msd
Safe, clean waterways

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October 28, 2016

Jeffrey A. Cummins, Director
Division of Enforcement
Department for Environmental Protection
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Frankfort, KY 40601

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Municipal & Industrial Enforcement Section
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Atlanta Federal Center
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Atlanta, GA 30303

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Environmental and Natural Resources Division
U.S. Department of Justice
Post Office Box 7611
Washington, DC 20044-7611

Subject: Quarterly Report 44
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 July 1, 2016 – September 30, 2016, 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

Angela Akridge, PE
MSD Chief Engineer

cc: James A. Parrott
Paula Purifoy
File

Louisville and Jefferson County Wet Weather Consent Decree Quarterly Report #44

Reporting Period:

July 1, 2016, through September 30, 2016

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:

October 28, 2016

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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-forth Quarterly Report submitted in accordance with Paragraph 29 of the Amended Consent Decree. This report covers the time period from July 1, 2016, through September 30, 2016. **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: 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.

SECTION 1: Program Activities for Nine Minimum Controls

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 WIN (Waterway Improvements Now) website http://www.msdprojectwin.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 382 MG were stored in the system during rain events and routed to the Morris Forman Water Quality Treatment Center once the system was able to handle the flow. See the table at the end of this section for a detailed report.

During this reporting period, the following activities were continued and/or completed:

- RTC Integration – Staff are working with the RTC consultant to review, revise and begin implementing the draft wet weather Standard Operating Procedures (SOPs) for the system that also includes the Southeast Diversion Structure, Buechel Basin, Northern Ditch Diversion, and the Derek R. Guthrie WQTC Wet Weather Treatment Facility. Full integration in an automated mode will not be achieved until the RTC software (Csoft) is upgraded to the most current version and the hydraulic engine is converted to use MSD's InfoWorks ICM hydraulic model. While this work is being completed, the SOPs are being implemented 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 RTC ICM hydraulic model was stabilized and the testing phase began in preparation for deployment of the Csoft upgrade. Staff continued to review and revise SOPs for the Southeast Diversion Structure, Buechel Basin, Northern Ditch Diversion, and the Derek R. Guthrie WQTC Wet Weather Treatment Facilities. Staff continued to develop the RTC process layer controls and SOPs for the Bells Lane campus, Logan and Breckinridge storage basins and CSO Interceptor, and upgraded Nightingale Pump Station (PS) facilities. During the next reporting period, MSD anticipates completing RTC ICM Model testing and initiating the upgrade to the latest version of Csoft. It is anticipated that the SOPs for the Southeast Diversion Structure, Buechel Basin, Northern Ditch Diversion, and the Derek R. Guthrie WQTC Wet Weather Treatment Facility will be finalized. Full implementation of the revised SOPs will be completed after the Csoft and InfoWorks ICM hydraulic model integration is complete and as new or upgraded facilities are brought into service. The anticipated completion date for full deployment of the latest version of Csoft utilizing the integrated ICM model is Spring 2017.

- 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. Work on implementing these improvements will continue through the next reporting period. A mode validation module for Csoft has been deployed to improve system reliability. The module will interpret invalid communications from sites to prevent RTC system unavailability. A revised approach to writing data utilizing an OPC Server to improve stability of the system and reduce HMI programming complexity is under evaluation. A simplified HMI program for the SWOR2 site and adjustment to position and flow deadband parameters aimed at reducing the number of gate movements and improving site performance are under evaluation. MSD initiated studies to evaluate potential equipment upgrades and site improvements at the Sneads Branch and Ashland facilities. The preliminary engineering report for the Ashland site was completed and the design of improvements to the facility are underway. The Sneads Branch study will commence during the October – December 2016 reporting period.
- Southwest Sluice Gate (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 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 was necessary to limit the maximum storage level to 10 feet to ensure safe operations. Consequently, the available storage has been reduced form 14.5 MG to 2.2 MG. In addition, the change has impacted the ability to effectively dewater upstream sites: SWOR2, Brady Lake, Executive Inn, and Ashland. MSD continues to implement improvements to the Southwestern Outfall dewatering strategy in Csoft and temporary revisions to local PLC coding to improve management during this period. Repairs and upgrades to the SWSG are anticipated to be complete in the January to March 2017 reporting period.

1.3 NMC 4: Maximization of Flow at the Morris Forman Water Quality Treatment Center (WQTC)

Plant Outages

The Morris Forman Headworks Replacement Project continues. The West Headworks Channels were taken out of service to replace the bar screens and grit channel aeration and grit removal equipment. This resulted in a plant capacity of 160 MGD for the entire quarter. KDOW was notified of the intended construction activity and its impact on plant capacity in accordance with KPDES permit conditions. Flows at Morris Forman were sustained at or above 160 MGD before allowing overflows at CSO015, CSO016 and CSO191 due to rain events during the quarter. The West Headworks status governed the plant capacity at this time. MSD anticipates that the West Headworks will be placed back in service and the East Headworks will begin construction during the next reporting period.

To facilitate return activated sludge (RAS) line replacement, 40% of the secondary capacity (one HPO Reactor) was removed from service in two stages. During rain events in September, Morris Forman WQTC was limited to wet weather flows of 100 MGD through the secondary treatment process. Total plant capacity was 160 MGD due to the Headworks construction work described previously.

Morris Forman WQTC Projects

For the Morris Forman Headworks Replacement Project, West Headworks is expected to return to service within the next reporting period. Two channels in the East Headworks will then be removed for modification.

The Final Effluent Pump Station generator was installed during the reporting period and final electrical connections will be complete in the next reporting period.

Site work continues on the High Yard Electric Project. The retaining wall installation is complete. Equipment is scheduled for delivery during the next reporting period.

Construction and testing is complete on the Dewatering Cake Pump Project at Morris Forman. Minor modifications will be completed during the next reporting period prior to placing in service.

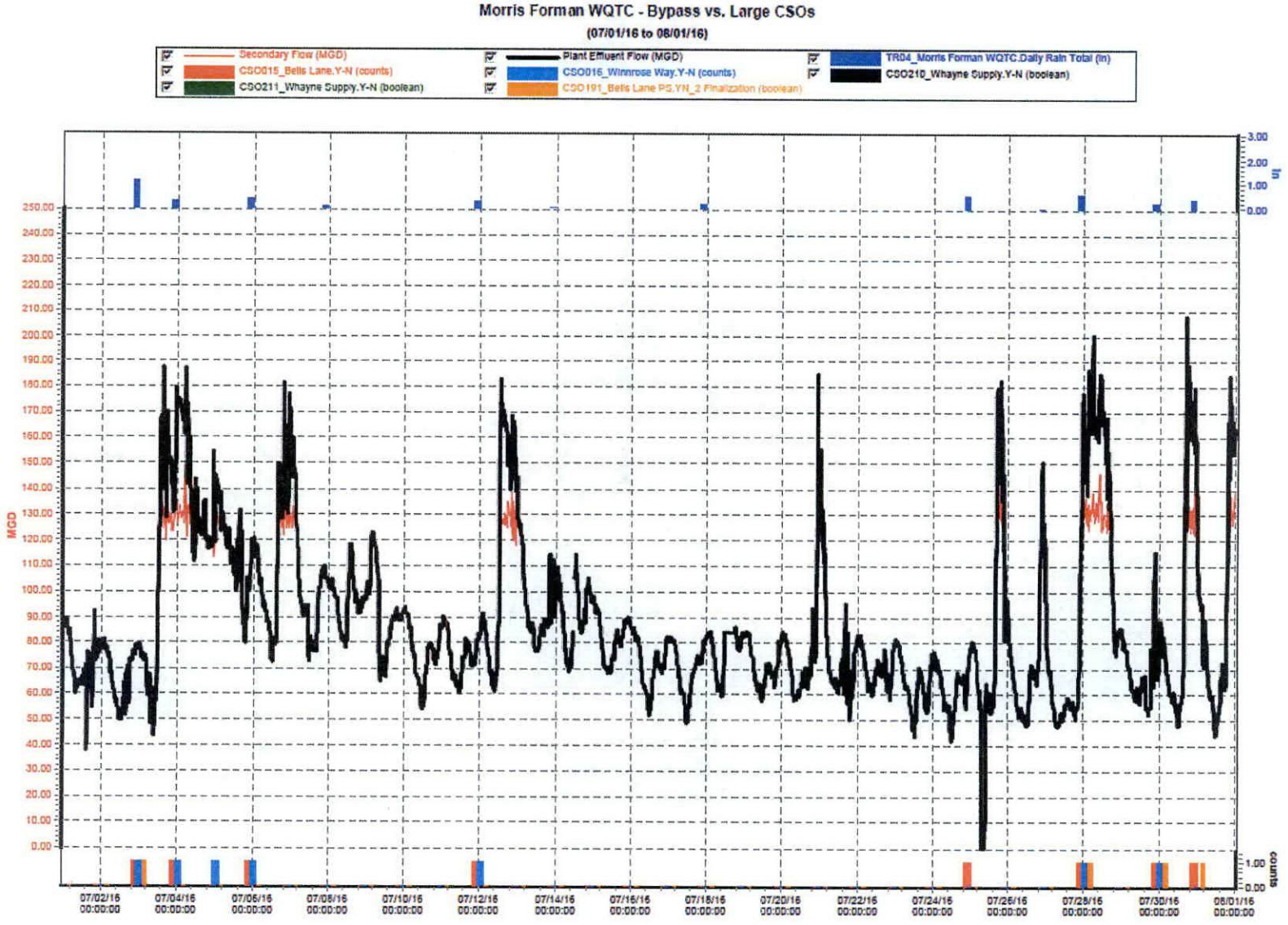
The Centrifuge Backdrive Controls Project is in the early stages of construction.

The Oxygen Generation Project continues with site preparation between Oxygen Batteries A and B. Much of the materials for this project have been received and ancillary work on this project has been completed.

Morris Forman Performance

The following charts illustrate performance in maximizing flow during wet weather to the Morris Forman WQTC. The top of the chart shows rainfall inches per day. The middle part of the chart shows Morris Forman WQTC effluent flow and secondary treatment flow. The difference between these 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 backwater effects of the Ohio River and the ultrasonic signal is sometimes blocked by mist and condensation when air and sewage temperatures are significantly different, so 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**. There are occasions in which a communications failure with telemetry has led to short-term gaps in the data. 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.


Morris Forman WQTC - Bypass vs. Large CSOs
(07/01/16 to 08/01/16)
Secondary Flow (MGD)
Plant Effluent Flow (MGD)
TRD4_Morris Forman WQTC.Daily Rain Total (in)
CSO015_Bells Lane.Y-N (counts)
CSO016_Winnrose Way.Y-N (counts)
CSO210_Whayne Supply.Y-N (boolean)
CSO211_Whayne Supply.Y-N (boolean)
CSO191_Bells Lane PS.YN_2 Finalization (boolean)
MGD
in
counts
07/02/16 00:00:00
07/04/16 00:00:00
07/06/16 00:00:00
07/08/16 00:00:00
07/10/16 00:00:00
07/12/16 00:00:00
07/14/16 00:00:00
07/16/16 00:00:00
07/18/16 00:00:00
07/20/16 00:00:00
07/22/16 00:00:00
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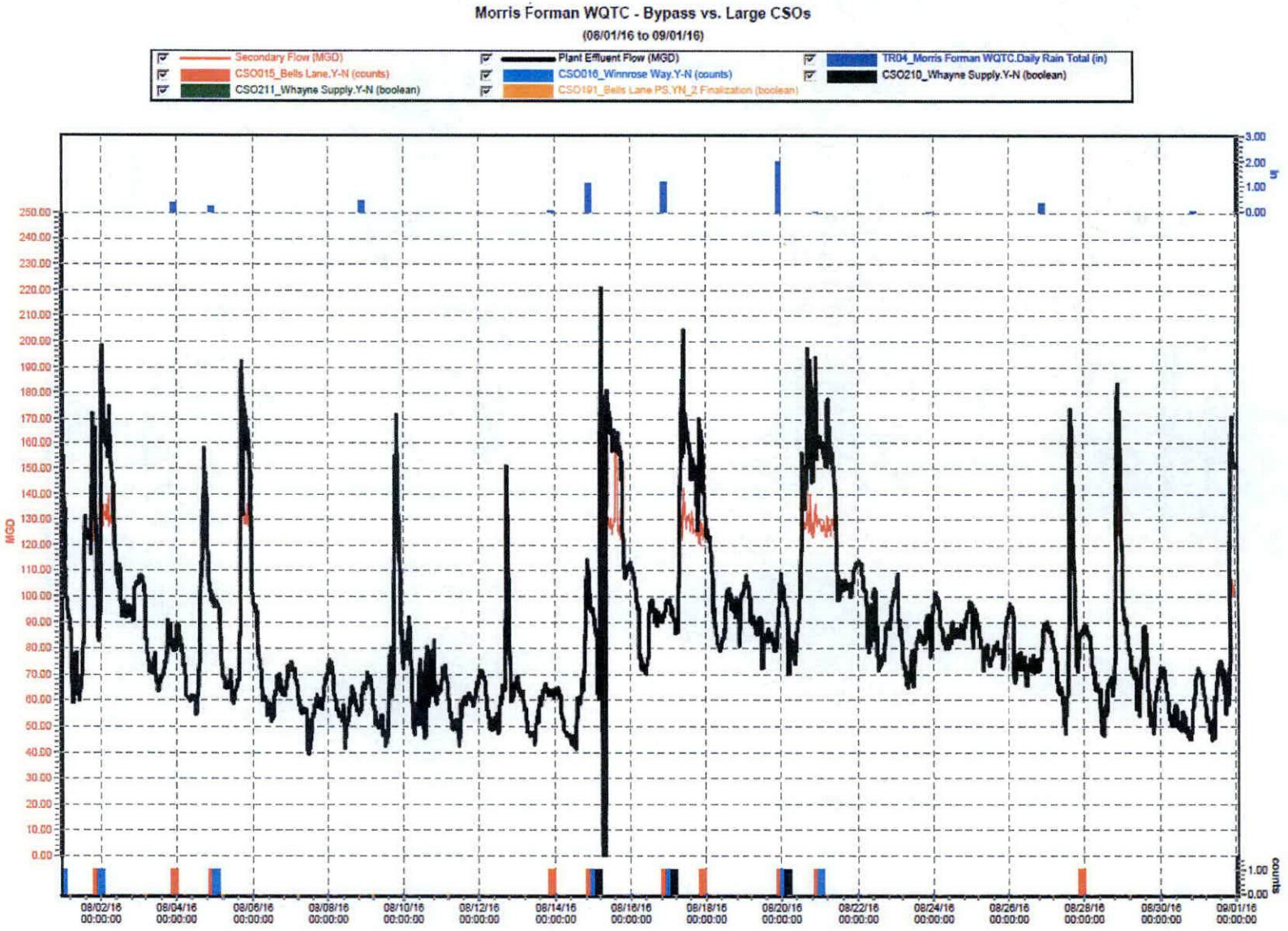
08/01/16 00:00:00


Morris Forman WQTC - Bypass vs. Large CSOs
(08/01/16 to 09/01/16)
Secondary Flow (MGD)
Plant Effluent Flow (MGD)
TR04_Morris Forman WQTC.Daily Rain Total (in)
CSO015_Bells Lane.Y-N (counts)
CSO016_Winnrose Way.Y-N (counts)
CSO210_Whayne Supply.Y-N (boolean)
CSO211_Whayne Supply.Y-N (boolean)
CSO191_Bells Lane PS.YN_2 Finalization (boolean)
MGD
counts
in
08/02/16 00:00:00
08/04/16 00:00:00
08/06/16 00:00:00
08/08/16 00:00:00
08/10/16 00:00:00
08/12/16 00:00:00
08/14/16 00:00:00
08/16/16 00:00:00
08/18/16 00:00:00
08/20/16 00:00:00
08/22/16 00:00:00
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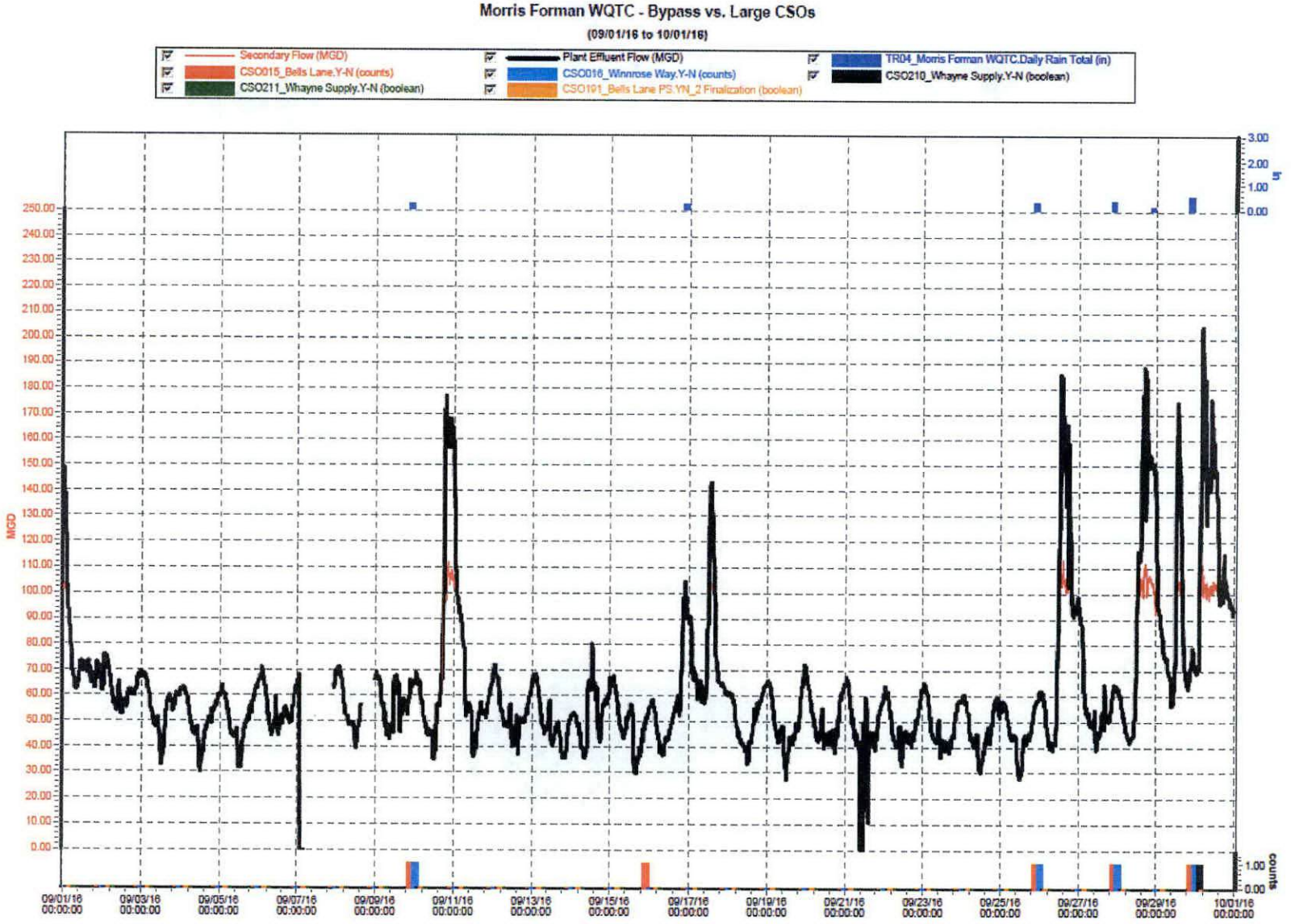
09/01/16 00:00:00


Morris Forman WQTC - Bypass vs. Large CSOs
(09/01/16 to 10/01/16)
Secondary Flow (MGD)
Plant Effluent Flow (MGD)
TRD4_Morris Forman WQTC.Daily Rain Total (in)
CSO015_Bells Lane.Y-N (counts)
CSO016_Winnrose Way.Y-N (counts)
CSO210_Whayne Supply.Y-N (boolean)
CSO211_Whayne Supply.Y-N (boolean)
CSO191_Bells Lane PS.YN_2 Finalization (boolean)
MGD
in
counts
09/01/16 00:00:00
09/03/16 00:00:00
09/05/16 00:00:00
09/07/16 00:00:00
09/09/16 00:00:00
09/11/16 00:00:00
09/13/16 00:00:00
09/15/16 00:00:00
09/17/16 00:00:00
09/19/16 00:00:00
09/21/16 00:00:00
09/23/16 00:00:00
09/25/16 00:00:00
09/27/16 00:00:00
09/29/16 00:00:00
10/01/16 00:00:00

For the month of September 2016, Morris Forman WQTC did not meet the Seven and 30 Day Secondary Effluent Total Suspended Solids (TSS) and Biochemical Oxygen Demand (BOD) Limits. Morris Forman WQTC continues to employ additional solids removal strategies to meet solids removal demands. There were no violations at the Morris Forman WQTC for the months of July and August 2016.

Louisville/Jefferson County
Metropolitan Sewer District

WET WEATHER STORAGE IN THE MORRIS FORMAN SEWER SYSTEM AS MANAGED BY THE RTC SYSTEM

Period	
From:	07/01/2016
To:	09/31/2016

Wet Weather Event				Rainfall			CSO Saved Volume (MG)									
Event Number	Start Date	End Date	Duration	Average* TRFD (in)	Max** TRFD (in)	Max** Rain Gauge	SWPS SG Chamber (14.5)*	SWOR2 (7.5)	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)	High River Levels	Comments
2016-052	7/3/16 8:10	7/5/16 12:30	52:20:00	1.19	2.02	TR14	10.50	8.20	4.80	10.30	1.00	4.60	0.60	40.00	No	Large back-to-back storm cells heterogeneously distributed over the service area. The storage sites were dewatered between the cells. The Executive Inn site was controlled manually and the Brady Lake site was operated manually at the end of the rainfall event. The SWOR2 site was controlled manually in part. The storage capacity at the SWSG site is restricted due to the damaged Gate 2 and it was controlled manually.
2016-053	7/6/16 12:35	7/7/16 9:15	20:40:00	0.22	0.36	TR04	3.40	2.60	0.60	5.50	0.70	4.10	0.20	15.30	No	Small storm cells heterogeneously distributed over the service area. The Brady Lake, Executive Inn, SWSG and SWOR2 sites were controlled manually. The storage capacity at the SWSG site is restricted due to the damaged Gate 2.
2016-054	7/7/16 17:15	7/9/16 8:20	39:05:00	0.18	0.52	TR11	2.55	4.45	0.10	0.10	0.80	2.20	0.20	10.40	No	Small storm cells heterogeneously distributed over the service area. The Brady Lake, Executive Inn, SWSG and SWOR2 sites were controlled manually. The storage capacity at the SWSG site is restricted due to the damaged Gate 2.
2016-055	7/12/16 9:15	7/13/16 0:45	15:30:00	0.58	1.50	TR14	5.45	6.25	2.35	3.50	0.50	4.10	0.90	23.05	No	Large storm cells heterogeneously distributed over the service area. The SWSG and SWOR2 sites were controlled manually. The storage capacity at the SWSG site is restricted due to the damaged Gate 2.
2016-058	7/25/25 12:45	7/25/25 22:25	9:40:00	0.15	0.52	TR04	2.10	0.90	0.50	2.65	0.10	3.70	0.00	9.95	No	Small storm cells heterogeneously distributed over the service area. The SWSG and SWOR2 sites were controlled manually. The storage capacity at the SWSG site is restricted due to the damaged Gate 2.
2016-059	7/27/16 13:50	7/29/16 1:25	35:35:00	0.96	1.85	TR12	6.15	3.05	3.55	4.00	0.35	4.60	2.15	25.75	No	Large back-to-back storm cells heterogeneously distributed over the service area. The storage sites were dewatered between the cells. The SWSG and SWOR2 sites were controlled manually. The storage capacity at the SWSG site is restricted due to the damaged Gate 2.
2016-062/063	7/31/16 17:35	8/3/16 11:40	66:05:00	0.88	1.81	TR12	8.20	5.65	6.15	9.00	0.55	12.75	1.55	43.85	No	Large back-to-back storm cells homogeneously distributed over the service area. The storage sites were dewatered between the cells. The SWSG and SWOR2 sites were controlled manually. The storage capacity at the SWSG site is restricted due to the damaged Gate 2.
2016-064	8/4/16 13:25	8/5/16 0:15	10:50:00	0.75	2.77	TR14	2.60	1.70	0.70	0.55	0.15	2.15	0.25	8.30	No	Moderate storm cells homogeneously distributed over the service area. The SWSG and SWOR2 sites were controlled manually. The storage capacity at the SWSG site is restricted due to the damaged Gate 2. The inflatable gate at the SWOR2 site was used.
2016-065	8/5/16 14:25	8/6/16 5:45	15:20:00	0.21	0.51	TR11	2.15	0.90	0.45	2.40	0.10	4.25	0.40	10.65	No	Moderate storm cells homogeneously distributed over the service area. The SWSG and SWOR2 sites were controlled manually. The storage capacity at the SWSG site is restricted due to the damaged Gate 2. The inflatable gate at the SWOR2 site was used.
2016-066	8/14/16 12:55	8/18/16 20:45	103:50:00	2.18	2.04	TR14	10.40	10.60	9.70	4.00	0.95	5.65	2.90	44.20	No	Large back-to-back storm cells heterogeneously distributed over the service area. The storage sites were dewatered between the cells. The SWSG and SWOR2 sites were controlled manually. The storage capacity at the SWSG site is restricted due to the damaged Gate 2. The inflatable gate at the SWOR2 site was used.
2016-069	8/17/16 4:15	8/18/16 20:45	40:30:00	0.95	1.64	TR14	7.10	7.95	2.50	4.40	0.45	4.40	0.65	27.45	No	Large 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. The SWOR2 site was back on global control. The inflatable gate at the SWOR2 site was used.
2016-070	8/19/16 19:35	8/22/16 4:25	56:50:00	1.50	1.99	TR04	10.55	14.40	4.70	3.30	0.50	4.20	0.40	38.05	No	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. The inflatable gate at the SWOR2 site was used at the beginning of the rainfall event and deflated during a high inflow peak. The accoustic flowmeter (SWOR2-FL-1 (SWOR2-F1-FLO) recorded incorrect data (near zero) during the high peak flow. At the Snead Branch site, the inflatable dam was not inflated completely during the rainfall event.
2016-071	8/28/16 17:50	8/29/16 6:50	13:00:00	0.18	0.30	TR05	4.25	4.75	0.15	1.15	0.35	3.05	0.00	13.70	No	Small storm cells heterogeneously distributed over the service area. The SWSG was controlled manually. The storage capacity at the SWSG site is restricted due to the damaged Gate 2. The inflatable gate at the SWOR2 site was not used.

Louisville/Jefferson County
Metropolitan Sewer District

WET WEATHER STORAGE IN THE MORRIS FORMAN SEWER SYSTEM AS MANAGED BY THE RTC SYSTEM

Period	
From:	07/01/2016
To:	09/31/2016

Wet Weather Event				Rainfall			CSO Saved Volume (MG)									
Event Number	Start Date	End Date	Duration	Average* TRFD (in)	Max** TRFD (in)	Max** Rain Gauge	SWPS SG Chamber (14.5)+	SWOR2 (7.5)	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)	High River Levels	Comments
2016-072	8/31/16 10:50	8/31/16 23:20	12:30:00	0.19	1.05	TR13	1.20	1.50	0.10	0.30	0.00	2.30	0.00	5.20	No	Small 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. The inflatable gate at the SWOR2 site was used.
2016-073	9/10/16 15:40	9/11/16 5:05	13:25:00	0.53	1.59	TR14	3.20	3.50	0.75	2.15	0.10	4.10	0.20	14.00	No	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. The inflatable gate at the SWOR2 site was used.
2016-074	9/17/16 9:45	9/17/16 18:50	9:05:00	0.18	0.24	TR14	1.40	1.30	0.15	0.45	0.00	2.05	0.00	5.35	No	Small 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. The inflatable gate at the SWOR2 site was used.
2016-075	9/26/16 9:50	9/27/16 1:15	15:25:00	0.37	0.57	TR14	3.15	1.10	0.80	2.15	0.40	4.10	0.10	11.80	No	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. The inflatable gate at the SWOR2 site was used.
2016-076	9/28/16 9:00	9/29/16 7:10	22:10:00	0.48	0.53	TR14	3.85	1.70	1.85	3.50	0.40	4.40	0.25	15.95	No	Moderate 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. The inflatable gate at the SWOR2 site was used.
2016-077	9/29/16 9:10	10/1/16 0:40	39:30:00	0.65	1.01	TR14	6.70	2.15	1.50	3.50	0.40	4.40	0.45	19.10	No	Moderate 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. The inflatable gate at the SWOR2 site was used. The Sneads Branch site has been in wet weather mode since September 30th.
TOTAL							97.10	82.65	41.40	60.90	7.80	81.00	11.20	382.05		

* Average total rainfall depth based on rain gauges TR04, TR05, TR11, TR12, TR13, TR14 and TR15.
** Maximum total rainfall depth measurement and where it was recorded during the wet weather event.
*** The MDS is always controlled manually by the operators.
+ The capacity has been restricted since April 1st due to the damaged Gate 2 at SWSG (7.7 MG total = 5.5 MG (storage volume before RTC) + 2.2 MG (storage volume for RTC)).

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 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. 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 www.msdprojectwin.org. The following activities were performed during this reporting period.

2.2 Overflow Management and Field Documentation

Monitored approximately 149 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, no unauthorized discharges were identified through route reconnaissance. Inspection routes were run during rain events as described in the following table:

ROUTE DESCRIPTION	17-Aug-16	10-Sep-16
ENGINEERING RAIN EVENT SSO INSPECTION ROUTE		X
RS JEFFERSONTOWN RAIN EVENT SSO INSPECTION ROUTE (JTOWN MANHOLES WITHIN 2000 LF OF HEADWORKS)	X	X
RS JEFFERSONTOWN/FERN CREEK RAIN EVENT SSO INSPECTION ROUTE	X	X
RS MIDDLE/MUDDY FORK RAIN EVENT SSO INSPECTION ROUTE	X	X
RS HIKES POINT RAIN EVENT SSO INSPECTION ROUTE	X	X

MSD Operations staff did not haul due to capacity related issues during this reporting period. Hauling was initiated due to other issues as indicated in the following table:

MSD Hauled Volumes In Gallons (July 1, 2016 - September 30, 2016)				
Problem	**July**	**August**	**September**	**Total**
STRUCTURAL FAILURE	34,000	0	0	34,000
Grand Total	**34,000**	**0**	**0**	**34,000**

2.3 Staff Training and Communication

Reviewed and updated the training documentation for the 2016 third quarter SORP training that included Overflow Assessment, Establishing Control Zones, Mitigation and Documentation. Conducted the following SORP Quarterly training sessions which were attended by 243 employees.

Staff Training Participation July 1, 2016, through September 30, 2016.				
Date	**Intended Audience**	**Location**	**Module**	**Attendees**
9/20/2016	Morris Forman Staff	MFWQTC	Control Zones, Mitigation & Volume Estimation	7
9/21/2016	Morris Forman Staff	MFWQTC	Control Zones, Mitigation & Volume Estimation	11
9/21/2016	Morris Forman Staff	MFWQTC	Control Zones, Mitigation & Volume Estimation	27
9/22/2016	Engineering Staff	CMF	Control Zones, Mitigation & Volume Estimation	20
9/23/2016	Operations Staff	CMF	Control Zones, Mitigation & Volume Estimation	25
9/27/2016	Morris Forman Staff	MFWQTC	Control Zones, Mitigation & Volume Estimation	6
9/28/2016	Morris Forman Staff	MFWQTC	Control Zones, Mitigation & Volume Estimation	23
9/28/2016	Morris Forman Staff	MFWQTC	Control Zones, Mitigation & Volume Estimation	7
9/30/2016	Operations Staff	CMF	Control Zones, Mitigation & Volume Estimation	15
10/5/2016	Operations Staff	FFWQTC	Control Zones, Mitigation & Volume Estimation	24
10/6/2016	Engineering Staff	CMF	Control Zones, Mitigation & Volume Estimation	31
10/11/2016	Operations Staff	CCWQTC	Control Zones, Mitigation & Volume Estimation	31
10/12/2016	Operations Staff	DRGWQTC	Control Zones, Mitigation & Volume Estimation	16
Total				243

SECTION 3: Program Activities for Discharge Abatement Plans

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 and the Final CSO Long Term Control Plan were submitted concurrently and certified on December 19, 2008, under the title 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.

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 for specific projects.

3.2 Sanitary Sewer Discharge Plan (SSDP)

The Sanitary Sewer Discharge Plan 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 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 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 ISSDP document can be viewed on the MSD Project WIN website (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 Sanitary Sewer Discharge Plan on December 19, 2008, as Volume 3 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 SSDP was included in the IOAP revision, submitted on June 14, 2013. On June 19, 2014 MSD received approval of the 2012 IOAP Modification from EPA/KDEP.

The following is a summary of remaining activities that support elimination of the Prospect WQTCs.

- The Prospect #3: - ORFM System Improvements includes the construction of the 2 MG Muddy Fork Basin and upsizing of the Muddy Fork PS Force Main to 24 inches along with pump upgrades at Muddy Fork PS, Winding Falls/Phoenix Hill PS and New Market PS. During the reporting period, construction was underway for the Muddy Fork Basin and upgrades to the Muddy Fork Force Main. All projects are anticipated to be completed by the December 31, 2016, IOAP date.

3.3 CSO Long Term Control Plan (LTCP)

The CSO Long Term Control Plan 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 (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

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.

3.3.3 Green Program Update

MSD continued program activities to provide incentives to private property owners to reduce the amount of impervious surface that drains to the combined sewer system. The continued coordination with the Green and MS4 programs is on-going to optimize resources and regulations to improve water quality.

The Green Program incentives are being applied to reflect the values of green projects in CSO areas or regions based on the latest modeling results. This application ties incentives directly to overflow reductions in various CSO regions to promote green projects in the areas that provide the most value. Project opportunities are optimized to best use available funding and provide additional overflow volume reduction benefits to complement LTCP projects.

MSD continues to administer an urban reforestation program to intercept rainwater and reduce stormwater entering the sewer system. Urban reforestation proposals require a Memorandum of Understanding for reporting tree location, condition and maintenance plan. Partners participating in the program are responsible for ongoing maintenance of the trees.

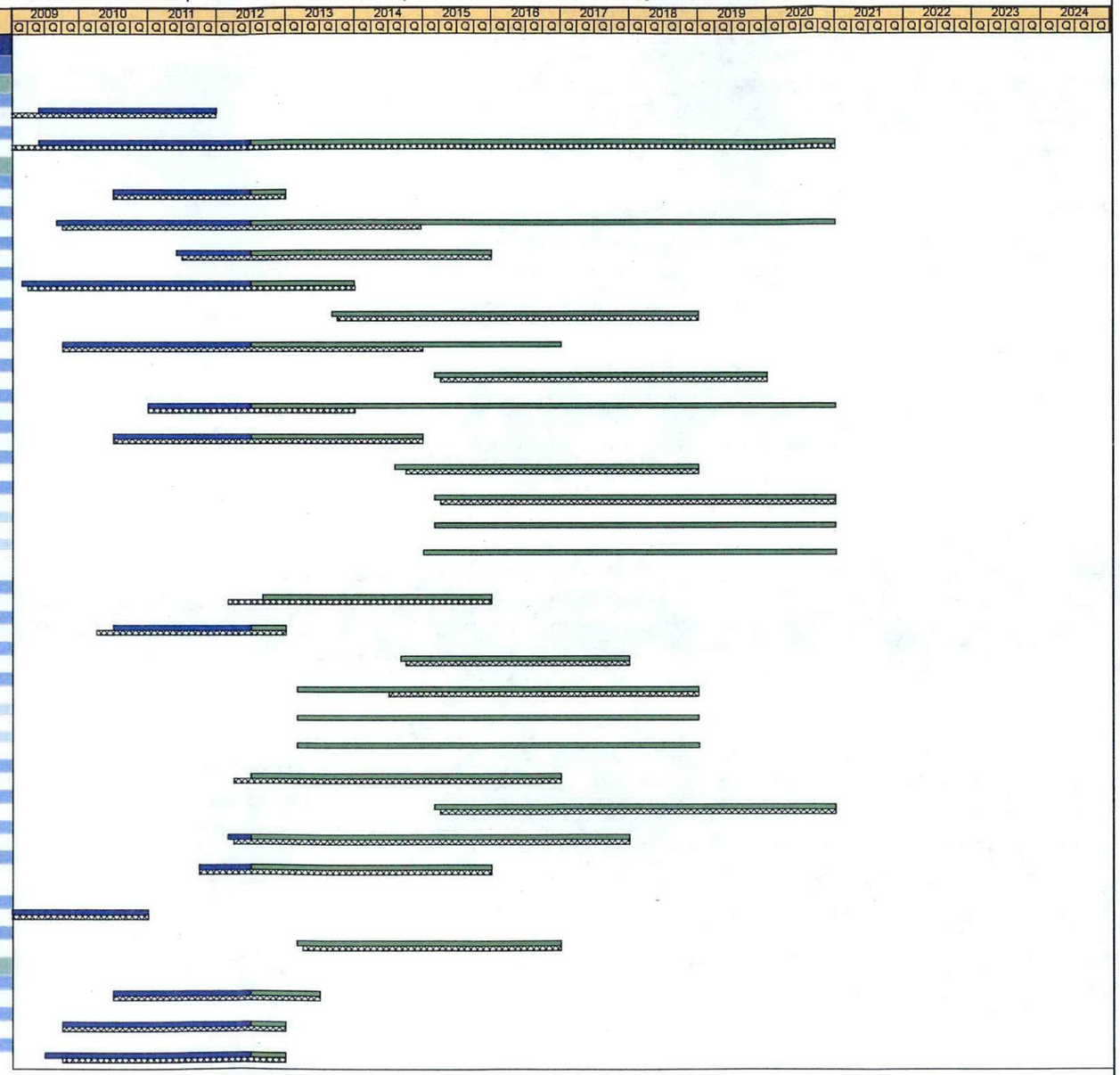
Updates to the Green Infrastructure Design Manual are underway. Public comments were received June 20, 2016, and are under review. MSD is also working with other communities in the region to develop design standards for water quality and green Best Management Practices (BMPs). The next meeting on this effort is scheduled for the next review period.

