORAGE	IOAP	62769	S_HC_HN_NB03_S_09A_A_A
GOOSE CREEK PS IMPR/WW STOR 1	IOAP	105936	S_MI_MF_NB04_M_03_B
GOOSE CREEK PS IMPR/WW STOR 1	IOAP	117721	S_MI_MF_NB04_M_03_B
GOOSE CREEK PS IMPR/WW STOR 1	IOAP	43472	S_MI_MF_NB04_M_03_B
GOOSE CREEK PS IMPR/WW STOR 1	IOAP	46891	S_MI_MF_NB04_M_03_B
GOOSE CREEK PS IMPR/WW STOR 1	IOAP	62418	S_MI_MF_NB04_M_03_B
GOOSE CREEK PS IMPR/WW STOR 1	IOAP	62420	S_MI_MF_NB04_M_03_B
GOOSE CREEK PS IMPR/WW STOR 1	IOAP	91629	S_MI_MF_NB04_M_03_B
GOOSE CREEK PS IMPR/WW STOR 1	IOAP	91630	S_MI_MF_NB04_M_03_B
GOOSE CREEK PS IMPR/WW STOR 1	IOAP	MSD0040-PS	S_MI_MF_NB04_M_03_B
GOOSE CREEK PS IMPR/WW STOR 1	IOAP	MSD1024-PS	S_MI_MF_NB04_M_03_B

PROJECT NAME	PROGRAM	ASSET ID	PROJECT ID
GOVERNMENT CENTER PS ELIM	IOAP	94541	S_PO_WC_PC06_M_01_C
GOVERNMENT CENTER PS ELIM	IOAP	94542	S_PO_WC_PC06_M_01_C
GOVERNMENT CENTER PS ELIM	IOAP	MSD0180-PS	S_PO_WC_PC06_M_01_C
GUNPOWDER PS INLINE STORAGE	IOAP	MSD1055-LS	S_HC_HN_NB02_S_09A_C_B
HAZELWOOD PS I&I INVEST/REHAB	IOAP	55665	S_MC_MF_55665_S_07_C
HAZELWOOD PS I&I INVEST/REHAB	IOAP	55667	S_MC_MF_55665_S_07_C
HIKES LANE-HIGHGATE SPRINGS PS	ISSDP	17571	HIKES LN INTER & HIGHGATE SPR
HIKES LANE-HIGHGATE SPRINGS PS	ISSDP	18134	HIKES LN INTER & HIGHGATE SPR
HIKES LANE-HIGHGATE SPRINGS PS	ISSDP	18297	HIKES LN INTER & HIGHGATE SPR
HIKES LANE-HIGHGATE SPRINGS PS	ISSDP	18298	HIKES LN INTER & HIGHGATE SPR
HIKES LANE-HIGHGATE SPRINGS PS	ISSDP	18299	HIKES LN INTER & HIGHGATE SPR
HIKES LANE-HIGHGATE SPRINGS PS	ISSDP	18302	HIKES LN INTER & HIGHGATE SPR
HIKES LANE-HIGHGATE SPRINGS PS	ISSDP	18318-W	HIKES LN INTER & HIGHGATE SPR
HIKES LANE-HIGHGATE SPRINGS PS	ISSDP	18370	HIKES LN INTER & HIGHGATE SPR
HIKES LANE-HIGHGATE SPRINGS PS	ISSDP	18434	HIKES LN INTER & HIGHGATE SPR
HIKES LANE-HIGHGATE SPRINGS PS	ISSDP	18471	HIKES LN INTER & HIGHGATE SPR
HIKES LANE-HIGHGATE SPRINGS PS	ISSDP	18483	HIKES LN INTER & HIGHGATE SPR
HIKES LANE-HIGHGATE SPRINGS PS	ISSDP	18505	HIKES LN INTER & HIGHGATE SPR
HIKES LANE-HIGHGATE SPRINGS PS	ISSDP	18595	HIKES LN INTER & HIGHGATE SPR
HIKES LANE-HIGHGATE SPRINGS PS	ISSDP	47960A	HIKES LN INTER & HIGHGATE SPR
HIKES LANE-HIGHGATE SPRINGS PS	ISSDP	48885	HIKES LN INTER & HIGHGATE SPR
HIKES LANE-HIGHGATE SPRINGS PS	ISSDP	48886	HIKES LN INTER & HIGHGATE SPR
HIKES LANE-HIGHGATE SPRINGS PS	ISSDP	48888	HIKES LN INTER & HIGHGATE SPR
HIKES LANE-HIGHGATE SPRINGS PS	ISSDP	49224	HIKES LN INTER & HIGHGATE SPR
HIKES LANE-HIGHGATE SPRINGS PS	ISSDP	49236	HIKES LN INTER & HIGHGATE SPR
HIKES LANE-HIGHGATE SPRINGS PS	ISSDP	49672	HIKES LN INTER & HIGHGATE SPR
HIKES LANE-HIGHGATE SPRINGS PS	ISSDP	49673	HIKES LN INTER & HIGHGATE SPR
HIKES LANE-HIGHGATE SPRINGS PS	ISSDP	73111	HIKES LN INTER & HIGHGATE SPR



PROJECT NAME	PROGRAM	ASSET ID	PROJECT ID
HIKES LANE-HIGHGATE SPRINGS PS	ISSDP	MSD0012-PS	HIKES LN INTER & HIGHGATE SPR
HURSTBOURNE I/I INVEST & REHAB	IOAP	01793	S_MI_MF_NB07_S_07_C
HURSTBOURNE I/I INVEST & REHAB	IOAP	47650	S_MI_MF_NB07_S_07_C
HURSTBOURNE I/I INVEST & REHAB	IOAP	47656	S_MI_MF_NB07_S_07_C
HURSTBOURNE I/I INVEST & REHAB	IOAP	67535	S_MI_MF_NB07_S_07_C
I-64/GRINSTEAD DR STORAGE BAS	IOAP	CSO125	L_MI_MF_127_M_09B_B_A_8
I-64/GRINSTEAD DR STORAGE BAS	IOAP	CSO126	L_MI_MF_127_M_09B_B_A_8
I-64/GRINSTEAD DR STORAGE BAS	IOAP	CSO127	L_MI_MF_127_M_09B_B_A_8
I-64/GRINSTEAD DR STORAGE BAS	IOAP	CSO166	L_MI_MF_127_M_09B_B_A_8
IDLEWOOD INLINE STORAGE	IOAP	28984	S_CC_CC_70158_M_09A_C
IDLEWOOD INLINE STORAGE	IOAP	28985	S_CC_CC_70158_M_09A_C
IDLEWOOD INLINE STORAGE	IOAP	28998	S_CC_CC_70158_M_09A_C
IDLEWOOD INLINE STORAGE	IOAP	63094	S_CC_CC_70158_M_09A_C
IDLEWOOD INLINE STORAGE	IOAP	63095	S_CC_CC_70158_M_09A_C
IDLEWOOD INLINE STORAGE	IOAP	70158	S_CC_CC_70158_M_09A_C
JEFFERSONTOWN WQTC ELIMINATION	IOAP	28173	S_JT_JT_NB01_M_01_C_A
JEFFERSONTOWN WQTC ELIMINATION	IOAP	28390	S_JT_JT_NB01_M_01_C_A
JEFFERSONTOWN WQTC ELIMINATION	IOAP	28391	S_JT_JT_NB01_M_01_C_A
JEFFERSONTOWN WQTC ELIMINATION	IOAP	28392	S_JT_JT_NB01_M_01_C_A
JEFFERSONTOWN WQTC ELIMINATION	IOAP	28395	S_JT_JT_NB01_M_01_C_A
JEFFERSONTOWN WQTC ELIMINATION	IOAP	28551	S_JT_JT_NB01_M_01_C_A
JEFFERSONTOWN WQTC ELIMINATION	IOAP	31733	S_JT_JT_NB01_M_01_C_A
JEFFERSONTOWN WQTC ELIMINATION	IOAP	64505	S_JT_JT_NB01_M_01_C_A
JEFFERSONTOWN WQTC ELIMINATION	IOAP	IS028-SI	S_JT_JT_NB01_M_01_C_A
JEFFERSONTOWN WQTC ELIMINATION	IOAP	MSD0255	S_JT_JT_NB01_M_01_C_A
KAVANAUGH RD PS IMPROVEMENTS	IOAP	MSD1085-PS	S_HC_HC_MSD1085_S_03_A
KLONDIKE INTERCEPTOR	IOAP	20644	S_SD_MF_NB04_S_01_B_A
KLONDIKE INTERCEPTOR	IOAP	25676	S_SD_MF_NB04_S_01_B_A