3.4 Activity Progress Chart

A Gantt chart showing the previous and Proposed IOAP Modification schedules (Refer to IOAP, Volume 1 – Figure 6.3.1 for the previous chart) for the entire program is provided below.

MSD Integrated Overflow Abatement Plan Implementation Schedule (01 Jan 2009- 31 Dec 2024)

Activity Name	Scheduled Finish	2009 IOAP Completion	2012 IOAP Modification
MSD IOAP ANNUAL SCHEDULE	31-Dec-24	31-Dec-24	31-Dec-24
LONG TERM CONTROL PLAN	01-Jan-21	31-Dec-20	31-Dec-20
GREEN DEMONSTRATION PROJECTS	31-Dec-20	31-Dec-20	31-Dec-20
GREEN INFRASTRUCTURE DEMONSTRATION PROJECTS	31-Dec-11 A	31-Dec-11	31-Dec-11
GREEN INFRASTRUCTURE DEMONSTRATION PROJECTS	31-Dec-11 A	31-Dec-11	31-Dec-11
GREEN INFRASTRUCTURE PROGRAM	31-Dec-20	31-Dec-20	31-Dec-20
GREEN INFRASTRUCTURE PROGRAM	31-Dec-20	31-Dec-20	31-Dec-20
GRAY INFRASTRUCTURE PROJECTS	01-Jan-21	31-Dec-20	31-Dec-20
CSO 123 DOWNSPOUT DISCONNECTION	31-Dec-12	31-Dec-12	31-Dec-12
CSO 123 DOWNSPOUT DISCONNECTION	31-Dec-12	31-Dec-12	31-Dec-12
I-64 AND GRINSTEAD DRIVE STORAGE BASIN	31-Dec-20	21-Dec-14	31-Dec-20
I-64 AND GRINSTEAD DRIVE STORAGE BASIN	31-Dec-20	21-Dec-14	31-Dec-20
CSO 140 INCREASE PIPE CONVEYANCE	31-Dec-15	31-Dec-15	31-Dec-15
CSO 140 INCREASE PIPE CONVEYANCE	31-Dec-15	31-Dec-15	31-Dec-15
CSO 206 SEWER SEPARATION	30-Dec-13	31-Dec-13	30-Dec-13
CSO 206 SEWER SEPARATION	30-Dec-13	31-Dec-13	30-Dec-13
CLIFTON HEIGHTS STORAGE BASIN	31-Dec-18	31-Dec-18	31-Dec-18
CLIFTON HEIGHTS STORAGE BASIN	31-Dec-18	31-Dec-18	31-Dec-18
BELL'S LANE WET WEATHER TREATMENT FACILITY AND IN LINE STORAGE	31-Dec-16	31-Dec-14	31-Dec-16
BELL'S LANE WET WEATHER TREATMENT FACILITY AND IN LINE STORAGE	31-Dec-16	31-Dec-14	31-Dec-16
PORTLAND WHARF STORAGE BASIN	31-Dec-19	31-Dec-19	31-Dec-19
PORTLAND WHARF STORAGE BASIN	31-Dec-19	31-Dec-19	31-Dec-19
STORY AVENUE AND MAIN STREET STORAGE BASIN	31-Dec-20	31-Dec-13	31-Dec-20
STORY AVENUE AND MAIN STREET STORAGE BASIN	31-Dec-20	31-Dec-13	31-Dec-20
CSO 058 IN-LINE STORAGE AND GREEN INFRASTRUCTURE CONTROLS	31-Dec-14	31-Dec-14	31-Dec-14
CSO 058 IN-LINE STORAGE AND GREEN INFRASTRUCTURE CONTROLS	31-Dec-14	31-Dec-14	31-Dec-14
SOUTHWESTERN PARKWAY STORAGE BASIN	31-Dec-18	31-Dec-18	31-Dec-18
SOUTHWESTERN PARKWAY STORAGE BASIN	31-Dec-18	31-Dec-18	31-Dec-18
13TH STREET AND ROWAN STREET STORAGE BASIN	01-Jan-21	31-Dec-20	31-Dec-20
13TH STREET AND ROWAN STREET STORAGE BASIN	31-Dec-20	31-Dec-20	
13TH STREET AND ROWAN STREET STORAGE BASIN	31-Dec-20		31-Dec-20
13TH STREET AND ROWAN STREET STORAGE BASIN	31-Dec-20	31-Dec-20	31-Dec-20
CENTRAL RELIEF DRAIN IN-LINE STORAGE, GREEN INFRASTRUCTURE AND DISTRIBUTED STORAGE	01-Jan-21		31-Dec-18
CENTRAL RELIEF DRAIN IN-LINE STORAGE, GREEN INFRASTRUCTURE AND DISTRIBUTED STORAGE	01-Jan-21		31-Dec-18
CSO 160 IN-LINE STORAGE AND GREEN INFRASTRUCTURE CONTROLS	31-Dec-15	31-Dec-15	31-Dec-15
CSO 160 IN-LINE STORAGE AND GREEN INFRASTRUCTURE CONTROLS	31-Dec-15	31-Dec-15	31-Dec-15
ADAMS STREET SEWER SEPARATION AND STORAGE BASIN	31-Dec-12	31-Dec-12	31-Dec-12
ADAMS STREET SEWER SEPARATION AND STORAGE BASIN	31-Dec-12	31-Dec-12	31-Dec-12
18TH AND NORTHWESTERN PKY STORAGE BASIN	31-Dec-17	31-Dec-17	31-Dec-17
18TH AND NORTHWESTERN PKY STORAGE BASIN	31-Dec-17	31-Dec-17	31-Dec-17
ALGONQUIN PARKWAY STORAGE BASIN	01-Jan-19	31-Dec-18	31-Dec-18
ALGONQUIN PARKWAY STORAGE BASIN	31-Dec-18	31-Dec-18	
SOUTHERN OUTFALL IN-LINE STORAGE (SOR 1)	31-Dec-18		31-Dec-18
SOUTHERN OUTFALL IN-LINE STORAGE AT 43RD ST. (SOR 1)	31-Dec-18		31-Dec-18
SOUTHERN OUTFALL IN-LINE RETENTION (SOR 2)	01-Jan-19		31-Dec-18
SOUTHERN OUTFALL IN-LINE RETENTION AT 13TH AND WILSON AVE. (SOR	01-Jan-19		31-Dec-18
NIGHTINGALE PUMP STATION AND STORAGE BASIN	31-Dec-16	31-Dec-16	31-Dec-16
NIGHTINGALE PUMP STATION AND STORAGE BASIN	31-Dec-16	31-Dec-16	31-Dec-16
LEXINGTON ROAD AND PAYNE STREET STORAGE BASIN	31-Dec-20	31-Dec-20	31-Dec-20
LEXINGTON ROAD AND PAYNE STREET STORAGE BASIN	31-Dec-20	31-Dec-20	31-Dec-20
LOGAN STREET AND BRECKENRIDGE ST STORAGE BASIN	31-Dec-17	31-Dec-17	31-Dec-17
LOGAN STREET AND BRECKENRIDGE ST STORAGE BASIN	31-Dec-17	31-Dec-17	31-Dec-17
CSO 093 STRUCTURAL MODIFICATIONS AND GREEN INFRASTRUCTURE	31-Dec-15	31-Dec-15	31-Dec-15
CSO 093 STRUCTURAL MODIFICATIONS AND GREEN INFRASTRUCTURE CONTROLS	31-Dec-15	31-Dec-15	31-Dec-15
CSO 108 DAM MODIFICATIONS	31-Dec-10 A	31-Dec-10	31-Dec-10
CSO 108 DAM MODIFICATIONS	31-Dec-10 A	31-Dec-10	31-Dec-10
STORY AVENUE AND SPRING STREET GREEN INFRASTRUCTURE CONTROLS	31-Dec-16	31-Dec-16	31-Dec-16
STORY AVENUE AND SPRING STREET GREEN INFRASTRUCTURE CONTROLS	31-Dec-16	31-Dec-16	31-Dec-16
FLOOD PUMP STATION PROJECTS	31-Dec-14	31-Dec-14	31-Dec-14
27TH STREET FLOOD PUMP STATION	30-Jun-13	30-Jun-13	30-Jun-13
27TH STREET FLOOD PUMP STATION	30-Jun-13	30-Jun-13	30-Jun-13
34TH STREET FLOOD PUMP STATION	31-Dec-12	31-Dec-12	31-Dec-12
34TH STREET FLOOD PUMP STATION	31-Dec-12	31-Dec-12	31-Dec-12
4TH STREET FLOOD PUMP STATION	31-Dec-12	31-Dec-12	31-Dec-12
4TH STREET FLOOD PUMP STATION	31-Dec-12	31-Dec-12	31-Dec-12



Approved 2009 IOAP Remaining Work
Completed Work

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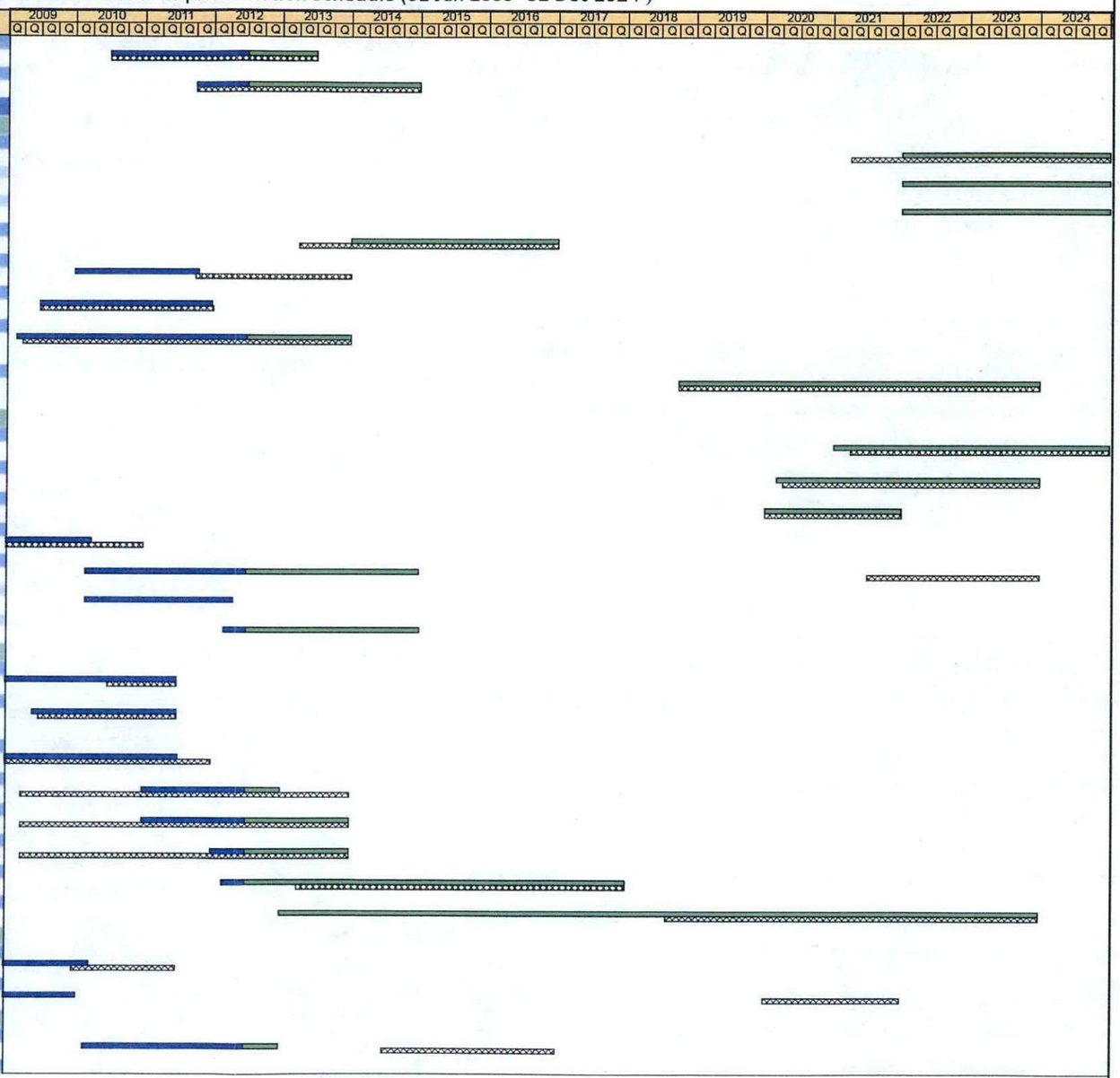
Date Date: 01-Jul-12

MSD Integrated Overflow Abatement Plan Implementation Schedule (01 Jan 2009- 31 Dec 2024)

Activity Name	Scheduled Finish	2009 IOAP Completion	2012 IOAP Modification
SHAWNEE FLOOD PUMP STATION	30-Jun-13	30-Jun-13	30-Jun-13
SHAWNEE FLOOD PUMP STATION	30-Jun-13	30-Jun-13	30-Jun-13
17TH STREET FLOOD PUMP STATION	31-Dec-14	31-Dec-14	31-Dec-14
17TH STREET FLOOD PUMP STATION	31-Dec-14	31-Dec-14	31-Dec-14
SANITARY SEWER DISCHARGE PLAN	31-Dec-24	31-Dec-24	31-Dec-24
BEARGRASS CREEK MIDDLE FORK AREA	31-Dec-24	31-Dec-24	31-Dec-24
GOOSE CREEK PUMP STATION	31-Dec-24	31-Dec-24	31-Dec-24
GOOSE CREEK PUMP STATION	31-Dec-24	31-Dec-24	
GOOSE CREEK PS PH1 - DEVONDALE PS WW STORAGE	31-Dec-24		31-Dec-24
GOOSE CREEK PS PH1 - DEVONDALE PS WW STORAGE	31-Dec-24		31-Dec-24
GOOSE CRK PS PH2 - PS & WET WEATHER STORAGE	31-Dec-24		31-Dec-24
GOOSE CRK PS PH2 - PS & WET WEATHER STORAGE	31-Dec-24		31-Dec-24
ANCHOR ESTATES- ANCHOR ESTS PS 1 & 2 PS ELIMINATIONS	31-Dec-16	31-Dec-16	31-Dec-16
ANCHOR ESTATES- ANCHOR ESTS PS 1 & 2 PS ELIMINATIONS	31-Dec-16	31-Dec-16	31-Dec-16
ANCHOR ESTATES- VANNAH PS ELIMINATION	15-Oct-11 A	31-Dec-13	31-Dec-13
ANCHOR ESTATES- VANNAH PS ELIMINATION	15-Oct-11 A	31-Dec-13	31-Dec-13
HURSTBOURNE I&I INVESTIGATION & REHABILITATION	27-Dec-11 A	31-Dec-11	31-Dec-11
HURSTBOURNE I&I INVESTIGATION & REHABILITATION	27-Dec-11 A	31-Dec-11	31-Dec-11
MIDDLE FORK RELIEF INTERCEPTOR, WET WEATHER STORAGE, AND UMFLS DIVERSION 1 -	31-Dec-13	31-Dec-13	31-Dec-13
MIDDLE FORK RELIEF INTERCEPTOR, WET WEATHER STORAGE, AND UMFLS DIVERSION 1 - BUECHEL BASIN	31-Dec-13	31-Dec-13	31-Dec-13
MIDDLE FORK RELIEF INTERCEPTOR, WET WEATHER STORAGE, AND UMFLS DIVERSION 2 I	31-Dec-23	31-Dec-23	31-Dec-23
MIDDLE FORK RELIEF INTERCEPTOR, WET WEATHER STORAGE, AND UMFLS DIVERSION 2 PS & WET WEATHER STORAGE	31-Dec-23	31-Dec-23	31-Dec-23
CEDAR CREEK AREA	31-Dec-24	31-Dec-24	31-Dec-24
LITTLE CEDAR CREEK INTRECEPTOR IMPROVEMENTS	31-Dec-24	31-Dec-24	31-Dec-24
LITTLE CEDAR CREEK INTRECEPTOR IMPROVEMENTS	31-Dec-24	31-Dec-24	31-Dec-24
IDLEWOOD INLINE STORAGE	31-Dec-23	31-Dec-23	31-Dec-23
IDLEWOOD INLINE STORAGE	31-Dec-23	31-Dec-23	31-Dec-23
BARDSTOWN RD PS IMPROVEMENTS	31-Dec-21	31-Dec-21	31-Dec-21
BARDSTOWN RD PS IMPROVEMENTS	31-Dec-21	31-Dec-21	31-Dec-21
RUNNING FOX PS ELIMINATION	05-Apr-10 A	31-Dec-10	31-Dec-10
RUNNING FOX PS ELIMINATION	05-Apr-10 A	31-Dec-10	31-Dec-10
FAIRMOUNT RD PS IMPROVMENTS	01-Jan-15	31-Dec-23	31-Dec-23
FAIRMOUNT RD PS IMPROVMENTS	31-Dec-14	31-Dec-23	
FAIRMOUNT RD PS IMPROVEMENTS	24-Apr-12 A		31-Dec-23
FAIRMOUNT RD PS IMPROVEMENTS	24-Apr-12 A		31-Dec-23
FAIRMOUNT RD PS IMPROVEMENT PH 2	01-Jan-15		31-Dec-15
FAIRMOUNT STORAGE BASIN	01-Jan-15		31-Dec-15
COMBINED SEWER SYSTEM AREA	31-Dec-23	31-Dec-23	31-Dec-23
HAZELWOOD PS I&I INVESTIGATION & REHABILITATION	30-Jun-11 A	30-Jun-11	30-Jun-11
HAZELWOOD PS I&I INVESTIGATION & REHABILITATION	30-Jun-11 A	30-Jun-11	30-Jun-11
SONNE PUMP STATION I&I INVESTIGATION & REHABILITATION	30-Jun-11 A	30-Jun-11	30-Jun-11
SONNE PUMP STATION I&I INVESTIGATION & REHABILITATION	30-Jun-11 A	30-Jun-11	30-Jun-11
CAMP TAYLOR SSES	08-Jul-11 A	31-Dec-11	31-Dec-13
CAMP TAYLOR SSES	08-Jul-11 A	31-Dec-11	31-Dec-13
CAMP TAYLOR SANITARY SEWER #1A	31-Dec-12	31-Dec-13	31-Dec-13
CAMP TAYLOR SANITARY SEWER #1A	31-Dec-12	31-Dec-13	31-Dec-13
CAMP TAYLOR SANITARY SEWER #1B	31-Dec-13	31-Dec-13	31-Dec-13
CAMP TAYLOR SANITARY SEWER #1B	31-Dec-13	31-Dec-13	31-Dec-13
CAMP TAYLOR SANITARY SEWER #2	31-Dec-13	31-Dec-13	31-Dec-13
CAMP TAYLOR SANITARY SEWER #2	31-Dec-13	31-Dec-13	31-Dec-13
CAMP TAYLOR #3- SEWER REHABILITATION	31-Dec-17	31-Dec-17	31-Dec-17
CAMP TAYLOR #3- SEWER REHABILITATION	31-Dec-17	31-Dec-17	31-Dec-17
CAMP TAYLOR #4-SEWER REHABILITATION & REPLACEMENT	31-Dec-23	31-Dec-23	31-Dec-23
CAMP TAYLOR #4-SEWER REHABILITATION & REPLACEMENT	31-Dec-23	31-Dec-23	31-Dec-23
FLOYDS FORK AREA	01-Apr-10 A	31-Dec-21	01-Apr-10
WOODLAND HILL PS DIVERSION	01-Apr-10 A	30-Jun-11	01-Apr-10
WOODLAND HILL PS DIVERSION	01-Apr-10 A	30-Jun-11	01-Apr-10
ASHBURTON PS IMPROVEMENTS AND DIVERSION	22-Jan-10 A	31-Dec-21	22-Jan-10
ASHBURTON PS IMPROVEMENTS AND DIVERSION	22-Jan-10 A	31-Dec-21	22-Jan-10
HITE CREEK AREA	31-Dec-24	31-Dec-24	31-Dec-24
MEADOW STREAM PS AND FORCE MAIN	31-Dec-12	31-Dec-16	31-Dec-16
MEADOW STREAM PS AND FORCE MAIN	31-Dec-12	31-Dec-16	31-Dec-16
KAVANAUGH RD PS IMPROVEMENTS	31-Dec-24	31-Dec-24	31-Dec-24



Approved 2009 IOAP Remaining Work
Completed Work

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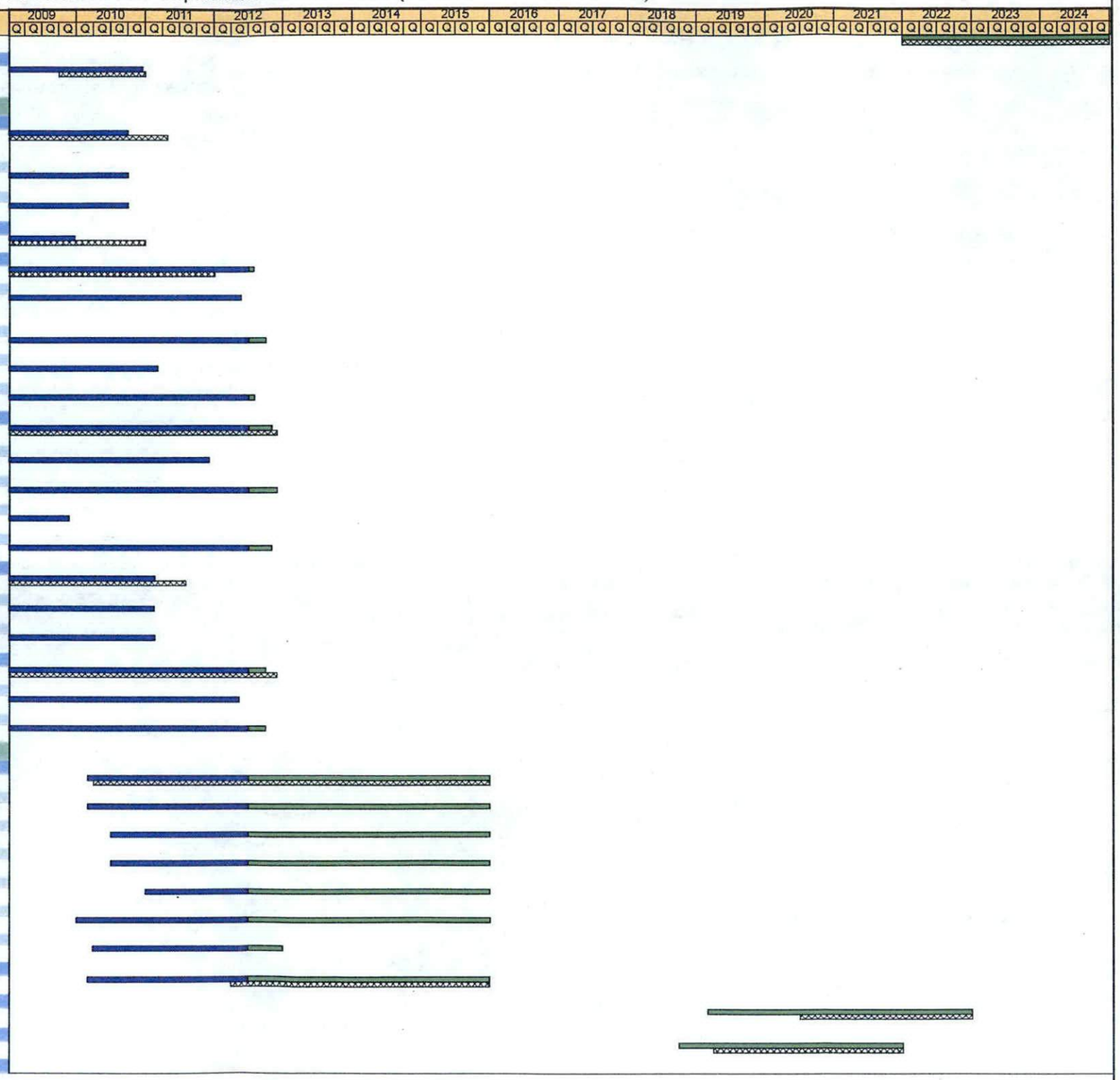
Date Date: 01-Jul-12

MSD Integrated Overflow Abatement Plan Implementation Schedule (01 Jan 2009- 31 Dec 2024)

Activity Name	Scheduled Finish	2009 IOAP Completion	2012 IOAP Modification
KAVANAUGH RD PS IMPROVEMENTS	31-Dec-24	31-Dec-24	31-Dec-24
FLOYDSBURG RD SSES, REHAB AND PUMP STATION UPGRADE	17-Dec-10 A	31-Dec-10	31-Dec-10
FLOYDSBURG RD SSES, REHAB AND PUMP STATION UPGRADE	17-Dec-10 A	31-Dec-10	31-Dec-10
INTERIM SSDP PROJECTS	27-Nov-12	27-Nov-12	27-Nov-12
ISSDP BEECHWOOD VILLAGE SANITARY SEWER REPLACEMENT	29-Sep-10 A	27-Apr-11	27-Apr-11
ISSDP BEECHWOOD VILLAGE SANITARY SEWER REPLACEMENT	29-Sep-10 A	27-Apr-11	
BEECHWOOD VILLAGE SANITARY SEWER REPLACEMENT (WEST)	29-Sep-10 A		27-Apr-11
BEECHWOOD VILLAGE SANITARY SEWER REPLACEMENT	29-Sep-10 A		27-Apr-11
BEECHWOOD VILLAGE SANITARY SEWER REPLACEMENT (EAST)	29-Sep-10 A		27-Apr-11
BEECHWOOD VILLAGE SANITARY SEWER REPLACEMENT	29-Sep-10 A		27-Apr-11
SINKING FORK RELIEF SEWER	23-Dec-09 A	30-Dec-10	23-Dec-09
SINKING FORK RELIEF SEWER	23-Dec-09 A	30-Dec-10	23-Dec-09
ISSDP DEREK R GUTHRIE WATER QUALITY TREATMENT CENTER	30-Sep-12	31-Dec-11	27-Nov-12
ISSDP DEREK R GUTHRIE WATER QUALITY TREATMENT CENTER	30-Jul-12	31-Dec-11	
DEREK R GUTHRIE WQTC WET WEATHER TREATMENT FACILITY	20-May-12 A		27-Nov-12
DEREK R GUTHRIE WQTC WET WEATHER TREATMENT FACILITY	20-May-12 A		27-Nov-12
WCWTP: WW FLOW EQU & TMT	30-Sep-12		27-Nov-12
WCWTP: WW FLOW EQU & TMT	30-Sep-12		27-Nov-12
DRGWQTC: BLOWER PACKAGE	03-Mar-11 A		27-Nov-12
DRGWQTC: BLOWER PACKAGE	03-Mar-11 A		27-Nov-12
DRGWQTC: WET WEATHER EQUALIZATION BASIN	31-Jul-12		27-Nov-12
DRGWQTC: WET WEATHER EQUALIZATION BASIN	31-Jul-12		27-Nov-12
ISSDP HIKES LANE INTERCEPTOR /HIGHGATE SPRINGS PS	27-Nov-12	27-Nov-12	27-Nov-12
ISSDP HIKES LANE INTERCEPTOR /HIGHGATE SPRINGS PS	30-Oct-12	27-Nov-12	
HIKES POINT INTERCEPTOR	30-Nov-11 A		27-Nov-12
HIKES POINT INTERCEPTOR	30-Nov-11 A		27-Nov-12
HIKES POINT INTERCEPTOR PHASE 2	27-Nov-12		27-Nov-12
HIKES POINT INTERCEPTOR PHASE 2	27-Nov-12		27-Nov-12
CARSON & RIBBLE RELIEF	20-Nov-09 A		27-Nov-12
CARSON & RIBBLE RELIEF	20-Nov-09 A		27-Nov-12
HIKES POINT RELIEF EFFORT	31-Oct-12		27-Nov-12
HIKES POINT RELIEF EFFORT	31-Oct-12		27-Nov-12
ISSDP NORTHERN DITCH DIVERSION INTERCEPTOR	16-Feb-11 A	31-Jul-11	31-Jul-11
ISSDP NORTHERN DITCH DIVERSION INTERCEPTOR	16-Feb-11 A	31-Jul-11	
NORTHERN DITCH DIVERSION INTERCEPTOR	16-Feb-11 A		31-Jul-11
NORTHERN DITCH DIVERSION INTERCEPTOR	16-Feb-11 A		31-Jul-11
NORTHERN DITCH DIVERSION INTERCEPTOR PH 2	16-Feb-11 A		31-Jul-11
NORTHERN DITCH DIVERSION INTERCEPTOR PH 2	16-Feb-11 A		31-Jul-11
ISSDP SOUTHEAST DIVERSION STRUCTURE & INTERCEPTOR	30-Sep-12	27-Nov-12	30-Sep-12
ISSDP SOUTHEAST DIVERSION STRUCTURE & INTERCEPTOR	28-Sep-12	27-Nov-12	
SOUTHEAST DIVERSION STRUCTURE & INTERCEPTOR	12-May-12 A		12-May-12
SOUTHEAST DIVERSION STRUCTURE & INTERCEPTOR	12-May-12 A		12-May-12
SOUTHEAST DIVERSION STRUCTURE & INTERCEPTOR Phase 2	30-Sep-12		30-Sep-12
SOUTHEAST DIVERSION STRUCTURE & INTERCEPTOR Phase 2	30-Sep-12		30-Sep-12
JEFFERSONTOWN AREA	31-Dec-22	31-Dec-22	31-Dec-22
JEFFERSONTOWN WQTC ELIMINATION	01-Jan-16	31-Dec-15	31-Dec-15
JEFFERSONTOWN WQTC ELIMINATION	31-Dec-15	31-Dec-15	
JEFFERSONTOWN WQTC ELIMINATION	31-Dec-15		31-Dec-15
JEFFERSONTOWN WQTC ELIMINATION	31-Dec-15		31-Dec-15
JEFFERSONTOWN FORCE MAIN	31-Dec-15		31-Dec-15
JEFFERSONTOWN FORCE MAIN	31-Dec-15		31-Dec-15
GRAND AVENUE PUMP STATION	31-Dec-15		31-Dec-15
GRAND AVENUE PUMP STATION	31-Dec-15		31-Dec-15
UPPER BILLTOWN RD INTERCEPTOR	31-Dec-15		31-Dec-15
UPPER BILLTOWN RD INTERCEPTOR	31-Dec-15		31-Dec-15
BILLTOWN RD INTERCEPTOR SS	01-Jan-16		31-Dec-15
BILLTOWN RD INTERCEPTOR SS	01-Jan-16		31-Dec-15
BILLTOWN RD PS, FM & INT	31-Dec-12		31-Dec-12
BILLTOWN RD PS, FM & INT	31-Dec-12		31-Dec-12
CHENOWETH HILLS WQTC ELIMINATION & PS IMPROVEMENTS	31-Dec-15	31-Dec-15	31-Dec-15
CHENOWETH HILLS WQTC ELIMINATION & PS ELIMINATION	31-Dec-15	31-Dec-15	31-Dec-15
DELL RD & CHARLANE PKWY INTERCEPTOR IMPROVEMENTS	31-Dec-22	31-Dec-22	31-Dec-22
DELL RD & CHARLANE PKWY INTERCEPTOR IMPROVEMENTS	31-Dec-22	31-Dec-22	31-Dec-22
RAINTREE & MARIAN CT PH1 - PS ELIMINATION	31-Dec-21	31-Dec-21	31-Dec-21
RAINTREE & MARIAN CT PH1 - PS ELIMINATION	31-Dec-21	31-Dec-21	31-Dec-21
RAINTREE & MARIAN CT PS ELIMINATION	31-Dec-21	31-Dec-21	31-Dec-21



Approved 2009 IOAP Remaining Work
Completed Work

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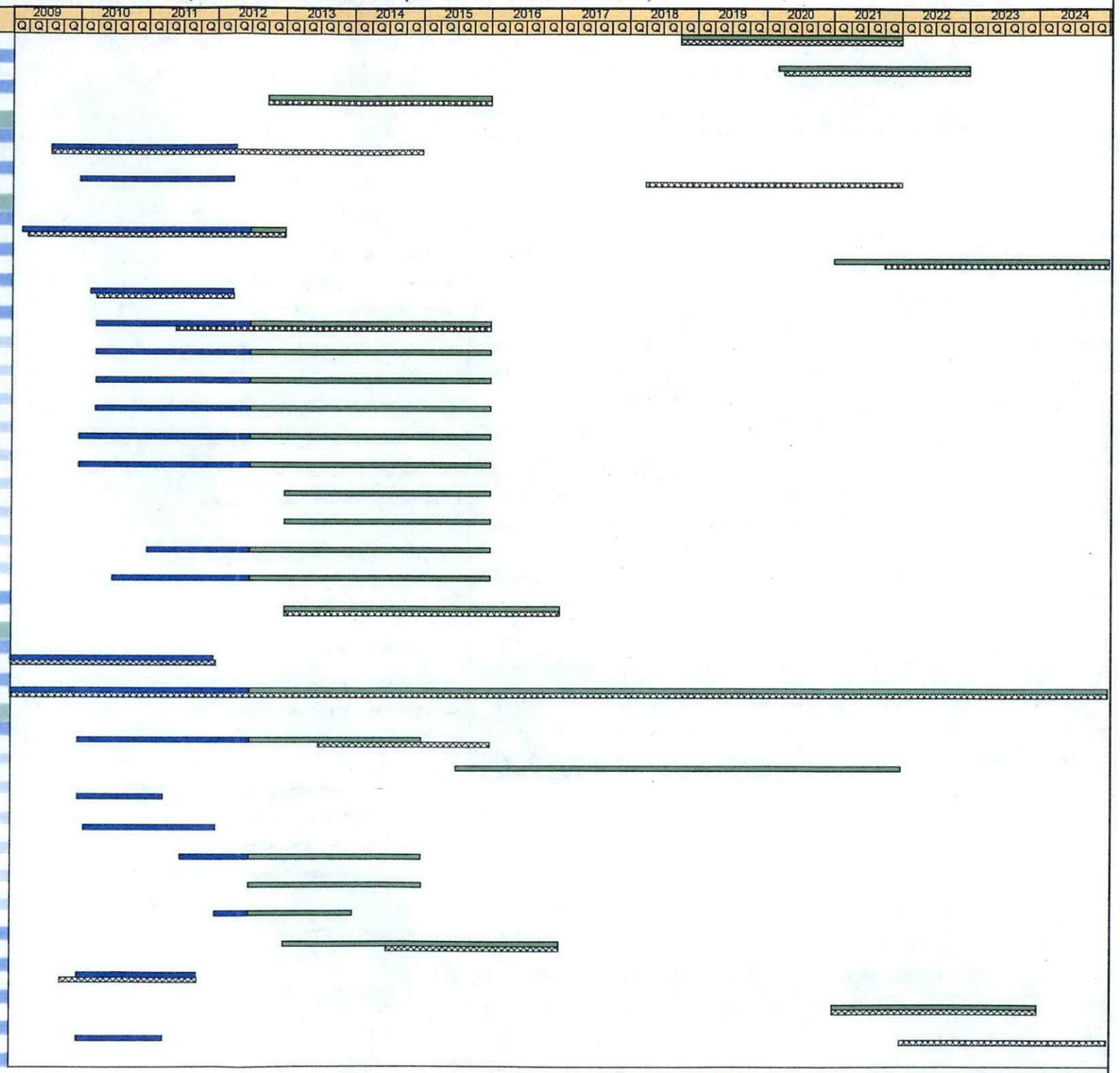
Date Date: 01-Jul-12

MSD Integrated Overflow Abatement Plan Implementation Schedule (01 Jan 2009- 31 Dec 2024)

Activity Name	Scheduled Finish	2009 IOAP Completion	2012 IOAP Modification
RAINTREE & MARIAN CT PS ELIMINATION	31-Dec-21	31-Dec-21	31-Dec-21
MONTICELLO PS ELIMINATION	31-Dec-22	31-Dec-22	31-Dec-22
MONTICELLO PS ELIMINATION	31-Dec-22	31-Dec-22	31-Dec-22
KLONDIKE INTERCEPTOR	31-Dec-15	31-Dec-15	31-Dec-15
KLONDIKE INTERCEPTOR	31-Dec-15	31-Dec-15	31-Dec-15
MILL CREEK AREA	13-Apr-12 A	31-Dec-21	31-Dec-21
SHIVELY INTERCEPTOR	13-Apr-12 A	31-Dec-14	31-Dec-14
SHIVELY INTERCEPTOR	13-Apr-12 A	31-Dec-14	31-Dec-14
EAST ROCKFORD LANE PS RELOCATION	30-Mar-12 A	31-Dec-21	31-Dec-21
EAST ROCKFORD LANE PS RELOCATION	30-Mar-12 A	31-Dec-21	31-Dec-21
OHIO RIVER FORCE MAIN AREA	31-Dec-24	31-Dec-24	31-Dec-24
MELLWOOD SYS 1 - MELLWOOD PS & FORCE MAIN	31-Dec-12	31-Dec-12	31-Dec-12
MELLWOOD SYS 1 - MELLWOOD PS & FORCE MAIN	31-Dec-12	31-Dec-12	31-Dec-12
MELLWOOD SYS 2 - WINTON & MOCKINGBIRD PS ELIM & PIPE UPGRADES	31-Dec-24	31-Dec-24	31-Dec-24
MELLWOOD SYS 2 - WINTON & MOCKINGBIRD PS ELIM & PIPE UPGRADES	31-Dec-24	31-Dec-24	31-Dec-24
DERINGTON CT PS I/I INVESTIGATION & REHABILITATION	30-Mar-12 A	31-Mar-12	31-Mar-12
DERINGTON CT PS I/I INVESTIGATION & REHABILITATION	30-Mar-12 A	31-Mar-12	31-Mar-12
PROSPECT WQTC ELIMINATIONS	31-Dec-15	31-Dec-15	31-Dec-15
PROSPECT WQTC ELIMINATIONS	31-Dec-15	31-Dec-15	
HARRODS CREEK PS & FM	31-Dec-15		31-Dec-15
HARRODS CREEK PS & FM	31-Dec-15		31-Dec-15
HARRODS CREEK INT	31-Dec-15		31-Dec-15
HARRODS CREEK INT	31-Dec-15		31-Dec-15
HARRODS CREEK INT PH 2	31-Dec-15		31-Dec-15
HARRODS CREEK INT PH 2	31-Dec-15		31-Dec-15
RIVER ROAD INT	31-Dec-15		31-Dec-15
RIVER ROAD INT	31-Dec-15		31-Dec-15
TIMBERLAKE & HUNTING CREEK S WQTC ELIM	31-Dec-15		31-Dec-15
TIMBERLAKE & HUNTING CREEK S WQTC ELIM	31-Dec-15		31-Dec-15
KEN CARLA WQTC ELIM	31-Dec-15		31-Dec-15
KEN CARLA WQTC ELIM	31-Dec-15		31-Dec-15
HARRODS CREEK FORCE MAIN PH 3	31-Dec-15		31-Dec-15
HARRODS CREEK FORCE MAIN PH 3	31-Dec-15		31-Dec-15
SHADOW WOOD WWTP ELIM	31-Dec-15		31-Dec-15
SHADOW WOOD WWTP ELIM	31-Dec-15		31-Dec-15
N HUNTING CREEK PS & FM	31-Dec-15		31-Dec-15
N HUNTING CREEK PS & FM	31-Dec-15		31-Dec-15
PROSPECT #3- ORFM SYSTEM IMPROVEMENTS	31-Dec-16	31-Dec-16	31-Dec-16
PROSPECT #3 - ORFM SYSTEM IMPROVEMENTS	31-Dec-16	31-Dec-16	31-Dec-16
OTHER PROJECTS	30-Dec-24	31-Dec-24	30-Dec-24
CPE/CCP MODIFICATIONS TO WQTC	19-Dec-11 A	31-Dec-11	31-Dec-11
CPE/CCP MODIFICATIONS TO WQTC	19-Dec-11 A	31-Dec-11	31-Dec-11
I/I REDUCTION PROGRAM	30-Dec-24	31-Dec-24	30-Dec-24
I/I REDUCTION PROGRAM	30-Dec-24	31-Dec-24	30-Dec-24
POND CREEK AREA	31-Dec-23	31-Dec-24	31-Dec-24
LEE ANN WAY PUMP STATION IMPROVEMENTS	31-Dec-21	31-Dec-15	31-Dec-15
LEE ANN WAY PUMP STATION IMPROVEMENTS	31-Dec-14	31-Dec-15	
LEA ANN WAY SANITARY SEWER I/I REHAB	31-Dec-21		31-Dec-15
LEA ANN WAY SANITARY SEWER I/I REHAB	31-Dec-21		31-Dec-15
LEE ANN WAY PS SYSTEM SSES	30-Mar-11 A		31-Dec-15
LEE ANN WAY PS SYSTEM SSES	30-Mar-11 A		31-Dec-15
LEE ANN WAY PH 2 ICA	31-Dec-11 A		31-Dec-15
LEE ANN WAY PH 2 ICA	31-Dec-11 A		31-Dec-15
LEE ANN WAY SSR PH 1	31-Dec-14		31-Dec-15
LEE ANN WAY SSR PH 1	31-Dec-14		31-Dec-15
LEE ANN WAY SSR PH 2	01-Jan-15		31-Dec-15
LEE ANN WAY SSR PH 2	01-Jan-15		31-Dec-15
LEE ANN WAY INTERCEPTOR I/I REHAB	31-Dec-13		31-Dec-15
LEE ANN WAY INTERCEPTOR I/I REHAB	31-Dec-13		31-Dec-15
OUTER LOOP & CAVEN AREA PIPE UPGRADES	31-Dec-16	31-Dec-16	31-Dec-24
OUTER LOOP & CAVEN AREA PIPE UPGRADES	31-Dec-16	31-Dec-16	31-Dec-24
EDSEL PS I/I INVESTIGATION & REHABILITATION	27-Sep-11 A	30-Sep-11	30-Sep-11
EDSEL PS I/I INVESTIGATION & REHABILITATION	27-Sep-11 A	30-Sep-11	30-Sep-11
CINDERELLA PS ELIMINATION	31-Dec-23	31-Dec-23	31-Dec-23
CINDERELLA PS ELIMINATION	31-Dec-23	31-Dec-23	31-Dec-23
GOVERNMENT CENTER PS ELIMINATION	01-Apr-11 A	31-Dec-24	31-Dec-24
GOVERNMENT CENTER PS ELIMINATION	01-Apr-11 A	31-Dec-24	31-Dec-24
AVANTI PS ELIMINATION	28-Jul-09 A	31-Dec-10	31-Dec-10



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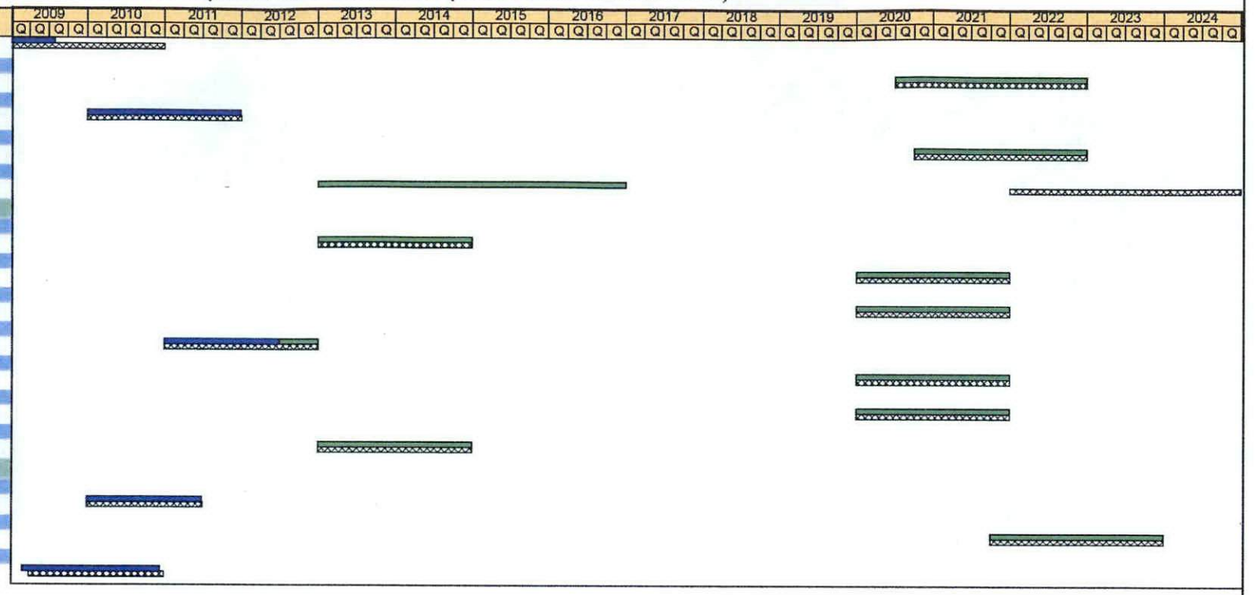
Date Date: 01-Jul-12

MSD Integrated Overflow Abatement Plan Implementation Schedule (01 Jan 2009- 31 Dec 2024)

Activity Name	Scheduled Finish	2009 IOAP Completion	2012 IOAP Modification
AVANTI PS ELIMINATION	28-Jul-09 A	31-Dec-10	31-Dec-10
CHARLESWOOD INTERCEPTOR EXTENSION	31-Dec-22	31-Dec-22	31-Dec-22
CHARLESWOOD INTERCEPTOR EXTENSION	31-Dec-22	31-Dec-22	31-Dec-22
LANTANA PS I/I INVESTIGATION & REHABILITATION	29-Dec-11 A	31-Dec-11	29-Dec-11
LANTANA PS I/I INVESTIGATION & REHABILITATION	29-Dec-11 A	31-Dec-11	29-Dec-11
LEVEN PS ELIMINATION	31-Dec-22	31-Dec-22	31-Dec-22
LEVEN PS ELIMINATION	31-Dec-22	31-Dec-22	31-Dec-22
CAVEN AVENUE WW STORAGE	31-Dec-16	31-Dec-24	31-Dec-16
CAVEN AVENUE PS ELIMINATION	31-Dec-16	31-Dec-24	31-Dec-16
SMALL WWTP AREA	31-Dec-21	31-Dec-21	31-Dec-21
RIDING RIDGE PS IMPROVEMENTS	31-Dec-14	31-Dec-14	31-Dec-14
RIDING RIDGE PS IMPROVEMENTS	31-Dec-14	31-Dec-14	31-Dec-14
LUCAS LN PS INLINE STORAGE	31-Dec-21	31-Dec-21	31-Dec-21
LUCAS LN PS INLINE STORAGE	31-Dec-21	31-Dec-21	31-Dec-21
ST. RENE RD PS INLINE STORAGE	31-Dec-21	31-Dec-21	31-Dec-21
ST. RENE RD PS INLINE STORAGE	31-Dec-21	31-Dec-21	31-Dec-21
LAKE FOREST PS IMPROVEMENTS	31-Dec-12	31-Dec-12	31-Dec-12
LAKE FOREST PS IMPROVEMENTS	31-Dec-12	31-Dec-12	31-Dec-12
GUNPOWDER PS INLINE STORAGE	31-Dec-21	31-Dec-21	31-Dec-21
GUNPOWDER PS INLINE STORAGE	31-Dec-21	31-Dec-21	31-Dec-21
FOX HARBOR INLINE STORAGE	31-Dec-21	31-Dec-21	31-Dec-21
FOX HARBOR INLINE STORAGE	31-Dec-21	31-Dec-21	31-Dec-21
FAIRWAY VIEW PS IMPROVEMENTS	31-Dec-14	31-Dec-14	31-Dec-14
FAIRWAY VIEW PS IMPROVEMENTS	31-Dec-14	31-Dec-14	31-Dec-14
SOUTHEASTERN DIVERSION AREA	31-Dec-23	31-Dec-23	31-Dec-23
PARKVIEW ESTATES I/I INVESTIGATION & REHABILITATION	28-Jun-11 A	30-Jun-11	30-Jun-11
PARKVIEW ESTATES I/I INVESTIGATION & REHABILITATION	28-Jun-11 A	30-Jun-11	30-Jun-11
SUTHERLAND INTERCEPTOR	31-Dec-23	31-Dec-23	31-Dec-23
SUTHERLAND INTERCEPTOR	31-Dec-23	31-Dec-23	31-Dec-23
BEARGRASS INTERCEPTOR REHABILITATION PH 2	14-Dec-10 A	31-Dec-10	31-Dec-10
BEARGRASS INTERCEPTOR REHABILITATION PH 2	14-Dec-10 A	31-Dec-10	31-Dec-10



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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

MSD has developed 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. Efforts continued to utilize various media outlets, including television, radio, magazines and newspapers to serve as a conduit for circulating information to the public.

Additionally, MSD is in the process of creating water quality sampling videos and partnering with educational organizations to assist with watershed videos. These efforts will be finalized by March 31, 2017, and ultimately be made available to the public.

During the reporting period MetroTV aired the following programs for each individual IOAP Project:

July

- MetroTV aired one program of the MSD I-64 & Grinstead CSO Basin Conceptual Design;
- MetroTV aired three programs of the MSD Lexington and Payne CSO Basin Conceptual Design; and
- MetroTV aired 19 programs of the MSD Portland Basin CSO Conceptual Design.

August

- MetroTV aired one program of the MSD I-64 & Grinstead CSO Basin Conceptual Design;
- MetroTV aired two programs of the MSD Lexington and Payne CSO Basin Conceptual Design; and
- MetroTV aired three programs of the MSD Portland Basin CSO Conceptual Design.

September

- MetroTV aired four programs of the MSD Portland Basin CSO Conceptual Design; and
- MetroTV aired six programs of the MSD Lexington and Payne CSO Basin Conceptual Design.

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 (WWT) 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. The Structured Public Involvement approach assures anonymity for each participant using transceivers to compile data which can then be correlated on a customer-specific basis. The plan for Structured Public Involvement includes implementing a four-meeting process that leads stakeholders through the project Design Stages: Orientation, Concept Design, Advanced Design, and then a Pardon Our Dust meeting upon construction. Presentations at neighborhood meetings additionally supplement the four meeting process. Online surveys are also made available to allow individuals not in attendance to provide similar project-specific input. Creating this secondary online opportunity has been successful and generated responses that otherwise would not have been accounted for at the public meetings. 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 (http://www.msdprojectwin.org/Public-Input.aspx).

During the reporting period, MSD facilitated and planned for the following meetings:

- A Stakeholder Kickoff Meeting for the Southwestern Parkway CSO Storage Basin progressive design build approach was held on August 30, 2016;
- Portland CSO Basin Interceptor Relocation Project – A Pardon Our Dust Meeting was held at the Portland Neighborhood House on September 29, 2016; and
- A Wet Weather Team Stakeholder Meeting was held on September 29, 2016, to provide updates on MSD's IOAP progress and activities to date, planned activities for 2016, and an update of activities for MSD's 20-year Comprehensive Facility Plan.

During the next reporting period, the following meetings are planned.

- Story Avenue and Main Street CSO Storage Basin Project – A public meeting to provide updates on the project is planned for October 11, 2016;
- Lexington Road and Payne Street CSO Storage Basin Project – A public meeting to provide updates on the project is planned for October 18, 2016;
- CSO 190 Green Infrastructure Phase 2 – A Pardon Our Dust public meeting is planned for October 25, 2016;
- Southwestern Parkway CSO Storage Basin Project – A Stakeholder Meeting is planned for November 1, 2016;
- I-64 and Grinstead CSO Storage Basin Project – An Advanced Design public meeting is planned for November 15, 2016;

- Southwestern Parkway CSO Storage Basin Project – A public meeting is planned for November 29, 2016; and
- A Wet Weather Team Stakeholder Meeting is planned for December 13, 2016.

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 (www.msdprojectwin.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 continued 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

Activity details are provided in the CMOM schedule provided as **Section 5.4 – CMOM Activity Schedule**.

M-E-10 System Capacity Assurance Program (SCAP)

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 (www.msdprojectwin.org).

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

5.2 Operations Programs

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

Activity details are provided in the CMOM schedule provided as **Section 5.4 – CMOM Activity Schedule**.

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

Activity details are provided in the CMOM schedule provided as **Section 5.4 – CMOM Activity Schedule**.

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 Water Quality Treatment Centers (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 and are outlined below.

5.3.1 Hite Creek Water Quality Treatment Center (WQTC)

The capacity expansion of Hite Creek WQTC is underway. The construction of the Interim Hydraulic Improvements Project continues, as well as the design of the Hite Creek WQTC Expansion Project. Six vendors were selected to participate in a pilot test of dewatering equipment. Pilot testing is complete.

During the next reporting period, evaluation of the results of dewatering tests will be conducted. Additionally, the construction of Interim Hydraulic Improvement Project is expected to be completed during the next reporting period.

Schedules for CPE/CCP related capital projects are provided in **Section 5.4 – CMOM Activity Schedule.**

5.3.2 Floyds Fork Water Quality Treatment Center (WQTC)

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

Schedules for CPE/CCP related capital projects are provided in **Section 5.4 – CMOM Activity Schedule.**

5.3.3 Derek R. Guthrie Water Quality Treatment Center (WQTC)

During this reporting period, construction continued for the Secondary Clarifiers 1, 2 and 3 collection mechanisms replacement projects. Grout removal was completed and installation of mechanisms, along with new grout began. Construction is currently on-hold for the removal and upgrade of Return Activated Sludge (RAS) Pumps 1 and 4, including the replacement of pumps 1 through 4 variable frequency drives in anticipation of a revision to the DRG Facility

Plan. RAS pumps will be bid out as a separate project once the Facilities Plan has been completed.

MSD requested guidance on the steps needed for a rerate of the DRG facility from 30 MGD to 60 MGD, given the increased service area for the plant during wet weather conditions. MSD and KDOW have discussed and developed a plan to coordinate submittals of the DRG Facility Plan, an updated DRG permit application, and the RAS project construction drawings in order to provide the necessary rationale for increasing flows at the plant.

During the next reporting period, repairs to the power system of the wet weather pump station are also planned so that the wet weather pumps can be tested for compliance with specifications. Construction will also continue on the replacement of the secondary clarifiers 1, 2, and 3 mechanisms. Upon the reception KDOW's review of the facility plan, it is anticipated construction will begin for the removal and upgrade of Return Activated Sludge (RAS) Pumps 1 and 4, including replacement of pumps 1 through 4 variable frequency drives.

Schedules for CPE/CCP related capital projects are provided in **Section 5.4 – CMOM Activity Schedule**.

5.3.4 Cedar Creek Water Quality Treatment Center (WQTC)

During this reporting period, construction began for the Cedar Creek WQTC Influent Pump Station Gate Repair and UV Gate Replacement Project. MSD continues the design of the Cedar Creek WQTC Influent Pump Station Motor Controls Upgrade Project.

During the next reporting period, construction of the Cedar Creek WQTC Influent Pump Station Gate Repair and UV Gate Replacement Project will continue, as will the design of Cedar Creek WQTC Influent Pump Station Motor Controls Upgrade Project.

Schedules for CPE/CCP related capital projects are provided in **Section 5.4 – CMOM Activity Schedule**.

5.3.5 Prospect Area Water Quality Treatment Center (WQTC) 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 and KDEP on March 31, 2009. Approval of this plan was received on September 24, 2009 and work is now complete. See **Section 3 – Program Activities for Discharge Abatement Plans** for an update on the design and construction of the projects that make up the elimination plan for the Prospect Area WQTCs. A certification letter dated December 15, 2015, was submitted finalizing the completion of the project.

5.3.6 Jeffersontown Water Quality Treatment Center (WQTC)

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

5.3.9 Other Water Quality Treatment Centers

CMOM related capital projects will be provided in the schedule provided as **Section 5.4 – CMOM Activity Schedule**. All non regional WQTCs have been eliminated.

- McNeely Lake – The McNeely Lake Sanitary Sewer and Force Main Project is complete as of September 27, 2016.
- Bancroft WQTC – The Bancroft WQTC Project is complete as of October 1, 2016.
- Middletown Industrial Park WQTC – The Middletown Industrial Park WQTC Project is complete as of August 26, 2016.

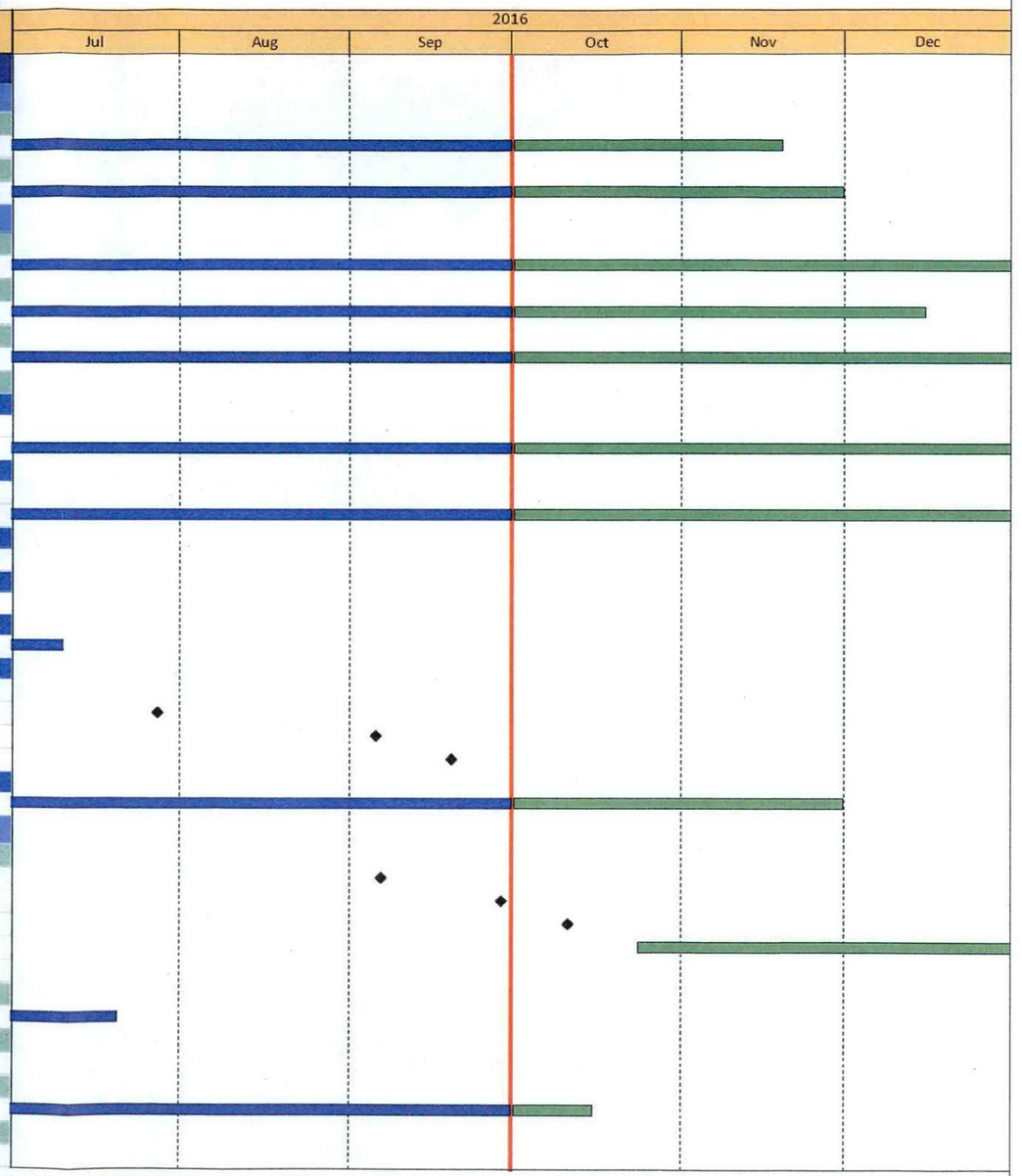
5.4 CMOM Activity Schedule

CMOM capital project milestones for the period of July 1, 2016 through September 30, 2016, as well as a look-ahead for the period of October 1, 2016 through December 31, 2016 are provided in the following schedule.

MSD CMOM FY16 Quarterly Commitments Schedule (01July 2016 - 31 December 2016)

Date: 25-Oct-16

Activity ID	Activity Name	Physical % Complete	Start	Finish
CMOM FY ANNUAL REPORT COMMITMENTS FINAL			06-May-15 A	28-Mar-18
M-E-9 Infrastructure Rehabilitation			19-Nov-15 A	30-Nov-16
Melco Basin Tree Removal (F14171)			19-Nov-15 A	19-Nov-16
A6860	Warranty	86%	19-Nov-15 A	19-Nov-16
SWOR2 Generator (H16357)			21-Apr-16 A	30-Nov-16
A6930	Design	73%	21-Apr-16 A	30-Nov-16
Pump Station Operations Programs			06-May-15 A	31-Dec-17
Lea Ann Way West Quads 1 & 2 (H15125)			31-Dec-15 A	31-Dec-16
A6830	Warranty	75%	31-Dec-15 A	31-Dec-16
34th Street Flood Pump Station Gate 71 Replacement (F15008)			15-Dec-15 A	15-Dec-16
A6840	Warranty	80%	15-Dec-15 A	15-Dec-16
Sneads Branch Pump Replacement (H16076)			21-Apr-16 A	21-Apr-17
A6920	Design	40%	21-Apr-16 A	21-Apr-17
O-A-2 Emergency Operation Programs			06-May-15 A	31-Dec-17
4th Street FPS Gate and Switch Gear Replacement Project (F12095)			23-May-16 A	31-Dec-17
A5180	Award	100%	23-May-16 A	
A5190	Construction	20%	06-Jun-16 A	31-Dec-17
Melco Basin Crane (F14170)			17-Aug-15 A	17-Jun-17
A6240	Construction	100%	17-Aug-15 A	17-Jun-16 A
A6390	Warranty	28%	21-Jun-16 A	17-Jun-17
Bridgepointe Pump Station Access Road			02-Jun-15 A	01-Jun-16 A
A6570	Warranty	100%	02-Jun-15 A	01-Jun-16 A
Fairway View Pump Station Upgrade (H09177)			06-May-15 A	06-May-16 A
A6350	Warranty	100%	06-May-15 A	06-May-16 A
Rosa Terrace Pump Station Improvement			10-Jul-15 A	10-Jul-16 A
A6460	Warranty	100%	10-Jul-15 A	10-Jul-16 A
CMF Generator (H16376)			24-Feb-16 A	20-Sep-16 A
A6870	Design	100%	24-Feb-16 A	30-Jun-16 A
A6880	Ad	100%	28-Jul-16 A	
A6890	Bid Open	100%	06-Sep-16 A	
A6900	Award	100%	20-Sep-16 A	
Ashland Ave Gate Structure (F16003)			21-Apr-16 A	30-Nov-16
A6910	Design	73%	21-Apr-16 A	30-Nov-16
CPE/CPE Treatment Plant Activities			20-Jul-15 A	28-Mar-18
West County Water Quality Treatment Center Gate 145 Electrical Service & Actuator (F14164)			07-Sep-16 A	28-Mar-18
A6580	Ad	100%	07-Sep-16 A	
A6590	Bid Open	100%	29-Sep-16 A	
A6600	Award	0%	11-Oct-16*	
A6610	Construction	0%	24-Oct-16*	27-Mar-17
A6940	Warranty	0%	28-Mar-17	28-Mar-18
SWOR 2 Improvements			20-Jul-15 A	20-Jul-16 A
A6850	Warranty	100%	20-Jul-15 A	20-Jul-16 A
MFWQTC Rubbertown FM Manhole Sampling (H14108)			04-May-16 A	05-May-16 A
A6660	Construction	100%	04-May-16 A	05-May-16 A
Boggess Property Rehab (H12159)			15-Oct-15 A	15-Oct-16
A6710	Warranty	95%	15-Oct-15 A	15-Oct-16
South Pope Lick PS			01-Aug-15 A	21-Jul-17
A6740	Design	100%	01-Aug-15 A	07-Jun-16 A



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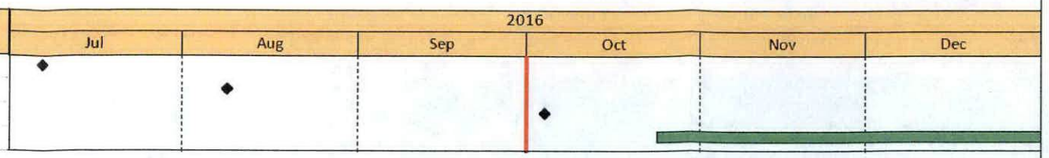
Date Date: 01-Oct-16

MSD CMOM FY16 Quarterly Commitments Schedule (01July 2016 - 31 December 2016)

Date: 25-Oct-16

Activity ID	Activity Name	Physical % Complete	Start	Finish
A6750	Ad	100%	07-Jul-16 A	
A6760	Bid Open	100%	09-Aug-16 A	
A6770	Award	0%	04-Oct-16*	
A6780	Construction	0%	24-Oct-16*	21-Jul-17



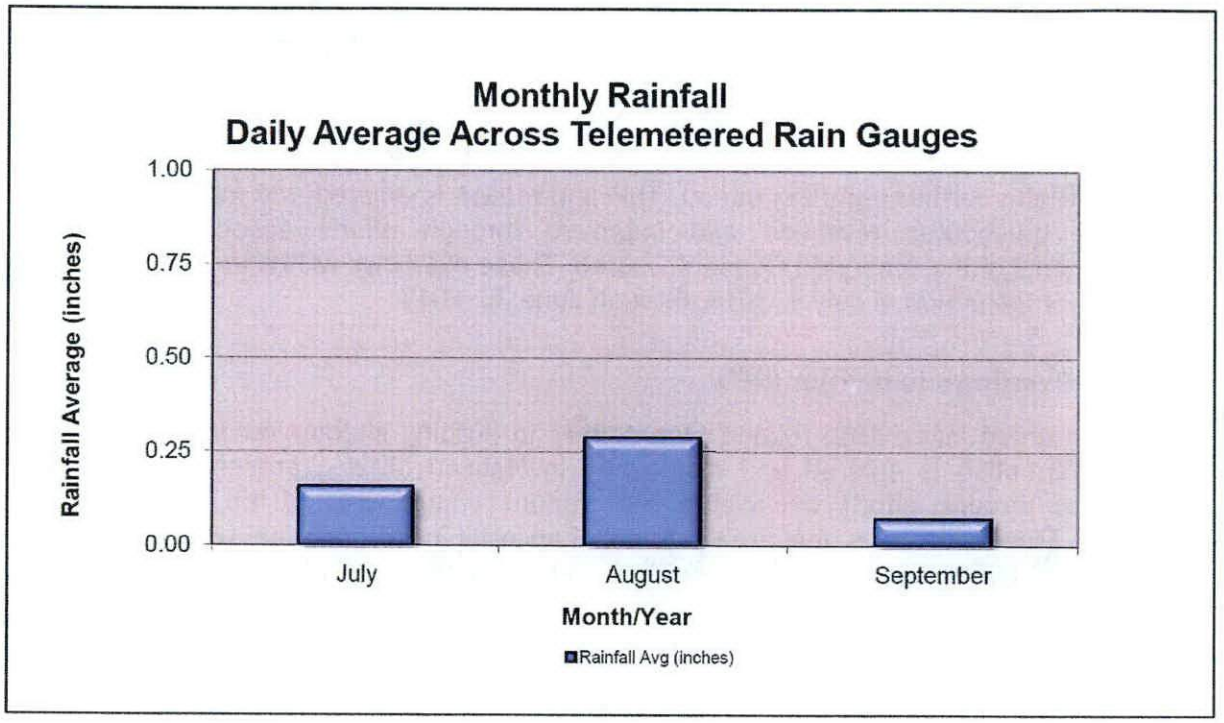
2 of 2

Date Date: 01-Oct-16

SECTION 6: Project WIN Performance Overview

6.1 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. The following graph shows the Jefferson County average rainfall amounts for the last quarter. Data was pulled from MSD's Rain Gauge Network.



A storm frequency analysis for CSOs is included as **Appendix B**.

July, August and September Weather Event Summary

For the reporting period there were no significant weather events to discuss. Precipitation could be characterized as normal summertime thunderstorms with typically heavy downpours for short durations; otherwise hot and dry.

6.2 Collection System Unauthorized Discharges

6.2.1 Collection System Overflows to Waters of the United States (WUS)

MSD recorded information related to overflows reaching 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. Details of these overflows will be included in the Annual Report for the period of July 1, 2016, through June 30, 2017, and will be posted on the Project WIN website.

During this quarter, six unauthorized discharges to the Waters of the United States (WUS) have been reported.

Unauthorized Discharges (Waters of the United States) - July 1, 2016 - September 30, 2016			
Problem	**Dry Weather**	**Wet Weather**	**Total**
Structural Failure	2	0	2
Electrical Problems at MSD	1	0	1
Bypass at WQTC	1	1	2
Power Outage (LG&E)	0	1	1
Total	4	2	6

6.2.2 Overflows to Ground (EXT)

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 period of July 1, 2016, through June 30, 2017.

6.2.3 Overflows to Interior (INT)

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 period of July 1, 2016, through June 30, 2017.

6.2.4 Dry Weather Combined Sewer Overflows (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 period of July 1, 2016, through June 30, 2017. The following table summarizes dry weather CSOs that occurred during the quarter. **Appendix A-1** includes details on the dry weather overflows that occurred in the quarter.

There was one dry weather overflow reported at a CSO during the reporting period.

Dry Weather CSO - July 1, 2016 - September 30, 2016					
CSO	Type of Discharge	Date/Time	Problem	Cause	Volume (GAL)
CSO191	Sewer Manhole	9/14/2016 7:05 AM	Electrical Problems at MSD	Electrical Malfunction	260,000

6.3 Combined Sewer Overflow (CSO) Reductions

Included in **Appendix B** is the CSO data for this reporting period. 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 with modeled overflow volumes for similar storms. It was determined that several CSO flow monitors are affected by backwater levels from the receiving streams causing an over-reporting of actual overflow volume. An effort is currently underway to review and revise reporting procedures at 33 CSO locations where potentially significant discrepancies were noted between modeling and monitoring. This initial effort will be completed by the end of FY17, the remaining CSOs will be reviewed thereafter. Until the review is complete, Appendix B will be listed as "Draft" and include the statement "CSO data monitoring procedures are currently being revised". Appendix B will continue to be included in this report on a quarterly basis and will include updated volumes based on completion of the review and update of the reporting standards for each CSO.

There were no CSO reduction projects that were completed during this reporting period.

6.4 Sanitary Sewer Overflow (SSO) Reductions

Estimation of SSO volume is not available in the same manner as it is for the CSO locations. The SSO volumes reported are estimates based on visual observations or from flow monitoring information. There were no SSO reduction projects completed during this reporting period.

6.5 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. The following data was compiled for the period of July 1, 2016, to September 30, 2016. The first table includes data and targets. The second table includes unplanned maintenance and other maintenance activities that are performed in response to inspection.

Rolling Quarterly GLPM Performance With Targets							
	Oct-Dec	Jan-Mar	Apr-Jun	**Jul-Sep**	Total	Target/ qtr	% of Annual Target
COMBINED SEWER AREA							
Catch Basins Cleaned CSO Area - PM	6,087	7,176	3,358	**3,610**	20,231	4,460	20%
CSO Inspections	1,364	1,273	1,267	**1,279**	5,183	1,272	25%
SANITARY SEWER AREA							
Catch Basins Cleaned SSO Area - PM	1,444	402	1,524	**1,212**	4,582	1,144	26%
COUNTY WIDE							
Sewer Main Inspections MSD Crews (LF)	0	82,451	63,267	**62,037**	207,755	198,000	8%
Sewer Main Inspections Contractor (LF)	217,581	195,010	131,248	**28,125**	571,964	198,000	4%
Total Inspections (LF)	217,581	277,461	194,515	**90,162**	779,718	396,000	6%

Rolling quarterly GLPM performance is related to unplanned maintenance; therefore no targets have been developed.

Rolling Quarterly GLPM Performance					
	Oct-Dec	Jan-Mar	Apr-Jun	**Jul-Sep**	Total
COMBINED SEWER AREA					
Catch Basins Cleaned CSO Area - UM	226	165	234	**404**	1,029
CSO Debris Removal WO	169	126	178	**165**	638
Chemical Root Treatment CSO Area (LF)	11,980	22,377	22,393	**0**	56,750
Root Cutting CSO Area (LF)	0	1,541	0	**250**	1,791
Flushing and Cleaning of Sewer Mains CSO Area (LF)	27,496	4,127	295	**2,725**	34,643
SANITARY SEWER AREA					
Catch Basins Cleaned SSO Area - UM	85	80	90	**71**	326
Chemical Root Treatment SSO Area (LF)	85,820	144,079	79,071	**0**	308,970
Root Cutting SSO Area (LF)	15,303	21,345	7,808	**7,200**	51,656
Flushing and Cleaning of Sewer Mains SSO Area (LF)	41,861	32,663	95,459	**25,680**	195,662

6.6 Water Quality Treatment Center Bypasses

6.6.1 Bypass Events

The table below summarizes the bypass events that occurred during this reporting period.

Bypass Events - July 1, 2016 to September 30, 2016			
Type of Bypass	**Date**	**ID**	**Facility Name**
DRY WEATHER DISCHARGE	9/25/2016	MSD0202	HITE CREEK
RAIN EVENT DISCHARGE	8/15/2016	MSD0278	MORRIS FORMAN

6.6.2 Bypass Corrective Actions

Each quarter, an assessment of bypasses is conducted to determine the root cause of the bypass, the failure category, corrective actions to be taken, possible programmatic solutions, and corrective action completion date. Refer to the following table for causes of bypasses and respective corrective actions that occurred July 1, 2016 through September 30, 2016.