PROJECT NAME	PROGRAM	ASSET ID	PROJECT ID
KLONDIKE INTERCEPTOR	IOAP	26650	S_SD_MF_NB04_S_01_B_A
KLONDIKE INTERCEPTOR	IOAP	26651	S_SD_MF_NB04_S_01_B_A
KLONDIKE INTERCEPTOR	IOAP	49513	S_SD_MF_NB04_S_01_B_A
KLONDIKE INTERCEPTOR	IOAP	66232	S_SD_MF_NB04_S_01_B_A
LAKE FOREST PS SSO INVEST	IOAP	MSD1169-LS	S_FF_LF_NB01_S_13_C_A
LANTANA #1 PS I/I INVEST/REHAB	IOAP	25484	S_PO_WC_PC05_M_07_C
LANTANA #1 PS I/I INVEST/REHAB	IOAP	93719	S_PO_WC_PC05_M_07_C
LANTANA #1 PS I/I INVEST/REHAB	IOAP	MSD0101-PS	S_PO_WC_PC05_M_07_C
LEA ANN WAY SYSTEM IMPROVEMENT	IOAP	19360	S_PO_WC_PC08_M_01_C
LEA ANN WAY SYSTEM IMPROVEMENT	IOAP	19369	S_PO_WC_PC08_M_01_C
LEA ANN WAY SYSTEM IMPROVEMENT	IOAP	29933	S_PO_WC_PC08_M_01_C
LEA ANN WAY SYSTEM IMPROVEMENT	IOAP	29943	S_PO_WC_PC08_M_01_C
LEA ANN WAY SYSTEM IMPROVEMENT	IOAP	29948	S_PO_WC_PC08_M_01_C
LEA ANN WAY SYSTEM IMPROVEMENT	IOAP	29949	S_PO_WC_PC08_M_01_C
LEA ANN WAY SYSTEM IMPROVEMENT	IOAP	31073	S_PO_WC_PC08_M_01_C
LEA ANN WAY SYSTEM IMPROVEMENT	IOAP	31074	S_PO_WC_PC08_M_01_C
LEA ANN WAY SYSTEM IMPROVEMENT	IOAP	31083	S_PO_WC_PC08_M_01_C
LEA ANN WAY SYSTEM IMPROVEMENT	IOAP	31084	S_PO_WC_PC08_M_01_C
LEA ANN WAY SYSTEM IMPROVEMENT	IOAP	57874	S_PO_WC_PC08_M_01_C
LEA ANN WAY SYSTEM IMPROVEMENT	IOAP	61266	S_PO_WC_PC08_M_01_C
LEA ANN WAY SYSTEM IMPROVEMENT	IOAP	79076	S_PO_WC_PC08_M_01_C
LEA ANN WAY SYSTEM IMPROVEMENT	IOAP	MSD1010-PS	S_PO_WC_PC08_M_01_C
LEA ANN WAY SYSTEM IMPROVEMENT	IOAP	MSD1200-PS	S_PO_WC_PC08_M_01_C
LELAND RD SSO INVESTIGATION	IOAP	96020	S_OR_MF_NB02_S_13_C
LEVEN PS ELIMINATION	IOAP	36419	S_PO_WC_PC10_M_01_C
LEVEN PS ELIMINATION	IOAP	MSD1019-PS	S_PO_WC_PC10_M_01_C
LEXINGTON RD/PAYNE ST STOR BAS	IOAP	CSO082	L_SO_MF_083_M_09B_B_A_8
LEXINGTON RD/PAYNE ST STOR BAS	IOAP	CSO084	L_SO_MF_083_M_09B_B_A_8

PROJECT NAME	PROGRAM	ASSET ID	PROJECT ID
LEXINGTON RD/PAYNE ST STOR BAS	IOAP	CSO118	L_SO_MF_083_M_09B_B_A_8
LEXINGTON RD/PAYNE ST STOR BAS	IOAP	CSO119	L_SO_MF_083_M_09B_B_A_8
LEXINGTON RD/PAYNE ST STOR BAS	IOAP	CSO120	L_SO_MF_083_M_09B_B_A_8
LEXINGTON RD/PAYNE ST STOR BAS	IOAP	CSO121	L_SO_MF_083_M_09B_B_A_8
LEXINGTON RD/PAYNE ST STOR BAS	IOAP	CSO141	L_SO_MF_083_M_09B_B_A_8
LEXINGTON RD/PAYNE ST STOR BAS	IOAP	CSO153	L_SO_MF_083_M_09B_B_A_8
LITTLE CEDAR CREEK INTERC IMPR	IOAP	67997	S_CC_CC_67997_M_01_C
LITTLE CEDAR CREEK INTERC IMPR	IOAP	67999	S_CC_CC_67997_M_01_C
LITTLE CEDAR CREEK INTERC IMPR	IOAP	86423	S_CC_CC_67997_M_01_C
LITTLE CEDAR CREEK INTERC IMPR	IOAP	86424	S_CC_CC_67997_M_01_C
LITTLE CEDAR CREEK INTERC IMPR	IOAP	89196	S_CC_CC_67997_M_01_C
LITTLE CEDAR CREEK INTERC IMPR	IOAP	89197	S_CC_CC_67997_M_01_C
LOGAN/BRECKINRIDGE ST STOR BAS	IOAP	CSO091	L_SO_MF_092_M_09B_B_D_8
LOGAN/BRECKINRIDGE ST STOR BAS	IOAP	CSO097	L_SO_MF_092_M_09B_B_D_8
LOGAN/BRECKINRIDGE ST STOR BAS	IOAP	CSO106	L_SO_MF_092_M_09B_B_D_8
LOGAN/BRECKINRIDGE ST STOR BAS	IOAP	CSO110	L_SO_MF_092_M_09B_B_D_8
LOGAN/BRECKINRIDGE ST STOR BAS	IOAP	CSO111	L_SO_MF_092_M_09B_B_D_8
LOGAN/BRECKINRIDGE ST STOR BAS	IOAP	CSO113	L_SO_MF_092_M_09B_B_D_8
LOGAN/BRECKINRIDGE ST STOR BAS	IOAP	CSO137	L_SO_MF_092_M_09B_B_D_8
LOGAN/BRECKINRIDGE ST STOR BAS	IOAP	CSO146	L_SO_MF_092_M_09B_B_D_8
LOGAN/BRECKINRIDGE ST STOR BAS	IOAP	CSO148	L_SO_MF_092_M_09B_B_D_8
LOGAN/BRECKINRIDGE ST STOR BAS	IOAP	CSO149	L_SO_MF_092_M_09B_B_D_8
LOGAN/BRECKINRIDGE ST STOR BAS	IOAP	CSO151	L_SO_MF_092_M_09B_B_D_8
LOGAN/BRECKINRIDGE ST STOR BAS	IOAP	CSO152	L_SO_MF_092_M_09B_B_D_8
LUCAS LN PS INLINE STORAGE	IOAP	MSD0199-LS	S_FF_BT_NB01_S_09A_C_A
MEADOW STREAM PS INLINE STOR	IOAP	91087	S_HC_HC_MSD1082_S_09A_C
MEADOW STREAM PS INLINE STOR	IOAP	MSD1082-PS	S_HC_HC_MSD1082_S_09A_C
MELLWOOD SYSTEM IMPR/PS ELIM 1	IOAP	24152-W	S_OR_MF_NB01_M_01_B

PROJECT NAME	PROGRAM	ASSET ID	PROJECT ID
MELLWOOD SYSTEM IMPR/PS ELIM 1	IOAP	24472	S_OR_MF_NB01_M_01_B
MELLWOOD SYSTEM IMPR/PS ELIM 1	IOAP	26752	S_OR_MF_NB01_M_01_B
MELLWOOD SYSTEM IMPR/PS ELIM 1	IOAP	41374	S_OR_MF_NB01_M_01_B
MELLWOOD SYSTEM IMPR/PS ELIM 1	IOAP	41416	S_OR_MF_NB01_M_01_B
MELLWOOD SYSTEM IMPR/PS ELIM 1	IOAP	MSD0006-PS	S_OR_MF_NB01_M_01_B
MELLWOOD SYSTEM IMPR/PS ELIM 1	IOAP	MSD0007-PS	S_OR_MF_NB01_M_01_B
MELLWOOD SYSTEM IMPR/PS ELIM 1	IOAP	MSD0010-PS	S_OR_MF_NB01_M_01_B
MELLWOOD SYSTEM IMPR/PS ELIM 1	IOAP	MSD0023-PS	S_OR_MF_NB01_M_01_B
MELLWOOD SYSTEM IMPR/PS ELIM 1	IOAP	MSD0024-PS	S_OR_MF_NB01_M_01_B
MF RELIEF INT/WW STOR/UMFPS 1	IOAP	02932	S_MISF_MF_NB01_M_01_C_A1
MF RELIEF INT/WW STOR/UMFPS 1	IOAP	02933	S_MISF_MF_NB01_M_01_C_A1
MF RELIEF INT/WW STOR/UMFPS 1	IOAP	02935	S_MISF_MF_NB01_M_01_C_A1
MF RELIEF INT/WW STOR/UMFPS 1	IOAP	08537	S_MISF_MF_NB01_M_01_C_A1
MF RELIEF INT/WW STOR/UMFPS 1	IOAP	08935-SM	S_MISF_MF_NB01_M_01_C_A1
MF RELIEF INT/WW STOR/UMFPS 1	IOAP	115183	S_MISF_MF_NB01_M_01_C_A1
MF RELIEF INT/WW STOR/UMFPS 1	IOAP	115184	S_MISF_MF_NB01_M_01_C_A1
MF RELIEF INT/WW STOR/UMFPS 1	IOAP	115185	S_MISF_MF_NB01_M_01_C_A1
MF RELIEF INT/WW STOR/UMFPS 1	IOAP	15194	S_MISF_MF_NB01_M_01_C_A1
MF RELIEF INT/WW STOR/UMFPS 1	IOAP	15195	S_MISF_MF_NB01_M_01_C_A1
MF RELIEF INT/WW STOR/UMFPS 1	IOAP	23211	S_MISF_MF_NB01_M_01_C_A1
MF RELIEF INT/WW STOR/UMFPS 1	IOAP	23212	S_MISF_MF_NB01_M_01_C_A1
MF RELIEF INT/WW STOR/UMFPS 1	IOAP	24553	S_MISF_MF_NB01_M_01_C_A1
MF RELIEF INT/WW STOR/UMFPS 1	IOAP	27005	S_MISF_MF_NB01_M_01_C_A1
MF RELIEF INT/WW STOR/UMFPS 1	IOAP	27007	S_MISF_MF_NB01_M_01_C_A1
MF RELIEF INT/WW STOR/UMFPS 1	IOAP	30376	S_MISF_MF_NB01_M_01_C_A1
MF RELIEF INT/WW STOR/UMFPS 1	IOAP	40471	S_MISF_MF_NB01_M_01_C_A1
MF RELIEF INT/WW STOR/UMFPS 1	IOAP	40559	S_MISF_MF_NB01_M_01_C_A1
MF RELIEF INT/WW STOR/UMFPS 1	IOAP	45796	S_MISF_MF_NB01_M_01_C_A1