BYPASS SUMMARY – JULY 1, 2016, TO SEPTEMBER 30, 2016					
DATE	WQTC	WORK ORDER	FAILURE CODE	BYPASS DESCRIPTION	FAILURE RESOLUTION
Capacity (CAP)					
N/A	N/A	N/A	N/A	N/A	N/A
Human Error (OPN)					
N/A	N/A	N/A	N/A	N/A	N/A
Facility Failure (Mechanical - MCH, Electrical - ELE, Structural - STR)					
N/A	N/A	N/A	N/A	N/A	N/A
External Power failures (LGE Related-PWR)					
8/15/2016	MORRIS FORMAN	2601696	PWR	On August 15, 2016 at approximately 4:46 AM the MFWQTC experienced a complete power outage. This power outage included a loss of plant flow control in the MFWQTC Control Room for the Main Diversion Structure and the Southwestern Pump Station as well as flow control systems at MFWQTC. MFWQTC is operating at reduced capacity due to capital construction in the headworks facility. The loss of control, coupled with rapid flow increase to the plant overwhelmed the existing plant headworks capacity causing untreated flow to escape the system and enter some plant drains which lead directly to the Ohio River.	Generator power took effect at the Morris Forman secondary bypass gate which was opened to relieve pressure at the headworks, allowing all incoming flow to enter the plant. Additional comments: Based on the area of MFWQTC reportedly covered by flow escaping the treatment system, and the drains that lead directly to the Ohio River it is estimated that approximately 40,000 gallons of untreated wastewater entered the Ohio River.
9/25/2016	HITE CREEK	2622093	PWR	On September 25, 2016, Hite Creek WQTC experienced a power outage from LG&E, the facility's electric utility provider. Although the back-up generator for the UV disinfection system did come on, it did not automatically transfer power to the UV system. Approximately 77,620 gallons of partially treated wastewater bypassed UV disinfection until the generator power could be manually transferred to the UV system. The bypassed volume received full preliminary and secondary treatment.	MSD personnel retained electrical contractors who conducted troubleshooting testing of the electrical components and generator switch gear. During the testing, it was found that the switch gear is not transferring power automatically to the UV system. MSD has commissioned the contractor to make the necessary repairs on the switch gear. Until the switch gear is repaired, MSD will staff an operator on plant, on all shifts to manually transfer generator power to the UV system in the event of a power loss.
Utility Damage					
N/A	N/A	N/A	N/A	N/A	N/A

6.6.3 Jeffersontown Water Quality Treatment Center

A letter dated December 23, 2015, certified the elimination of the Jeffersontown WQTC. Inspections were conducted upstream of what was previously the Jeffersontown WQTC Headworks two times during the reporting period. No overflows were reported as a result of these inspections. Refer to Section 2 for SSO Route information.

6.7 Phosphorus Monitoring at the Prospect WQTCs

All Prospect Treatment Plants have been eliminated per the Amended Consent Decree. All plants were offline as of September 2015.

Appendix A-1 - Discharge Work Orders – Dry Weather CSOs

APPENDIX A-1
UNAUTHORIZED DISCHARGES
TO WATERS OF UNITED STATES
JULY 1, 2016 THROUGH SEPTEMBER 30, 2016

Associated Wastewater Treatment Plant Name	Associated Treatment Plant KPDES #	Overflow Location	Overflow Start Date & Time	Overflow Stop Date & Time	Volume of Overflow	Source Asset Type	Source Asset ID	Facility Discharges To	Receiving Stream	Cause of Overflow	Due To	WO #	Cleanup Efforts by MSD	Repair Efforts by MSD
MORRIS FORMAN	KY0022411	4010 BELLS LN	09/14/16 7:05: AM	09/14/16 07:30 PM	260,000	SEWER MANHOLE	CSO191	STREAM	OHIO RIVER	ELECTRICAL MALFUNCTION	ELECTRICAL PROBLEMS AT MSD	2617614	NA - PIPE DISCHARGE SUBMERGED	REPLACED PLC MODULE

Appendix A-2 - Discharge Work Orders – Bypass

APPENDIX A-2
UNAUTHORIZED DISCHARGES TO WATERS OF UNITED STATES
JULY 1, 2016 THROUGH SEPTEMBER 30, 2016

Associated Wastewater Treatment Plant Name	Associated Treatment Plant KPDES #	Overflow Location	Overflow Start Date & Time	Overflow Stop Date & Time	Volume of Overflow	Source Asset Type	Source Asset ID	Facility Discharges To	Receiving Stream	Cause of Overflow	Due To	WO #	Cleanup Efforts by MSD	Repair Efforts by MSD
HITE CREEK	KY0022420	5500 HITT RD	09/25/16 10:45: AM	09/25/16 11:10 AM	77,620	SEWER TREATMENT PLANT	MSD0202	STREAM	HITE CREEK	LG&E POWER OUTAGE IN AREA	BYPASS AT WQTC	2622093	NO CLEANUP REQUIRED, MOSTLY TREATED EFFLUENT	STANDBY GENERATOR PLACED INTO SERVICE MANUALLY. CONTRACTOR TO REPAIR AUTOMATIC TRANSFER SWITCH
MORRIS FORMAN	KY0022411	4522 ALGONQUIN PKY	08/15/16 4:45: AM	08/17/16 06:20 AM	9,100,000	SEWER TREATMENT PLANT	MSD0278	STREAM	OHIO RIVER	POWER OUTAGE	BYPASS AT WQTC	2601696	WASHED DOWN AREA TO CATCH BASINS THAT RETURN FLOW TO HEADWORKS OF PLANT AND VACTORING DEBRIS	POWER RESTORED TO THE PLANT

Appendix A-3 - Discharge Work Orders – Waters of the United States

APPENDIX A-3
UNAUTHORIZED DISCHARGES TO WATERS OF UNITED STATES
JULY 1, 2016 THROUGH SEPTEMBER 30, 2016

Associated Wastewater Treatment Plant Name	Associated Treatment Plant KPDES #	Overflow Location	Overflow Start Date & Time	Overflow Stop Date & Time	Volume of Overflow	Source Asset Type	Source Asset ID	Facility Discharges To	Receiving Stream	Cause of Overflow	Due To	WO #	Cleanup Efforts by MSD	Repair Efforts by MSD
HITE CREEK	KY0022420	5500 HITT RD	09/25/16 10:45 AM	09/25/16 11:10 AM	77,620	SEWER TREATMENT PLANT	MSD0202	STREAM	HITE CREEK	LG&E POWER OUTAGE IN AREA	BYPASS AT WQTC	2622093	NO CLEANUP REQUIRED, MOSTLY TREATED EFFLUENT	STANDBY GENERATOR PLACED INTO SERVICE MANUALLY. CONTRACTOR TO REPAIR AUTOMATIC TRANSFER SWITCH
DEREK R. GUTHRIE	KY0078956	3706 NOBEL CT	08/08/16 12:50 PM	08/08/16 01:00 PM	250	SEWER MAIN	06940E-AG	GROUND	MILL CREEK	BROKEN FORCE MAIN APPROX. 40' FROM ROSA TERRACE PUMP STATION IN STORM DITCH	STRUCTURAL FAILURE	2600078	B&H VACTORING OUT SEWAGE IN DITCH LINE AND LIME APPLIED	CHEROKEE CONSTRUCTION TO DIG AND REPAIR 4" CAST IRON FORCE MAIN PIPE. 8/9/16 SEED + STRAW PUT DOWN
DEREK R. GUTHRIE	KY0078956	4005 KIRBY LN	07/27/16 8:00: PM	07/27/16 09:30 PM	9,000	SEWER LIFT STATION	MSD1203-PS	STREAM	FERN CREEK	POWER OUTAGE	POWER OUTAGE (LG&E)	2594002	PIPE DISCHARGE SUBMERGED- NO CLEANUP	RESTORED POWER
MORRIS FORMAN	KY0022411	4010 BELLS LN	09/14/16 7:05: AM	09/14/16 07:30 PM	260,000	SEWER MANHOLE	CSO191	STREAM	OHIO RIVER	ELECTRICAL MALFUNCTION	ELECTRICAL PROBLEMS AT MSD	2617614	NA - PIPE DISCHARGE SUBMERGED	REPLACED PLC MODULE
MORRIS FORMAN	KY0022411	4522 ALGONQUIN PKY	08/15/16 4:45: AM	08/17/16 06:20 AM	9,100,000	SEWER TREATMENT PLANT	MSD0278	STREAM	OHIO RIVER	POWER OUTAGE	BYPASS AT WQTC	2601696	WASHED DOWN AREA TO CATCH BASINS THAT RETURN FLOW TO HEADWORKS OF PLANT AND VACTORING DEBRIS	POWER RESTORED TO THE PLANT
FLOYDS FORK	KY0102784	14310 LAKE FOREST DR	07/24/16 11:33: AM	07/24/16 02:50 PM	5	SEWER MAIN	80351B-AG	GROUND	CHENOWETH RUN	FORCE MAIN BREAK IN REAR OF FENCED IN PROPERTY 14307 WAKEFIELD PLACE. FOUND HOLE IN THE SIDE OF THE PIPE SIZE OF A DIME.	STRUCTURAL FAILURE	2590359	MSD WILL CLEAN AREA. MSD BAGGED UP SLUGDE AND ADDED LIME FOR DISIFECTION.	B&H HAULED STATION WHILE MAC CONSTRUCTION MADE REPAIRS. 12' OF 4" FORCE MAIN REPLACED. RESTORATION COMPLETED.

Appendix B – CSO Flow Monitoring Data

CSO	Start Date-Time	End Date-Time	Total Volume (Gal)	Duration (Minutes)	Rain Total (Inch)	Volume per Inch	Antecedent Rain	Frequency	Period	Standard
CSO015	7/3/16 1:30 PM	7/4/16 1:30 AM	23,039,480.69	720	1.2	19,199,567.24	0.72	0.39	48	Atlas
CSO015	7/4/16 10:00 AM	7/4/16 10:45 PM	27,783,955.20	765	1.2	23,153,296.00	1.2	0.39	48	Atlas
CSO015	7/6/16 2:30 PM	7/6/16 4:30 PM	10,754,128.50	120	0.33	32,588,268.18	1.53	0.23	1	Atlas
CSO015	7/12/16 11:00 AM	7/12/16 1:45 PM	21,148,434.15	165	0.21	100,706,829.30	0.86	0.16	1	Atlas
CSO015	7/25/16 4:45 PM	7/25/16 5:00 PM	1,853,927.18	15	0.61	3,039,224.88	0.61	0.44	1	Atlas
CSO015	7/28/16 4:30 AM	7/28/16 6:45 AM	14,831,028.55	135	0.68	21,810,336.10	1.2	0.31	12	Atlas
CSO015	7/30/16 3:15 PM	7/30/16 5:30 PM	26,280,350.55	135	0.56	46,929,197.41	1.95	0.49	1	Atlas
CSO015	7/31/16 6:15 PM	7/31/16 8:30 PM	36,346,658.73	135	0.46	79,014,475.49	2.41	0.39	1	Atlas
CSO015	8/1/16 10:15 PM	8/2/16 12:15 AM	17,908,876.20	120	0.35	51,168,217.71	2.15	0.28	1	Atlas
CSO015	8/4/16 4:30 PM	8/5/16 12:15 AM	7,352,479.01	465	0.13	56,557,530.85	1.57	0.10	1	Atlas
CSO015	8/5/16 4:45 PM	8/5/16 7:45 PM	3,862,992.30	180	0.21	18,395,201.43	1.77	0.14	3	Atlas
CSO015	8/14/16 5:30 PM	8/14/16 7:15 PM	4,750,713.68	105	1.25	3,800,570.94	0.28	0.63	3	Atlas
CSO015	8/15/16 4:30 AM	8/15/16 9:15 PM	190,012,186.00	1005	1.25	152,009,748.80	1.46	0.63	3	Atlas
CSO015	8/17/16 6:45 AM	8/18/16 12:15 AM	50,832,455.36	1050	0.81	62,756,117.73	2.06	0.34	12	Atlas
CSO015	8/20/16 3:15 PM	8/21/16 12:30 PM	123,273,198.60	1275	1.63	75,627,729.17	3.69	0.69	12	Atlas
CSO015	8/28/16 7:00 PM	8/28/16 10:00 PM	19,049,712.63	180	0.15	126,998,084.20	0.06			
CSO015	9/10/16 5:15 PM	9/10/16 5:30 PM	866,881.18	15	0.32	2,709,003.67	0.33	0.20	3	Atlas
CSO015	9/26/16 11:30 AM	9/26/16 1:15 PM	4,836,449.63	105	0.27	17,912,776.39	0.27	0.18	3	Atlas
CSO015	9/28/16 2:00 PM	9/28/16 7:00 PM	15,276,756.22	300	0.36	42,435,433.95	0.63	0.21	3	Atlas
CSO015	9/30/16 3:45 AM	9/30/16 6:15 AM	15,540,826.15	150	0.65	23,908,963.31	1.26	0.30	3	Atlas
CSO015	9/30/16 3:45 PM	9/30/16 7:00 PM	2,458,622.71	195	0.65	3,782,496.48	1.37	0.30	3	Atlas
CSO015	**Count**		21							
CSO015	**Total**		618,060,113.20							
CSO016	7/3/16 1:15 PM	7/5/16 3:45 AM	33,038,968.51	2310	1.27	26,014,935.83	1.33	0.41	48	Atlas
CSO016	7/6/16 3:00 PM	7/6/16 9:00 PM	5,078,331.14	360	0.18	28,212,950.75	1.45	0.11	3	Atlas
CSO016	7/12/16 11:45 AM	7/12/16 6:30 PM	6,068,371.10	405	0.21	28,897,005.25	0.65	0.17	1	Atlas
CSO016	7/20/16 9:45 PM	7/20/16 10:00 PM	21,481.50	15	Potential Discharge		0.23			
CSO016	7/28/16 4:30 AM	7/28/16 12:00 PM	7,089,770.01	450	0.51	13,901,509.83	0.86	0.23	12	Atlas
CSO016	7/30/16 3:45 PM	7/30/16 7:45 PM	3,612,214.01	240	0.23	15,705,278.29	1.12	0.20	1	Atlas
CSO016	8/1/16 12:45 PM	8/2/16 3:30 AM	6,237,411.39	885	0.3	20,791,371.28	1.66	0.24	1	Atlas
CSO016	8/5/16 4:00 PM	8/5/16 6:45 PM	1,552,221.21	165	0.29	5,352,486.92	1.23	0.20	1	Atlas
CSO016	8/15/16 4:30 AM	8/15/16 2:30 PM	11,859,761.41	600	1.16	10,223,932.25	1.51	0.57	6	Atlas
CSO016	8/17/16 7:00 AM	8/17/16 6:15 PM	12,604,376.02	675	0.98	12,861,608.19	2.15	0.47	3	Atlas
CSO016	8/20/16 12:30 PM	8/21/16 5:15 AM	18,366,342.30	1005	1.89	9,717,641.43	4.04	0.82	12	Atlas
CSO016	9/10/16 5:15 PM	9/10/16 8:00 PM	1,288,478.80	165	0.33	3,904,481.21	0.34	0.21	3	Atlas
CSO016	9/26/16 12:30 PM	9/26/16 3:15 PM	1,046,840.29	165	0.28	3,738,715.30	0.28	0.19	3	Atlas
CSO016	9/28/16 2:30 PM	9/28/16 7:30 PM	4,746,552.53	300	0.38	12,490,927.72	0.66	0.21	3	Atlas
CSO016	9/30/16 2:45 AM	9/30/16 8:45 AM	6,696,654.74	360	0.71	9,431,908.08	1.3	0.31	3	Atlas
CSO016	**Count**		15							
CSO016	**Total**		119,307,774.95							

CSO	Start Date-Time	End Date-Time	Total Volume (Gal)	Duration (Minutes)	Rain Total (Inch)	Volume per Inch	Antecedent Rain	Frequency	Period	Standard
CSO018	7/27/16 7:30 PM	7/27/16 11:00 PM	37,736.51	210	1.61	23,438.82	1.37	0.92	1	Atlas
CSO018	8/1/16 9:30 PM	8/2/16 12:00 AM	91,850.61	150	1.08	85,046.86	3.36	0.60	1	Atlas
CSO018	8/15/16 4:15 AM	8/15/16 4:45 AM	24,768.37	30	1.68	14,743.08	1.69	0.76	3	Atlas
CSO018	8/20/16 4:45 PM	8/20/16 9:45 PM	47,288.44	300	0.89	53,133.08	3.15	0.40	1	Atlas
CSO018	9/10/16 4:15 PM	9/10/16 4:30 PM	33,830.49	15	0.41	82,513.40	0.39	0.32	1	Atlas
CSO018	**Count**		5							
CSO018	**Total**		235,474.43							
CSO019	7/3/16 7:15 AM	7/5/16 6:00 AM	2,237,254.15	2805	1.6	1,398,283.85	1.69	0.52	48	Atlas
CSO019	7/6/16 1:00 PM	7/6/16 1:00 PM	663.01	0	0.08	8,287.63	1.68	0.07	1	Atlas
CSO019	7/8/16 1:00 AM	7/8/16 1:00 AM	346.59	0	0.28	1,237.83	1.73	0.19	1	Atlas
CSO019	7/8/16 10:00 AM	7/8/16 1:30 PM	59,565.67	210	0.28	212,734.55	1.97	0.19	1	Atlas
CSO019	7/12/16 8:45 AM	7/12/16 1:45 PM	40,970.81	300	0.15	273,138.70	0.51	0.08	6	Atlas
CSO019	7/20/16 7:30 PM	7/20/16 8:45 PM	470,029.45	75	0.01	47,002,945.20	0.34	0.01	1	Atlas
CSO019	7/25/16 12:30 PM	7/25/16 1:45 PM	40,739.87	75	0.26	156,691.81	0.2	0.14	6	Atlas
CSO019	7/26/16 5:30 PM	7/26/16 6:45 PM	9,699.20	75	0.26	37,304.61	0.54	0.23	1	Atlas
CSO019	7/27/16 5:45 PM	7/28/16 4:30 AM	339,467.64	645	0.31	1,095,056.89	0.81	0.13	12	Atlas
CSO019	7/30/16 1:45 PM	7/30/16 2:45 PM	16,294.63	60	0.28	58,195.12	1.13	0.23	1	Atlas
CSO019	7/31/16 3:45 PM	7/31/16 3:45 PM	33,364.69	0	0.01	3,336,468.75	1.14	0.01	1	Atlas
CSO019	8/1/16 10:45 AM	8/1/16 8:30 PM	295,973.59	585	0.67	441,751.62	1.81	0.54	1	Atlas
CSO019	8/4/16 12:30 PM	8/4/16 1:15 PM	113,449.80	45	0.33	343,787.28	0.99			
CSO019	8/5/16 2:00 PM	8/5/16 3:15 PM	9,691.94	75	0.21	46,152.08	1.21	0.17	1	Atlas
CSO019	8/9/16 3:30 PM	8/9/16 5:00 PM	36,787.32	90	0.54	68,124.68	0.76	0.46	1	Atlas
CSO019	8/15/16 2:30 AM	8/15/16 2:00 PM	1,339,672.91	690	1.13	1,185,551.24	1.74	0.61	3	Atlas
CSO019	8/17/16 4:00 AM	8/18/16 12:45 AM	3,067,053.02	1245	1.41	2,175,214.90	2.61	0.77	1	Atlas
CSO019	8/19/16 7:45 PM	8/19/16 8:30 PM	113,373.90	45	0.01	11,337,389.94	2.59	0.01	1	Atlas
CSO019	8/20/16 6:45 AM	8/21/16 6:00 AM	2,519,676.44	1395	1.41	1,787,004.57	4	0.61	12	Atlas
CSO019	8/27/16 12:45 PM	8/27/16 2:00 PM	315,005.51	75	0.2	1,575,027.57	1.08	0.17	1	Atlas
CSO019	8/31/16 5:30 PM	8/31/16 6:45 PM	21,851.19	75	0.36	60,697.75	0.58	0.30	1	Atlas
CSO019	9/8/16 11:15 PM	9/8/16 11:15 PM	1,490.33	0	0.03	49,677.78	0.02	0.03	1	Atlas
CSO019	9/10/16 2:00 PM	9/10/16 4:30 PM	64,749.51	150	0.21	308,331.02	0.22	0.13	3	Atlas
CSO019	9/26/16 9:00 AM	9/26/16 12:00 PM	48,552.15	180	0.25	194,208.60	0.24	0.16	3	Atlas
CSO019	9/28/16 11:00 AM	9/28/16 4:00 PM	146,385.90	300	0.45	325,302.01	0.68	0.24	3	Atlas
CSO019	9/29/16 9:00 AM	9/29/16 1:00 PM	45,539.51	240	0.58	78,516.39	0.84	0.23	3	Atlas
CSO019	9/30/16 12:00 AM	9/30/16 9:45 AM	543,796.25	585	0.58	937,579.74	1.25	0.23	3	Atlas
CSO019	**Count**		27							
CSO019	**Total**		11,931,444.99							
CSO020	7/3/16 1:30 PM	7/3/16 10:30 PM	143,147.26	540	1.3	110,113.28	0.78	0.42	48	Atlas
CSO020	7/4/16 4:00 PM	7/4/16 6:15 PM	363,952.81	135	1.3	279,963.70	1.31	0.42	48	Atlas
CSO020	7/12/16 11:30 AM	7/12/16 11:45 AM	117,602.48	15	0.25	470,409.94	0.48	0.16	3	Atlas
CSO020	7/28/16 4:30 AM	7/28/16 5:00 AM	294,066.90	30	0.67	438,905.82	0.88	0.31	1	Atlas

CSO	Start Date-Time	End Date-Time	Total Volume (Gal)	Duration (Minutes)	Rain Total (Inch)	Volume per Inch	Antecedent Rain	Frequency	Period	Standard
CSO020	7/30/16 3:30 PM	7/30/16 4:15 PM	90,920.00	45	0.13	699,384.64	1.16	0.11	1	Atlas
CSO020	8/15/16 4:00 AM	8/15/16 10:00 AM	4,783,450.74	360	0.75	6,377,934.32	1.16	0.39	6	Atlas
CSO020	8/17/16 7:30 AM	8/17/16 9:30 AM	2,854,442.53	120	0.79	3,613,218.39	1.72	0.35	3	Atlas
CSO020	8/20/16 3:30 PM	8/20/16 11:30 PM	4,249,269.18	480	1.37	3,101,656.33	3.06	0.67	1	Atlas
CSO020	8/31/16 7:00 PM	8/31/16 7:45 PM	185,895.72	45	0.43	432,315.64	0.49	0.36	1	Atlas
CSO020	9/30/16 3:00 AM	9/30/16 4:00 AM	192,991.96	60	0.58	332,744.75	1.27	0.31	3	Atlas
CSO020 Count			10							
CSO020 Total			13,275,739.58							
CSO022	7/28/16 4:15 AM	7/28/16 4:30 AM	398,182.43	15	0.74	538,084.36	0.98	0.37	1	Atlas
CSO022	7/30/16 3:15 PM	7/30/16 3:15 PM	18,728.98	0	0.17	110,170.47	1.32	0.15	1	Atlas
CSO022	8/1/16 12:15 PM	8/1/16 12:15 PM	7,405.95	0	0.58	12,768.88	1.86	0.45	1	Atlas
CSO022	8/12/16 3:00 PM	8/12/16 3:00 PM	75,973.07	0	0.27	281,381.74	0.35	0.20	1	Atlas
CSO022	8/15/16 4:15 AM	8/15/16 4:15 AM	16,159.41	0	0.76	21,262.38	0.92	0.41	3	Atlas
CSO022	8/17/16 7:45 AM	8/17/16 8:00 AM	344,528.20	15	0.96	358,883.54	1.92	0.43	3	Atlas
CSO022 Count			6							
CSO022 Total			860,978.03							
CSO027	8/17/16 6:45 AM	8/17/16 7:15 AM	38,836.94	30	0.93	41,760.15	1.96	0.43	3	Atlas
CSO027	8/20/16 2:30 PM	8/20/16 2:30 PM	38,175.38	0	1.38	27,663.32	2.62	0.59	12	Atlas
CSO027	8/27/16 1:00 PM	8/27/16 1:45 PM	83,041.97	45	0.01	8,304,197.32	1.19	0.01	1	Atlas
CSO027	9/10/16 3:30 PM	9/10/16 4:00 PM	35,409.12	30	0.19	186,363.77	0.17	0.12	1	Atlas
CSO027 Count			4							
CSO027 Total			195,463.40							
CSO028	7/3/16 11:45 AM	7/3/16 8:45 PM	28,910.09	540	1.35	21,414.88	0.76	0.44	48	Atlas
CSO028	7/4/16 8:00 AM	7/4/16 4:30 PM	38,883.50	510	1.35	28,802.59	1.35	0.44	48	Atlas
CSO028	7/20/16 7:45 PM	7/20/16 10:15 PM	7,817.69	150	0.1	78,176.88	0.32	0.09	1	Atlas
CSO028	7/28/16 3:15 AM	7/28/16 9:00 AM	27,652.08	345	0.7	39,502.98	1.02	0.32	12	Atlas
CSO028	8/15/16 3:15 AM	8/15/16 8:30 AM	44,338.34	315	0.87	50,963.61	1.21	0.43	6	Atlas
CSO028	8/17/16 4:45 AM	8/17/16 11:00 AM	32,557.38	375	0.93	35,007.93	2.08	0.43	3	Atlas
CSO028	8/20/16 2:30 PM	8/21/16 6:45 AM	113,494.11	975	1.38	82,242.11	3.22	0.59	12	Atlas
CSO028	9/28/16 12:30 PM	9/28/16 3:30 PM	19,649.54	180	0.38	51,709.32	0.64	0.21	6	Atlas
CSO028	9/30/16 12:15 AM	9/30/16 5:00 AM	41,568.71	285	0.68	61,130.46	1.31	0.35	3	Atlas
CSO028 Count			9							
CSO028 Total			354,871.45							
CSO029	7/3/16 7:45 PM	7/3/16 11:45 PM	178,535.17	240	1.35	132,248.28	0.85	0.44	48	Atlas
CSO029	7/6/16 1:00 PM	7/6/16 1:00 PM	6,641.21	0	0.17	39,065.93	1.49	0.11	1	Atlas
CSO029	7/26/16 5:45 PM	7/26/16 5:45 PM	7,896.72	0	0.16	49,354.49	0.42	0.14	1	Atlas
CSO029	7/27/16 11:30 PM	7/28/16 3:15 AM	142,072.62	225	0.7	202,960.88	0.85	0.32	12	Atlas
CSO029	7/30/16 2:00 PM	7/30/16 2:00 PM	5,609.21	0	0.48	11,685.85	1.53	0.42	1	Atlas
CSO029	8/1/16 11:00 AM	8/1/16 11:00 AM	3,279.04	0	0.34	9,644.24	1.88	0.28	1	Atlas
CSO029	8/12/16 2:00 PM	8/12/16 2:00 PM	3,689.40	0	0.27	13,664.43	0.38	0.22	1	Atlas

CSO	Start Date-Time	End Date-Time	Total Volume (Gal)	Duration (Minutes)	Rain Total (Inch)	Volume per Inch	Antecedent Rain	Frequency	Period	Standard
CSO029	8/15/16 3:00 AM	8/15/16 5:30 AM	16,809.75	150	0.87	19,321.55	1.12	0.43	6	Atlas
CSO029	8/17/16 6:45 AM	8/17/16 7:00 AM	68,898.37	15	0.93	74,084.27	1.96	0.43	3	Atlas
CSO029	8/20/16 2:15 PM	8/20/16 8:00 PM	203,395.94	345	1.38	147,388.36	3.06	0.59	12	Atlas
CSO029	9/30/16 1:45 AM	9/30/16 1:45 AM	4,107.48	0	0.68	6,040.41	1.16	0.35	3	Atlas
CSO029 Count			11							
CSO029 Total			640,934.90							
CSO031	7/27/16 11:45 PM	7/28/16 9:45 AM	107,855.03	600	0.7	154,078.61	1.02	0.32	12	Atlas
CSO031	7/30/16 2:15 PM	7/30/16 2:30 PM	14,616.72	15	0.48	30,451.50	1.54	0.42	1	Atlas
CSO031	8/1/16 11:15 AM	8/1/16 12:00 PM	22,059.67	45	0.34	64,881.38	1.89	0.28	1	Atlas
CSO031	8/17/16 6:45 AM	8/17/16 7:30 AM	40,127.53	45	0.93	43,147.88	1.96	0.43	3	Atlas
CSO031	8/20/16 2:30 PM	8/21/16 10:15 PM	404,240.74	1905	1.38	292,928.07	3.22	0.59	12	Atlas
CSO031	8/28/16 10:00 PM	8/28/16 10:15 PM	3,447.66	15	0.14	24,626.11	0.15	0.12	1	Atlas
CSO031 Count			6							
CSO031 Total			592,347.33							
CSO034	7/27/16 11:45 PM	7/28/16 3:30 AM	6,744.90	225	0.7	9,635.57	0.85	0.32	12	Atlas
CSO034	7/30/16 2:15 PM	7/30/16 2:15 PM	4,974.86	0	0.48	10,364.30	1.54	0.42	1	Atlas
CSO034	8/17/16 7:00 AM	8/17/16 7:00 AM	3,806.38	0	0.93	4,092.88	1.96	0.43	3	Atlas
CSO034	8/20/16 2:30 PM	8/21/16 8:00 PM	9,223,984.04	1770	1.38	6,684,046.40	3.22	0.59	12	Atlas
CSO034 Count			4							
CSO034 Total			9,239,510.17							
CSO035	7/3/16 8:00 PM	7/3/16 8:00 PM	120,799.68	0	1.28	94,374.75	0.64	0.42	48	Atlas
CSO035	7/6/16 1:15 PM	7/6/16 1:15 PM	16,922.68	0	0.17	99,545.16	1.43	0.13	1	Atlas
CSO035	7/12/16 9:45 AM	7/12/16 9:45 AM	783.27	0	0.22	3,560.32	0.51	0.14	3	Atlas
CSO035	7/26/16 6:00 PM	7/26/16 6:00 PM	6,896.74	0	0.09	76,630.44	0.25	0.08	1	Atlas
CSO035	7/27/16 11:45 PM	7/28/16 3:30 AM	419,421.18	225	0.67	626,001.77	0.71	0.31	12	Atlas
CSO035	7/30/16 2:15 PM	7/30/16 2:30 PM	238,811.15	15	0.45	530,691.45	1.38	0.39	1	Atlas
CSO035	8/1/16 11:15 AM	8/1/16 11:15 AM	107,063.61	0	0.41	261,130.75	1.79	0.34	1	Atlas
CSO035	8/12/16 2:15 PM	8/12/16 2:15 PM	47,994.17	0	0.2	239,970.84	0.3	0.16	1	Atlas
CSO035	8/15/16 3:15 AM	8/15/16 5:45 AM	207,781.25	150	0.92	225,849.18	1.15	0.45	6	Atlas
CSO035	8/17/16 6:45 AM	8/17/16 7:00 AM	238,144.78	15	0.83	286,921.43	1.89	0.36	12	Atlas
CSO035	8/20/16 2:30 PM	8/20/16 8:00 PM	724,881.06	330	1.1	658,982.78	2.77	0.45	12	Atlas
CSO035	8/28/16 5:30 PM	8/28/16 5:30 PM	127,804.14	0	0.27	473,348.67	0.28	0.23	1	Atlas
CSO035 Count			12							
CSO035 Total			2,257,303.71							
CSO036	7/31/16 8:30 PM	10/1/16 12:00 AM	381,567,970.90	88050	0.02	19,078,398,546.00	7.56	0.02	1	Atlas
CSO036 Count			1							
CSO036 Total			381,567,970.90							
CSO038	7/6/16 1:30 PM	7/6/16 6:30 PM	22,972.33	300	0.17	135,131.37	1.52	0.11	1	Atlas
CSO038	7/20/16 8:00 PM	7/21/16 1:15 PM	265,918.76	1035	0.1	2,659,187.57	0.32	0.09	1	Atlas
CSO038	7/25/16 3:30 PM	7/25/16 4:15 PM	6,588.41	45	0.15	43,922.71	0.26	0.08	6	Atlas

CSO	Start Date-Time	End Date-Time	Total Volume (Gal)	Duration (Minutes)	Rain Total (Inch)	Volume per Inch	Antecedent Rain	Frequency	Period	Standard
CSO038	7/28/16 3:30 AM	7/28/16 3:30 AM	11,315.60	0	0.7	16,165.15	0.85	0.32	12	Atlas
CSO038	8/15/16 2:45 AM	8/15/16 8:30 AM	381,311.94	345	0.87	438,289.59	1.21	0.43	6	Atlas
CSO038	8/17/16 6:15 AM	8/17/16 7:15 AM	73,816.13	60	0.93	79,372.18	1.96	0.43	3	Atlas
CSO038	8/20/16 2:30 PM	8/23/16 5:15 PM	24,841,242.30	4485	1.38	18,000,900.22	3.22	0.59	12	Atlas
CSO038 Count			7							
CSO038 Total			25,603,165.47							
CSO051	7/3/16 7:45 PM	7/3/16 8:00 PM	10,322.30	15	1.3	7,940.23	0.59	0.42	48	Atlas
CSO051	7/20/16 7:15 PM	7/20/16 7:30 PM	6,299.87	15	0.1	62,998.65	0.23	0.08	1	Atlas
CSO051	7/25/16 12:45 PM	7/25/16 12:45 PM	1,065.61	0	0.3	3,552.05	0.2	0.16	6	Atlas
CSO051	7/26/16 5:45 PM	7/26/16 5:45 PM	77.88	0	0.11	707.95	0.51	0.10	1	Atlas
CSO051	7/28/16 3:00 AM	7/28/16 3:15 AM	17,075.22	15	0.69	24,746.70	0.98	0.35	1	Atlas
CSO051	8/1/16 11:00 AM	8/1/16 11:00 AM	2,183.72	0	0.65	3,359.57	1.9	0.51	1	Atlas
CSO051	8/5/16 1:45 PM	8/5/16 1:45 PM	471.51	0	0.13	3,627.00	1.25	0.09	3	Atlas
CSO051	8/12/16 2:00 PM	8/12/16 2:00 PM	7,779.45	0	0.23	33,823.69	0.41	0.19	1	Atlas
CSO051	8/15/16 2:30 AM	8/15/16 5:45 AM	3,799.50	195	0.74	5,134.46	1.06	0.38	6	Atlas
CSO051	8/17/16 6:00 AM	8/17/16 7:00 AM	28,312.56	60	1.32	21,448.91	2.15	0.63	3	Atlas
CSO051	8/20/16 2:15 PM	8/20/16 7:45 PM	31,973.25	330	1.4	22,838.04	3.52	0.61	12	Atlas
CSO051	9/10/16 3:15 PM	9/10/16 3:15 PM	1,635.46	0	0.22	7,433.90	0.2	0.14	3	Atlas
CSO051	9/28/16 12:15 PM	9/28/16 12:15 PM	109.77	0	0.62	177.05	0.7	0.33	6	Atlas
CSO051 Count			13							
CSO051 Total			111,106.09							
CSO052	7/3/16 9:45 AM	7/3/16 11:15 PM	52,954.28	810	1.31	40,423.12	0.76	0.43	48	Atlas
CSO052	7/4/16 3:15 PM	7/4/16 5:30 PM	44,160.01	135	1.31	33,709.93	1.32	0.43	48	Atlas
CSO052	7/6/16 1:00 PM	7/6/16 1:00 PM	1,164.84	0	0.12	9,707.03	1.43	0.09	1	Atlas
CSO052	7/6/16 10:45 PM	7/10/16 11:45 AM	328,912.55	5100	0.12	2,740,937.90	1.75	0.09	1	Atlas
CSO052	8/20/16 2:00 PM	8/20/16 9:15 PM	135,983.02	435	1.48	91,880.42	3.57	0.64	12	Atlas
CSO052	8/27/16 12:45 PM	8/27/16 12:45 PM	803.91	0	0.03	26,796.88	1.27	0.03	1	Atlas
CSO052	9/30/16 1:30 AM	10/1/16 12:00 AM	114,189.21	1350	0.52	219,594.63	1.36	0.28	3	Atlas
CSO052 Count			7							
CSO052 Total			678,167.81							
CSO053	7/3/16 10:00 AM	7/3/16 12:00 PM	32.94	120	1.31	25.14	0.37	0.43	48	Atlas
CSO053	7/26/16 5:45 PM	7/26/16 5:45 PM	160.04	0	0.09	1,778.24	0.36	0.08	1	Atlas
CSO053	7/28/16 3:00 AM	7/28/16 3:00 AM	463.51	0	0.85	545.31	1.05	0.43	1	Atlas
CSO053	7/30/16 2:00 PM	7/30/16 2:00 PM	263.15	0	0.18	1,461.92	1.44	0.16	1	Atlas
CSO053	8/1/16 11:00 AM	8/1/16 11:00 AM	104.26	0	0.68	153.32	2.01	0.49	1	Atlas
CSO053	8/5/16 1:45 PM	8/5/16 1:45 PM	554.47	0	0.1	5,544.69	1.16	0.07	3	Atlas
CSO053	8/12/16 2:00 PM	8/12/16 2:00 PM	331.44	0	0.37	895.78	0.46	0.30	1	Atlas
CSO053	8/15/16 2:30 AM	8/15/16 3:00 AM	4,579.32	30	0.74	6,188.27	0.79	0.39	6	Atlas
CSO053	8/17/16 6:30 AM	8/17/16 6:45 AM	2,601.48	15	1.11	2,343.67	2.11	0.51	3	Atlas
CSO053	8/20/16 2:15 PM	8/20/16 7:30 PM	36,545.17	315	1.48	24,692.68	3.42	0.64	12	Atlas

CSO	Start Date-Time	End Date-Time	Total Volume (Gal)	Duration (Minutes)	Rain Total (Inch)	Volume per Inch	Antecedent Rain	Frequency	Period	Standard
CSO053	9/28/16 12:45 PM	9/28/16 12:45 PM	448.94	0	0.48	935.29	0.66	0.26	6	Atlas
CSO053 Count			11							
CSO053 Total			46,084.71							
CSO054	7/3/16 7:30 AM	7/4/16 5:30 PM	37,900.88	2040	1.31	28,931.97	1.34	0.43	48	Atlas
CSO054	7/6/16 1:00 PM	7/6/16 1:30 PM	1,374.84	30	0.12	11,457.03	1.43	0.09	1	Atlas
CSO054	7/8/16 12:45 AM	7/8/16 12:45 AM	64.89	0	0.1	648.85	1.56	0.07	1	Atlas
CSO054	7/12/16 8:45 AM	7/12/16 11:45 AM	5,983.08	180	0.22	27,195.83	0.61	0.15	1	Atlas
CSO054 Count			4							
CSO054 Total			45,323.69							
CSO055	7/3/16 7:30 AM	7/4/16 12:45 AM	36,302.30	1035	1.31	27,711.68	0.76	0.43	48	Atlas
CSO055	7/4/16 4:15 PM	7/4/16 6:45 PM	5,838.46	150	1.31	4,456.84	1.32	0.43	48	Atlas
CSO055	7/20/16 7:30 PM	7/20/16 7:30 PM	1,842.99	0	0.03	61,432.99	0.2	0.03	1	Atlas
CSO055	7/26/16 5:45 PM	7/26/16 5:45 PM	2,308.80	0	0.09	25,653.36	0.36	0.08	1	Atlas
CSO055	7/27/16 11:45 PM	7/28/16 5:30 AM	82,491.51	345	0.85	97,048.84	1.09	0.43	1	Atlas
CSO055	7/30/16 2:15 PM	7/30/16 2:15 PM	11,175.54	0	0.18	62,086.34	1.45	0.16	1	Atlas
CSO055	8/1/16 11:15 AM	8/1/16 11:15 AM	4,953.09	0	0.68	7,283.96	2.01	0.49	1	Atlas
CSO055	8/12/16 2:00 PM	8/12/16 2:00 PM	10,367.65	0	0.37	28,020.66	0.46	0.30	1	Atlas
CSO055	8/15/16 2:45 AM	8/15/16 8:15 AM	30,719.68	330	0.74	41,513.08	1.23	0.39	6	Atlas
CSO055	8/17/16 6:45 AM	8/17/16 9:45 AM	34,803.06	180	1.11	31,354.11	2.23	0.51	3	Atlas
CSO055	8/20/16 2:15 PM	8/20/16 9:30 PM	103,192.11	435	1.48	69,724.40	3.57	0.64	12	Atlas
CSO055	8/27/16 1:00 PM	8/27/16 1:00 PM	5,830.44	0	0.03	194,347.92	1.27	0.03	1	Atlas
CSO055	8/28/16 5:15 PM	8/28/16 5:15 PM	690.52	0	0.01	69,052.08	0.04	0.01	1	Atlas
CSO055	9/26/16 9:15 AM	9/26/16 9:15 AM	1,562.66	0	0.28	5,580.92	0.1	0.19	3	Atlas
CSO055	9/30/16 2:45 AM	9/30/16 3:30 AM	3,234.53	45	0.52	6,220.25	1.29	0.28	3	Atlas
CSO055 Count			15							
CSO055 Total			335,313.34							
CSO057	7/30/16 2:00 PM	7/30/16 2:00 PM	28.57	0	0.25	114.29	1.4	0.22	1	Atlas
CSO057	8/20/16 2:15 PM	8/20/16 2:30 PM	2,243.81	15	1.48	1,516.09	2.57	0.68	1	Atlas
CSO057	9/17/16 9:15 AM	9/17/16 10:30 AM	36.18	75	0.15	241.18	0.34	0.12	1	Atlas
CSO057	9/26/16 9:00 AM	9/26/16 9:00 AM	25.27	0	0.29	87.14	0.1	0.19	3	Atlas
CSO057 Count			4							
CSO057 Total			2,333.83							
CSO058	7/3/16 7:30 AM	7/3/16 8:15 PM	1,384.66	765	1.33	1,041.09	0.66	0.43	48	Atlas
CSO058	7/4/16 10:30 AM	7/4/16 9:00 PM	284,532.14	630	1.33	213,933.94	1.33	0.43	48	Atlas
CSO058	8/4/16 1:15 PM	8/4/16 1:15 PM	263.65	0	0.22	1,198.39	0.86	0.12	6	Atlas
CSO058	8/12/16 2:00 PM	8/12/16 2:00 PM	395.92	0	0.18	2,199.54	0.33	0.15	1	Atlas
CSO058	8/15/16 2:30 AM	8/15/16 7:15 AM	3,163.39	285	0.74	4,274.85	1.07	0.39	6	Atlas
CSO058	8/17/16 4:15 AM	8/17/16 7:15 AM	2,210.26	180	0.79	2,797.80	1.64	0.34	3	Atlas
CSO058	8/20/16 10:15 AM	8/20/16 8:30 PM	8,696.59	615	1.4	6,211.85	2.92	0.60	12	Atlas
CSO058	8/28/16 5:15 PM	8/28/16 5:15 PM	325.16	0	0.07	4,645.09	0.07	0.06	1	Atlas

CSO	Start Date-Time	End Date-Time	Total Volume (Gal)	Duration (Minutes)	Rain Total (Inch)	Volume per Inch	Antecedent Rain	Frequency	Period	Standard
CSO058	9/10/16 2:30 PM	9/10/16 3:15 PM	588.24	45	0.2	2,941.20	0.17	0.11	3	Atlas
CSO058	9/17/16 9:30 AM	9/17/16 9:30 AM	117.86	0	0.14	841.89	0.33	0.11	1	Atlas
CSO058	9/26/16 9:15 AM	9/26/16 10:45 AM	1,013.92	90	0.27	3,755.25	0.26	0.18	3	Atlas
CSO058	9/28/16 12:00 PM	9/28/16 2:00 PM	1,136.85	120	0.41	2,772.82	0.68	0.22	6	Atlas
CSO058	9/29/16 9:00 AM	9/29/16 9:15 AM	385.51	15	0.07	5,507.29	0.74	0.04	1	Atlas
CSO058	9/30/16 12:00 AM	9/30/16 2:30 AM	1,133.19	150	0.62	1,827.72	1.28	0.33	3	Atlas
CSO058 Count			14							
CSO058 Total			305,347.33							
CSO082	8/15/16 3:00 AM	8/15/16 7:30 AM	34,743.43	270	0.81	42,893.12	1.09	0.43	6	Atlas
CSO082	8/17/16 6:30 AM	8/17/16 7:15 AM	36,842.31	45	0.72	51,169.88	1.54	0.32	6	Atlas
CSO082	8/20/16 2:30 PM	8/20/16 8:45 PM	44,853.92	375	1.1	40,776.29	2.66	0.46	12	Atlas
CSO082 Count			3							
CSO082 Total			116,439.66							
CSO083	7/30/16 2:15 PM	7/30/16 2:15 PM	22,574.48	0	0.4	56,436.20	1.26	0.35	1	Atlas
CSO083	8/4/16 1:30 PM	8/4/16 1:30 PM	3,369.05	0	0.22	15,313.87	0.93	0.14	3	Atlas
CSO083	8/15/16 3:15 AM	8/15/16 7:15 AM	2,733.32	240	0.98	2,789.11	1.19	0.49	6	Atlas
CSO083	8/17/16 7:00 AM	8/17/16 7:00 AM	1,612.10	0	0.7	2,303.01	1.62	0.30	12	Atlas
CSO083	8/20/16 7:45 PM	8/20/16 8:00 PM	13,693.31	15	0.89	15,385.74	2.39	0.39	1	Atlas
CSO083 Count			5							
CSO083 Total			43,982.27							
CSO084	7/3/16 11:45 AM	7/3/16 11:15 PM	8,779.76	690	1.08	8,129.41	0.67	0.35	48	Atlas
CSO084	7/4/16 2:30 PM	7/4/16 2:45 PM	1,255.13	15	1.08	1,162.15	1.03	0.35	48	Atlas
CSO084	7/6/16 1:30 PM	7/6/16 1:30 PM	401.89	0	0.11	3,653.50	1.17	0.07	1	Atlas
CSO084	7/12/16 9:00 AM	7/12/16 10:00 AM	3,411.08	60	0.17	20,065.20	0.33	0.11	3	Atlas
CSO084	8/1/16 11:30 AM	8/1/16 11:30 AM	607.52	0	0.35	1,735.77	1.61	0.30	1	Atlas
CSO084	8/4/16 1:45 PM	8/4/16 1:45 PM	605.16	0	0.22	2,750.71	0.94	0.14	3	Atlas
CSO084	8/15/16 3:00 AM	8/15/16 4:00 AM	6,164.12	60	0.98	6,289.91	0.98	0.49	6	Atlas
CSO084	8/17/16 6:00 AM	8/17/16 7:15 AM	4,081.99	75	0.7	5,831.41	1.62	0.30	12	Atlas
CSO084	8/20/16 8:30 PM	8/20/16 8:30 PM	994.35	0	0.89	1,117.25	2.5	0.39	1	Atlas
CSO084	8/31/16 5:00 PM	8/31/16 6:00 PM	1,468.93	60	0.1	14,689.27	0.32	0.08	1	Atlas
CSO084	9/10/16 3:30 PM	9/10/16 3:30 PM	181.00	0	0.19	952.63	0.17	0.12	3	Atlas
CSO084	9/28/16 1:00 PM	9/28/16 1:00 PM	660.85	0	0.35	1,888.15	0.46	0.19	6	Atlas
CSO084	9/30/16 1:30 AM	9/30/16 2:15 AM	3,349.09	45	0.68	4,925.14	1.14	0.35	3	Atlas
CSO084 Count			13							
CSO084 Total			31,960.87							
CSO092	7/6/16 1:00 PM	7/6/16 1:00 PM	81.23	0	0.12	676.91	1.22	0.09	1	Atlas
CSO092 Count			1							
CSO092 Total			81.23							
CSO093	8/15/16 3:15 AM	8/15/16 3:15 AM	1,582.52	0	0.94	1,683.53	0.81	0.50	6	Atlas
CSO093 Count			1							

CSO	Start Date-Time	End Date-Time	Total Volume (Gal)	Duration (Minutes)	Rain Total (Inch)	Volume per Inch	Antecedent Rain	Frequency	Period	Standard
CSO093 Total			1,582.52							
CSO097	7/3/16 12:45 PM	7/4/16 9:15 PM	347,093.71	1950	0.98	354,177.25	0.99	0.32	48	Atlas
CSO097	7/6/16 2:15 PM	7/6/16 3:45 PM	26,932.15	90	0.11	244,837.69	1.09	0.07	1	Atlas
CSO097	7/12/16 10:30 AM	7/12/16 1:30 PM	93,683.19	180	0.34	275,538.78	0.55	0.24	1	Atlas
CSO097	7/27/16 7:15 PM	7/28/16 7:30 AM	115,190.35	735	0.84	137,131.37	0.97	0.33	12	Atlas
CSO097	7/30/16 3:15 PM	7/30/16 5:15 PM	57,118.19	120	0.33	173,085.44	1.41	0.29	1	Atlas
CSO097	8/1/16 9:15 PM	8/2/16 5:00 PM	196,369.23	1185	0.52	377,633.13	1.97	0.24	12	Atlas
CSO097	8/4/16 2:30 PM	8/4/16 3:15 PM	29,560.78	45	0.22	134,367.18	1.31	0.14	3	Atlas
CSO097	8/5/16 3:00 PM	8/5/16 3:15 PM	1,087.10	15	0.17	6,394.73	1.51	0.11	3	Atlas
CSO097	8/15/16 3:45 AM	8/15/16 10:15 AM	173,445.52	390	1.64	105,759.46	1.83	0.78	6	Atlas
CSO097	8/17/16 6:00 AM	8/17/16 4:30 PM	159,177.78	630	0.48	331,620.37	2.14	0.20	12	Atlas
CSO097	8/20/16 4:30 PM	8/21/16 1:30 AM	164,287.27	540	0.63	260,773.44	2.74	0.28	1	Atlas
CSO097	8/31/16 6:15 PM	8/31/16 7:45 PM	28,397.95	90	0.04	709,948.68	0.11	0.03	1	Atlas
CSO097	9/10/16 4:15 PM	9/10/16 5:30 PM	26,057.09	75	0.24	108,571.22	0.25	0.17	1	Atlas
CSO097	9/26/16 11:45 AM	9/26/16 1:15 PM	30,417.55	90	0.28	108,634.12	0.28	0.19	3	Atlas
CSO097	9/28/16 1:45 PM	9/28/16 4:15 PM	72,859.04	150	0.42	173,473.91	0.7	0.23	6	Atlas
CSO097	9/30/16 2:30 AM	9/30/16 4:45 AM	61,081.54	135	0.69	88,523.97	1.34	0.35	3	Atlas
CSO097 Count			16							
CSO097 Total			1,582,758.44							
CSO104	7/4/16 9:15 AM	7/4/16 9:30 AM	1,587.40	15	1.3	1,221.07	0.89	0.42	48	Atlas
CSO104	7/8/16 10:00 AM	7/8/16 3:00 PM	56,472.94	300	0.28	201,689.07	1.78	0.23	1	Atlas
CSO104	7/28/16 3:45 AM	7/28/16 4:30 AM	12,937.08	45	0.3	43,123.61	0.72	0.14	12	Atlas
CSO104	8/9/16 3:45 PM	8/9/16 4:00 PM	17,869.92	15	0.53	33,716.83	0.75	0.43	1	Atlas
CSO104	8/15/16 2:45 AM	8/15/16 3:15 AM	40,309.09	30	1.44	27,992.42	1.52	0.72	6	Atlas
CSO104	8/17/16 6:45 AM	8/17/16 9:00 AM	132,147.75	135	1.13	116,944.92	2.69	0.52	3	Atlas
CSO104	8/20/16 3:00 PM	8/20/16 7:45 PM	72,205.44	285	1.25	57,764.35	3.63	0.55	12	Atlas
CSO104	8/28/16 5:30 PM	8/28/16 5:45 PM	2,419.42	15	0.13	18,610.90	0.14	0.10	1	Atlas
CSO104	9/30/16 12:45 AM	9/30/16 4:45 AM	12,738.19	240	0.64	19,903.42	1.61	0.34	3	Atlas
CSO104 Count			9							
CSO104 Total			348,687.22							
CSO105	7/3/16 7:30 AM	7/3/16 11:30 PM	4,075,292.73	960	1.3	3,134,840.56	0.79	0.42	48	Atlas
CSO105	7/4/16 8:00 AM	7/4/16 5:00 PM	2,103,625.82	540	1.3	1,618,173.70	1.3	0.42	48	Atlas
CSO105	7/6/16 1:00 PM	7/6/16 1:30 PM	26,273.51	30	0.15	175,156.73	1.43	0.10	1	Atlas
CSO105	7/8/16 10:00 AM	7/8/16 11:15 AM	19,664.48	75	0.28	70,230.27	1.78	0.23	1	Atlas
CSO105	7/12/16 9:30 AM	7/12/16 12:45 PM	38,387.59	195	0.2	191,937.93	0.68	0.10	6	Atlas
CSO105	7/18/16 8:45 AM	7/18/16 4:00 PM	16,257.68	435	0.11	147,797.07	0.42	0.05	1	Atlas
CSO105	7/20/16 8:00 PM	7/21/16 5:00 AM	1,472,934.68	540	Potential Discharge		0.22			
CSO105	7/25/16 1:30 PM	7/25/16 4:45 PM	60,597.86	195	0.37	163,778.00	0.4	0.23	3	Atlas
CSO105	7/26/16 5:45 PM	7/26/16 6:00 PM	17,723.68	15	0.1	177,236.77	0.48	0.09	1	Atlas
CSO105	7/27/16 9:15 PM	7/28/16 9:00 AM	4,331,237.21	705	0.3	14,437,457.36	0.78	0.14	12	Atlas

CSO	Start Date-Time	End Date-Time	Total Volume (Gal)	Duration (Minutes)	Rain Total (Inch)	Volume per Inch	Antecedent Rain	Frequency	Period	Standard
CSO105	7/30/16 2:00 PM	8/5/16 12:45 AM	2,706,023.10	7845	0.11	24,600,210.03	1.34	0.10	1	Atlas
CSO105	8/5/16 12:45 PM	8/6/16 4:45 PM	833,443.38	1680	0.15	5,556,289.18	0.77			
CSO105	8/9/16 3:30 PM	8/9/16 5:00 PM	399,033.64	90	0.53	752,893.66	0.78	0.43	1	Atlas
CSO105	8/15/16 2:30 AM	8/17/16 11:00 AM	15,271,006.85	3390	1.44	10,604,865.86	3.33	0.72	6	Atlas
CSO105	8/20/16 9:40 AM	8/20/16 11:15 PM	16,976,013.61	990	1.25	13,580,810.89	3.77			
CSO105	8/21/16 8:00 AM	8/21/16 8:00 AM	8,329.00	0	1.25	6,663.20	3.82	0.55	12	Atlas
CSO105	8/27/16 12:45 PM	8/28/16 6:45 AM	1,707,665.79	1080	0.03	56,922,193.09	0.98	0.02	1	Atlas
CSO105	8/28/16 5:45 PM	8/28/16 6:30 PM	29,517.44	45	0.13	227,057.27	0.15	0.10	1	Atlas
CSO105	9/10/16 2:15 PM	9/10/16 10:15 PM	179,398.21	480	0.14	1,281,415.75	0.15	0.08	3	Atlas
CSO105	9/17/16 9:45 AM	9/17/16 6:30 PM	182,669.45	3345	0.15	1,217,796.35	0.31			
CSO105	9/26/16 9:15 AM	9/26/16 11:00 AM	18,940.84	105	0.35	54,116.70	0.35	0.23	3	Atlas
CSO105	9/28/16 8:30 AM	9/28/16 3:15 PM	616,994.18	405	0.5	1,233,988.36	0.84	0.27	6	Atlas
CSO105	9/29/16 9:30 AM	9/29/16 10:15 AM	6,437.07	45	0.21	30,652.73	1.06	0.17	1	Atlas
CSO105	9/30/16 12:15 AM	9/30/16 4:30 AM	1,617,295.87	255	0.64	2,527,024.79	1.61	0.34	3	Atlas
CSO105 Count			24							
CSO105 Total			52,714,763.65							
CSO108	7/27/16 6:30 PM	7/27/16 6:45 PM	14,562.75	15	1.22	11,936.68	0.81	0.54	1	Atlas
CSO108	8/1/16 8:30 PM	8/1/16 9:30 PM	46,958.63	60	1.54	30,492.62	3.34	0.99	1	Atlas
CSO108	8/15/16 3:15 AM	8/15/16 3:15 AM	350.70	0	1.6	219.19	1.41	0.76	3	Atlas
CSO108 Count			3							
CSO108 Total			61,872.08							
CSO109	7/4/16 2:30 PM	7/4/16 2:30 PM	4,957.18	0	1.02	4,859.98	0.93	0.33	48	Atlas
CSO109	7/27/16 6:30 PM	7/27/16 7:00 PM	2,050,161.46	30	1.61	1,273,392.21	1.28	0.92	1	Atlas
CSO109	7/30/16 2:30 PM	7/30/16 2:30 PM	136,252.05	0	0.32	425,787.65	2.21	0.28	1	Atlas
CSO109	8/1/16 8:30 PM	8/1/16 9:45 PM	2,466,737.24	75	1.08	2,284,015.96	3.36	0.60	1	Atlas
CSO109	8/4/16 1:45 PM	8/4/16 2:00 PM	405,640.55	15	0.2	2,028,202.74	1.8	0.13	3	Atlas
CSO109	8/15/16 3:00 AM	8/15/16 3:30 AM	613,360.70	30	1.68	365,095.66	1.48	0.76	3	Atlas
CSO109	8/17/16 6:15 AM	8/17/16 6:15 AM	34,912.19	0	0.63	55,416.17	2.22	0.28	3	Atlas
CSO109	8/20/16 3:45 PM	8/20/16 8:00 PM	137,041.35	255	0.89	153,979.04	2.94	0.40	1	Atlas
CSO109	8/31/16 5:15 PM	8/31/16 6:00 PM	356,074.00	45	0.04	8,901,850.03	0.06	0.02	3	Atlas
CSO109 Count			9							
CSO109 Total			6,205,136.71							
CSO110	7/3/16 11:45 AM	7/4/16 12:15 AM	391.53	750	1.06	369.37	0.64	0.34	48	Atlas
CSO110	7/4/16 9:00 AM	7/4/16 5:30 PM	554.40	510	1.06	523.02	1.06	0.34	48	Atlas
CSO110	7/6/16 1:15 PM	7/6/16 2:15 PM	129.13	60	0.13	993.29	1.17	0.09	1	Atlas
CSO110	7/12/16 9:45 AM	7/12/16 12:15 PM	382.46	150	0.26	1,471.01	0.51	0.18	1	Atlas
CSO110	7/27/16 6:30 PM	7/27/16 7:45 PM	1,105.71	75	0.56	1,974.48	0.36	0.22	12	Atlas
CSO110	7/28/16 5:15 AM	7/28/16 5:45 AM	42.18	30	0.56	75.31	0.72	0.22	12	Atlas
CSO110	7/30/16 2:30 PM	7/30/16 3:30 PM	180.32	60	0.28	644.01	1.14	0.24	1	Atlas
CSO110	8/1/16 8:15 PM	8/1/16 11:00 PM	2,048.18	165	0.41	4,995.57	1.54	0.19	1	Atlas

CSO	Start Date-Time	End Date-Time	Total Volume (Gal)	Duration (Minutes)	Rain Total (Inch)	Volume per Inch	Antecedent Rain	Frequency	Period	Standard
CSO110	8/4/16 1:45 PM	8/4/16 2:15 PM	55.66	30	0.2	278.30	1.07	0.13	3	Atlas
CSO110	8/5/16 2:15 PM	8/5/16 2:30 PM	27.79	15	0.16	173.70	1.31	0.11	3	Atlas
CSO110	8/15/16 2:45 AM	8/15/16 8:15 AM	1,301.89	330	1.51	862.18	1.77	0.71	6	Atlas
CSO110	8/17/16 5:15 AM	8/17/16 8:00 AM	391.19	165	0.47	832.32	1.92	0.20	12	Atlas
CSO110	8/20/16 3:30 PM	8/20/16 10:00 PM	697.54	390	0.65	1,073.13	2.58	0.27	12	Atlas
CSO110	8/31/16 6:00 PM	8/31/16 6:00 PM	9.11	0	0.05	182.23	0.22	0.03	1	Atlas
CSO110	9/10/16 3:15 PM	9/10/16 4:00 PM	78.92	45	0.19	415.38	0.16	0.12	1	Atlas
CSO110	9/26/16 11:15 AM	9/26/16 11:45 AM	47.92	30	0.37	129.52	0.37	0.25	3	Atlas
CSO110	9/28/16 1:00 PM	9/28/16 2:45 PM	221.30	105	0.45	491.78	0.82	0.25	6	Atlas
CSO110	9/30/16 1:45 AM	9/30/16 3:15 AM	392.80	90	0.7	561.15	1.46	0.35	3	Atlas
CSO110 Count			18							
CSO110 Total			8,058.04							
CSO111	7/27/16 6:45 PM	7/27/16 6:45 PM	52,330.98	0	0.56	93,448.18	0.36	0.22	12	Atlas
CSO111	8/1/16 8:30 PM	8/1/16 9:15 PM	110,132.10	45	0.41	268,614.87	1.54	0.19	1	Atlas
CSO111	8/15/16 3:15 AM	8/15/16 3:15 AM	2,465.70	0	1.51	1,632.91	1.2	0.71	6	Atlas
CSO111 Count			3							
CSO111 Total			164,928.78							
CSO118	7/3/16 7:30 AM	7/3/16 11:30 PM	1,690,213.36	960	1.08	1,565,012.37	0.67	0.35	48	Atlas
CSO118	7/4/16 8:00 AM	7/4/16 4:45 PM	462,386.77	525	1.08	428,135.90	1.08	0.35	48	Atlas
CSO118	7/6/16 1:00 PM	7/6/16 1:45 PM	211,229.70	45	0.11	1,920,270.03	1.17	0.07	1	Atlas
CSO118	7/12/16 8:45 AM	7/12/16 10:30 AM	360,165.01	105	0.17	2,118,617.73	0.34	0.11	3	Atlas
CSO118	7/18/16 8:45 AM	7/18/16 8:45 AM	116.46	0	0.06	1,940.97	0.35	0.03	12	Atlas
CSO118	7/25/16 12:45 PM	7/25/16 1:00 PM	953.65	15	0.18	5,298.03	0.12	0.10	6	Atlas
CSO118	7/26/16 5:45 PM	7/26/16 6:30 PM	70,868.16	45	0.04	1,771,704.00	0.24	0.03	1	Atlas
CSO118	7/27/16 11:30 PM	7/28/16 9:00 AM	2,772,798.49	570	0.6	4,621,330.81	0.82	0.28	12	Atlas
CSO118	7/30/16 2:00 PM	7/30/16 3:00 PM	1,082,787.63	60	0.4	2,706,969.08	1.26	0.35	1	Atlas
CSO118	8/1/16 11:00 AM	8/1/16 12:00 PM	505,149.66	60	0.35	1,443,284.75	1.62	0.30	1	Atlas
CSO118	8/4/16 1:15 PM	8/4/16 2:15 PM	3,673.94	60	0.22	16,699.72	0.95	0.14	3	Atlas
CSO118	8/5/16 1:45 PM	8/5/16 2:45 PM	77,306.37	60	0.09	858,959.66	1.12	0.07	1	Atlas
CSO118	8/9/16 3:30 PM	8/9/16 3:30 PM	2,399.06	0	0.16	14,994.14	0.42	0.08	1	Atlas
CSO118	8/10/16 3:30 AM	8/10/16 4:00 AM	935.10	30	0.16	5,844.40	0.47	0.08	1	Atlas
CSO118	8/12/16 2:15 PM	8/12/16 2:30 PM	28,304.86	15	0.05	566,097.11	0.22	0.03	1	Atlas
CSO118	8/14/16 3:45 PM	8/14/16 3:45 PM	540.97	0	0.98	552.01	0.26	0.49	6	Atlas
CSO118	8/15/16 2:30 AM	8/15/16 8:00 AM	3,185,680.55	330	0.98	3,250,694.44	1.19	0.49	6	Atlas
CSO118	8/17/16 3:45 AM	8/17/16 1:30 PM	2,421,943.32	585	0.7	3,459,919.02	1.74	0.30	12	Atlas
CSO118	8/20/16 10:15 AM	8/20/16 9:15 PM	3,665,199.28	660	0.89	4,118,201.44	2.52	0.39	1	Atlas
CSO118	8/28/16 5:15 PM	8/28/16 6:00 PM	354,601.87	45	0.21	1,688,580.34	0.22	0.18	1	Atlas
CSO118	8/31/16 5:00 PM	8/31/16 6:15 PM	866.48	75	0.1	8,664.79	0.32	0.08	1	Atlas
CSO118	9/10/16 3:00 PM	9/10/16 4:00 PM	184,380.70	60	0.19	970,424.73	0.17	0.12	3	Atlas
CSO118	9/17/16 9:15 AM	9/17/16 10:00 AM	1,064.31	45	0.1	10,643.13	0.33	0.08	1	Atlas

CSO	Start Date-Time	End Date-Time	Total Volume (Gal)	Duration (Minutes)	Rain Total (Inch)	Volume per Inch	Antecedent Rain	Frequency	Period	Standard
CSO118	9/26/16 9:15 AM	9/26/16 10:15 AM	990.12	60	0.19	5,211.18	0.14	0.13	3	Atlas
CSO118	9/28/16 8:30 AM	9/28/16 2:15 PM	313,143.88	345	0.35	894,696.80	0.53	0.19	6	Atlas
CSO118	9/29/16 9:15 AM	9/29/16 9:15 AM	331.06	0	0.06	5,517.71	0.6	0.04	1	Atlas
CSO118	9/29/16 11:45 PM	9/30/16 3:00 AM	899,462.67	195	0.68	1,322,739.22	1.17	0.35	3	Atlas
CSO118	9/30/16 12:30 PM	9/30/16 12:30 PM	363.25	0	0.68	534.19	1.25	0.35	3	Atlas
CSO118 Count			28							
CSO118 Total			18,297,856.68							
CSO119	7/3/16 11:30 AM	7/3/16 11:00 PM	161,748.17	690	1.08	149,766.83	0.67	0.35	48	Atlas
CSO119	7/4/16 2:00 PM	7/4/16 2:45 PM	56,253.81	45	1.08	52,086.86	1.03	0.35	48	Atlas
CSO119	7/6/16 1:00 PM	7/6/16 1:15 PM	37,803.47	15	0.11	343,667.94	1.17	0.07	1	Atlas
CSO119	7/12/16 8:45 AM	7/12/16 10:00 AM	62,668.90	75	0.17	368,640.59	0.33	0.11	3	Atlas
CSO119	7/28/16 3:00 AM	7/28/16 5:00 AM	70,279.93	120	0.6	117,133.21	0.75	0.28	12	Atlas
CSO119	7/30/16 2:00 PM	7/30/16 2:30 PM	69,022.25	30	0.4	172,555.63	1.26	0.35	1	Atlas
CSO119	8/1/16 11:00 AM	8/1/16 11:15 AM	39,555.22	15	0.35	113,014.93	1.61	0.30	1	Atlas
CSO119	8/4/16 1:15 PM	8/4/16 1:45 PM	41,876.04	30	0.22	190,345.66	0.94	0.14	3	Atlas
CSO119	8/15/16 2:30 AM	8/15/16 7:30 AM	240,400.64	300	0.98	245,306.78	1.19	0.49	6	Atlas
CSO119	8/17/16 5:30 AM	8/17/16 7:15 AM	159,887.51	105	0.7	228,410.72	1.62	0.30	12	Atlas
CSO119	8/20/16 2:30 PM	8/20/16 8:45 PM	179,725.65	375	0.89	201,938.93	2.52	0.39	1	Atlas
CSO119	8/28/16 5:15 PM	8/28/16 5:15 PM	4,836.73	0	0.21	23,032.04	0.19	0.18	1	Atlas
CSO119	8/31/16 5:30 PM	8/31/16 5:30 PM	11,275.13	0	0.1	112,751.35	0.29	0.08	1	Atlas
CSO119	9/10/16 3:00 PM	9/10/16 3:15 PM	25,181.06	15	0.19	132,531.88	0.17	0.12	3	Atlas
CSO119	9/28/16 12:30 PM	9/28/16 1:00 PM	34,068.27	30	0.35	97,337.91	0.46	0.19	6	Atlas
CSO119	9/30/16 1:15 AM	9/30/16 2:30 AM	103,207.65	75	0.68	151,775.96	1.16	0.35	3	Atlas
CSO119 Count			16							
CSO119 Total			1,297,790.45							
CSO120	7/3/16 10:15 AM	7/3/16 8:15 PM	75,268.17	600	1.23	61,193.63	0.66	0.40	48	Atlas
CSO120	7/4/16 2:15 PM	7/4/16 2:15 PM	5,369.20	0	1.23	4,365.20	1.11	0.40	48	Atlas
CSO120	7/6/16 1:15 PM	7/6/16 1:15 PM	68,557.98	0	0.06	1,142,633.07	1.27	0.04	3	Atlas
CSO120	7/12/16 9:00 AM	7/12/16 10:00 AM	68,003.95	60	0.2	340,019.75	0.33	0.13	3	Atlas
CSO120	7/27/16 11:45 PM	7/28/16 5:00 AM	147,230.83	315	0.65	226,508.97	0.85	0.30	12	Atlas
CSO120	7/30/16 2:15 PM	7/30/16 2:30 PM	142,681.54	15	0.27	528,450.14	1.22	0.23	1	Atlas
CSO120	8/1/16 11:15 AM	8/1/16 11:15 AM	81,754.45	0	0.38	215,143.30	1.58	0.31	1	Atlas
CSO120	8/4/16 1:45 PM	8/4/16 1:45 PM	29,994.97	0	0.25	119,979.88	0.86	0.14	6	Atlas
CSO120	8/15/16 2:45 AM	8/15/16 7:30 AM	221,504.33	285	0.81	273,462.14	1.09	0.43	6	Atlas
CSO120	8/17/16 5:45 AM	8/17/16 7:15 AM	227,521.72	90	0.72	316,002.38	1.54	0.32	6	Atlas
CSO120	8/20/16 2:45 PM	8/20/16 8:30 PM	202,026.94	345	1.1	183,660.85	2.64	0.46	12	Atlas
CSO120	8/28/16 5:30 PM	8/28/16 5:30 PM	14,404.79	0	0.13	110,806.08	0.14	0.11	1	Atlas
CSO120	8/31/16 5:00 PM	8/31/16 5:45 PM	107,546.05	45	0.16	672,162.83	0.29	0.12	1	Atlas
CSO120	9/10/16 3:15 PM	9/10/16 3:15 PM	22,608.53	0	0.2	113,042.66	0.2	0.12	1	Atlas
CSO120	9/28/16 1:00 PM	9/28/16 1:00 PM	27.45	0	0.38	72.23	0.53	0.21	6	Atlas

CSO	Start Date-Time	End Date-Time	Total Volume (Gal)	Duration (Minutes)	Rain Total (Inch)	Volume per Inch	Antecedent Rain	Frequency	Period	Standard
CSO120	9/30/16 12:00 AM	9/30/16 2:15 AM	73,920.92	135	0.68	108,707.23	1.22	0.37	3	Atlas
CSO120 Count			16							
CSO120 Total			1,488,421.81							
CSO121	7/3/16 10:15 AM	7/3/16 12:00 PM	23,876.51	105	1.23	19,411.80	0.41	0.40	48	Atlas
CSO121	7/3/16 8:15 PM	7/3/16 8:15 PM	13,387.91	0	1.23	10,884.48	0.66	0.40	48	Atlas
CSO121	7/4/16 2:15 PM	7/4/16 2:15 PM	211.33	0	1.23	171.82	1.11	0.40	48	Atlas
CSO121	7/6/16 1:15 PM	7/6/16 1:15 PM	669.62	0	0.06	11,160.42	1.27	0.04	3	Atlas
CSO121	7/25/16 12:45 PM	7/25/16 12:45 PM	278.89	0	0.11	2,535.32	0.07	0.06	6	Atlas
CSO121	7/27/16 11:45 PM	7/28/16 9:00 AM	116,825.19	555	0.65	179,731.06	0.92	0.30	12	Atlas
CSO121	7/30/16 2:00 PM	7/30/16 2:00 PM	3,339.98	0	0.27	12,370.29	1.2	0.23	1	Atlas
CSO121	8/4/16 1:15 PM	8/4/16 1:30 PM	55,992.44	15	0.25	223,969.75	0.85	0.14	6	Atlas
CSO121	8/15/16 2:30 AM	8/15/16 1:15 PM	161,961.63	645	0.81	199,952.62	1.09	0.43	6	Atlas
CSO121	8/17/16 5:45 AM	8/17/16 7:00 AM	218,099.93	75	0.72	302,916.57	1.53	0.32	6	Atlas
CSO121	8/20/16 2:45 PM	8/20/16 8:30 PM	34,882.75	345	1.1	31,711.59	2.64	0.46	12	Atlas
CSO121	8/28/16 5:30 PM	8/28/16 5:30 PM	516.92	0	0.13	3,976.28	0.14	0.11	1	Atlas
CSO121	8/31/16 5:45 PM	8/31/16 5:45 PM	3,672.48	0	0.16	22,952.99	0.29	0.12	1	Atlas
CSO121	9/10/16 3:15 PM	9/10/16 3:15 PM	72,031.06	0	0.2	360,155.31	0.2	0.12	1	Atlas
CSO121 Count			14							
CSO121 Total			705,746.63							
CSO125	7/3/16 12:00 PM	7/3/16 8:30 PM	38,587.54	510	1.02	37,830.92	0.5	0.33	48	Atlas
CSO125	7/4/16 2:30 PM	7/4/16 3:15 PM	64,608.76	45	1.02	63,341.93	0.98	0.33	48	Atlas
CSO125	7/6/16 12:00 PM	7/6/16 12:00 PM	11,404.46	0	0.11	103,676.89	1.02			
CSO125	7/12/16 10:00 AM	7/12/16 12:00 PM	35,778.63	120	0.32	111,808.20	0.48	0.21	3	Atlas
CSO125	7/20/16 3:00 PM	7/20/16 3:00 PM	4,085.27	0	0.04	102,131.77	0.18			
CSO125	7/27/16 6:30 PM	7/27/16 7:00 PM	35,518.08	30	0.59	60,200.14	0.28	0.24	12	Atlas
CSO125	7/28/16 4:45 AM	7/28/16 5:30 PM	140,625.70	765	0.59	238,348.64	0.81	0.24	12	Atlas
CSO125	7/30/16 2:30 PM	7/30/16 2:30 PM	2,597.85	0	0.32	8,118.29	1.16	0.28	1	Atlas
CSO125	8/9/16 3:30 PM	8/9/16 3:30 PM	8,881.60	0	0.24	37,006.69	0.77	0.16	1	Atlas
CSO125	8/15/16 3:00 AM	8/15/16 7:45 AM	842,867.27	285	1.2	702,389.39	1.44	0.61	6	Atlas
CSO125	8/17/16 6:00 AM	8/17/16 7:30 AM	720,102.68	90	0.68	1,058,974.53	1.82	0.31	6	Atlas
CSO125	8/20/16 3:30 PM	8/20/16 9:15 PM	700,497.70	345	0.8	875,622.12	2.68	0.33	1	Atlas
CSO125	8/31/16 5:00 PM	8/31/16 6:15 PM	343,111.66	75	0.6	571,852.77	0.77	0.45	1	Atlas
CSO125	9/10/16 3:15 PM	9/10/16 3:30 PM	121,026.13	15	0.14	864,472.36	0.12	0.09	1	Atlas
CSO125	9/28/16 1:00 PM	9/28/16 1:15 PM	100,747.15	15	0.37	272,289.60	0.51	0.20	6	Atlas
CSO125	9/30/16 1:30 AM	9/30/16 2:45 AM	280,653.22	75	0.59	475,683.43	1.16	0.31	3	Atlas
CSO125 Count			16							
CSO125 Total			3,451,093.71							
CSO127	7/3/16 8:00 AM	7/3/16 11:45 PM	339,010.46	945	0.99	342,434.81	0.57	0.32	48	Atlas
CSO127	7/4/16 8:30 AM	7/4/16 5:00 PM	172,968.65	510	0.99	174,715.81	0.99	0.32	48	Atlas
CSO127	7/6/16 1:30 PM	7/6/16 1:45 PM	38,339.62	15	0.12	319,496.81	1.1	0.09	1	Atlas