PROJECT NAME	PROGRAM	ASSET ID	PROJECT ID
MF RELIEF INT/WW STOR/UMFPS 1	IOAP	45829	S_MISF_MF_NB01_M_01_C_A1
MF RELIEF INT/WW STOR/UMFPS 1	IOAP	45835	S_MISF_MF_NB01_M_01_C_A1
MF RELIEF INT/WW STOR/UMFPS 1	IOAP	45900	S_MISF_MF_NB01_M_01_C_A1
MF RELIEF INT/WW STOR/UMFPS 1	IOAP	47034	S_MISF_MF_NB01_M_01_C_A1
MF RELIEF INT/WW STOR/UMFPS 1	IOAP	47582	S_MISF_MF_NB01_M_01_C_A1
MF RELIEF INT/WW STOR/UMFPS 1	IOAP	47583	S_MISF_MF_NB01_M_01_C_A1
MF RELIEF INT/WW STOR/UMFPS 1	IOAP	47593	S_MISF_MF_NB01_M_01_C_A1
MF RELIEF INT/WW STOR/UMFPS 1	IOAP	47596	S_MISF_MF_NB01_M_01_C_A1
MF RELIEF INT/WW STOR/UMFPS 1	IOAP	47603	S_MISF_MF_NB01_M_01_C_A1
MF RELIEF INT/WW STOR/UMFPS 1	IOAP	47604	S_MISF_MF_NB01_M_01_C_A1
MF RELIEF INT/WW STOR/UMFPS 1	IOAP	51160	S_MISF_MF_NB01_M_01_C_A1
MF RELIEF INT/WW STOR/UMFPS 1	IOAP	51161	S_MISF_MF_NB01_M_01_C_A1
MF RELIEF INT/WW STOR/UMFPS 1	IOAP	51180	S_MISF_MF_NB01_M_01_C_A1
MF RELIEF INT/WW STOR/UMFPS 1	IOAP	51221	S_MISF_MF_NB01_M_01_C_A1
MF RELIEF INT/WW STOR/UMFPS 1	IOAP	72288	S_MISF_MF_NB01_M_01_C_A1
MF RELIEF INT/WW STOR/UMFPS 1	IOAP	72289	S_MISF_MF_NB01_M_01_C_A1
MF RELIEF INT/WW STOR/UMFPS 1	IOAP	74513	S_MISF_MF_NB01_M_01_C_A1
MF RELIEF INT/WW STOR/UMFPS 1	IOAP	84155	S_MISF_MF_NB01_M_01_C_A1
MF RELIEF INT/WW STOR/UMFPS 1	IOAP	90700	S_MISF_MF_NB01_M_01_C_A1
MF RELIEF INT/WW STOR/UMFPS 1	IOAP	96672	S_MISF_MF_NB01_M_01_C_A1
MF RELIEF INT/WW STOR/UMFPS 1	IOAP	96673	S_MISF_MF_NB01_M_01_C_A1
MF RELIEF INT/WW STOR/UMFPS 1	IOAP	IS021A-SI	S_MISF_MF_NB01_M_01_C_A1
MF RELIEF INT/WW STOR/UMFPS 2	IOAP	43726	S_MISF_MF_NB01_M_01_C_A1-2
MONTICELLO PS ELIMINATION	IOAP	27969	S_JT_JT_NB04_M_01_A
MONTICELLO PS ELIMINATION	IOAP	MSD0151-PS	S_JT_JT_NB04_M_01_A
NIGHTINGALE PS REPLACEMENT	IOAP	CSO018	L_SO_MF_018_S_03_A_A
NORTHERN DITCH DIVERSION INTER	ISSDP	MSD0271	NORTHERN DITCH DIVERSION INTER

PROJECT NAME	PROGRAM	ASSET ID	PROJECT ID
OUTER LOOP/CAVEN WW STORAGE	IOAP	17724	S_PO_WC_PC09_M_09B_C
OUTER LOOP/CAVEN WW STORAGE	IOAP	27116	S_PO_WC_PC09_M_09B_C
OUTER LOOP/CAVEN WW STORAGE	IOAP	61667	S_PO_WC_PC09_M_09B_C
OUTER LOOP/CAVEN WW STORAGE	IOAP	61687	S_PO_WC_PC09_M_09B_C
OUTER LOOP/CAVEN WW STORAGE	IOAP	70212	S_PO_WC_PC09_M_09B_C
OUTER LOOP/CAVEN WW STORAGE	IOAP	MSD0133-PS	S_PO_WC_PC09_M_09B_C
PADDY'S RUN WW TREATMENT FAC (BELLS LN)	IOAP	CSO015	L_OR_MF_015_M_13_B_B_8
PADDY'S RUN WW TREATMENT FAC (BELLS LN)	IOAP	CSO191	L_OR_MF_015_M_13_B_B_8
PARKVIEW ESTATES I&I INVEST	IOAP	47250	S_SD_MF_NB03_S_07_C
PORTLAND WHARF STORAGE BASIN	IOAP	CSO019	L_OR_MF_019_S_13_B_A_8
PROSPECT SYSTEM IMPROVEMENTS 3 - ORFM SYSTEM IMPROVEMENTS	IOAP	89641	S_OR_MF_NB04_M_03_B_B-3
PROSPECT WQTC ELIM/HARRODS CR	IOAP	16455	S_OR_MF_NB04_M_03_B_B
PROSPECT WQTC ELIM/HARRODS CR	IOAP	22436	S_OR_MF_NB04_M_03_B_B
PROSPECT WQTC ELIM/HARRODS CR	IOAP	40870	S_OR_MF_NB04_M_03_B_B
PROSPECT WQTC ELIM/HARRODS CR	IOAP	40871	S_OR_MF_NB04_M_03_B_B
PROSPECT WQTC ELIM/HARRODS CR	IOAP	40872	S_OR_MF_NB04_M_03_B_B
PROSPECT WQTC ELIM/HARRODS CR	IOAP	40879	S_OR_MF_NB04_M_03_B_B
PROSPECT WQTC ELIM/HARRODS CR	IOAP	40880	S_OR_MF_NB04_M_03_B_B
PROSPECT WQTC ELIM/HARRODS CR	IOAP	42675	S_OR_MF_NB04_M_03_B_B
PROSPECT WQTC ELIM/HARRODS CR	IOAP	42680	S_OR_MF_NB04_M_03_B_B
PROSPECT WQTC ELIM/HARRODS CR	IOAP	46621	S_OR_MF_NB04_M_03_B_B
PROSPECT WQTC ELIM/HARRODS CR	IOAP	46623	S_OR_MF_NB04_M_03_B_B
PROSPECT WQTC ELIM/HARRODS CR	IOAP	46627	S_OR_MF_NB04_M_03_B_B
PROSPECT WQTC ELIM/HARRODS CR	IOAP	65606	S_OR_MF_NB04_M_03_B_B
PROSPECT WQTC ELIM/HARRODS CR	IOAP	65610	S_OR_MF_NB04_M_03_B_B
PROSPECT WQTC ELIM/HARRODS CR	IOAP	65623	S_OR_MF_NB04_M_03_B_B
PROSPECT WQTC ELIM/HARRODS CR	IOAP	65633	S_OR_MF_NB04_M_03_B_B
PROSPECT WQTC ELIM/HARRODS CR	IOAP	65635	S_OR_MF_NB04_M_03_B_B

PROJECT NAME	PROGRAM	ASSET ID	PROJECT ID
PROSPECT WQTC ELIM/HARRODS CR	IOAP	89646	S_OR_MF_NB04_M_03_B_B
PROSPECT WQTC ELIM/HARRODS CR	IOAP	89791	S_OR_MF_NB04_M_03_B_B
PROSPECT WQTC ELIM/HARRODS CR	IOAP	MSD0123-PS	S_OR_MF_NB04_M_03_B_B
PROSPECT WQTC ELIM/HARRODS CR	IOAP	MSD0183-PS	S_OR_MF_NB04_M_03_B_B
PROSPECT WQTC ELIM/HARRODS CR	IOAP	MSD0186-PS	S_OR_MF_NB04_M_03_B_B
PROSPECT WQTC ELIM/HARRODS CR	IOAP	MSD0192-PS	S_OR_MF_NB04_M_03_B_B
PROSPECT WQTC ELIM/HARRODS CR	IOAP	MSD0193-PS	S_OR_MF_NB04_M_03_B_B
PROSPECT WQTC ELIM/HARRODS CR	IOAP	MSD0291	S_OR_MF_NB04_M_03_B_B
PROSPECT WQTC ELIM/HARRODS CR	IOAP	MSD0292	S_OR_MF_NB04_M_03_B_B
PROSPECT WQTC ELIM/HARRODS CR	IOAP	MSD1044-PS	S_OR_MF_NB04_M_03_B_B
PROSPECT WQTC ELIM/HARRODS CR	IOAP	MSD1063-PS	S_OR_MF_NB04_M_03_B_B
RAINTREE & MARIAN CT PS ELIM 1	IOAP	28729-W	S_JT_JT_NB03_M_01_C
RAINTREE & MARIAN CT PS ELIM 1	IOAP	MSD0149-PS	S_JT_JT_NB03_M_01_C
RIDING RIDGE PS IMPROVEMENTS	IOAP	MSD1060-LS	S_HC_HN_NB01_S_03_C_A
RUNNING FOX PS ELIMINATION	IOAP	MSD1080-LS	S_CC_CC_MSD1080_S_01_C
SHAWNEE FPS DWO ELIMINATION	IOAP	MSD0309-FP	L_OR_MF_189_M_03_A_A
SHIVELY INTERCEPTOR	IOAP	04498	S_MC_WC_NB01_M_01_A
SHIVELY INTERCEPTOR	IOAP	04542	S_MC_WC_NB01_M_01_A
SHIVELY INTERCEPTOR	IOAP	81814-W	S_MC_WC_NB01_M_01_A
SHIVELY INTERCEPTOR	IOAP	MSD0016-PS	S_MC_WC_NB01_M_01_A
SHIVELY INTERCEPTOR	IOAP	MSD0043-PS	S_MC_WC_NB01_M_01_A
SHIVELY INTERCEPTOR	IOAP	MSD0044-PS	S_MC_WC_NB01_M_01_A
SHIVELY INTERCEPTOR	IOAP	MSD0047-PS	S_MC_WC_NB01_M_01_A
SHIVELY INTERCEPTOR	IOAP	MSD0049-PS	S_MC_WC_NB01_M_01_A
SHIVELY INTERCEPTOR	IOAP	MSD0050-PS	S_MC_WC_NB01_M_01_A
SINKING FORK INTERCEPTOR	IOAP	21103	SINKING FORK RELIEF SEWER
SINKING FORK INTERCEPTOR	IOAP	25012	SINKING FORK RELIEF SEWER
SINKING FORK INTERCEPTOR	IOAP	63319	SINKING FORK RELIEF SEWER