CSO	Start Date-Time	End Date-Time	Total Volume (Gal)	Duration (Minutes)	Rain Total (Inch)	Volume per Inch	Antecedent Rain	Frequency	Period	Standard
CSO127	7/12/16 9:15 AM	7/12/16 12:15 PM	114,949.11	180	0.39	294,741.31	0.59	0.25	3	Atlas
CSO127	7/27/16 6:15 PM	7/28/16 5:30 AM	827,533.27	675	0.64	1,293,020.73	0.8	0.25	12	Atlas
CSO127	7/30/16 2:15 PM	7/30/16 3:00 PM	70,794.16	45	0.3	235,980.52	1.23	0.26	1	Atlas
CSO127	8/1/16 11:15 AM	8/1/16 11:45 AM	35,226.04	30	0.39	90,323.18	1.55	0.27	1	Atlas
CSO127	8/1/16 8:30 PM	8/1/16 10:00 PM	107,514.98	90	0.39	275,679.44	1.41	0.27	1	Atlas
CSO127	8/4/16 1:45 PM	8/4/16 2:30 PM	337,826.42	45	0.6	563,044.03	1.23	0.40	3	Atlas
CSO127	8/5/16 2:15 PM	8/5/16 2:30 PM	24,185.89	15	0.07	345,512.66	1.39	0.05	1	Atlas
CSO127	8/9/16 3:30 PM	8/9/16 11:15 PM	81,526.12	465	0.27	301,948.59	0.92	0.16	1	Atlas
CSO127	8/15/16 2:45 AM	8/15/16 8:00 AM	1,950,289.94	315	1.28	1,523,664.02	1.55	0.64	3	Atlas
CSO127	8/17/16 4:15 AM	8/17/16 7:45 AM	625,506.95	210	0.57	1,097,380.61	1.78	0.24	12	Atlas
CSO127	8/20/16 10:30 AM	8/20/16 9:30 PM	477,600.26	660	0.72	663,333.70	2.55	0.33	1	Atlas
CSO127	8/31/16 4:45 PM	8/31/16 6:30 PM	403,691.52	105	0.88	458,740.36	0.93	0.69	1	Atlas
CSO127	9/10/16 3:15 PM	9/10/16 3:45 PM	75,315.15	30	0.17	443,030.32	0.16	0.12	1	Atlas
CSO127	9/26/16 9:45 AM	9/26/16 11:15 AM	25,199.39	90	0.22	114,542.70	0.22	0.15	3	Atlas
CSO127	9/28/16 8:45 AM	9/28/16 2:30 PM	92,212.90	345	0.36	256,146.95	0.57	0.19	6	Atlas
CSO127	9/29/16 9:15 AM	9/29/16 9:30 AM	5,371.67	15	0.07	76,738.10	0.64	0.04	1	Atlas
CSO127	9/30/16 12:30 AM	9/30/16 3:00 AM	137,316.86	150	0.59	232,740.45	1.15	0.31	3	Atlas
CSO127 Count			20							
CSO127 Total			5,942,379.36							
CSO130	7/30/16 2:15 PM	7/30/16 2:15 PM	8,998.28	0	0.15	59,988.54	1.2	0.13	1	Atlas
CSO130	8/1/16 11:15 AM	8/1/16 11:30 AM	1,663.29	15	0.6	2,772.15	1.74	0.47	1	Atlas
CSO130	8/15/16 3:15 AM	8/15/16 3:15 AM	215.36	0	0.88	244.73	0.75	0.45	6	Atlas
CSO130	8/17/16 4:30 AM	8/17/16 7:45 AM	20,393.31	195	0.72	28,324.05	1.58	0.33	3	Atlas
CSO130	8/20/16 10:30 AM	8/20/16 2:45 PM	23,870.21	255	1.36	17,551.62	2.68	0.66	1	Atlas
CSO130	9/10/16 6:15 PM	9/11/16 5:00 AM	46,345.08	645	0.2	231,725.42	0.24	0.13	1	Atlas
CSO130	9/28/16 12:30 PM	9/28/16 1:15 PM	3,737.30	45	0.49	7,627.15	0.66	0.26	6	Atlas
CSO130	9/29/16 9:15 AM	9/29/16 9:15 AM	426.21	0	0.07	6,088.69	0.79	0.04	1	Atlas
CSO130	9/30/16 1:30 AM	9/30/16 2:45 AM	7,962.34	75	0.64	12,441.16	1.36	0.34	3	Atlas
CSO130 Count			9							
CSO130 Total			113,611.39							
CSO131	7/30/16 2:00 PM	7/30/16 2:00 PM	35,625.00	0	0.15	237,500.00	1.19	0.13	1	Atlas
CSO131	8/1/16 11:00 AM	8/1/16 11:00 AM	13,078.83	0	0.6	21,798.06	1.73	0.47	1	Atlas
CSO131	8/15/16 2:45 AM	8/15/16 3:00 AM	71,250.00	15	0.88	80,965.91	0.71	0.45	6	Atlas
CSO131	8/17/16 6:30 AM	8/17/16 6:45 AM	22,099.40	15	0.72	30,693.61	1.56	0.33	3	Atlas
CSO131	8/20/16 2:15 PM	8/20/16 7:30 PM	51,885.84	315	1.36	38,151.36	2.88	0.66	1	Atlas
CSO131	8/31/16 4:30 PM	8/31/16 5:30 PM	52,941.94	60	0.5	105,883.87	0.59	0.40	1	Atlas
CSO131 Count			6							
CSO131 Total			246,881.01							
CSO132	7/3/16 10:15 AM	7/3/16 11:45 AM	224,521.70	90	1.08	207,890.46	0.31	0.35	48	Atlas
CSO132	7/3/16 8:00 PM	7/3/16 11:30 PM	55,094.86	210	1.08	51,013.76	0.66	0.35	48	Atlas

CSO	Start Date-Time	End Date-Time	Total Volume (Gal)	Duration (Minutes)	Rain Total (Inch)	Volume per Inch	Antecedent Rain	Frequency	Period	Standard
CSO132	7/4/16 8:45 AM	7/4/16 4:45 PM	61,302.95	480	1.08	56,761.99	1.07	0.35	48	Atlas
CSO132	7/12/16 10:00 AM	7/12/16 12:15 PM	119,040.07	135	0.19	626,526.68	0.33	0.12	3	Atlas
CSO132	7/28/16 3:15 AM	7/28/16 5:30 AM	498,961.64	135	0.67	744,718.87	0.8	0.31	6	Atlas
CSO132	7/30/16 2:15 PM	7/30/16 3:00 PM	450,782.67	45	0.16	2,817,391.68	1.06	0.14	1	Atlas
CSO132	8/1/16 11:00 AM	8/1/16 11:45 AM	305,451.61	45	0.56	545,449.31	1.53	0.41	1	Atlas
CSO132	8/9/16 3:30 PM	8/9/16 3:45 PM	83,005.32	15	0.2	415,026.58	0.48	0.08	3	Atlas
CSO132	8/15/16 2:45 AM	8/15/16 7:45 AM	525,339.28	300	0.91	577,295.92	1.18	0.49	6	Atlas
CSO132	8/17/16 5:45 AM	8/17/16 7:45 AM	335,817.92	120	0.65	516,642.96	1.54	0.29	3	Atlas
CSO132	8/20/16 2:15 PM	8/20/16 9:15 PM	449,160.56	420	1.23	365,171.18	2.92	0.57	1	Atlas
CSO132	8/31/16 5:00 PM	8/31/16 6:15 PM	571,120.43	75	0.48	1,189,834.23	0.7	0.37	1	Atlas
CSO132	9/10/16 3:15 PM	9/10/16 3:30 PM	149,149.94	15	0.22	677,954.28	0.22	0.15	1	Atlas
CSO132	9/28/16 12:30 PM	9/28/16 1:15 PM	77,415.14	45	0.38	203,724.06	0.55	0.20	6	Atlas
CSO132	9/30/16 12:00 AM	9/30/16 2:45 AM	225,794.67	165	0.64	352,804.17	1.25	0.35	3	Atlas
CSO132	**Count**		15							
CSO132	**Total**		4,131,958.77							
CSO140	7/3/16 12:00 PM	7/3/16 11:00 PM	21,549.24	660	1.13	19,070.12	0.71	0.37	48	Atlas
CSO140	7/4/16 2:15 PM	7/4/16 2:15 PM	624.80	0	1.13	552.92	1.02	0.37	48	Atlas
CSO140	7/12/16 9:45 AM	7/12/16 9:45 AM	8,859.33	0	0.25	35,437.33	0.34	0.16	3	Atlas
CSO140	7/25/16 12:45 PM	7/25/16 12:45 PM	4,358.83	0	0.12	36,323.61	0.06	0.07	6	Atlas
CSO140	7/28/16 3:15 AM	7/28/16 5:00 AM	70,918.76	105	0.67	105,848.90	0.81	0.31	12	Atlas
CSO140	7/30/16 2:00 PM	7/30/16 2:15 PM	69,996.51	15	0.19	368,402.67	1.11	0.17	1	Atlas
CSO140	8/1/16 11:00 AM	8/1/16 11:15 AM	45,483.92	15	0.39	116,625.43	1.47	0.31	1	Atlas
CSO140	8/4/16 2:15 PM	8/4/16 2:15 PM	2,577.05	0	0.39	6,607.83	0.95	0.25	1	Atlas
CSO140	8/15/16 2:30 AM	8/15/16 7:15 AM	381,055.73	285	0.94	405,378.44	1.22	0.50	6	Atlas
CSO140	8/17/16 6:00 AM	8/17/16 7:00 AM	129,244.25	60	0.67	192,901.87	1.58	0.29	6	Atlas
CSO140	8/20/16 2:30 PM	8/20/16 8:30 PM	263,497.73	360	0.85	309,997.33	2.47	0.35	12	Atlas
CSO140	8/28/16 5:15 PM	8/28/16 5:15 PM	21,450.06	0	0.16	134,062.89	0.13	0.13	1	Atlas
CSO140	8/31/16 4:30 PM	8/31/16 5:45 PM	133,450.89	75	0.24	556,045.37	0.39	0.17	1	Atlas
CSO140	**Count**		13							
CSO140	**Total**		1,153,067.11							
CSO144	7/30/16 2:15 PM	7/30/16 2:15 PM	593.78	0	0.28	2,120.65	1.1	0.24	1	Atlas
CSO144	8/15/16 3:00 AM	8/15/16 3:00 AM	2,028.93	0	1.07	1,896.19	0.8	0.57	6	Atlas
CSO144	8/17/16 7:00 AM	8/17/16 7:00 AM	56.42	0	0.69	81.76	1.76	0.32	3	Atlas
CSO144	8/31/16 4:45 PM	8/31/16 4:45 PM	2,091.43	0	0.46	4,546.58	0.45	0.34	1	Atlas
CSO144	**Count**		4							
CSO144	**Total**		4,770.55							
CSO148	7/3/16 10:15 AM	7/3/16 11:00 PM	13,468.49	765	0.98	13,743.36	0.57	0.32	48	Atlas
CSO148	7/4/16 2:15 PM	7/4/16 2:15 PM	9,066.94	0	0.98	9,251.98	0.87	0.32	48	Atlas
CSO148	7/6/16 1:15 PM	7/6/16 1:15 PM	4,575.93	0	0.11	41,599.34	1.07	0.07	1	Atlas
CSO148	7/12/16 9:30 AM	7/12/16 9:45 AM	12,396.39	15	0.34	36,459.98	0.48	0.24	1	Atlas

CSO	Start Date-Time	End Date-Time	Total Volume (Gal)	Duration (Minutes)	Rain Total (Inch)	Volume per Inch	Antecedent Rain	Frequency	Period	Standard
CSO148	7/27/16 6:15 PM	7/27/16 6:45 PM	21,796.15	30	0.84	25,947.79	0.56	0.33	12	Atlas
CSO148	7/28/16 3:00 AM	7/28/16 5:00 AM	3,829.15	120	0.84	4,558.51	0.94	0.33	12	Atlas
CSO148	7/30/16 2:15 PM	7/30/16 2:15 PM	36,014.79	0	0.33	109,135.72	1.41	0.29	1	Atlas
CSO148	7/31/16 5:15 PM	7/31/16 5:15 PM	1,204.49	0	0.22	5,474.95	1.63	0.17	1	Atlas
CSO148	8/1/16 11:15 AM	8/1/16 11:15 AM	1,916.24	0	0.52	3,685.08	1.83	0.24	12	Atlas
CSO148	8/1/16 8:15 PM	8/1/16 9:15 PM	191,400.00	60	0.52	368,076.93	1.97	0.24	12	Atlas
CSO148	8/4/16 1:30 PM	8/4/16 1:45 PM	19,897.77	15	0.22	90,444.41	1.2	0.14	3	Atlas
CSO148	8/9/16 3:30 PM	8/9/16 3:30 PM	1,514.77	0	0.18	8,415.39	0.56	0.11	3	Atlas
CSO148	8/15/16 2:30 AM	8/15/16 7:15 AM	117,220.62	285	1.64	71,475.99	1.83	0.78	6	Atlas
CSO148	8/17/16 6:00 AM	8/17/16 6:15 AM	2,698.84	15	0.48	5,622.59	2.04	0.20	12	Atlas
CSO148	8/20/16 7:45 PM	8/20/16 8:00 PM	7,718.22	15	0.63	12,251.14	2.52	0.28	1	Atlas
CSO148	8/31/16 5:00 PM	8/31/16 5:00 PM	17,800.88	0	0.04	445,021.88	0.08	0.03	1	Atlas
CSO148	9/10/16 3:15 PM	9/10/16 3:15 PM	922.33	0	0.24	3,843.06	0.2	0.17	1	Atlas
CSO148	9/28/16 12:45 PM	9/28/16 12:45 PM	4,604.25	0	0.42	10,962.50	0.61	0.23	6	Atlas
CSO148	9/30/16 1:30 AM	9/30/16 2:15 AM	5,000.16	45	0.69	7,246.60	1.3	0.35	3	Atlas
CSO148 Count			19							
CSO148 Total			473,046.40							
CSO150	7/3/16 10:00 AM	7/3/16 10:00 AM	42.92	0	1.31	32.76	0.23	0.43	48	Atlas
CSO150	7/3/16 9:15 PM	7/4/16 12:30 AM	69,349.46	195	1.31	52,938.52	0.76	0.43	48	Atlas
CSO150	7/4/16 3:15 PM	7/4/16 6:30 PM	82,088.30	195	1.31	62,662.83	1.32	0.43	48	Atlas
CSO150	7/28/16 3:15 AM	7/28/16 5:15 AM	9,814.64	120	0.85	11,546.63	1.09	0.43	1	Atlas
CSO150	7/30/16 2:00 PM	7/30/16 2:00 PM	841.26	0	0.18	4,673.67	1.44	0.16	1	Atlas
CSO150	8/12/16 1:45 PM	8/12/16 1:45 PM	444.97	0	0.37	1,202.62	0.38	0.30	1	Atlas
CSO150	8/15/16 2:30 AM	8/15/16 8:00 AM	165,259.28	330	0.74	223,323.35	1.23	0.39	6	Atlas
CSO150	8/17/16 6:45 AM	8/17/16 9:30 AM	54,493.48	165	1.11	49,093.23	2.23	0.51	3	Atlas
CSO150	8/20/16 2:15 PM	8/20/16 9:15 PM	178,887.03	420	1.48	120,869.61	3.57	0.64	12	Atlas
CSO150	9/30/16 2:30 AM	9/30/16 3:30 AM	49,429.24	60	0.52	95,056.23	1.29	0.28	3	Atlas
CSO150 Count			10							
CSO150 Total			610,650.57							
CSO151	7/3/16 8:00 AM	7/4/16 1:15 AM	603,753.44	1035	1.05	575,003.27	0.67	0.34	48	Atlas
CSO151	7/4/16 2:30 PM	7/4/16 7:00 PM	450,038.85	270	1.05	428,608.42	1.05	0.34	48	Atlas
CSO151	7/6/16 1:30 PM	7/6/16 2:45 PM	171,406.44	75	0.12	1,428,386.97	1.16	0.09	1	Atlas
CSO151	7/12/16 9:15 AM	7/12/16 1:00 PM	380,202.37	225	0.23	1,653,053.78	0.44	0.15	1	Atlas
CSO151	7/27/16 6:30 PM	7/28/16 9:45 AM	1,167,760.83	915	0.49	2,383,185.36	0.74	0.20	12	Atlas
CSO151	7/30/16 2:30 PM	7/30/16 4:15 PM	200,450.91	105	0.37	541,759.21	1.13	0.32	1	Atlas
CSO151	7/31/16 5:45 PM	7/31/16 6:00 PM	7,708.33	15	0.06	128,472.23	1.19	0.03	1	Atlas
CSO151	8/1/16 11:30 AM	8/1/16 12:15 PM	92,374.70	45	0.43	214,824.89	1.49	0.26	1	Atlas
CSO151	8/1/16 8:30 PM	8/2/16 12:00 AM	420,597.76	210	0.43	978,134.33	1.4	0.26	1	Atlas
CSO151	8/4/16 1:45 PM	8/4/16 3:00 PM	174,653.03	75	0.48	363,860.49	1.31	0.32	3	Atlas
CSO151	8/5/16 2:15 PM	8/5/16 3:15 PM	61,336.65	60	0.12	511,138.73	1.5	0.08	3	Atlas

CSO	Start Date-Time	End Date-Time	Total Volume (Gal)	Duration (Minutes)	Rain Total (Inch)	Volume per Inch	Antecedent Rain	Frequency	Period	Standard
CSO151	8/9/16 3:45 PM	8/9/16 11:30 PM	123,298.30	465	0.18	684,990.57	0.79	0.13	1	Atlas
CSO151	8/14/16 4:00 PM	8/14/16 4:15 PM	15,097.09	15	1.23	12,274.06	0.3	0.61	3	Atlas
CSO151	8/15/16 3:00 AM	8/15/16 9:45 AM	695,039.89	405	1.23	565,073.08	1.44	0.61	3	Atlas
CSO151	8/17/16 4:15 AM	8/17/16 2:15 PM	526,199.82	600	0.55	956,726.94	1.81	0.23	12	Atlas
CSO151	8/31/16 5:15 PM	8/31/16 6:45 PM	154,299.81	90	0.12	1,285,831.72	0.25	0.08	1	Atlas
CSO151	9/10/16 3:15 PM	9/10/16 4:30 PM	202,876.68	75	0.19	1,067,771.99	0.18	0.12	1	Atlas
CSO151	9/26/16 9:45 AM	9/26/16 12:00 PM	105,324.55	135	0.24	438,852.29	0.24	0.16	3	Atlas
CSO151	9/28/16 8:45 AM	9/28/16 3:15 PM	346,407.95	390	0.33	1,049,721.05	0.57	0.17	6	Atlas
CSO151	9/29/16 9:30 AM	9/29/16 10:00 AM	12,507.76	30	0.08	156,347.01	0.64	0.05	3	Atlas
CSO151	9/30/16 12:30 AM	9/30/16 4:00 AM	687,358.57	210	0.7	981,940.81	1.24	0.37	3	Atlas
CSO151 Count			21							
CSO151 Total			6,598,693.72							
CSO152	7/3/16 7:45 AM	7/4/16 12:00 AM	387,685,597.00	975	1.12	346,147,854.50	0.69	0.36	48	Atlas
CSO152	7/4/16 8:30 AM	7/4/16 5:15 PM	207,080,680.30	525	1.12	184,893,464.60	1.12	0.36	48	Atlas
CSO152	7/6/16 1:15 PM	7/6/16 2:00 PM	64,982,930.11	45	0.12	541,524,417.60	1.23	0.09	1	Atlas
CSO152	7/12/16 9:15 AM	7/12/16 12:15 PM	129,548,927.00	180	0.2	647,744,635.00	0.44	0.13	3	Atlas
CSO152	7/27/16 6:30 PM	7/28/16 5:45 AM	248,983,305.00	675	0.48	518,715,218.80	0.66	0.22	12	Atlas
CSO152	7/30/16 2:30 PM	7/30/16 3:00 PM	133,508,336.00	30	0.34	392,671,576.50	1.08	0.30	1	Atlas
CSO152	8/1/16 11:15 AM	8/1/16 11:45 AM	43,374,326.00	30	0.41	105,791,039.00	1.45	0.27	1	Atlas
CSO152	8/1/16 8:30 PM	8/1/16 10:00 PM	158,587,622.00	90	0.41	386,799,078.10	1.34	0.27	1	Atlas
CSO152	8/4/16 2:00 PM	8/4/16 2:15 PM	43,852,324.00	15	0.34	128,977,423.50	1.09	0.23	3	Atlas
CSO152	8/5/16 2:15 PM	8/5/16 2:30 PM	35,427,380.00	15	0.13	272,518,307.70	1.29	0.09	3	Atlas
CSO152	8/9/16 3:45 PM	8/9/16 11:00 PM	11,514,787.90	435	0.24	47,978,282.92	0.71	0.16	3	Atlas
CSO152	8/15/16 2:45 AM	8/15/16 8:00 AM	240,337,558.40	315	1.04	231,093,806.10	1.34	0.51	6	Atlas
CSO152	8/17/16 4:15 AM	8/17/16 1:45 PM	221,464,590.00	570	0.53	417,857,717.00	1.63	0.22	12	Atlas
CSO152	8/20/16 10:45 AM	8/20/16 9:30 PM	118,295,023.50	645	0.75	157,726,698.00	2.29	0.30	12	Atlas
CSO152	8/31/16 5:30 PM	8/31/16 6:15 PM	35,608,751.00	45	0.07	508,696,442.90	0.32	0.05	3	Atlas
CSO152	9/10/16 3:15 PM	9/10/16 4:00 PM	60,417,535.80	45	0.19	317,987,030.50	0.17	0.12	1	Atlas
CSO152	9/26/16 9:45 AM	9/26/16 11:30 AM	39,178,057.00	105	0.25	156,712,228.00	0.25	0.17	3	Atlas
CSO152	9/28/16 12:45 PM	9/28/16 2:45 PM	107,367,454.00	120	0.36	298,242,927.80	0.61	0.19	6	Atlas
CSO152	9/29/16 9:45 AM	9/29/16 9:45 AM	3,452,804.25	0	0.07	49,325,775.00	0.68	0.05	1	Atlas
CSO152	9/30/16 12:30 AM	9/30/16 3:15 AM	186,368,168.00	165	0.71	262,490,377.50	1.27	0.37	3	Atlas
CSO152 Count			20							
CSO152 Total			2,477,036,157.26							
CSO153	7/3/16 10:15 AM	7/3/16 11:15 PM	226,642.33	780	1.23	184,262.05	0.77	0.40	48	Atlas
CSO153	7/4/16 8:00 AM	7/4/16 4:30 PM	59,545.09	510	1.23	48,410.64	1.22	0.40	48	Atlas
CSO153	7/6/16 1:15 PM	7/6/16 1:15 PM	7,712.23	0	0.06	128,537.16	1.27	0.04	3	Atlas
CSO153	7/12/16 9:00 AM	7/12/16 10:00 AM	103,604.49	60	0.2	518,022.47	0.33	0.13	3	Atlas
CSO153	7/25/16 12:45 PM	7/25/16 12:45 PM	57,326.98	0	0.11	521,154.33	0.07	0.06	6	Atlas
CSO153	7/30/16 2:15 PM	7/30/16 2:30 PM	74,926.65	15	0.27	277,506.10	1.22	0.23	1	Atlas

CSO	Start Date-Time	End Date-Time	Total Volume (Gal)	Duration (Minutes)	Rain Total (Inch)	Volume per Inch	Antecedent Rain	Frequency	Period	Standard
CSO153	8/1/16 11:00 AM	8/1/16 11:15 AM	39,926.58	15	0.38	105,069.95	1.58	0.31	1	Atlas
CSO153	8/4/16 1:15 PM	8/4/16 1:45 PM	76,920.11	30	0.25	307,680.44	0.86	0.14	6	Atlas
CSO153	8/10/16 3:30 AM	8/10/16 3:30 AM	3,648.25	0	0.03	121,608.33	0.51	0.03	1	Atlas
CSO153	8/15/16 2:30 AM	8/15/16 7:30 AM	444,551.72	300	0.81	548,829.29	1.09	0.43	6	Atlas
CSO153	8/17/16 4:30 AM	8/17/16 7:30 AM	256,152.65	180	0.72	355,767.57	1.54	0.32	6	Atlas
CSO153	8/20/16 2:30 PM	8/20/16 8:45 PM	168,668.68	375	1.1	153,335.16	2.66	0.46	12	Atlas
CSO153	8/28/16 5:15 PM	8/28/16 5:30 PM	39,139.05	15	0.13	301,069.64	0.14	0.11	1	Atlas
CSO153	8/31/16 5:00 PM	8/31/16 5:45 PM	32,023.54	45	0.16	200,147.11	0.29	0.12	1	Atlas
CSO153	9/10/16 3:15 PM	9/10/16 3:15 PM	67,279.04	0	0.2	336,395.20	0.2	0.12	1	Atlas
CSO153	9/26/16 9:15 AM	9/26/16 9:15 AM	7,854.90	0	0.2	39,274.48	0.06	0.13	3	Atlas
CSO153	9/28/16 12:30 PM	9/28/16 2:00 PM	35,337.77	90	0.38	92,994.12	0.58	0.21	6	Atlas
CSO153	9/30/16 12:00 AM	9/30/16 2:45 AM	94,427.96	165	0.68	138,864.65	1.24	0.37	3	Atlas
CSO153 Count			18							
CSO153 Total			1,795,688.01							
CSO154	7/28/16 3:30 AM	7/28/16 3:30 AM	2,855.71	0	0.67	4,262.25	0.73	0.31	6	Atlas
CSO154	8/15/16 3:15 AM	8/15/16 3:30 AM	178,050.06	15	0.91	195,659.40	0.82	0.49	6	Atlas
CSO154	8/17/16 7:00 AM	8/17/16 7:00 AM	27,175.34	0	0.65	41,808.22	1.53	0.29	3	Atlas
CSO154	8/20/16 2:30 PM	8/20/16 8:00 PM	38,024.32	330	1.23	30,914.08	2.82	0.57	1	Atlas
CSO154	8/31/16 5:00 PM	8/31/16 5:00 PM	65,597.11	0	0.48	136,660.64	0.3	0.37	1	Atlas
CSO154 Count			5							
CSO154 Total			311,702.54							
CSO155	7/3/16 10:15 AM	7/3/16 8:15 PM	5,191.33	600	1.3	3,993.33	0.63	0.42	48	Atlas
CSO155	7/20/16 7:30 PM	7/20/16 7:45 PM	18,640.67	15	0.1	186,406.67	0.24	0.08	1	Atlas
CSO155	7/30/16 2:15 PM	7/30/16 2:15 PM	279.57	0	0.15	1,863.82	1.3	0.13	1	Atlas
CSO155	8/1/16 11:00 AM	8/1/16 11:15 AM	4,545.73	15	0.65	6,993.43	1.9	0.51	1	Atlas
CSO155	8/4/16 12:00 PM	8/4/16 12:00 PM	629.78	0	0.35	1,799.37	0.92	0.23	1	Atlas
CSO155	8/12/16 2:00 PM	8/12/16 2:00 PM	24,577.13	0	0.23	106,857.07	0.41	0.19	1	Atlas
CSO155	8/15/16 2:45 AM	8/15/16 5:45 AM	2,735.42	180	0.74	3,696.51	1.06	0.38	6	Atlas
CSO155	8/17/16 6:00 AM	8/17/16 7:00 AM	3,187.98	60	1.32	2,415.14	2.15	0.63	3	Atlas
CSO155	8/20/16 2:15 PM	8/20/16 8:00 PM	53,521.99	345	1.4	38,229.99	3.57	0.61	12	Atlas
CSO155	9/10/16 3:15 PM	9/10/16 3:15 PM	1,932.96	0	0.22	8,786.17	0.2	0.14	3	Atlas
CSO155	9/28/16 12:15 PM	9/28/16 12:15 PM	277.15	0	0.62	447.01	0.7	0.33	6	Atlas
CSO155	9/30/16 1:30 AM	9/30/16 2:15 AM	1,782.76	45	0.42	4,244.67	1.29	0.23	3	Atlas
CSO155 Count			12							
CSO155 Total			117,302.46							
CSO160	7/27/16 11:45 PM	7/28/16 3:15 AM	941.78	210	0.75	1,255.71	0.95	0.34	12	Atlas
CSO160	7/30/16 2:15 PM	7/30/16 2:15 PM	4,192.04	0	0.25	16,768.17	1.4	0.22	1	Atlas
CSO160	8/1/16 11:00 AM	8/1/16 11:15 AM	1,203.24	15	0.35	3,437.83	1.74	0.29	1	Atlas
CSO160	8/12/16 2:15 PM	8/12/16 2:30 PM	607.01	15	0.22	2,759.14	0.34	0.18	1	Atlas
CSO160	8/15/16 2:45 AM	8/15/16 5:45 AM	1,545.02	180	0.76	2,032.92	1.01	0.38	6	Atlas

CSO	Start Date-Time	End Date-Time	Total Volume (Gal)	Duration (Minutes)	Rain Total (Inch)	Volume per Inch	Antecedent Rain	Frequency	Period	Standard
CSO160	8/17/16 6:45 AM	8/17/16 7:00 AM	683.85	15	0.81	844.26	1.69	0.35	3	Atlas
CSO160	8/20/16 2:30 PM	8/20/16 7:45 PM	4,450.68	315	1.48	3,007.21	2.89	0.68	1	Atlas
CSO160	9/17/16 9:30 AM	9/17/16 9:30 AM	230.42	0	0.15	1,536.11	0.32	0.12	1	Atlas
CSO160	9/28/16 12:30 PM	9/28/16 12:30 PM	434.83	0	0.43	1,011.24	0.6	0.23	6	Atlas
CSO160 Count			9							
CSO160 Total			14,288.87							
CSO161	7/3/16 7:45 PM	7/3/16 7:45 PM	2,130.24	0	1.34	1,589.73	0.54	0.44	48	Atlas
CSO161	7/6/16 1:00 PM	7/6/16 1:00 PM	707.03	0	0.11	6,427.56	1.43	0.08	1	Atlas
CSO161	7/12/16 9:45 AM	7/12/16 9:45 AM	440.94	0	0.38	1,160.36	0.49	0.24	3	Atlas
CSO161	7/26/16 5:45 PM	7/26/16 5:45 PM	181.88	0	0.14	1,299.11	0.39	0.12	1	Atlas
CSO161	7/28/16 3:15 AM	7/28/16 3:15 AM	6,601.92	0	0.75	8,802.56	0.95	0.34	12	Atlas
CSO161	7/30/16 2:00 PM	7/30/16 2:00 PM	8,921.87	0	0.25	35,687.46	1.4	0.22	1	Atlas
CSO161	8/1/16 11:00 AM	8/1/16 11:00 AM	1,825.01	0	0.35	5,214.32	1.74	0.29	1	Atlas
CSO161	8/4/16 1:15 PM	8/4/16 1:15 PM	1,304.89	0	0.21	6,213.74	0.81	0.11	6	Atlas
CSO161	8/12/16 2:00 PM	8/12/16 2:00 PM	2,477.25	0	0.22	11,260.23	0.35	0.18	1	Atlas
CSO161	8/15/16 2:30 AM	8/15/16 5:30 AM	8,451.24	180	0.76	11,120.05	1	0.38	6	Atlas
CSO161	8/17/16 5:45 AM	8/17/16 6:45 AM	5,001.43	60	0.81	6,174.60	1.68	0.35	3	Atlas
CSO161	8/20/16 10:15 AM	8/20/16 7:45 PM	25,621.17	570	1.48	17,311.60	2.89	0.68	1	Atlas
CSO161	9/10/16 2:45 PM	9/10/16 2:45 PM	245.01	0	0.18	1,361.17	0.07	0.11	3	Atlas
CSO161	9/28/16 12:15 PM	9/28/16 12:15 PM	899.28	0	0.43	2,091.35	0.57	0.23	6	Atlas
CSO161	9/30/16 1:15 AM	9/30/16 2:00 AM	2,876.50	45	0.61	4,715.57	1.25	0.31	3	Atlas
CSO161 Count			15							
CSO161 Total			67,685.64							
CSO166	7/3/16 11:00 AM	7/3/16 1:15 PM	572,317.46	135	0.99	578,098.45	0.29	0.32	48	Atlas
CSO166	7/4/16 2:30 PM	7/4/16 3:45 PM	544,794.43	75	0.99	550,297.40	0.95	0.32	48	Atlas
CSO166	7/6/16 12:00 PM	7/6/16 12:30 PM	441,609.64	30	0.12	3,680,080.35	1	0.09	1	Atlas
CSO166	7/12/16 9:45 AM	7/12/16 12:45 PM	339,736.77	180	0.39	871,119.93	0.59	0.25	3	Atlas
CSO166 Count			4							
CSO166 Total			1,898,458.31							
CSO167	7/3/16 10:30 AM	7/3/16 11:30 PM	137,878.87	780	1.08	127,665.62	0.66	0.35	48	Atlas
CSO167	7/4/16 2:30 PM	7/4/16 3:30 PM	65,166.29	60	1.08	60,339.16	1.03	0.35	48	Atlas
CSO167	7/12/16 10:00 AM	7/12/16 12:15 PM	79,638.02	135	0.19	419,147.48	0.33	0.12	3	Atlas
CSO167	7/28/16 3:30 AM	7/28/16 5:30 AM	125,423.96	120	0.67	187,199.94	0.8	0.31	6	Atlas
CSO167	7/30/16 2:30 PM	7/30/16 3:00 PM	93,244.15	30	0.16	582,775.92	1.06	0.14	1	Atlas
CSO167	8/1/16 11:15 AM	8/1/16 11:45 AM	90,266.27	30	0.56	161,189.76	1.53	0.41	1	Atlas
CSO167	8/9/16 3:45 PM	8/9/16 3:45 PM	7,625.05	0	0.2	38,125.26	0.48	0.08	3	Atlas
CSO167	8/15/16 2:45 AM	8/15/16 8:00 AM	456,574.40	315	0.91	501,730.11	1.18	0.49	6	Atlas
CSO167	8/17/16 6:00 AM	8/17/16 7:30 AM	286,277.62	90	0.65	440,427.10	1.54	0.29	3	Atlas
CSO167	8/20/16 2:15 PM	8/20/16 9:00 PM	232,546.64	405	1.23	189,062.31	2.92	0.57	1	Atlas
CSO167	9/10/16 3:30 PM	9/10/16 3:30 PM	11,636.59	0	0.22	52,893.61	0.22	0.15	1	Atlas

CSO	Start Date-Time	End Date-Time	Total Volume (Gal)	Duration (Minutes)	Rain Total (Inch)	Volume per Inch	Antecedent Rain	Frequency	Period	Standard
CSO167	9/28/16 12:30 PM	9/28/16 1:00 PM	9,245.48	30	0.38	24,330.21	0.54	0.20	6	Atlas
CSO167	9/29/16 11:45 PM	9/30/16 2:30 AM	99,722.63	165	0.64	155,816.61	1.24	0.35	3	Atlas
CSO167 Count			13							
CSO167 Total			1,695,245.96							
CSO179	7/30/16 2:15 PM	7/30/16 2:30 PM	17,562.69	15	0.43	40,843.46	1.14	0.37	1	Atlas
CSO179	8/11/16 2:30 PM	8/11/16 6:15 PM	44,580.88	225	Potential Discharge		0.41			
CSO179	8/12/16 7:15 AM	8/12/16 1:45 PM	96,933.09	390	Potential Discharge		0.37			
CSO179	8/15/16 3:15 AM	8/15/16 3:45 AM	5,502.10	30	1.02	5,394.22	0.96	0.49	6	Atlas
CSO179	8/17/16 7:15 AM	8/17/16 7:15 AM	2,681.49	0	0.61	4,395.88	1.62	0.27	6	Atlas
CSO179	8/20/16 8:15 PM	8/20/16 8:15 PM	3,280.22	0	0.76	4,316.08	2.3	0.32	12	Atlas
CSO179	8/28/16 5:45 PM	8/28/16 6:00 PM	8,688.22	15	0.42	20,686.24	0.43	0.37	1	Atlas
CSO179 Count			7							
CSO179 Total			179,228.69							
CSO181	7/27/16 11:45 PM	7/28/16 3:45 AM	86,184,787.00	240	0.67	128,634,010.50	0.71	0.31	12	Atlas
CSO181	7/30/16 2:15 PM	7/30/16 2:30 PM	31,236,178.00	15	0.45	69,413,728.89	1.38	0.39	1	Atlas
CSO181	8/15/16 3:15 AM	8/15/16 3:15 AM	4,381,293.50	0	0.92	4,762,275.54	0.8	0.45	6	Atlas
CSO181	8/17/16 7:00 AM	8/17/16 7:15 AM	63,760,400.90	15	0.83	76,819,760.12	1.89	0.36	12	Atlas
CSO181	8/20/16 2:30 PM	8/20/16 8:15 PM	275,899,094.40	345	1.1	250,817,358.60	2.83	0.45	12	Atlas
CSO181 Count			5							
CSO181 Total			461,461,753.80							
CSO189	7/3/16 12:15 PM	7/3/16 10:15 PM	1,800,949.03	600	1.3	1,385,345.40	0.76	0.42	48	Atlas
CSO189	7/4/16 10:00 AM	7/4/16 4:00 PM	3,464,946.26	360	1.3	2,665,343.28	1.29	0.42	48	Atlas
CSO189	7/28/16 3:45 AM	7/28/16 4:15 AM	491,788.87	30	0.3	1,639,296.22	0.72	0.14	12	Atlas
CSO189	8/1/16 11:15 AM	8/1/16 12:00 PM	339,590.04	45	0.35	970,257.26	1.29	0.30	1	Atlas
CSO189	8/9/16 3:45 PM	8/9/16 4:30 PM	638,302.11	45	0.53	1,204,343.61	0.78	0.43	1	Atlas
CSO189	8/15/16 2:30 AM	8/15/16 7:45 AM	7,087,306.98	315	1.44	4,921,740.96	2.18	0.72	6	Atlas
CSO189	8/17/16 6:15 AM	8/17/16 9:00 AM	10,204,183.53	165	1.13	9,030,250.91	2.69	0.52	3	Atlas
CSO189	8/20/16 10:15 AM	8/20/16 10:00 PM	8,635,359.28	705	1.25	6,908,287.43	3.76	0.55	12	Atlas
CSO189	8/27/16 1:00 PM	8/27/16 1:45 PM	535,265.33	45	0.03	17,842,177.52	0.97	0.02	1	Atlas
CSO189	8/28/16 6:00 PM	8/28/16 6:30 PM	149,901.88	30	0.13	1,153,091.40	0.15	0.10	1	Atlas
CSO189	9/28/16 1:15 PM	9/28/16 2:45 PM	27,768.31	90	0.5	55,536.63	0.84	0.27	6	Atlas
CSO189	9/30/16 1:00 AM	9/30/16 3:45 AM	2,040,717.08	165	0.64	3,188,620.43	1.61	0.34	3	Atlas
CSO189 Count			12							
CSO189 Total			35,416,078.69							
CSO190	7/3/16 7:30 AM	7/3/16 11:00 PM	325,488.15	930	1.3	250,375.50	0.77	0.42	48	Atlas
CSO190	7/4/16 8:30 AM	7/4/16 3:00 PM	124,910.93	390	1.3	96,085.33	1.27	0.42	48	Atlas
CSO190	7/6/16 1:00 PM	7/6/16 1:00 PM	59.97	0	0.1	599.69	1.4	0.07	1	Atlas
CSO190	7/12/16 9:30 AM	7/12/16 10:00 AM	8,336.07	30	0.16	52,100.46	0.56	0.10	1	Atlas
CSO190	7/14/16 12:45 PM	7/14/16 12:45 PM	1.55	0	0.02	77.60	0.53	0.02	1	Atlas
CSO190	7/18/16 8:45 AM	7/18/16 8:45 AM	33.25	0	0.07	475.00	0.25	0.03	12	Atlas