PROJECT NAME	PROGRAM	ASSET ID	PROJECT ID
SONNE PS I&I INVEST & REHAB	IOAP	MSD0042-PS	S_OR_MF_42007_S_07_C
SOUTHEASTERN DIVERSION STRUCT	IOAP	08426	SOUTHEASTERN DIVERSION STRUCT
SOUTHEASTERN DIVERSION STRUCT	IOAP	08427	SOUTHEASTERN DIVERSION STRUCT
SOUTHEASTERN DIVERSION STRUCT	IOAP	08430	SOUTHEASTERN DIVERSION STRUCT
SOUTHEASTERN DIVERSION STRUCT	IOAP	08431	SOUTHEASTERN DIVERSION STRUCT
SOUTHEASTERN DIVERSION STRUCT	IOAP	18654	SOUTHEASTERN DIVERSION STRUCT
SOUTHEASTERN DIVERSION STRUCT	IOAP	30680	SOUTHEASTERN DIVERSION STRUCT
SOUTHEASTERN DIVERSION STRUCT	IOAP	30681	SOUTHEASTERN DIVERSION STRUCT
SOUTHEASTERN DIVERSION STRUCT	IOAP	30701	SOUTHEASTERN DIVERSION STRUCT
SOUTHEASTERN DIVERSION STRUCT	IOAP	30702	SOUTHEASTERN DIVERSION STRUCT
SOUTHEASTERN DIVERSION STRUCT	IOAP	30704	SOUTHEASTERN DIVERSION STRUCT
SOUTHEASTERN DIVERSION STRUCT	IOAP	49647	SOUTHEASTERN DIVERSION STRUCT
SOUTHEASTERN DIVERSION STRUCT	IOAP	63779	SOUTHEASTERN DIVERSION STRUCT
SOUTHEASTERN DIVERSION STRUCT	IOAP	72571-X	SOUTHEASTERN DIVERSION STRUCT
SOUTHWESTERN PKY STORAGE BASIN	IOAP	CSO104	L_OR_MF_105_M_13_B_A_0
SOUTHWESTERN PKY STORAGE BASIN	IOAP	CSO105	L_OR_MF_105_M_13_B_A_0
SOUTHWESTERN PKY STORAGE BASIN	IOAP	CSO189	L_OR_MF_105_M_13_B_A_0

PROJECT NAME	PROGRAM	ASSET ID	PROJECT ID
ST RENE RD PS INLINE STORAGE	IOAP	94187	S_FF_CH_NB01_S_09A_C_A
STORY & MAIN ST STORAGE BASIN	IOAP	CSO020	L_OR_MF_020_S_09B_B_A_8
SUTHERLAND INTERCEPTOR	IOAP	16649	S_SD_MF_NB05_M_01_A
WOODLAND HILLS PS DIVERSION	IOAP	33003	S_FF_FF_NB01_S_01_C_A
WOODLAND HILLS PS DIVERSION	IOAP	65516	S_FF_FF_NB01_S_01_C_A
WOODLAND HILLS PS DIVERSION	IOAP	65531	S_FF_FF_NB01_S_01_C_A



Appendix F      CSO Flow Monitoring Quality Improvement

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**Table F.1. Phase 1 CSOs**

CSO	FINAL SOP COMPLETED	HISTORICAL VOLUME REVISED	PROGRAMMING CHANGES COMPLETED	EQUIPMENT CHANGES COMPLETED	TESTING / VERIFICATION COMPLETED
015	6/30/2017	6/30/2017	TO BE COMPLETED	TO BE COMPLETED	TO BE COMPLETED
016	6/30/2017	N/A	TO BE COMPLETED	N/A	TO BE COMPLETED
018	6/30/2017	N/A	9/13/2017	N/A	TO BE COMPLETED
020	6/30/2017	6/30/2017	9/21/2017	N/A	10/10/2017
036	6/30/2017	6/30/2017	8/23/2017	7/29/2017	9/14/2017
054	6/30/2017	N/A	9/8/2017	N/A	9/12/2017
058	6/30/2017	6/30/2017	N/A	N/A	TO BE COMPLETED
088	6/30/2017	6/30/2017	8/23/2017	N/A	TO BE COMPLETED
093	6/30/2017	6/30/2017	N/A	N/A	TO BE COMPLETED
104	6/30/2017	6/30/2017	8/16/2017	N/A	9/12/2017
105	6/30/2017	6/30/2017	8/16/2017	N/A	9/12/2017
106	6/30/2017	6/30/2017	N/A	N/A	N/A
108	6/30/2017	6/30/2017	11/21/2017	10/17/2017	TO BE COMPLETED
109	6/30/2017	6/30/2017	11/21/2017	10/13/2017	TO BE COMPLETED
110	6/30/2017	6/30/2017	TO BE COMPLETED	TO BE COMPLETED	TO BE COMPLETED
118	6/30/2017	N/A	N/A	9/12/2017	9/12/2017
121	6/30/2017	6/30/2017	9/12/2017	10/13/2017	12/21/2017
125	6/30/2017	6/30/2017	9/8/2017	8/7/2017	9/8/2017
126	6/30/2017	6/30/2017	9/14/2017	7/25/2017	12/21/2017
127	6/30/2017	N/A	N/A	N/A	N/A
130	6/30/2017	6/30/2017	8/16/2017	N/A	TO BE COMPLETED
132	6/30/2017	6/30/2017	9/8/2017	7/25/2017	9/21/2017
140	6/30/2017	6/30/2017	11/21/2017	10/13/2017	TO BE COMPLETED
146	6/30/2017	N/A	TO BE COMPLETED	TO BE COMPLETED	TO BE COMPLETED
149	6/30/2017	N/A	TO BE COMPLETED	TO BE COMPLETED	TO BE COMPLETED
154	6/30/2017	6/30/2017	TO BE COMPLETED	TO BE COMPLETED	TO BE COMPLETED
160	6/30/2017	6/30/2017	8/23/2017	9/20/2017	TO BE COMPLETED
166	6/30/2017	6/30/2017	9/12/2017	10/9/2017	12/21/2017
167	6/30/2017	6/30/2017	9/8/2017	N/A	12/21/2017
189	6/30/2017	6/30/2017	8/16/2017	N/A	9/21/2017
190	6/30/2017	6/30/2017	11/1/2017	N/A	TO BE COMPLETED
191	6/30/2017	6/30/2017	TO BE COMPLETED	TO BE COMPLETED	TO BE COMPLETED
206	6/30/2017	6/30/2017	N/A	TO BE COMPLETED	12/6/2017
210	6/30/2017	N/A	TO BE COMPLETED	N/A	TO BE COMPLETED
211	6/30/2017	6/30/2017	8/16/2017	N/A	TO BE COMPLETED