CSO	Start Date-Time	End Date-Time	Total Volume (Gal)	Duration (Minutes)	Rain Total (Inch)	Volume per Inch	Antecedent Rain	Frequency	Period	Standard
CSO190	7/20/16 4:15 PM	7/20/16 8:00 PM	386,847.21	225	0.1	3,868,472.13	0.24	0.08	1	Atlas
CSO190	7/25/16 12:45 PM	7/25/16 1:00 PM	24,358.60	165	0.15	162,390.68	0.26			
CSO190	7/26/16 5:45 PM	7/26/16 5:45 PM	17.81	0	0.11	161.93	0.51	0.10	1	Atlas
CSO190	7/28/16 1:00 AM	7/28/16 8:45 AM	723,326.25	915	0.51	1,418,286.77	1.19			
CSO190	7/29/16 2:30 PM	7/29/16 2:30 PM	3,432.76	0	0.05	68,655.21	1.11	0.03	6	Atlas
CSO190	7/30/16 2:15 PM	7/30/16 9:00 PM	24,563.40	405	0.15	163,755.97	1.3	0.13	1	Atlas
CSO190	8/1/16 11:00 AM	8/1/16 2:30 PM	257,183.40	210	0.65	395,666.77	1.91	0.51	1	Atlas
CSO190	8/4/16 12:00 PM	8/4/16 1:00 PM	320,215.98	60	0.35	914,902.81	1.15	0.23	1	Atlas
CSO190	8/5/16 5:00 PM	8/5/16 11:45 PM	2,659.03	405	0.13	20,454.09	1.31	0.09	3	Atlas
CSO190	8/12/16 2:00 PM	8/12/16 2:45 PM	50,654.28	45	0.23	220,236.00	0.41	0.19	1	Atlas
CSO190	8/15/16 2:30 AM	8/15/16 8:00 AM	589,592.93	330	0.74	796,747.21	1.13	0.38	6	Atlas
CSO190	8/17/16 4:00 AM	8/17/16 8:30 AM	973,923.94	270	1.32	737,821.17	2.19	0.63	3	Atlas
CSO190	8/19/16 7:30 PM	8/19/16 7:45 PM	44,116.45	15	0.19	232,191.84	2.31	0.17	1	Atlas
CSO190	8/20/16 10:00 AM	8/20/16 9:30 PM	1,610,511.10	690	1.4	1,150,365.07	3.65	0.61	12	Atlas
CSO190	8/27/16 12:45 PM	8/27/16 1:00 PM	17,078.12	15	0.08	213,476.55	1.21	0.07	1	Atlas
CSO190	8/31/16 5:45 PM	8/31/16 5:45 PM	115.71	0	0.4	289.27	0.49	0.35	1	Atlas
CSO190	9/10/16 3:15 PM	9/10/16 3:30 PM	10,634.81	15	0.22	48,340.06	0.2	0.14	3	Atlas
CSO190	9/17/16 9:15 AM	9/17/16 7:00 PM	134.35	585	0.15	895.69	0.39	0.11	1	Atlas
CSO190	9/26/16 9:15 AM	9/26/16 11:00 AM	3,103.87	105	0.25	12,415.50	0.25	0.17	3	Atlas
CSO190	9/28/16 12:15 PM	9/28/16 2:15 PM	47,927.08	120	0.62	77,301.75	0.85	0.33	6	Atlas
CSO190	9/29/16 9:15 AM	9/29/16 9:30 AM	4,152.02	15	0.09	46,133.56	0.94	0.05	3	Atlas
CSO190	9/30/16 12:15 AM	9/30/16 2:45 AM	180,654.97	150	0.42	430,130.88	1.32	0.23	3	Atlas
CSO190 Count			28							
CSO190 Total			5,734,034.03							
CSO191	7/3/16 9:15 PM	7/3/16 9:15 PM	3,267.80	0	1.2	2,723.17	0.65	0.39	48	Atlas
CSO191	7/28/16 4:30 AM	7/28/16 5:00 AM	108,743.58	30	0.68	159,917.02	1.2	0.31	12	Atlas
CSO191	7/30/16 3:15 PM	7/30/16 3:15 PM	61,335.76	0	0.56	109,528.15	1.95	0.49	1	Atlas
CSO191	7/31/16 6:30 PM	7/31/16 6:30 PM	6,370.83	0	0.46	13,849.64	2.41	0.39	1	Atlas
CSO191 Count			4							
CSO191 Total			179,717.97							
CSO196	7/3/16 12:00 PM	7/3/16 8:00 PM	1,908.26	480	1.19	1,603.58	0.55	0.39	48	Atlas
CSO196	7/6/16 1:15 PM	7/6/16 1:15 PM	420.64	0	0.19	2,213.87	1.34	0.13	1	Atlas
CSO196	8/15/16 3:15 AM	8/15/16 3:15 AM	3,736.81	0	0.91	4,106.39	0.81	0.44	6	Atlas
CSO196	8/17/16 7:00 AM	8/17/16 7:00 AM	5,429.14	0	0.67	8,103.19	1.69	0.28	12	Atlas
CSO196	8/20/16 8:00 PM	8/20/16 8:00 PM	3,632.28	0	0.89	4,081.21	2.31	0.38	12	Atlas
CSO196	8/28/16 5:30 PM	8/28/16 5:30 PM	10,968.80	0	0.23	47,690.44	0.23	0.19	1	Atlas
CSO196 Count			6							
CSO196 Total			26,095.93							
CSO197	7/3/16 7:30 AM	7/3/16 11:00 PM	22,529.67	930	1.19	18,932.49	0.69	0.39	48	Atlas
CSO197	7/4/16 8:15 AM	7/4/16 4:15 PM	8,591.01	480	1.19	7,219.34	1.19	0.39	48	Atlas

CSO	Start Date-Time	End Date-Time	Total Volume (Gal)	Duration (Minutes)	Rain Total (Inch)	Volume per Inch	Antecedent Rain	Frequency	Period	Standard
CSO197	7/6/16 1:00 PM	7/6/16 1:15 PM	5,751.17	15	0.19	30,269.30	1.34	0.13	1	Atlas
CSO197	7/12/16 9:30 AM	7/12/16 10:00 AM	2,814.57	30	0.18	15,636.52	0.47	0.12	1	Atlas
CSO197	7/20/16 7:30 PM	7/20/16 7:45 PM	1,329.69	15	0.15	8,864.58	0.45	0.13	1	Atlas
CSO197	7/27/16 11:30 PM	7/28/16 3:15 AM	6,202.34	225	0.53	11,702.54	0.53	0.24	12	Atlas
CSO197	7/30/16 2:00 PM	7/30/16 2:15 PM	30,912.10	15	0.48	64,400.22	1.22	0.42	1	Atlas
CSO197	7/31/16 5:00 PM	7/31/16 5:00 PM	41.15	0	0.11	374.05	1.33	0.09	1	Atlas
CSO197	8/1/16 11:00 AM	8/1/16 11:15 AM	6,473.04	15	0.4	16,182.60	1.69	0.31	1	Atlas
CSO197	8/5/16 1:45 PM	8/5/16 1:45 PM	402.08	0	0.31	1,297.04	1.48	0.21	1	Atlas
CSO197	8/15/16 2:30 AM	8/15/16 7:15 AM	10,313.40	285	0.91	11,333.40	1.21	0.44	6	Atlas
CSO197	8/17/16 6:00 AM	8/17/16 7:00 AM	6,325.77	60	0.67	9,441.45	1.69	0.28	12	Atlas
CSO197	8/20/16 2:15 PM	8/20/16 8:15 PM	20,354.66	360	0.89	22,870.41	2.43	0.38	12	Atlas
CSO197	8/28/16 5:15 PM	8/28/16 5:30 PM	16,580.73	15	0.23	72,090.13	0.23	0.19	1	Atlas
CSO197	**Count**		14							
CSO197	**Total**		138,621.38							
CSO198	7/3/16 7:30 AM	7/3/16 11:30 PM	89,865.59	960	1.19	75,517.30	0.7	0.39	48	Atlas
CSO198	7/4/16 8:00 AM	7/4/16 4:45 PM	46,404.66	525	1.19	38,995.51	1.19	0.39	48	Atlas
CSO198	7/6/16 1:00 PM	7/6/16 1:45 PM	13,022.26	45	0.19	68,538.21	1.35	0.13	1	Atlas
CSO198	7/12/16 9:30 AM	7/12/16 10:15 AM	17,075.00	45	0.18	94,861.11	0.47	0.12	1	Atlas
CSO198	7/20/16 7:30 PM	7/20/16 8:00 PM	10,732.81	30	0.15	71,552.08	0.45	0.13	1	Atlas
CSO198	7/25/16 3:00 PM	7/25/16 3:00 PM	935.94	0	0.13	7,199.52	0.25	0.07	6	Atlas
CSO198	7/27/16 11:30 PM	7/28/16 5:15 AM	30,187.35	345	0.53	56,957.27	0.61	0.24	12	Atlas
CSO198	7/30/16 2:00 PM	7/30/16 3:00 PM	58,776.81	60	0.48	122,451.70	1.22	0.42	1	Atlas
CSO198	7/31/16 5:00 PM	7/31/16 5:45 PM	16,517.83	45	0.11	150,162.12	1.33	0.09	1	Atlas
CSO198	8/1/16 11:00 AM	8/1/16 11:45 AM	25,811.98	45	0.4	64,529.95	1.69	0.31	1	Atlas
CSO198	8/1/16 9:00 PM	8/1/16 9:30 PM	7,221.48	30	0.4	18,053.70	1.6	0.31	1	Atlas
CSO198	8/4/16 1:30 PM	8/4/16 1:45 PM	4,037.49	15	0.24	16,822.87	1.23	0.16	3	Atlas
CSO198	8/5/16 1:45 PM	8/5/16 3:15 PM	17,724.99	90	0.31	57,177.39	1.6	0.21	1	Atlas
CSO198	8/12/16 2:00 PM	8/12/16 2:00 PM	935.94	0	0.18	5,199.65	0.28	0.12	3	Atlas
CSO198	8/15/16 2:30 AM	8/15/16 8:00 AM	118,253.63	330	0.91	129,949.04	1.21	0.44	6	Atlas
CSO198	8/17/16 4:15 AM	8/17/16 7:30 AM	79,097.52	195	0.67	118,056.00	1.69	0.28	12	Atlas
CSO198	8/20/16 10:15 AM	8/20/16 9:15 PM	89,534.10	660	0.89	100,600.11	2.48	0.38	12	Atlas
CSO198	8/28/16 5:15 PM	8/28/16 6:15 PM	46,979.81	60	0.23	204,260.03	0.23	0.19	1	Atlas
CSO198	9/10/16 3:00 PM	9/10/16 3:45 PM	18,675.65	45	0.19	98,292.88	0.15	0.11	3	Atlas
CSO198	9/17/16 9:45 AM	9/17/16 9:45 AM	123.82	0	0.15	825.49	0.35	0.12	1	Atlas
CSO198	9/26/16 9:15 AM	9/26/16 11:15 AM	19,522.25	120	0.28	69,722.32	0.28	0.19	3	Atlas
CSO198	9/28/16 12:15 PM	9/28/16 2:15 PM	38,754.03	120	0.39	99,369.31	0.67	0.21	3	Atlas
CSO198	9/29/16 9:30 AM	9/29/16 9:45 AM	4,037.50	15	0.07	57,678.58	0.74	0.06	1	Atlas
CSO198	9/30/16 12:00 AM	9/30/16 3:00 AM	61,655.08	180	0.7	88,078.68	1.3	0.35	3	Atlas
CSO198	**Count**		24							
CSO198	**Total**		815,883.51							

CSO	Start Date-Time	End Date-Time	Total Volume (Gal)	Duration (Minutes)	Rain Total (Inch)	Volume per Inch	Antecedent Rain	Frequency	Period	Standard
CSO199	7/3/16 11:30 AM	7/3/16 8:00 PM	6,686.39	510	1.19	5,618.81	0.55	0.39	48	Atlas
CSO199	7/20/16 7:30 PM	7/20/16 7:30 PM	695.90	0	0.15	4,639.31	0.45	0.13	1	Atlas
CSO199	7/30/16 2:00 PM	7/30/16 2:00 PM	800.89	0	0.48	1,668.51	1.21	0.42	1	Atlas
CSO199	8/5/16 1:45 PM	8/5/16 1:45 PM	1,366.77	0	0.31	4,408.94	1.48	0.21	1	Atlas
CSO199	8/15/16 3:00 AM	8/15/16 7:15 AM	5,882.02	255	0.91	6,463.76	1.21	0.44	6	Atlas
CSO199	8/17/16 6:45 AM	8/17/16 7:00 AM	7,532.62	15	0.67	11,242.72	1.69	0.28	12	Atlas
CSO199	8/20/16 2:15 PM	8/20/16 8:00 PM	8,593.47	345	0.89	9,655.58	2.36	0.38	12	Atlas
CSO199	8/28/16 5:15 PM	8/28/16 5:15 PM	2,502.78	0	0.23	10,881.66	0.19	0.19	1	Atlas
CSO199	9/10/16 3:15 PM	9/10/16 3:15 PM	479.91	0	0.19	2,525.82	0.15	0.11	3	Atlas
CSO199	9/11/16 1:15 AM	9/11/16 1:15 AM	3,913.76	0	0.19	20,598.74	0.19	0.11	3	Atlas
CSO199 Count			10							
CSO199 Total			38,454.50							
CSO200	7/3/16 12:00 PM	7/3/16 7:45 PM	1,796.75	465	1.19	1,509.87	0.5	0.39	48	Atlas
CSO200	7/30/16 2:15 PM	7/30/16 2:15 PM	24,072.92	0	0.48	50,151.91	1.22	0.42	1	Atlas
CSO200	7/31/16 5:15 PM	7/31/16 5:15 PM	18.18	0	0.11	165.25	1.33	0.09	1	Atlas
CSO200	8/1/16 11:15 AM	8/1/16 11:15 AM	142.32	0	0.4	355.81	1.69	0.31	1	Atlas
CSO200	8/15/16 2:45 AM	8/15/16 7:15 AM	5,479.54	270	0.91	6,021.47	1.21	0.44	6	Atlas
CSO200	8/17/16 6:45 AM	8/17/16 7:00 AM	745.54	15	0.67	1,112.75	1.69	0.28	12	Atlas
CSO200	8/20/16 8:00 PM	8/20/16 8:00 PM	187.80	0	0.89	211.01	2.31	0.38	12	Atlas
CSO200	8/28/16 5:15 PM	8/28/16 5:30 PM	4,779.41	15	0.23	20,780.03	0.23	0.19	1	Atlas
CSO200	9/10/16 3:15 PM	9/10/16 3:15 PM	83.54	0	0.19	439.69	0.15	0.11	3	Atlas
CSO200 Count			9							
CSO200 Total			37,306.00							
CSO202	7/3/16 12:00 PM	7/3/16 12:00 PM	1,696.40	0	1.19	1,425.54	0.34	0.39	48	Atlas
CSO202	7/30/16 2:15 PM	7/30/16 2:15 PM	9,669.17	0	0.48	20,144.10	1.22	0.42	1	Atlas
CSO202	8/1/16 11:15 AM	8/1/16 11:15 AM	992.22	0	0.4	2,480.55	1.69	0.31	1	Atlas
CSO202	8/15/16 3:00 AM	8/15/16 7:15 AM	6,346.29	255	0.91	6,973.95	1.21	0.44	6	Atlas
CSO202	8/17/16 7:00 AM	8/17/16 7:00 AM	3,629.61	0	0.67	5,417.34	1.69	0.28	12	Atlas
CSO202	8/20/16 8:00 PM	8/20/16 8:00 PM	2,191.28	0	0.89	2,462.11	2.31	0.38	12	Atlas
CSO202	8/28/16 5:30 PM	8/28/16 5:30 PM	1,666.21	0	0.23	7,244.38	0.23	0.19	1	Atlas
CSO202	9/10/16 3:15 PM	9/10/16 3:15 PM	2,872.46	0	0.19	15,118.20	0.15	0.11	3	Atlas
CSO202 Count			8							
CSO202 Total			29,063.64							
CSO203	7/3/16 8:00 PM	7/4/16 12:15 AM	5,444.92	255	1.19	4,575.56	0.7	0.39	48	Atlas
CSO203	7/4/16 11:00 AM	7/4/16 11:00 AM	222.84	0	1.19	187.26	0.94	0.39	48	Atlas
CSO203	7/6/16 1:30 PM	7/6/16 2:30 PM	494.00	60	0.19	2,600.00	1.35	0.13	1	Atlas
CSO203	7/30/16 2:15 PM	7/30/16 2:15 PM	13,513.92	0	0.48	28,153.99	1.22	0.42	1	Atlas
CSO203	8/17/16 7:00 AM	8/17/16 7:00 AM	5,453.95	0	0.67	8,140.22	1.69	0.28	12	Atlas
CSO203	8/20/16 8:00 PM	8/20/16 8:00 PM	5,180.95	0	0.89	5,821.29	2.31	0.38	12	Atlas
CSO203	8/28/16 5:30 PM	8/28/16 5:30 PM	2,245.31	0	0.23	9,762.23	0.23	0.19	1	Atlas

CSO	Start Date-Time	End Date-Time	Total Volume (Gal)	Duration (Minutes)	Rain Total (Inch)	Volume per Inch	Antecedent Rain	Frequency	Period	Standard
CSO203 Count			7							
CSO203 Total			32,555.88							
Grand Count			748							
Grand Total			4,278,468,312.04							

Appendix C – Acronyms

Appendix C - Acronyms for Project WIN Quarterly Report

AAM	Advanced Asset Management
AAOV	Annual Average Overflow Volume
ADAPS	Automated Data Processing System
BGC	Beargrass Creek
BMP	Best Management Practices
CCP	Composite Correction Plan
CD	Consent Decree
CMF	Central Maintenance Facility
CMMS	Computerized Maintenance Management System
CMOM	Capacity Management Operations and Maintenance
CPE	Comprehensive Performance Evaluations
CSO	Combined Sewer Overflow
CSS	Combined Sewer System
CSSA	Continuing Sewer System Assessment
DAP	Discharge Abetement Plan (DAP)
DMR	Discharge Monitoring Report
eB	Enterprise Bridge (Spescom scanning software for document management)
EMC	Event Mean Concentration
EPA	Environmental Protection Agency
ERP	Enforcement Response Plan
FM	Force Main
FOG	Fats, Oil & Grease
FPS	Flood Pump Station
FSE	Food Service Establishment
FY	Fiscal Year
GCE	Grease Control Equipment
GIS	Geographical Information System
GLPM	Gravity Line Preventive Maintenance
HMI	Human Machine Interface
I&FP	Infrastructure & Flood Protection (MSD Division)
ICA	Interceptor Condition Assessment
ID	Identification
I&I	Inflow and Infiltration
IMS	Information Management System
IOAP	Integrated Overflow Abatement Plan
ISSDP	Interim Sanitary Sewer Discharge Plan
IT	Information Technology
IWD	Industrial Waste Department
JCPS	Jefferson County Public Schools
KDEP	Kentucky Department of Environmental Protection
KPDES	Kentucky Pollutant Discharge Elimination System
KY	Kentucky
LE	Lateral Extension
LID	Low Impact Development
LIMS	Laboratory Information Management System
LTC	Long Term Control
LTCP	Long Term Control Plan
LOJIC	Louisville and Jefferson County Information Consortium
MDS	Main Diversion Structure
MEB	Main Equipment Building

Appendix C - Acronyms for Project WIN Quarterly Report

MFWTP	Morris Forman Wastewater Treatment Plant
MG	Million Gallons
MGD	Million Gallons Per Day
MLK	Martin Luther King
MO	Metro Operations
MOA	Memorandum of Agreement
MOR	Monthly Operating Report
MOU	Memorandum of Understanding
MSD	Metropolitan Sewer District (Louisville and Jefferson County)
NDD	Non-Domestic Dischargers
NMC	Nine Minimum Controls
NPR	National Public Radio
ORSANCO	Ohio River Valley Water Sanitation Commission
PACP	Pipeline Assessment and Certification Program
PCM	Post Construction Monitoring
PI	Plant Information System
PM	Preventive Maintenance
POC	Pollutants of Concern
PP	Pumping Package
PS	Pump Station
PSC	Property Service Connection
RDII	Rainfall-Derived Infiltration and Inflow
RS	Regulatory Services
RTC	Real Time Control
SCADA	Supervisory Control And Data Acquisition
SCAP	System Capacity Assurance Plan
SIU	Significant Industrial User
SOP	Standard Operating Procedure
SORP	Sewer Overflow Response Protocol
SSDP	Sanitary Sewer Discharge Plan
SSES	Sanitary Sewer Evaluation Study
SSO	Sanitary Sewer Overflow
SSOP	Sanitary Sewer Overflow Plan
SWOR2	Southwestern Outfall Relief - Phase 2
SWPS	Southwestern Pump Station
TM	Technical Memorandum
TMDL	Total Maximum Daily Load
TV	Television
UIM	Utility Information Management
UK	University of Kentucky
USACE	US Army Corps of Engineers
USF&W	United States Fish and Wildlife
USGS	United States Geological Survey
WDR	Wastewater Discharge Regulators
WIN	Waterway Improvements Now
WQT	Water Quality Tool
WQTC	Water Quality Treatment Center
WW	Wet Weather
WWT	Wet Weather Team

Appendix D – SCAP Balance

msd
Safe, clean waterways

Capacity Credit Balance Sheet per Credit Basin

APNO	APNAME	APTYPE	FLOW	Release Date	Approved Credit Required/ Flow Reduction	Running Total
CCREEK						
235533	CEDAR CK IFP WORK AUG05-NOV08	SCAPCREDIT		11/1/08	6,521	6,521
236380	FAIRMOUNT ROAD MH REHAB	SCAPCREDIT		6/5/09	10,734	17,255
362688	CCRK IFP ACTIVITY NOV08-MAY12	SCAPCREDIT		5/1/12	2,161	19,416
362689	CCRK IFP ACTIVITY JUN12-AUG12	SCAPCREDIT		8/31/12	2,047	21,463
320989	LITTLE CEDAR CREEK I/I REHABIL	SCAPCREDIT		9/27/12	652,907	674,370
263934	ST JAMES CROSSINGS	LAT EXT	9,000	11/30/12	-19,575	654,795
196927	SONIC SPRINGS	LAT EXT	3,600	12/5/12	-7,830	646,965
14SC1000	FY13 IFP ACTIVITY FIRST HALF - CEDAR CREEK	SCAPCREDIT		12/31/13	2,048	649,013
13LE1155	RAISING CANE'S CEDARLOOK DRIVE	LAT EXT	1,175	5/23/14	-2,556	646,457
239030	POPLAR LAKES PH 1	LAT EXT	18,000	1/26/15	-39,150	607,307
13LE1003	Bardstown Woods Sec 6	LAT EXT	5,200	5/26/15	-11,310	595,997
LE916330	Altawood Development	LAT EXT	1,600	9/14/15	-3,480	592,517
LE915727	BARDSTOWN WOODS SEC 7	LAT EXT	4,400	5/25/16	-9,570	582,947
FFORK						
235557	FLOYDSFRK IFP WORK AUG05-NOV08	SCAPCREDIT		11/1/08	14,540	14,540
362638	FY09 IFP ACTIVITY FIRST HALF	SCAPCREDIT		12/31/08	1	14,541
362647	FY09 IFP ACTIVITY SECOND HALF	SCAPCREDIT		6/30/09	4	14,545
362651	FY10 IFP ACTIVITY FIRST HALF	SCAPCREDIT		12/31/09	524	15,069
230379	SHAKES RUN SECTION 4	LAT EXT	3,770	1/5/10	-8,200	6,869
362655	FY10 IFP ACTIVITY SECOND HALF	SCAPCREDIT		6/30/10	81	6,950
362661	FY11 IFP ACTIVITY FIRST HALF	SCAPCREDIT		12/31/10	14,155	21,105
362669	FY11 IFP ACTIVITY SECOND HALF	SCAPCREDIT		6/30/11	22,707	43,812
242480	CLAIBOURNE CROSSINGS PHASE 2	LAT EXT	0	10/17/11	0	43,812

APNO	APNAME	APTYPE	FLOW	Release Date	Approved Credit Required/ Flow Reduction	Running Total
359320	CALENDAR 2011 SUMP PUMP CREDIT	SCAPCREDIT		12/31/11	4,000	47,812
362674	FY12 IFP ACTIVITY FIRST HALF	SCAPCREDIT		12/31/11	2	47,814
362678	FY12 IFP ACTIVITY SECOND HALF	SCAPCREDIT		6/30/12	331	48,145
332823	SINGLE FAMILY HOME	LAT EXT	400	7/13/12	-870	47,275
315945	BROOKFIELD SEC 3	LAT EXT	12,800	10/26/12	-27,840	19,435
361689	LAKE FOREST REHAB PH1	SCAPCREDIT		12/18/12	174,769	194,204
362683	FY13 IFP ACTIVITY FIRST HALF - FFORK	SCAPCREDIT		12/31/12	3	194,207
331397	BROOKFIELD SEC 2A	LAT EXT	14,400	5/8/13	-31,320	162,887
13LE1062	SPEEDWAY #9451	LAT EXT	540	2/18/15	-1,175	161,713
LE941673	Locust Creek Section 8B	LAT EXT	2,000	1/7/16	-4,350	157,363
LE932677	Shakes Run Sec 9	LAT EXT	12,000	9/20/16	-26,100	131,263
HCREEK						
235561	HITE CK IFP WORK AUG05-NOV08	SCAPCREDIT		11/1/08	6,404	6,404
362641	FY09 IFP ACTIVITY FIRST HALF	SCAPCREDIT		12/31/08	2	6,406
362648	FY09 IFP ACTIVITY SECOND HALF	SCAPCREDIT		6/30/09	8	6,414
362652	FY10 IFP ACTIVITY FIRST HALF	SCAPCREDIT		12/31/09	8	6,422
362657	FY10 IFP ACTIVITY SECOND HALF	SCAPCREDIT		6/30/10	329	6,751
295322	FLOYDSBURG RD I/I INVEST/REHAB	SCAPCREDIT		12/17/10	28,437	35,188
320906	FLOYDSBURG ROAD I/I REHABILITA	SCAPCREDIT		12/17/10	28,437	63,625
362662	FY11 IFP ACTIVITY FIRST HALF	SCAPCREDIT		12/31/10	3	63,628
362670	FY11 IFP ACTIVITY SECOND HALF	SCAPCREDIT		6/30/11	5	63,633
246638	CHAPMAN COURT S/S	LAT EXT	800	9/28/11	-1,740	61,893
362675	FY12 IFP ACTIVITY FIRST HALF	SCAPCREDIT		12/31/11	332	62,225
362679	FY12 IFP ACTIVITY SECOND HALF	SCAPCREDIT		6/30/12	5,002	67,227
290181	CAMDEN WOOD APARTMENTS	LAT EXT	12,400	8/31/12	-26,970	40,257

APNO	APNAME	APTYPE	FLOW	Release Date	Approved Credit Required/ Flow Reduction	Running Total
304536	MAGNOLIA SPRINGS EAST PRIV P/S	LAT EXT	9,500	12/1/12	-20,663	19,595
335610	ROCK SPRINGS FARM SEC 4B	LAT EXT	6,400	12/7/12	-13,920	5,675
362684	FY13 IFP ACTIVITY FIRST HALF - HCREEK	SCAPCREDIT		12/31/12	3	5,678
SC983697	MEADOWSTREAM REHABILITATION - FY13	SCAPCREDIT		3/13/15	448,447	454,125
LE943178	Rock Springs Farm Section 5A	LAT EXT	6,800	9/13/16	-14,790	439,335
JTOWN						
235563	J-TOWN IFP WORK AUG05-NOV08	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
337261	SINGLE FAMILY 2909 PELHAM CT	LAT EXT	400	5/28/13	-870	1,005,344
13LE1010	SWOPE HR & TRAINING BLDG	LAT EXT	400	6/28/13	-870	1,004,474
13LE1092	BALE EQUIPMENT	LAT EXT	450	10/25/13	-979	1,003,495
14SC1002	FY13 IFP ACTIVITY FIRST HALF - JEFFERSONTC	SCAPCREDIT		12/31/13	3,458	1,006,953
13LE1098	UNIPAK	LAT EXT	720	2/27/14	-1,566	1,005,387
LE924043	Bluegrass Indoor Carting	LAT EXT	400	5/1/14	-870	1,004,517
13LE1067	PARK COMMUNITY	LAT EXT	2,220	12/31/14	-4,829	999,688
14LE1149	Grand Lakes Section 3	LAT EXT	5,600	2/1/16	-12,180	987,508
LE924049	Blankenbaker Road S/S	LAT EXT	9,010	3/10/16	-19,597	967,912
326360	WATTERSON TRAIL CENTER	LAT EXT	2,745	5/4/16	-5,970	961,941
LE930127	Vantage Point Sec 3B	LAT EXT	7,200	6/21/16	-15,660	946,281
MCREEK						
359380	CALENDAR 2005 DOWNSPOUT CREDIT	SCAPCREDIT		12/31/05	12,000	12,000

Capacity Credit Balance Sheet per Credit Basin

APNO	APNAME	APTYPE	FLOW	Release Date	Approved Credit Required/ Flow Reduction	Running Total
359381	CALENDAR 2007 DOWNSPOUT CREDIT	SCAPCREDIT		12/31/07	24,000	36,000
235568	MILL CK IFP WORK AUG05-NOV08	SCAPCREDIT		11/1/08	51,530	87,530
359382	CALENDAR 2008 DOWNSPOUT CREDIT	SCAPCREDIT		12/31/08	16,000	103,530
362642	FY09 IFP ACTIVITY FIRST HALF	SCAPCREDIT		12/31/08	93	103,623
362649	FY09 IFP ACTIVITY SECOND HALF	SCAPCREDIT		6/30/09	1,507	105,130
236614	DEVEROES	LAT EXT	960	9/9/09	-2,088	103,042
362653	FY10 IFP ACTIVITY FIRST HALF	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	FY10 IFP ACTIVITY SECOND HALF	SCAPCREDIT		6/30/10	6,213	160,916
259408	FAMILY DOLLAR 5105 DIXIE	LAT EXT	1,200	7/2/10	-2,610	158,306
264294	SAINT PETER THE APOSTLE CATHOL	LAT EXT	2,000	7/23/10	-4,350	153,956
276215	FAMILY DOLLAR - KRISTIN WAY	LAT EXT	400	10/12/10	-870	153,086
362664	FY11 IFP ACTIVITY FIRST HALF	SCAPCREDIT		12/31/10	22,740	175,826
359384	CALENDAR 2010 DOWNSPOUT CREDIT	SCAPCREDIT		12/31/10	4,000	179,826
359325	CALENDAR 2010 SUMP PUMP CREDIT	SCAPCREDIT		12/31/10	8,000	187,826
320916	SONNE AVE PS REHABILITATION -	SCAPCREDIT		6/30/11	120,800	308,626
362671	FY11 IFP ACTIVITY SECOND HALF	SCAPCREDIT		6/30/11	11,615	320,241
299399	FAMILY DOLLAR - GREENWOOD RD	LAT EXT	800	10/4/11	-1,740	318,501
309018	PRP PERFORMING ARTS ADDITION	LAT EXT	1,134	11/9/11	-2,466	316,034
359385	CALENDAR 2011 DOWNSPOUT CREDIT	SCAPCREDIT		12/31/11	12,000	328,034
362676	FY12 IFP ACTIVITY FIRST HALF	SCAPCREDIT		12/31/11	3,245	331,279
359326	CALENDAR 2011 SUMP PUMP CREDIT	SCAPCREDIT		12/31/11	12,000	343,279
318096	CRACKER BARREL OLD COUNTRY	LAT EXT	6,000	1/19/12	-13,050	330,229
262545	DIXIE MANOR SHOPPING CENTER	LAT EXT	965	5/21/12	-2,099	328,130

APNO	APNAME	APTYPE	FLOW	Release Date	Approved Credit Required/ Flow Reduction	Running Total
300374	FORT KNOX FEDERAL CREDIT UNION	LAT EXT	400	6/26/12	-870	327,260
362680	FY12 IFP ACTIVITY SECOND HALF	SCAPCREDIT		6/30/12	2,807	330,067
361693	FY12 MILL CREEK REHAB	SCAPCREDIT		6/30/12	81,675	411,742
231800	PIONEER MOBILE HOME PARK	LAT EXT	11,200	7/24/12	-24,360	387,382
237457	WAVERLY HILLS	LAT EXT	400	9/18/12	-870	386,512
341883	NHK SPRING PRECISION	LAT EXT	17,800	10/19/12	-38,715	347,797
334997	BEECHLAND BAPTIST CHURCH	LAT EXT	2,715	12/5/12	-5,905	341,892
359327	CALENDAR 2012 SUMP PUMP CREDIT	SCAPCREDIT		12/31/12	148,000	489,892
362685	FY13 IFP ACTIVITY FIRST HALF - MCREEK	SCAPCREDIT		12/31/12	3,458	493,350
359386	CALENDAR 2012 DOWNSPOUT CREDIT	SCAPCREDIT		12/31/12	4,000	497,350
343763	SOUTHEAST CHRISTIAN CHURCH SW	LAT EXT	6,000	1/18/13	-13,050	484,300
224875	ASHBY GREEN APARTMENT HOMES	LAT EXT	36,400	3/20/13	-79,170	405,130
265944	RIVERPORT PHASE 4A - MICHELIN	LAT EXT	400	6/6/13	-870	404,260
314887	DAYTON FREIGHT	LAT EXT	1,200	9/10/13	-2,610	401,650
13LE1014	LOUISVILLE FREE PUBLIC LIBRARY SOUTHWES	LAT EXT	8,200	9/26/13	-17,835	383,815
357140	FAMILY DOLLAR CANE RUN ROAD	LAT EXT	832	10/3/13	-1,810	382,005
13LE1171	SINGLE FAMILY HOME 3700 ROMANIA DR	LAT EXT	400	1/29/14	-870	381,135
LE937142	ZAXBYS DIXIE HWY	LAT EXT	924	8/10/15	-2,010	379,126
LE944727	Britz Deer Hollow Lane	LAT EXT	800	7/28/16	-1,740	377,386
MFORK						
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	MID FORK IFP WORK AUG05-NOV08	SCAPCREDIT		11/1/08	43,779	147,779
359329	CALENDAR 2008 SUMP PUMP CREDIT	SCAPCREDIT		12/31/08	8,000	155,779
236517	ANCHOR ESTATES MH REHAB	SCAPCREDIT		1/16/09	15,552	171,331