**Table F.2. Phase 2 CSOs**

CSO	FINAL SOP COMPLETED	HISTORICAL VOLUME REVISED	PROGRAMMING CHANGES COMPLETED	EQUIPMENT CHANGES COMPLETED	TESTING / VERIFICATION COMPLETED
019	TO BE COMPLETED	TO BE DETERMINED	TO BE DETERMINED	TO BE DETERMINED	TO BE DETERMINED
022	TO BE COMPLETED	TO BE DETERMINED	TO BE DETERMINED	TO BE DETERMINED	TO BE DETERMINED
023	TO BE COMPLETED	TO BE DETERMINED	TO BE DETERMINED	TO BE DETERMINED	TO BE DETERMINED
027	TO BE COMPLETED	TO BE DETERMINED	TO BE DETERMINED	TO BE DETERMINED	TO BE DETERMINED
028	TO BE COMPLETED	TO BE COMPLETED	TO BE DETERMINED	TO BE DETERMINED	TO BE DETERMINED
029	TO BE COMPLETED	TO BE DETERMINED	TO BE DETERMINED	TO BE DETERMINED	TO BE DETERMINED
031	TO BE COMPLETED	TO BE DETERMINED	TO BE DETERMINED	TO BE DETERMINED	TO BE DETERMINED
034	TO BE COMPLETED	TO BE COMPLETED	TO BE DETERMINED	TO BE DETERMINED	TO BE DETERMINED
035	TO BE COMPLETED	TO BE DETERMINED	TO BE DETERMINED	TO BE DETERMINED	TO BE DETERMINED
038	TO BE COMPLETED	TO BE DETERMINED	TO BE DETERMINED	TO BE DETERMINED	TO BE DETERMINED
050	TO BE COMPLETED	TO BE DETERMINED	TO BE DETERMINED	TO BE DETERMINED	TO BE DETERMINED
051	TO BE COMPLETED	TO BE DETERMINED	TO BE DETERMINED	TO BE DETERMINED	TO BE DETERMINED
052	TO BE COMPLETED	TO BE DETERMINED	TO BE DETERMINED	TO BE DETERMINED	TO BE DETERMINED
053	TO BE COMPLETED	TO BE DETERMINED	TO BE DETERMINED	TO BE DETERMINED	TO BE DETERMINED
055	TO BE COMPLETED	TO BE DETERMINED	TO BE DETERMINED	TO BE DETERMINED	TO BE DETERMINED
056	TO BE COMPLETED	N/A	TO BE DETERMINED	TO BE DETERMINED	TO BE DETERMINED
057	TO BE COMPLETED	TO BE DETERMINED	TO BE DETERMINED	TO BE DETERMINED	TO BE DETERMINED
062	TO BE COMPLETED	N/A	TO BE DETERMINED	TO BE DETERMINED	TO BE DETERMINED
082	TO BE COMPLETED	TO BE DETERMINED	TO BE DETERMINED	TO BE DETERMINED	TO BE DETERMINED
083	TO BE COMPLETED	TO BE COMPLETED	TO BE DETERMINED	TO BE DETERMINED	TO BE DETERMINED
084	TO BE COMPLETED	TO BE DETERMINED	TO BE DETERMINED	TO BE DETERMINED	TO BE DETERMINED
091	TO BE COMPLETED	N/A	TO BE DETERMINED	TO BE DETERMINED	TO BE DETERMINED
092	TO BE COMPLETED	TO BE COMPLETED	TO BE DETERMINED	TO BE DETERMINED	TO BE DETERMINED
097	TO BE COMPLETED	TO BE COMPLETED	TO BE DETERMINED	TO BE DETERMINED	TO BE DETERMINED
111	TO BE COMPLETED	TO BE DETERMINED	TO BE DETERMINED	TO BE DETERMINED	TO BE DETERMINED
113	TO BE COMPLETED	TO BE COMPLETED	TO BE DETERMINED	TO BE DETERMINED	TO BE DETERMINED
117	TO BE COMPLETED	TO BE COMPLETED	TO BE DETERMINED	TO BE DETERMINED	TO BE DETERMINED
119	TO BE COMPLETED	TO BE DETERMINED	TO BE DETERMINED	TO BE DETERMINED	TO BE DETERMINED
120	TO BE COMPLETED	TO BE DETERMINED	TO BE DETERMINED	TO BE DETERMINED	TO BE DETERMINED
131	TO BE COMPLETED	N/A	TO BE DETERMINED	TO BE DETERMINED	TO BE DETERMINED
137	TO BE COMPLETED	TO BE COMPLETED	TO BE DETERMINED	TO BE DETERMINED	TO BE DETERMINED
141	TO BE COMPLETED	TO BE DETERMINED	TO BE DETERMINED	TO BE DETERMINED	TO BE DETERMINED
144	TO BE COMPLETED	TO BE DETERMINED	TO BE DETERMINED	TO BE DETERMINED	TO BE DETERMINED
148	TO BE COMPLETED	TO BE COMPLETED	TO BE DETERMINED	TO BE DETERMINED	TO BE DETERMINED

**Table F.2. Phase 2 CSOs**

CSO	FINAL SOP COMPLETED	HISTORICAL VOLUME REVISED	PROGRAMMING CHANGES COMPLETED	EQUIPMENT CHANGES COMPLETED	TESTING / VERIFICATION COMPLETED
150	TO BE COMPLETED	TO BE DETERMINED	TO BE DETERMINED	TO BE DETERMINED	TO BE DETERMINED
151	TO BE COMPLETED	TO BE COMPLETED	TO BE DETERMINED	TO BE DETERMINED	TO BE DETERMINED
152	TO BE COMPLETED	TO BE COMPLETED	TO BE DETERMINED	TO BE DETERMINED	TO BE DETERMINED
153	TO BE COMPLETED	TO BE DETERMINED	TO BE DETERMINED	TO BE DETERMINED	TO BE DETERMINED
155	TO BE COMPLETED	TO BE DETERMINED	TO BE DETERMINED	TO BE DETERMINED	TO BE DETERMINED
161	TO BE COMPLETED	N/A	TO BE DETERMINED	TO BE DETERMINED	TO BE DETERMINED
172	TO BE COMPLETED	N/A	TO BE DETERMINED	TO BE DETERMINED	TO BE DETERMINED
178	TO BE COMPLETED	TO BE DETERMINED	TO BE DETERMINED	TO BE DETERMINED	TO BE DETERMINED
179	TO BE COMPLETED	TO BE COMPLETED	TO BE DETERMINED	TO BE DETERMINED	TO BE DETERMINED
181	TO BE COMPLETED	TO BE DETERMINED	TO BE DETERMINED	TO BE DETERMINED	TO BE DETERMINED
193	TO BE COMPLETED	TO BE DETERMINED	TO BE DETERMINED	TO BE DETERMINED	TO BE DETERMINED
195	TO BE COMPLETED	TO BE COMPLETED	TO BE DETERMINED	TO BE DETERMINED	TO BE DETERMINED
196	TO BE COMPLETED	TO BE COMPLETED	TO BE DETERMINED	TO BE DETERMINED	TO BE DETERMINED
197	TO BE COMPLETED	TO BE COMPLETED	TO BE DETERMINED	TO BE DETERMINED	TO BE DETERMINED
198	TO BE COMPLETED	TO BE COMPLETED	TO BE DETERMINED	TO BE DETERMINED	TO BE DETERMINED
199	TO BE COMPLETED	TO BE COMPLETED	TO BE DETERMINED	TO BE DETERMINED	TO BE DETERMINED
200	TO BE COMPLETED	TO BE COMPLETED	TO BE DETERMINED	TO BE DETERMINED	TO BE DETERMINED
201	TO BE COMPLETED	TO BE DETERMINED	TO BE DETERMINED	TO BE DETERMINED	TO BE DETERMINED
202	TO BE COMPLETED	TO BE COMPLETED	TO BE DETERMINED	TO BE DETERMINED	TO BE DETERMINED
203	TO BE COMPLETED	TO BE DETERMINED	TO BE DETERMINED	TO BE DETERMINED	TO BE DETERMINED
207	TO BE COMPLETED	TO BE DETERMINED	TO BE DETERMINED	TO BE DETERMINED	TO BE DETERMINED
208	TO BE COMPLETED	TO BE DETERMINED	TO BE DETERMINED	TO BE DETERMINED	TO BE DETERMINED
SBR 142	TO BE COMPLETED	TO BE COMPLETED	TO BE DETERMINED	TO BE DETERMINED	TO BE DETERMINED
SBR 174	TO BE COMPLETED	TO BE DETERMINED	TO BE DETERMINED	TO BE DETERMINED	TO BE DETERMINED
SBR 180	TO BE COMPLETED	N/A	TO BE DETERMINED	TO BE DETERMINED	TO BE DETERMINED
SBR 182	TO BE COMPLETED	TO BE DETERMINED	TO BE DETERMINED	TO BE DETERMINED	TO BE DETERMINED
SBR 183	TO BE COMPLETED	TO BE DETERMINED	TO BE DETERMINED	TO BE DETERMINED	TO BE DETERMINED
SBR 184	TO BE COMPLETED	TO BE DETERMINED	TO BE DETERMINED	TO BE DETERMINED	TO BE DETERMINED

**Table F.2. Phase 2 CSOs**

CSO	FINAL SOP COMPLETED	HISTORICAL VOLUME REVISED	PROGRAMMING CHANGES COMPLETED	EQUIPMENT CHANGES COMPLETED	TESTING / VERIFICATION COMPLETED
SBR 185	TO BE COMPLETED	TO BE DETERMINED	TO BE DETERMINED	TO BE DETERMINED	TO BE DETERMINED
SBR 186	TO BE COMPLETED	TO BE DETERMINED	TO BE DETERMINED	TO BE DETERMINED	TO BE DETERMINED
SBR 187	TO BE COMPLETED	TO BE DETERMINED	TO BE DETERMINED	TO BE DETERMINED	TO BE DETERMINED
SBR 188	TO BE COMPLETED	TO BE COMPLETED	TO BE DETERMINED	TO BE DETERMINED	TO BE DETERMINED
SBR 205	TO BE COMPLETED	TO BE COMPLETED	TO BE DETERMINED	TO BE DETERMINED	TO BE DETERMINED

Appendix G      CSO108 Semi-Annual Report

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700 West Liberty Street | Louisville, KY 40203-1911  
Phone: 502.540.6000 | LouisvilleMSD.org

December 27, 2017

Shaun Zeigler  
Applied Ecologist & Nature Preserves Manager  
Kentucky State Nature Preserve Commission  
801 Teton Trail  
Frankfort, KY 40601

Subject: CSO 108 Semi-Annual Report #19

Dear Mr. Zeigler,

As required in Paragraph #10 of the document titled "Memorandum of Understanding by and between the Kentucky State Nature Preserve Commission and the Louisville and Jefferson County Metropolitan Sewer District", MSD submits to you the MOU Semi-Annual Report #19. This report summarizes activities at the CSO 108 CDS Site during the reporting period of July 1, 2017 to December 31, 2017.

Should you have any questions or comments, please feel free to contact me via email at [heather.dodds@louisvillemad.org](mailto:heather.dodds@louisvillemad.org) or phone at (502) 540-6961.

Sincerely,

Heather Dodds, PE  
Regulatory Compliance & Asset Management Administrator

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## INTRODUCTION

The Louisville and Jefferson County Metropolitan Sewer District (MSD) has entered into a Memorandum of Understanding (MOU) with the Kentucky State Nature Preserve Commission (Commission). The MOU was signed by MSD on July 30, 2008, and by the Commission on September 17, 2008. This MOU is effective for the period starting September 1, 2008, and ending on September 1, 2018.

This is the 19th Semi-Annual Report submitted in accordance with Paragraph 10 of the MOU. This report covers the time period of January 1, 2017 to June 30, 2017.

This Semi-Annual Report will address only those requirements considered ongoing. The initial Semi-Annual Report, MOU Semi-Annual Report #1, was comprehensive and included a response to each requirement addressed within the MOU. Please refer to the initial Semi-Annual Report for additional information not found within this document.

Work and activities undertaken by MSD and relating to the MOU are outlined in the paragraphs below.

### 1.1. PARAGRAPH #10 OF THE MOU

MSD shall be diligent of this ten-year period in more timely supplying the Commission with semi-annual reports on the efficacy of the CDS unit, water quality monitoring data, and any other such pertinent information. Said reports shall be provided to the Commission by June 30 and December 31 of each year.

### 1.2. MSD RESPONSE

This document is the 19th semi-annual report to the Commission since the completion of the Project.

#### 1.2.1 CLEANING AND INSPECTION ACTIVITIES

The CSO108 CDS unit is inspected weekly and cleaned on an as-needed basis. During the reporting period, MSD cleaned the CDS Unit bar racks **two** times. The information, shown in Table 1, is generated from work orders initiated whenever the CDS Unit is inspected and needs to be cleaned. Cleaning consists of either washing debris off of the bar racks or hauling the solids and floatables from the site. Both operations result in removing debris that would otherwise overflow into Beargrass Creek. When cleaning the bar racks, the debris is reintroduced into the sewer system, and as a result, is difficult to accurately estimate the amount removed during the maintenance process. The Crystal Report often indicates the quantity removed as “unknown”.

**Table 1: CSO108 CDS Unit Debris Removal**

ACTIVITY	QUANTITY	COMMENTS	COMPLETED DATE
Debris	Unknown	Cleaned medium debris off rack bars	09/18/17
Debris	Unknown	Cleaned medium debris off rack bars	11/21/17

#### 1.2.2 MAINTENANCE ACTIVITIES

In addition to the weekly inspections, MSD has initiated a preventative maintenance program to insure that the CDS unit and respective pumps are performing optimally. During these quarterly preventative

maintenance activities MSD staff also cleans the CDS unit and rack bars, washing the debris into the interceptor. The CDS Unit's pumps are removed from the facility twice yearly to more closely inspect and to perform any needed maintenance.

### 1.2.3 CAPTURED FLOW

The CDS unit was placed along the Trevillian Way Twin Trunk Sewer to capture solids and floatables from a 485-acre drainage area. The unit uses a vortex action created by the hydraulic energy of incoming flow to separate solids and floatable from the flow. The treated flow is then discharged through the outlet pipe to Beargrass Creek and the debris that is captured is pumped to the Morris Forman Water Quality Treatment Center (WQTC).

In an effort to estimate the volume of debris captured by the CDS unit and kept within the sewer system, a study of the efficiency of the unit was performed in the early 2002. The results of the study indicated that the concentration of solids kept within the sewer system was approximately 1ml/l. Using pump run times and knowing the efficiency of the pumps, MSD was able to determine a volume of solids captured by the CDS technology. MSD estimates that the CDS unit captured 40.59 tons of solids during the reporting period. Attachment "B" lists the pump run times and calculations MSD used to determine the amount of debris captured by the CDS Unit and sent to the Morris Forman WQTC for treatment.

ATTACHMENT "A" – PHOTOS OF AREA ADJACENT TO  
CSO 108 AND THE CDS UNIT  
(DATED DECEMBER 27, 2017)



**Figure 1. Entrance to CDS Unit**



**Figure 2. Entrance to CDS Unit**





**Figure 3. Area Adjacent to the CDS Unit**



**Figure 4. Area Adjacent to the CDS Unit**





**Figure 5. Area Adjacent to the Creek**



**Figure 6. Area Adjacent to the Creek**





## ATTACHMENT "B" –CDS UNIT PUMP RUN TIMES

### CDS Unit Pump Runtimes

DATE	PUMP 1 RUN HOURS	PUMP 2 RUN HOURS	PUMP 3 RUN HOURS
June 28, 2017	0.00	0.00	0.05
June 29, 2017	0.00	0.00	0.00
June 30, 2017	0.00	0.00	0.00
July 1, 2017	0.00	0.00	0.00
July 2, 2017	0.30	0.10	0.55
July 3, 2017	0.00	0.00	0.00
July 4, 2017	0.00	0.00	0.05
July 5, 2017	0.00	0.00	0.00
July 6, 2017	0.00	0.00	0.00
July 7, 2017	0.00	0.00	0.00
July 8, 2017	0.00	0.00	0.08
July 9, 2017	0.00	0.00	0.00
July 10, 2017	0.00	0.00	0.03
July 11, 2017	0.00	0.00	0.00
July 12, 2017	0.00	0.00	0.00
July 13, 2017	0.00	0.00	0.05
July 14, 2017	0.00	0.00	0.00
July 15, 2017	0.00	0.00	0.00
July 16, 2017	0.00	0.00	0.00
July 17, 2017	0.00	0.00	0.00
July 18, 2017	0.00	0.00	0.05
July 19, 2017	0.00	0.00	0.00
July 20, 2017	0.00	0.00	0.00
July 21, 2017	0.00	0.00	0.00
July 22, 2017	0.00	0.00	0.00
July 23, 2017	0.00	0.00	0.00
July 24, 2017	0.00	0.00	0.03
July 25, 2017	0.00	0.00	0.05
July 26, 2017	0.00	0.00	0.00
July 27, 2017	0.00	0.00	0.03
July 28, 2017	0.00	0.00	0.00
July 29, 2017	0.00	0.00	0.00
July 30, 2017	0.00	0.00	0.05
July 31, 2017	0.00	0.00	0.00

### CDS Unit Pump Runtimes

DATE	PUMP 1 RUN HOURS	PUMP 2 RUN HOURS	PUMP 3 RUN HOURS
August 1, 2017	0.00	0.00	0.00
August 2, 2017	0.00	0.00	0.17
August 3, 2017	0.00	0.00	0.00
August 4, 2017	0.00	0.00	0.00
August 5, 2017	0.00	0.00	0.00
August 6, 2017	0.00	0.00	0.00
August 7, 2017	0.00	0.00	0.00
August 8, 2017	0.00	0.00	0.00
August 9, 2017	0.00	0.00	0.00
August 10, 2017	0.00	0.00	0.00
August 11, 2017	0.00	0.00	0.00
August 12, 2017	0.00	0.00	0.00
August 13, 2017	0.00	0.00	0.00
August 14, 2017	0.00	0.00	0.00
August 15, 2017	0.00	0.00	0.00
August 16, 2017	0.00	0.00	0.00
August 17, 2017	0.00	0.00	0.00
August 18, 2017	0.00	0.00	0.00
August 19, 2017	0.03	0.45	0.77
August 20, 2017	0.00	0.00	0.03
August 21, 2017	0.00	0.00	0.00
August 22, 2017	0.00	0.00	0.00
August 23, 2017	0.00	0.00	0.00
August 24, 2017	0.23	0.00	0.58
August 25, 2017	0.00	0.00	0.00
August 26, 2017	0.00	0.00	0.05
August 27, 2017	0.00	0.00	0.00
August 28, 2017	0.00	0.00	0.00
August 29, 2017	0.00	0.00	0.00
August 30, 2017	0.00	0.00	0.00
August 31, 2017	0.00	0.00	0.00
September 1, 2017	0.00	0.00	0.05
September 2, 2017	0.00	0.00	0.00
September 3, 2017	0.00	0.00	0.37

### CDS Unit Pump Runtimes

DATE	PUMP 1 RUN HOURS	PUMP 2 RUN HOURS	PUMP 3 RUN HOURS
September 4, 2017	0.00	0.00	0.55
September 5, 2017	0.00	0.00	0.05
September 6, 2017	0.00	0.00	0.05
September 7, 2017	0.00	0.00	0.03
September 8, 2017	0.00	0.00	0.00
September 9, 2017	0.00	0.00	0.00
September 10, 2017	0.00	0.00	0.00
September 11, 2017	0.00	0.00	0.05
September 12, 2017	0.00	0.00	0.00
September 13, 2017	0.00	0.00	0.00
September 14, 2017	0.00	0.00	0.00
September 15, 2017	0.00	0.00	0.03
September 16, 2017	0.00	0.00	0.00
September 17, 2017	0.00	0.00	0.00
September 18, 2017	0.00	0.00	0.00
September 19, 2017	0.00	0.00	0.05
September 20, 2017	0.00	0.00	0.00
September 21, 2017	0.00	0.00	0.03
September 22, 2017	0.00	0.00	0.00
September 23, 2017	0.00	0.00	0.00
September 24, 2017	0.00	0.00	0.05
September 25, 2017	0.00	0.00	0.00
September 26, 2017	0.00	0.00	0.00
September 27, 2017	0.00	0.00	0.00
September 28, 2017	0.00	0.00	0.00
September 29, 2017	0.00	0.00	0.03
September 30, 2017	0.00	0.00	0.00
October 1, 2017	0.00	0.00	0.00
October 2, 2017	0.00	0.00	0.00
October 3, 2017	0.00	0.00	0.00
October 4, 2017	0.00	0.00	0.00
October 5, 2017	0.00	0.00	0.05
October 6, 2017	0.00	0.00	0.00
October 7, 2017	0.00	0.00	0.00

### CDS Unit Pump Runtimes

DATE	PUMP 1 RUN HOURS	PUMP 2 RUN HOURS	PUMP 3 RUN HOURS
October 8, 2017	0.00	0.00	0.00
October 9, 2017	0.00	0.00	0.08
October 10, 2017	0.00	0.00	0.08
October 11, 2017	0.00	0.00	0.05
October 12, 2017	0.00	0.00	0.08
October 13, 2017	0.00	0.00	0.03
October 14, 2017	0.00	0.00	0.05
October 15, 2017	0.00	0.00	0.00
October 16, 2017	0.00	0.00	0.00
October 17, 2017	0.00	0.00	0.00
October 18, 2017	0.00	0.00	0.05
October 19, 2017	0.00	0.00	0.00
October 20, 2017	0.00	0.00	0.00
October 21, 2017	0.00	0.00	0.00
October 22, 2017	0.00	0.00	0.03
October 23, 2017	0.00	0.00	0.00
October 24, 2017	0.00	0.00	0.00
October 25, 2017	0.00	0.00	0.05
October 26, 2017	0.00	0.00	0.03
October 27, 2017	0.00	0.00	0.00
October 28, 2017	0.00	0.00	0.00
October 29, 2017	0.00	0.00	0.05
October 30, 2017	0.00	0.00	0.17
October 31, 2017	0.00	0.00	0.05
November 1, 2017	0.00	0.00	0.00
November 2, 2017	0.00	0.00	0.03
November 3, 2017	0.00	0.00	0.00
November 4, 2017	0.00	0.00	0.05
November 5, 2017	0.33	0.88	19.98
November 6, 2017	0.00	0.00	24.00
November 7, 2017	0.00	0.00	24.00
November 8, 2017	0.00	0.00	21.35
November 9, 2017	0.00	0.00	0.10
November 10, 2017	0.00	0.00	0.05

### CDS Unit Pump Runtimes

DATE	PUMP 1 RUN HOURS	PUMP 2 RUN HOURS	PUMP 3 RUN HOURS
November 11, 2017	0.00	0.00	0.42
November 12, 2017	0.00	0.00	0.00
November 13, 2017	0.00	0.00	0.00
November 14, 2017	0.00	0.00	0.00
November 15, 2017	0.00	0.00	0.00
November 16, 2017	0.00	0.00	0.05
November 17, 2017	0.00	0.00	0.03
November 18, 2017	0.00	0.00	0.00
November 19, 2017	0.00	0.00	0.00
November 20, 2017	0.00	0.00	0.05
November 21, 2017	0.00	0.00	0.00
November 22, 2017	0.00	0.00	0.03
November 23, 2017	0.00	0.00	0.00
November 24, 2017	0.00	0.00	0.00
November 25, 2017	0.00	0.00	0.05
November 26, 2017	0.00	0.00	0.00
November 27, 2017	0.00	0.00	0.00
November 28, 2017	0.00	0.00	0.03
November 29, 2017	0.00	0.00	0.00
November 30, 2017	0.00	0.00	0.00
December 1, 2017	0.00	0.00	0.00
December 2, 2017	0.00	0.00	0.00
December 3, 2017	0.00	0.00	0.05
December 4, 2017	0.00	0.00	0.00
December 5, 2017	0.00	0.00	0.00
December 6, 2017	0.00	0.00	0.00
December 7, 2017	0.00	0.00	0.08
December 8, 2017	0.00	0.00	0.05
December 9, 2017	0.00	0.00	0.00
December 10, 2017	0.00	0.00	0.03
December 11, 2017	0.00	0.00	0.00
December 12, 2017	0.00	0.00	0.00
December 13, 2017	0.00	0.00	0.05
December 14, 2017	0.00	0.00	0.00

### CDS Unit Pump Runtimes

DATE	PUMP 1 RUN HOURS	PUMP 2 RUN HOURS	PUMP 3 RUN HOURS
December 15, 2017	0.00	0.00	0.00
December 16, 2017	0.00	0.00	0.00
December 17, 2017	0.00	0.00	0.03
December 18, 2017	0.00	0.00	0.00
December 19, 2017	0.00	0.00	0.00
December 20, 2017	0.00	0.00	0.00
December 21, 2017	0.00	0.00	0.05
December 22, 2017	0.00	0.00	0.00
December 23, 2017	0.00	0.00	0.00
December 24, 2017	0.00	0.00	0.00
December 25, 2017	0.00	0.00	0.25
December 26, 2017	0.00	0.00	0.08



**CSO108 Underflow Pump Flow Meter Data**

DATE	DAILY VOLUME (MG)	DAILY VOLUME (CF)	DAILY VOLUME (GAL)	DAILY VOLUME DEBRIS (GAL)
June 28, 2017	0.0405	5,411.35	40,479.70	40.48
June 29, 2017	0.0369	4,936.62	36,928.49	36.93
June 30, 2017	0.0369	4,936.62	36,928.49	36.93
July 1, 2017	0.0369	4,936.62	36,928.49	36.93
July 2, 2017	0.0772	10,322.38	77,216.75	77.22
July 3, 2017	0.0370	4,940.08	36,954.37	36.95
July 4, 2017	0.0416	5,558.68	41,581.80	41.58
July 5, 2017	0.0369	4,936.62	36,928.49	36.93
July 6, 2017	0.0369	4,936.62	36,928.49	36.93
July 7, 2017	0.0370	4,940.08	36,954.37	36.95
July 8, 2017	0.0432	5,781.68	43,249.98	43.25
July 9, 2017	0.0369	4,936.62	36,928.49	36.93
July 10, 2017	0.0396	5,296.62	39,621.48	39.62
July 11, 2017	0.0370	4,941.02	36,961.36	36.96
July 12, 2017	0.0369	4,936.62	36,928.49	36.93
July 13, 2017	0.0402	5,370.21	40,172.00	40.17
July 14, 2017	0.0369	4,936.62	36,928.49	36.93
July 15, 2017	0.0369	4,936.62	36,928.49	36.93
July 16, 2017	0.0369	4,936.62	36,928.49	36.93
July 17, 2017	0.0369	4,936.62	36,928.49	36.93
July 18, 2017	0.0397	5,310.36	39,724.23	39.72
July 19, 2017	0.0369	4,936.62	36,928.49	36.93
July 20, 2017	0.0369	4,936.62	36,928.49	36.93
July 21, 2017	0.0369	4,936.62	36,928.49	36.93
July 22, 2017	0.0369	4,936.62	36,928.49	36.93
July 23, 2017	0.0369	4,936.62	36,928.49	36.93
July 24, 2017	0.0408	5,448.90	40,760.61	40.76
July 25, 2017	0.0415	5,548.23	41,503.66	41.50
July 26, 2017	0.0369	4,936.62	36,928.49	36.93
July 27, 2017	0.0400	5,348.89	40,012.50	40.01
July 28, 2017	0.0369	4,936.62	36,928.49	36.93
July 29, 2017	0.0369	4,936.62	36,928.49	36.93
July 30, 2017	0.0412	5,506.81	41,193.77	41.19
July 31, 2017	0.0370	4,940.08	36,954.37	36.95

**CSO108 Underflow Pump Flow Meter Data**

DATE	DAILY VOLUME (MG)	DAILY VOLUME (CF)	DAILY VOLUME (GAL)	DAILY VOLUME DEBRIS (GAL)
August 1, 2017	0.0369	4,936.62	36,928.49	36.93
August 2, 2017	0.0528	7,060.88	52,819.04	52.82
August 3, 2017	0.0369	4,936.62	36,928.49	36.93
August 4, 2017	0.0369	4,936.62	36,928.49	36.93
August 5, 2017	0.0369	4,936.62	36,928.49	36.93
August 6, 2017	0.0370	4,940.08	36,954.37	36.95
August 7, 2017	0.0369	4,936.62	36,928.49	36.93
August 8, 2017	0.0369	4,936.62	36,928.49	36.93
August 9, 2017	0.0369	4,936.62	36,928.49	36.93
August 10, 2017	0.0369	4,936.62	36,928.49	36.93
August 11, 2017	0.0369	4,936.62	36,928.49	36.93
August 12, 2017	0.0369	4,936.62	36,928.49	36.93
August 13, 2017	0.0370	4,940.08	36,954.37	36.95
August 14, 2017	0.0369	4,936.62	36,928.49	36.93
August 15, 2017	0.0369	4,936.62	36,928.49	36.93
August 16, 2017	0.0369	4,936.62	36,928.49	36.93
August 17, 2017	0.0369	4,936.62	36,928.49	36.93
August 18, 2017	0.0369	4,936.62	36,928.49	36.93
August 19, 2017	0.0935	12,505.15	93,545.00	93.55
August 20, 2017	0.0401	5,363.93	40,125.02	40.13
August 21, 2017	0.0369	4,936.62	36,928.49	36.93
August 22, 2017	0.0369	4,936.62	36,928.49	36.93
August 23, 2017	0.0370	4,940.08	36,954.37	36.95
August 24, 2017	0.0693	9,261.67	69,282.09	69.28
August 25, 2017	0.0370	4,940.08	36,954.37	36.95
August 26, 2017	0.0405	5,410.24	40,471.39	40.47
August 27, 2017	0.0369	4,936.62	36,928.49	36.93
August 28, 2017	0.0369	4,936.62	36,928.49	36.93
August 29, 2017	0.0369	4,936.62	36,928.49	36.93
August 30, 2017	0.0369	4,936.62	36,928.49	36.93
August 31, 2017	0.0369	4,936.62	36,928.49	36.93
September 1, 2017	0.0414	5,537.67	41,424.63	41.42
September 2, 2017	0.0369	4,936.62	36,928.49	36.93
September 3, 2017	0.0747	9,991.78	74,743.67	74.74

**CSO108 Underflow Pump Flow Meter Data**

DATE	DAILY VOLUME (MG)	DAILY VOLUME (CF)	DAILY VOLUME (GAL)	DAILY VOLUME DEBRIS (GAL)
September 4, 2017	0.0930	12,435.66	93,025.17	93.03
September 5, 2017	0.0412	5,512.55	41,236.75	41.24
September 6, 2017	0.0413	5,516.18	41,263.92	41.26
September 7, 2017	0.0407	5,447.30	40,748.67	40.75
September 8, 2017	0.0369	4,936.62	36,928.49	36.93
September 9, 2017	0.0369	4,936.62	36,928.49	36.93
September 10, 2017	0.0369	4,936.62	36,928.49	36.93
September 11, 2017	0.0412	5,510.96	41,224.88	41.22
September 12, 2017	0.0369	4,936.62	36,928.49	36.93
September 13, 2017	0.0369	4,936.62	36,928.49	36.93
September 14, 2017	0.0369	4,936.62	36,928.49	36.93
September 15, 2017	0.0415	5,549.26	41,511.37	41.51
September 16, 2017	0.0369	4,936.62	36,928.49	36.93
September 17, 2017	0.0370	4,940.08	36,954.37	36.95
September 18, 2017	0.0369	4,936.62	36,928.49	36.93
September 19, 2017	0.0415	5,544.87	41,478.49	41.48
September 20, 2017	0.0369	4,936.62	36,928.49	36.93
September 21, 2017	0.0412	5,505.18	41,181.65	41.18
September 22, 2017	0.0369	4,936.62	36,928.49	36.93
September 23, 2017	0.0369	4,936.62	36,928.49	36.93
September 24, 2017	0.0411	5,496.15	41,114.02	41.11
September 25, 2017	0.0369	4,936.62	36,928.49	36.93
September 26, 2017	0.0369	4,936.62	36,928.49	36.93
September 27, 2017	0.0369	4,936.62	36,928.49	36.93
September 28, 2017	0.0369	4,936.62	36,928.49	36.93
September 29, 2017	0.0414	5,531.70	41,380.00	41.38
September 30, 2017	0.0369	4,936.62	36,928.49	36.93
October 1, 2017	0.0369	4,936.62	36,928.49	36.93
October 2, 2017	0.0369	4,936.62	36,928.49	36.93
October 3, 2017	0.0369	4,936.62	36,928.49	36.93
October 4, 2017	0.0369	4,936.62	36,928.49	36.93
October 5, 2017	0.0407	5,443.92	40,723.36	40.72
October 6, 2017	0.0369	4,936.62	36,928.49	36.93
October 7, 2017	0.0369	4,936.62	36,928.49	36.93

**CSO108 Underflow Pump Flow Meter Data**

DATE	DAILY VOLUME (MG)	DAILY VOLUME (CF)	DAILY VOLUME (GAL)	DAILY VOLUME DEBRIS (GAL)
October 8, 2017	0.0369	4,936.62	36,928.49	36.93
October 9, 2017	0.0460	6,155.84	46,048.89	46.05
October 10, 2017	0.0456	6,095.59	45,598.22	45.60
October 11, 2017	0.0414	5,538.30	41,429.36	41.43
October 12, 2017	0.0457	6,115.66	45,748.35	45.75
October 13, 2017	0.0412	5,506.37	41,190.48	41.19
October 14, 2017	0.0409	5,468.64	40,908.29	40.91
October 15, 2017	0.0369	4,936.62	36,928.49	36.93
October 16, 2017	0.0369	4,936.62	36,928.49	36.93
October 17, 2017	0.0369	4,936.62	36,928.49	36.93
October 18, 2017	0.0410	5,483.85	41,022.05	41.02
October 19, 2017	0.0369	4,937.73	36,936.77	36.94
October 20, 2017	0.0369	4,936.91	36,930.65	36.93
October 21, 2017	0.0369	4,936.62	36,928.50	36.93
October 22, 2017	0.0412	5,504.03	41,173.02	41.17
October 23, 2017	0.0369	4,936.62	36,928.49	36.93
October 24, 2017	0.0369	4,936.62	36,928.49	36.93
October 25, 2017	0.0408	5,460.29	40,845.79	40.85
October 26, 2017	0.0415	5,541.46	41,452.98	41.45
October 27, 2017	0.0369	4,936.63	36,928.58	36.93
October 28, 2017	0.0371	4,954.14	37,059.52	37.06
October 29, 2017	0.0416	5,555.86	41,560.72	41.56
October 30, 2017	0.0546	7,293.77	54,561.21	54.56
October 31, 2017	0.0417	5,573.00	41,688.94	41.69
November 1, 2017	0.0373	4,986.71	37,303.18	37.30
November 2, 2017	0.0403	5,383.11	40,268.50	40.27
November 3, 2017	0.0370	4,945.21	36,992.77	36.99
November 4, 2017	0.0412	5,503.79	41,171.19	41.17
November 5, 2017	0.2041	27,285.51	204,109.79	204.11
November 6, 2017	0.0386	5,163.61	38,626.50	38.63
November 7, 2017	0.0371	4,963.11	37,126.62	37.13
November 8, 2017	0.0490	6,553.07	49,020.38	49.02
November 9, 2017	0.0458	6,126.95	45,832.77	45.83
November 10, 2017	0.0414	5,528.43	41,355.55	41.36

**CSO108 Underflow Pump Flow Meter Data**

DATE	DAILY VOLUME (MG)	DAILY VOLUME (CF)	DAILY VOLUME (GAL)	DAILY VOLUME DEBRIS (GAL)
November 11, 2017	0.0712	9,522.36	71,232.23	71.23
November 12, 2017	0.0376	5,022.40	37,570.16	37.57
November 13, 2017	0.0376	5,025.81	37,595.68	37.60
November 14, 2017	0.0370	4,952.07	37,044.06	37.04
November 15, 2017	0.0370	4,940.41	36,956.85	36.96
November 16, 2017	0.0413	5,518.32	41,279.90	41.28
November 17, 2017	0.0416	5,563.38	41,617.01	41.62
November 18, 2017	0.0372	4,971.90	37,192.42	37.19
November 19, 2017	0.0373	4,986.53	37,301.87	37.30
November 20, 2017	0.0378	5,059.24	37,845.74	37.85
November 21, 2017	0.0373	4,983.20	37,276.91	37.28
November 22, 2017	0.0422	5,635.26	42,154.67	42.15
November 23, 2017	0.0373	4,987.61	37,309.94	37.31
November 24, 2017	0.0375	5,018.41	37,540.30	37.54
November 25, 2017	0.0418	5,589.78	41,814.43	41.81
November 26, 2017	0.0375	5,010.05	37,477.77	37.48
November 27, 2017	0.0369	4,937.16	36,932.51	36.93
November 28, 2017	0.0417	5,572.42	41,684.63	41.68
November 29, 2017	0.0374	4,998.33	37,390.08	37.39
November 30, 2017	0.0371	4,966.02	37,148.43	37.15
December 1, 2017	0.0370	4,948.22	37,015.25	37.02
December 2, 2017	0.0370	4,950.49	37,032.22	37.03
December 3, 2017	0.0418	5,588.94	41,808.14	41.81
December 4, 2017	0.0373	4,982.85	37,274.33	37.27
December 5, 2017	0.0373	4,986.39	37,300.81	37.30
December 6, 2017	0.0372	4,968.43	37,166.42	37.17
December 7, 2017	0.0453	6,055.96	45,301.74	45.30
December 8, 2017	0.0420	5,610.06	41,966.16	41.97
December 9, 2017	0.0381	5,086.59	38,050.32	38.05
December 10, 2017	0.0427	5,709.31	42,708.58	42.71
December 11, 2017	0.0386	5,165.55	38,640.99	38.64
December 12, 2017	0.0381	5,093.49	38,101.92	38.10
December 13, 2017	0.0422	5,634.99	42,152.64	42.15
December 14, 2017	0.0379	5,060.14	37,852.45	37.85

**CSO108 Underflow Pump Flow Meter Data**

DATE	DAILY VOLUME (MG)	DAILY VOLUME (CF)	DAILY VOLUME (GAL)	DAILY VOLUME DEBRIS (GAL)
December 15, 2017	0.0380	5,083.61	38,028.02	38.03
December 16, 2017	0.0378	5,050.74	37,782.18	37.78
December 17, 2017	0.0423	5,648.94	42,257.03	42.26
December 18, 2017	0.0375	5,016.05	37,522.63	37.52
December 19, 2017	0.0372	4,979.12	37,246.42	37.25
December 20, 2017	0.0369	4,937.17	36,932.57	36.93
December 21, 2017	0.0413	5,522.40	41,310.41	41.31
December 22, 2017	0.0370	4,945.48	36,994.77	36.99
December 23, 2017	0.0374	4,998.51	37,391.48	37.39
December 24, 2017	0.0369	4,936.62	36,928.49	36.93
December 25, 2017	0.0623	8,332.34	62,330.23	62.33
December 26, 2017	0.0466	6,225.72	46,571.65	46.57