Capacity Credit Balance Sheet per Credit Basin

APNO	APNAME	APTYPE	FLOW	Release Date	Approved Credit Required/ Flow Reduction	Running Total
217235	SINKING FORK ICA PHASE I REHAB	SCAPCREDIT		3/30/09	437,967	609,298
235376	MIDDLE FORK INT REHAB PH1	SCAPCREDIT		5/15/09	487,744	1,097,042
179246	SHADY GLEN OF LYNDON PERSONAL	LAT EXT	-500	5/26/09	1,088	1,098,130
250572	1316 WITAWANGA AVE	LAT EXT	400	11/4/09	-870	1,097,260
359331	CALENDAR 2009 SUMP PUMP CREDIT	SCAPCREDIT		12/31/09	24,000	1,121,260
359401	CALENDAR 2009 DOWNSPOUT CREDIT	SCAPCREDIT		12/31/09	4,000	1,125,260
197432	ALMOST HOME KENNELS - ALL PET	LAT EXT	3,700	3/16/10	-8,048	1,117,212
260064	OXMOOR GOLF FRONT 9	LAT EXT	400	4/15/10	-870	1,116,342
260065	OXMOOR GOLF BACK 9	LAT EXT	400	4/15/10	-870	1,115,472
229834	THE BROOK HOS- DUPONT ADDITION	LAT EXT	1,763	4/27/10	-3,835	1,111,637
265723	Z-XPRESS CAR WASH	LAT EXT	5,449	7/2/10	-11,852	1,099,786
255793	HERR LANE APARTMENTS - 4 PLEX	LAT EXT	1,200	7/14/10	-2,610	1,097,176
255792	HERR LANE APARTMENTS - 8 PLEX	LAT EXT	2,400	7/14/10	-5,220	1,091,956
274303	FARM CREDIT SERVICES	LAT EXT	525	9/9/10	-1,142	1,090,814
278015	METROPOLITAN UROLOGY	LAT EXT	400	12/15/10	-870	1,089,944
359402	CALENDAR 2010 DOWNSPOUT CREDIT	SCAPCREDIT		12/31/10	8,000	1,097,944
359333	CALENDAR 2010 SUMP PUMP CREDIT	SCAPCREDIT		12/31/10	12,000	1,109,944
285637	SHELBYHURST OFFICE BUILDING 1	LAT EXT	6,600	1/20/11	-14,355	1,095,589
313465	DORSEY POINTE/CODOMINIUMS 8-13	LAT EXT	2,400	1/27/11	-5,220	1,090,369
291263	BROWNS LANE BUILDING	LAT EXT	400	4/14/11	-870	1,089,499
293400	FOUR PLEX APARTMENTS	LAT EXT	1,200	6/14/11	-2,610	1,086,889
330019	FY11 ANCHOR ESTATES REHAB	SCAPCREDIT		8/11/11	1,359	1,088,248
310046	EL NAPEL - MCMAHAN CENTER	LAT EXT	3,100	10/31/11	-6,743	1,081,506
314591	CHOCOLATE MARTINI BAR/REST	LAT EXT	3,275	11/29/11	-7,123	1,074,382
320983	HURSTBOURNE I/I INVESTIGATION	SCAPCREDIT		12/27/11	1,408,279	2,482,661
359335	CALENDAR 2011 SUMP PUMP CREDIT	SCAPCREDIT		12/31/11	16,000	2,498,661

Capacity Credit Balance Sheet per Credit Basin

APNO	APNAME	APTYPE	FLOW	Release Date	Approved Credit Required/ Flow Reduction	Running Total
321228	SINGLE FAMILY UNIT	LAT EXT	400	2/15/12	-870	2,497,791
321647	SINGLE FAMILY	LAT EXT	400	3/27/12	-870	2,496,921
328074	SINGLE FAMILY-703 FOUNTAIN AVE	LAT EXT	400	6/22/12	-870	2,496,051
193195	CEDAR LAKE LODGE WASHBURN	LAT EXT	1,900	8/20/12	-4,133	2,491,919
320923	ST MATTHEWS I/I REHABILITATION	SCAPCREDIT		8/23/12	20,841	2,512,760
337796	CHAMPPS	LAT EXT	635	9/5/12	-1,381	2,511,379
347126	ADVANCE PRODUCTION SYSTEMS	LAT EXT	400	12/28/12	-870	2,510,509
359336	CALENDAR 2012 SUMP PUMP CREDIT	SCAPCREDIT		12/31/12	92,000	2,602,509
339367	BAPTIST RADIATION ONCOLOGY	LAT EXT	1,500	1/4/13	-3,263	2,599,246
340778	PANDA RESTAURANT	LAT EXT	1,725	1/16/13	-3,752	2,595,494
349044	BLAIRWOOD POOL ADDITION	LAT EXT	400	1/29/13	-870	2,594,624
328659	SINGLE FAMILY HOME - 6911 AMBR	LAT EXT	400	2/4/13	-870	2,593,754
352805	POOL HOUSE 9213 REIGATE COURT	LAT EXT	200	2/20/13	-435	2,593,319
14LE1001	MIRANDA LAGRANGE RD	LAT EXT	400	3/19/13	-870	2,592,449
350246	SINGLE FAMILY - 218 BLISS AVE	LAT EXT	400	3/20/13	-870	2,591,579
349974	SINGLE FAMILY 205 N WATTERSON	LAT EXT	400	3/26/13	-870	2,590,709
342433	SHELBYHURST 700 OFFICE BLDG	LAT EXT	7,500	4/15/13	-16,313	2,574,397
350340	JARED THE GALLERY OF JEWELRY	LAT EXT	770	4/16/13	-1,675	2,572,722
13LE1009	Single family 11716 Wetherby Ave	LAT EXT	400	6/7/13	-870	2,571,852
13SC1000	FY14 STARVIEW REHABILITATION	SCAPCREDIT		6/30/13	14,183	2,586,035
13LE1001	Single Family 835 Fountain Ave	LAT EXT	400	8/28/13	-870	2,585,165
355162	PROPOSED RESTAURANT	LAT EXT	7,540	9/10/13	-16,400	2,568,766
13LE1045	SINGLE FAMILY 8325 WHIPPS MILL RD	LAT EXT	400	9/30/13	-870	2,567,896
319292	WATERMARK ON HURSTBOURNE	LAT EXT	71,600	10/22/13	-155,730	2,412,166
331542	DENTAL/MEDICAL OFFICE BLDG	LAT EXT	400	10/28/13	-870	2,411,296
13LE1128	SINGLE FAMILY HOME 1327 ETAWAH AVE	LAT EXT	400	11/5/13	-870	2,410,426

APNO	APNAME	APTYPE	FLOW	Release Date	Approved Credit Required/ Flow Reduction	Running Total
13LE1144	SINGLE FAMILY 1329 ETAWAH AVE	LAT EXT	400	11/5/13	-870	2,409,556
13LE1165	SINGLE FAMILY 8504 LORE LANE	LAT EXT	400	11/25/13	-870	2,408,686
13LE1146	CITY OF ST MATTHEWS COMMUNITY CTR PARI	LAT EXT	1,500	11/26/13	-3,263	2,405,423
13LE1099	NICKLIES - ST MATTHEWS	LAT EXT	1,920	12/11/13	-4,176	2,401,247
353963	DORSEY COMMONS TRACTS 1.2.3	LAT EXT	4,335	12/18/13	-9,429	2,391,819
14SC1003	FY13 IFP ACTIVITY FIRST HALF - MIDDLE FORK	SCAPCREDIT		12/31/13	3,230	2,395,049
352026	MCMAHAN PLAZA PHASE II BLDG B	LAT EXT	766	12/31/13	-1,666	2,393,382
13LE1117	THE VININGS	LAT EXT	850	4/10/14	-1,849	2,391,534
14LE1021	KODA KENTUCKY ORGAN DONOR AFFILIATES	LAT EXT	400	6/18/14	-870	2,390,664
14LE1128	WALDORF SCHOOL OF LOUISVILLE	LAT EXT	400	6/30/14	-870	2,389,794
LE939199	Westport Road Apartments	LAT EXT	62,800	6/8/16	-136,590	2,253,204
LE971405	Lyndon Lane Office Condos	LAT EXT	2,652	8/30/16	-5,768	2,247,436

NDITCH

359404	CALENDAR 2007 DOWNSPOUT CREDIT	SCAPCREDIT		12/31/07	28,000	28,000
235569	N.DITCH IFP WORK AUG05-NOV08	SCAPCREDIT		11/1/08	11,147	39,147
236363	NORTHERN DITCH INT REHAB PH1	SCAPCREDIT		11/25/08	108,760	147,907
359339	CALENDAR 2009 SUMP PUMP CREDIT	SCAPCREDIT		12/31/09	4,000	151,907
234678	THE LIGHTHOUSE PROMISE COMPLEX	LAT EXT	2,825	3/5/10	-6,144	145,763
284728	SUBWAY - NEW CUT RD	LAT EXT	1,314	12/21/10	-2,858	142,905
359340	CALENDAR 2010 SUMP PUMP CREDIT	SCAPCREDIT		12/31/10	4,000	146,905
320908	PARKVIEW ESTATES REHABILITATIO	SCAPCREDIT		6/28/11	36	146,941
312810	WILLOW PLACE APT COMMUNITY CEN	LAT EXT	400	11/11/11	-870	146,071
359341	CALENDAR 2011 SUMP PUMP CREDIT	SCAPCREDIT		12/31/11	24,000	170,071
359405	CALENDAR 2011 DOWNSPOUT CREDIT	SCAPCREDIT		12/31/11	12,000	182,071
315723	JCPS EARLY CHILDHOOD DEVELOP	LAT EXT	6,000	1/26/12	-13,050	169,021

APNO	APNAME	APTYPE	FLOW	Release Date	Approved Credit Required/ Flow Reduction	Running Total
312057	DOLLAR GENERAL - MEDALLION CT	LAT EXT	400	3/21/12	-870	168,151
312659	KROGER L-350 FUEL STATION	LAT EXT	400	8/20/12	-870	167,281
359343	CALENDAR 2012 SUMP PUMP CREDIT	SCAPCREDIT		12/31/12	24,000	191,281
13LE1147	CARLON ROOFING	LAT EXT	992	12/5/13	-2,158	189,123
13LE1126	JENNINGS CROSSING TRACT 3	LAT EXT	2,100	12/12/13	-4,568	184,556
14SC1004	FY13 IFP ACTIVITY FIRST HALF - NORTHERN DI	SCAPCREDIT		12/31/13	329	184,885
LE947316	Heimbrock I	LAT EXT	400	8/14/15	-870	184,015
LE947318	Heimbrock II	LAT EXT	400	8/14/15	-870	183,145
ORFM						
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	ORFM IFP WORK AUG05-NOV08	SCAPCREDIT		11/1/08	19,826	79,826
362643	FY09 IFP ACTIVITY FIRST HALF	SCAPCREDIT		12/31/08	2	79,828
362650	FY09 IFP ACTIVITY SECOND HALF	SCAPCREDIT		6/30/09	3,836	83,664
362654	FY10 IFP ACTIVITY FIRST HALF	SCAPCREDIT		12/31/09	7,322	90,986
263548	SINGLE FAMILY CONNECTION	LAT EXT	400	5/18/10	-870	90,116
213488	NORTHEAST CHRISTIAN CHURCH	LAT EXT	10,000	6/28/10	-21,750	68,366
362660	FY10 IFP ACTIVITY SECOND HALF	SCAPCREDIT		6/30/10	6,630	74,996
362665	FY11 IFP ACTIVITY FIRST HALF	SCAPCREDIT		12/31/10	165	75,161
362672	FY11 IFP ACTIVITY SECOND HALF	SCAPCREDIT		6/30/11	4,124	79,285
280837	SPRINGHURST TOWNE CTR LOT C	LAT EXT	400	9/20/11	-870	78,415
320920	SHADOW WOOD I/I REHABILITATION	SCAPCREDIT		9/30/11	14,279	92,694
311412	SPRINGHURST CHEVROLET	LAT EXT	855	10/14/11	-1,860	90,834
359345	CALENDAR 2011 SUMP PUMP CREDIT	SCAPCREDIT		12/31/11	16,000	106,834
359434	CALENDAR 2011 DOWNSPOUT CREDIT	SCAPCREDIT		12/31/11	16,000	122,834

APNO	APNAME	APTYPE	FLOW	Release Date	Approved Credit Required/ Flow Reduction	Running Total
362677	FY12 IFP ACTIVITY FIRST HALF	SCAPCREDIT		12/31/11	7,258	130,092
320921	DERINGTON COURT I/I REHABILITA	SCAPCREDIT		3/1/12	56,208	186,300
187028	GLENVIEW PARK SUBD SECTION 1	LAT EXT	4,400	3/5/12	-9,570	176,730
213450	GLENVIEW PARK SUB. SEC 2	LAT EXT	5,600	3/5/12	-12,180	164,550
322455	FIRST LADY NAILS	LAT EXT	400	3/12/12	-870	163,680
362681	FY12 IFP ACTIVITY SECOND HALF	SCAPCREDIT		6/30/12	18,220	181,900
292239	SPRINGHURST RESTAURANT/ RETAIL	LAT EXT	3,440	7/5/12	-7,482	174,418
323821	TIRE DISCOUNTERS WESTPORT RD	LAT EXT	400	12/11/12	-870	173,548
363238	FY13 PROSPECT MANHOLE REHAB	SCAPCREDIT		12/18/12	72,703	246,251
341319	RAISING CANES RETAIL CENTER	LAT EXT	1,225	12/18/12	-2,664	243,587
359346	CALENDAR 2012 SUMP PUMP CREDIT	SCAPCREDIT		12/31/12	24,000	267,587
363235	FY13 MUDDY FORK MH REHAB	SCAPCREDIT		12/31/12	41,653	309,240
362686	FY13 IFP ACTIVITY FIRST HALF - ORFM	SCAPCREDIT		12/31/12	1,148	310,388
360262	SINGLE FAMILY 3419 HILLVALE RD	LAT EXT	400	5/13/13	-870	309,518
343729	RETAIL & RESTAURANT	LAT EXT	3,500	6/21/13	-7,613	301,906
334154	GLENVIEW PARK SUBD SEC 4	LAT EXT	3,600	11/7/13	-7,830	294,076
13LE1024	Overlook at Beech Spring Farm Sec 4	LAT EXT	5,600	12/31/13	-12,180	281,896
199896	SPRINGDALE OFFICE BUILDING	LAT EXT	4,210	3/11/14	-9,157	272,739
225863	SPRING FARM LAKES SEC 1	LAT EXT	4,800	5/16/14	-10,440	262,299
177756	SUMMIT GARDENS PHASE 1	LAT EXT	32,000	9/22/14	-69,600	192,699
14LE1121	Riverside Sewer Extension	LAT EXT	1,200	11/10/14	-2,610	190,089
13LE1071	SPRING FARM LAKE SEC 2	LAT EXT	6,000	1/16/15	-13,050	177,039
352634	BAUER PROPERTY	LAT EXT	2,920	2/12/15	-6,351	170,688
SC983704	PROSPECT I&I REHABILITATION - FY13 PHASE I	SCAPCREDIT		7/12/15	1,034,758	1,205,446
LE929244	Summit Gardens Phase 2	LAT EXT	18,000	10/21/15	-39,150	1,166,296
LE938166	Spring Farm Lake Section 3	LAT EXT	3,200	12/14/15	-6,960	1,159,336

APNO	APNAME	APTYPE	FLOW	Release Date	Approved Credit Required/ Flow Reduction	Running Total
PCREEK						
235574	POND CRK IFP WORK AUG05-NOV08	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
359439	CALENDAR 2009 DOWNSPOUT CREDIT	SCAPCREDIT		12/31/09	12,000	91,782
359348	CALENDAR 2009 SUMP PUMP CREDIT	SCAPCREDIT		12/31/09	4,000	95,782
192513	BANNON CROSSINGS SECTION 3A-1	LAT EXT	800	2/17/10	-1,740	94,042
261115	EMERGENCY RESTORATION	LAT EXT	400	4/27/10	-870	93,172
276977	DADISMAN BUILDERS-POPLAR TREE	LAT EXT	400	10/13/10	-870	92,302
266833	THORNTONS @ PRESTON HWY	LAT EXT	400	12/1/10	-870	91,432
280751	NOTTINGTON HILLS SEC 1	LAT EXT	4,400	12/29/10	-9,570	81,862
359350	CALENDAR 2010 SUMP PUMP CREDIT	SCAPCREDIT		12/31/10	12,000	93,862
187739	GLENGARRY INDUSTRIAL PARK	LAT EXT	4,300	1/13/11	-9,353	84,510
277777	TIRE DISCOUNTERS - BOERSTE WAY	LAT EXT	2,960	3/21/11	-6,438	78,072
304408	UPS SUPPLY CHAIN SOLUTIONS #7	LAT EXT	2,250	9/14/11	-4,894	73,178
320918	EDSEL I/I REHABILITATION - FY1	SCAPCREDIT		9/27/11	106,700	179,878
313444	PLANET FITNESS - JEFF BLVD	LAT EXT	1,600	11/4/11	-3,480	176,398
312391	LONGHORN STEAKHOUSE RESTAURANT	LAT EXT	4,840	11/29/11	-10,527	165,871
320919	LANTANA I/I REHABILITATION - F	SCAPCREDIT		12/29/11	5,000	170,871
359351	CALENDAR 2011 SUMP PUMP CREDIT	SCAPCREDIT		12/31/11	20,000	190,871
310845	ZAXBY'S RESTAURANT	LAT EXT	3,750	2/28/12	-8,156	182,715
255044	ISA-RECYCLING CENTER	LAT EXT	400	3/13/12	-870	181,845
312814	MILLER TRANSPORTATION	LAT EXT	1,800	3/19/12	-3,915	177,930
324554	NORTONS TEMPORARY OFFICE	LAT EXT	900	4/16/12	-1,958	175,972
234102	ETHOS AT VALLEY FARM SR LIVING	LAT EXT	7,050	6/19/12	-15,334	160,638

Capacity Credit Balance Sheet per Credit Basin

APNO	APNAME	APTYPE	FLOW	Release Date	Approved Credit Required/ Flow Reduction	Running Total
322367	SHEPHERDS CARE MEMORY HOME	LAT EXT	2,000	6/21/12	-4,350	156,288
307332	LOUISVILLE INDUSTRIAL BLDG B	LAT EXT	2,520	8/6/12	-5,481	150,807
279860	BANNON CROSSINGS SEC 3B-2	LAT EXT	9,600	8/10/12	-20,880	129,927
312053	DOLLAR GENERAL - CLEARWATER FA	LAT EXT	400	8/13/12	-870	129,057
343455	SINGLE FAMILY 1812 GREYLING DR	LAT EXT	400	10/12/12	-870	128,187
243109	OVERBROOK APARTMENTS	LAT EXT	41,200	11/9/12	-89,610	38,577
359354	CALENDAR 2012 SUMP PUMP CREDIT	SCAPCREDIT		12/31/12	56,000	94,577
329624	COPART	LAT EXT	400	2/20/13	-870	93,707
346082	ZAXBYS	LAT EXT	2,065	5/2/13	-4,491	89,216
320924	LEA ANN WAY INTERCEPTOR I&I RE	SCAPCREDIT		6/30/13	1,017,423	1,106,639
335385	HARRISON LOW PRESSURE S/S	LAT EXT	1,600	7/2/13	-3,480	1,103,159
320940	4 RESIDENCE SFU 7821 MANSLICK	LAT EXT	400	8/16/13	-870	1,102,289
361336	RENAISSANCE SOUTH BUSINESS	LAT EXT	540	9/6/13	-1,175	1,101,114
324886	PNC BANK	LAT EXT	400	9/6/13	-870	1,100,244
13LE1083	SINGLE FAMILY HOME 5402 (H) E MANSLICK RD	LAT EXT	400	9/26/13	-870	1,099,374
353125	PEGASUS TRANSPORTATION	LAT EXT	250	12/9/13	-544	1,098,831
341439	PRESTON GARDENS APTS	LAT EXT	22,200	12/10/13	-48,285	1,050,546
308206	APPLEGATE FARMS	LAT EXT	57,200	12/10/13	-124,410	926,136
14SC1005	FY13 IFP ACTIVITY FIRST HALF - POND CREEK	SCAPCREDIT		12/31/13	21,344	947,480
13LE1179	TIMBERBEND SUBDIVISION SEC 5B	LAT EXT	6,400	2/14/14	-13,920	933,560
13LE1035	RENAISSANCE SOUTH BUSINESS PARK TRACT	LAT EXT	5,415	4/10/14	-11,778	921,782
13LE1115	VERIZON-OUTER LOOP	LAT EXT	400	4/22/14	-870	920,912
348014	ASHTON PARK TOWN HOMES	LAT EXT	9,000	4/24/14	-19,575	901,337
280180	LOUISVILLE INDUSTRIAL CTR F	LAT EXT	2,480	5/16/14	-5,394	895,943
14LE1085	Williams Properties - Self Storage Facility	LAT EXT	400	5/28/14	-870	895,073
13LE1034	6300 GEIL LANE WAREHOUSE	LAT EXT	720	6/9/14	-1,566	893,507

APNO	APNAME	APTYPE	FLOW	Release Date	Approved Credit Required/ Flow Reduction	Running Total
284215	HURSTBOURNE POINTE APTS	LAT EXT	9,600	7/7/14	-20,880	872,627
344230	AUSTIN PARK APARTMENTS PH6	LAT EXT	27,600	8/25/14	-60,030	812,597
13LE1105	JEFFERSON COMMONS	LAT EXT	17,075	11/13/14	-37,138	775,459
13LE1017	APEX ON PRESTON APT HOMES(Formally CITYS	LAT EXT	84,400	1/13/15	-183,570	591,889
SC995942	CAVEN AVE I/I REMEDIATION - FY13	SCAPCREDIT		3/11/15	225,645	817,534
354207	COOPER FARMS SEC 11B	LAT EXT	12,400	4/29/15	-26,970	790,564
354209	COOPER FARMS SEC 11A	LAT EXT	13,200	4/29/15	-28,710	761,854
LE948692	Jim's Express Wash	LAT EXT	10,500	7/28/15	-22,838	739,016
LE951121	Allgeier Site	LAT EXT	400	8/7/15	-870	738,146
13LE1086	WOODS OF PENN RUN OFFSITE SS	LAT EXT	1,000	8/25/15	-2,175	735,971
13LE1140	JEFFERSON POST APARTMENTS	LAT EXT	28,800	10/2/15	-62,640	673,331
14LE1116	CATALPA SPRINGS	LAT EXT	2,800	12/30/15	-6,090	667,241
SC939830	Lea Ann Way West Quad 1 & 2 Rehabilitation Proje	SCAPCREDIT		12/31/15	445,911	1,113,152
358356	WOODS OF PENN RUN Section 1	LAT EXT	18,800	2/12/16	-40,890	1,072,262
LE936598	Jefferson Commerce Center Tract 1A	LAT EXT	5,250	6/6/16	-11,419	1,060,844
LE918484	AUSTIN PARK SS PHASE 8	LAT EXT	16,800	6/21/16	-36,540	1,024,304
14LE1170	Austin Park Phase 7 & 8	LAT EXT	26,400	6/21/16	-57,420	966,884
SEDIV						
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
235575	SE DIV IFP WORK AUG05-NOV08	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

Capacity Credit Balance Sheet per Credit Basin

APNO	APNAME	APTYPE	FLOW	Release Date	Approved Credit Required/ Flow Reduction	Running Total
229854	TINY HANDS DAYCARE	LAT EXT	1,225	10/20/09	-2,664	662,304
359357	CALENDAR 2009 SUMP PUMP CREDIT	SCAPCREDIT		12/31/09	12,000	674,304
359443	CALENDAR 2009 DOWNSPOUT CREDIT	SCAPCREDIT		12/31/09	8,000	682,304
235291	SULLIVAN COLLEGE OF TECHNOLOGY	LAT EXT	900	2/11/10	-1,958	680,346
238328	LOUISVILLE COLLEGIATE SPORTS	LAT EXT	400	3/1/10	-870	679,476
241759	FRISCHS BIG BOY RESTAURANT	LAT EXT	2,400	3/5/10	-5,220	674,256
257275	LOUISVILLE JUNIOR ACADEMY	LAT EXT	520	4/16/10	-1,131	673,125
320993	BEARGRASS CREEK PHASE II - FY1	SCAPCREDIT		12/14/10	10,368	683,493
359358	CALENDAR 2010 SUMP PUMP CREDIT	SCAPCREDIT		12/31/10	4,000	687,493
359444	CALENDAR 2010 DOWNSPOUT CREDIT	SCAPCREDIT		12/31/10	24,000	711,493
286513	GARDINER POINT RESIDENCE HALL	LAT EXT	10,800	2/16/11	-23,490	688,003
276378	TIRE DISCOUNTERS - BARDSTOWN	LAT EXT	1,500	5/6/11	-3,263	684,741
287888	BEVERAGE WAREHOUSE	LAT EXT	1,180	5/30/11	-2,567	682,174
296295	KEN TOWERY -3800 S HURSTBOURNE	LAT EXT	400	7/1/11	-870	681,304
359445	CALENDAR 2011 DOWNSPOUT CREDIT	SCAPCREDIT		12/31/11	8,000	689,304
359359	CALENDAR 2011 SUMP PUMP CREDIT	SCAPCREDIT		12/31/11	64,000	753,304
307018	HOOK PROPERTY FAMILY DOLLAR	LAT EXT	400	8/10/12	-870	752,434
359361	CALENDAR 2012 SUMP PUMP CREDIT	SCAPCREDIT		12/31/12	68,000	820,434
359446	CALENDAR 2012 DOWNSPOUT CREDIT	SCAPCREDIT		12/31/12	4,000	824,434
187741	BROOKSTONE SENIOR APARTMENTS	LAT EXT	16,800	3/11/13	-36,540	787,894
232601	RAINTREE/MARIAN CT P/S ELIM	LAT EXT	105,800	6/14/13	-230,115	557,779
330437	COLLEGIATE ATHLETIC FIELD	LAT EXT	800	11/26/13	-1,740	556,039
14SC1006	FY13 IFP ACTIVITY FIRST HALF - SE DIVERSION	SCAPCREDIT		12/31/13	20,623	576,662
LE919560	Todd's Place Express Car Wash	LAT EXT	4,830	12/22/15	-10,505	566,157
LE943171	Costco Wholesale and Fuel Facility	LAT EXT	8,000	7/28/16	-17,400	548,757

Appendix E – IOAP Project Crosswalk

Project Name	PROGRAM	ASSET ID	PROJECT ID
Avanti PS Elimination	IOAP	21229-W	S_PO_WC_PC07_M_01_A
Sinking Fork Relief Sewer	ISSDP	21103	SFRS
Sinking Fork Relief Sewer	ISSDP	63319	SFRS
Sinking Fork Relief Sewer	ISSDP	25012	SFRS
Beargrass Interceptor Rehab Ph. 2	IOAP	51594	S_SD_MF_NB06_S_13_C
Floydsburg Rd. I/I Investigation & Rehabilitation	IOAP	108958	S_HC_HC_MSD1086_M_07_C_A
Floydsburg Rd. I/I Investigation & Rehabilitation	IOAP	108956	S_HC_HC_MSD1086_M_07_C_A
Floydsburg Rd. I/I Investigation & Rehabilitation	IOAP	MSD1086-PS	S_HC_HC_MSD1086_M_07_C_A
Floydsburg Rd. I/I Investigation & Rehabilitation	IOAP	90776	S_HC_HC_MSD1086_M_07_C_A
Floydsburg Rd. I/I Investigation & Rehabilitation	IOAP	108957	S_HC_HC_MSD1086_M_07_C_A
Floydsburg Rd. I/I Investigation & Rehabilitation	IOAP	108953	S_HC_HC_MSD1086_M_07_C_A
Running Fox PS Elimination	IOAP	MSD1080-LS	S_CC_CC_MSD1080_S_01_C
Beechwood Village Sanitary Sewer Replacement	ISSDP	21153	BVSSR
Beechwood Village Sanitary Sewer Replacement	ISSDP	21101	BVSSR
Beechwood Village Sanitary Sewer Replacement	ISSDP	21156	BVSSR
Beechwood Village Sanitary Sewer Replacement	ISSDP	21061	BVSSR
Hazelwood PS I/I Investigation & Rehabilitation	IOAP	55667	S_MC_MF_55665_S_07_C
Hazelwood PS I/I Investigation & Rehabilitation	IOAP	55665	S_MC_MF_55665_S_07_C
Parkview Estates I/I Investigation & Rehabilitation	IOAP	47250	S_SD_MF_NB03_S_07_C
Sonne PS I/I Investigation & Rehabilitation	IOAP	MSD0042-PS	S_OR_MF_42007_S_07_C
Woodland Hills PS Diversion	IOAP	33003	S_FF_FF_NB01_S_01_C_A
Anchor Estates- Anchor Ests PS 1 & 2 PS Eliminations	IOAP	0057-W	S_MI_MF_NB06_M_01_A_A - 1
Northern Ditch Diversion Interceptor	ISSDP	MSD0271	NDDI
Edsel PS I/I Investigation & Rehabilitation	IOAP	MSD1048-PS	S_PO_WC_PC11_M_07_C
Edsel PS I/I Investigation & Rehabilitation	IOAP	94009	S_PO_WC_PC11_M_07_C
Edsel PS I/I Investigation & Rehabilitation	IOAP	92098	S_PO_WC_PC11_M_07_C
Edsel PS I/I Investigation & Rehabilitation	IOAP	92099	S_PO_WC_PC11_M_07_C
Camp Taylor System Improvements 3 - Sewer Replacement & Sewer Rehabilitation	IOAP	13946	S_SF_MF_30917_M_09_A
Camp Taylor System Improvements 3 - Sewer Replacement & Sewer Rehabilitation	IOAP	44396	S_SF_MF_30917_M_09_A
Camp Taylor System Improvements 3 - Sewer Replacement & Sewer Rehabilitation	IOAP	66349	S_SF_MF_30917_M_09_A
Camp Taylor System Improvements 3 - Sewer Replacement & Sewer Rehabilitation	IOAP	51301	S_SF_MF_30917_M_09_A
Camp Taylor System Improvements 3 - Sewer Replacement & Sewer Rehabilitation	IOAP	36763	S_SF_MF_30917_M_09_A
Camp Taylor System Improvements 3 - Sewer Replacement & Sewer Rehabilitation	IOAP	8717	S_SF_MF_30917_M_09_A
Camp Taylor System Improvements 3 - Sewer Replacement & Sewer Rehabilitation	IOAP	44397	S_SF_MF_30917_M_09_A
Camp Taylor System Improvements 3 - Sewer Replacement & Sewer Rehabilitation	IOAP	13931	S_SF_MF_30917_M_09_A
Camp Taylor System Improvements 3 - Sewer Replacement & Sewer Rehabilitation	IOAP	99259	S_SF_MF_30917_M_09_A
Camp Taylor System Improvements 3 - Sewer Replacement & Sewer Rehabilitation	IOAP	104223	S_SF_MF_30917_M_09_A
Camp Taylor System Improvements 3 - Sewer Replacement & Sewer Rehabilitation	IOAP	13943	S_SF_MF_30917_M_09_A
Camp Taylor System Improvements 3 - Sewer Replacement & Sewer Rehabilitation	IOAP	104231	S_SF_MF_30917_M_09_A

Project Name	PROGRAM	ASSET ID	PROJECT ID
Camp Taylor System Improvements Phase 1 - SSES	IOAP	44397	S_SF_MF_30917_M_09_A
Camp Taylor System Improvements Phase 1 - SSES	IOAP	104223	S_SF_MF_30917_M_09_A
Camp Taylor System Improvements Phase 1 - SSES	IOAP	104231	S_SF_MF_30917_M_09_A
Camp Taylor System Improvements Phase 1 - SSES	IOAP	13946	S_SF_MF_30917_M_09_A
Camp Taylor System Improvements Phase 1 - SSES	IOAP	13931	S_SF_MF_30917_M_09_A
Camp Taylor System Improvements Phase 1 - SSES	IOAP	66349	S_SF_MF_30917_M_09_A
Camp Taylor System Improvements Phase 1 - SSES	IOAP	51301	S_SF_MF_30917_M_09_A
Camp Taylor System Improvements Phase 1 - SSES	IOAP	99259	S_SF_MF_30917_M_09_A
Camp Taylor System Improvements Phase 1 - SSES	IOAP	36763	S_SF_MF_30917_M_09_A
Camp Taylor System Improvements Phase 1 - SSES	IOAP	13943	S_SF_MF_30917_M_09_A
Camp Taylor System Improvements Phase 1 - SSES	IOAP	44396	S_SF_MF_30917_M_09_A
Camp Taylor System Improvements Phase 1 - SSES	IOAP	8717	S_SF_MF_30917_M_09_A
Camp Taylor System Improvements Phase 2 - Sewer Replacement and Rehabilitation	IOAP	13943	S_SF_MF_30917_M_09_A
Camp Taylor System Improvements Phase 2 - Sewer Replacement and Rehabilitation	IOAP	13931	S_SF_MF_30917_M_09_A
Camp Taylor System Improvements Phase 2 - Sewer Replacement and Rehabilitation	IOAP	66349	S_SF_MF_30917_M_09_A
Camp Taylor System Improvements Phase 2 - Sewer Replacement and Rehabilitation	IOAP	8717	S_SF_MF_30917_M_09_A
Camp Taylor System Improvements Phase 2 - Sewer Replacement and Rehabilitation	IOAP	13946	S_SF_MF_30917_M_09_A
Camp Taylor System Improvements Phase 2 - Sewer Replacement and Rehabilitation	IOAP	99259	S_SF_MF_30917_M_09_A
Camp Taylor System Improvements Phase 2 - Sewer Replacement and Rehabilitation	IOAP	51301	S_SF_MF_30917_M_09_A
Camp Taylor System Improvements Phase 2 - Sewer Replacement and Rehabilitation	IOAP	36763	S_SF_MF_30917_M_09_A
Camp Taylor System Improvements Phase 2 - Sewer Replacement and Rehabilitation	IOAP	104223	S_SF_MF_30917_M_09_A
Camp Taylor System Improvements Phase 2 - Sewer Replacement and Rehabilitation	IOAP	104231	S_SF_MF_30917_M_09_A
Camp Taylor System Improvements Phase 2 - Sewer Replacement and Rehabilitation	IOAP	44397	S_SF_MF_30917_M_09_A
Camp Taylor System Improvements Phase 2 - Sewer Replacement and Rehabilitation	IOAP	44396	S_SF_MF_30917_M_09_A
Camp Taylor System Improvements Phase 4 - Storage Basin and Sewer Upsize	IOAP	44397	S_SF_MF_30917_M_09_A
Camp Taylor System Improvements Phase 4 - Storage Basin and Sewer Upsize	IOAP	51301	S_SF_MF_30917_M_09_A
Camp Taylor System Improvements Phase 4 - Storage Basin and Sewer Upsize	IOAP	99259	S_SF_MF_30917_M_09_A
Camp Taylor System Improvements Phase 4 - Storage Basin and Sewer Upsize	IOAP	13943	S_SF_MF_30917_M_09_A
Camp Taylor System Improvements Phase 4 - Storage Basin and Sewer Upsize	IOAP	8717	S_SF_MF_30917_M_09_A
Camp Taylor System Improvements Phase 4 - Storage Basin and Sewer Upsize	IOAP	13946	S_SF_MF_30917_M_09_A
Camp Taylor System Improvements Phase 4 - Storage Basin and Sewer Upsize	IOAP	13931	S_SF_MF_30917_M_09_A
Camp Taylor System Improvements Phase 4 - Storage Basin and Sewer Upsize	IOAP	44396	S_SF_MF_30917_M_09_A
Camp Taylor System Improvements Phase 4 - Storage Basin and Sewer Upsize	IOAP	104223	S_SF_MF_30917_M_09_A
Camp Taylor System Improvements Phase 4 - Storage Basin and Sewer Upsize	IOAP	36763	S_SF_MF_30917_M_09_A
Camp Taylor System Improvements Phase 4 - Storage Basin and Sewer Upsize	IOAP	66349	S_SF_MF_30917_M_09_A
Camp Taylor System Improvements Phase 4 - Storage Basin and Sewer Upsize	IOAP	104231	S_SF_MF_30917_M_09_A
Hurstbourne I/I Investigation & Rehabilitation	IOAP	67535	S_MI_MF_NB07_S_07_C
Hurstbourne I/I Investigation & Rehabilitation	IOAP	47650	S_MI_MF_NB07_S_07_C
Hurstbourne I/I Investigation & Rehabilitation	IOAP	47656	S_MI_MF_NB07_S_07_C

Project Name	PROGRAM	ASSET ID	PROJECT ID
Hurstbourne I/I Investigation & Rehabilitation	IOAP	1793	S_MI_MF_NB07_S_07_C
Lantana PS #1 I/I Investigation and Rehabilitation	IOAP	25484	S_PO_WC_PC05_M_07_C
Lantana PS #1 I/I Investigation and Rehabilitation	IOAP	MSD0101-PS	S_PO_WC_PC05_M_07_C
Lantana PS #1 I/I Investigation and Rehabilitation	IOAP	93719	S_PO_WC_PC05_M_07_C
Derington Ct. PS I/I Investigation & Rehabilitation	IOAP	MSD0095-PS	S_OR_MF_NB03_S_07_C
Derington Ct. PS I/I Investigation & Rehabilitation	IOAP	20155	S_OR_MF_NB03_S_07_C
Southeastern Diversion Structure and Interceptor	ISSDP	72571-X	SDSI
Southeastern Diversion Structure and Interceptor	ISSDP	30704	SDSI
Southeastern Diversion Structure and Interceptor	ISSDP	30702	SDSI
Southeastern Diversion Structure and Interceptor	ISSDP	63779	SDSI
Southeastern Diversion Structure and Interceptor	ISSDP	8426	SDSI
Southeastern Diversion Structure and Interceptor	ISSDP	8427	SDSI
Southeastern Diversion Structure and Interceptor	ISSDP	8431	SDSI
Southeastern Diversion Structure and Interceptor	ISSDP	49647	SDSI
Southeastern Diversion Structure and Interceptor	ISSDP	8430	SDSI
Southeastern Diversion Structure and Interceptor	ISSDP	18654	SDSI
Southeastern Diversion Structure and Interceptor	ISSDP	30701	SDSI
Derek R. Guthrie WQTC Wet Weather Facility	ISSDP	MSD0277	DRGWQTC
Derek R. Guthrie WQTC Wet Weather Facility	ISSDP	32688	DRGWQTC
Derek R. Guthrie WQTC Wet Weather Facility	ISSDP	59169	DRGWQTC
Derek R. Guthrie WQTC Wet Weather Facility	ISSDP	22307	DRGWQTC
Derek R. Guthrie WQTC Wet Weather Facility	ISSDP	22385	DRGWQTC
Derek R. Guthrie WQTC Wet Weather Facility	ISSDP	22370	DRGWQTC
Derek R. Guthrie WQTC Wet Weather Facility	ISSDP	32682	DRGWQTC
Hikes Lane Interceptor and Highgate Springs	ISSDP	18370	HLIHSPS
Hikes Lane Interceptor and Highgate Springs	ISSDP	18434	HLIHSPS
Hikes Lane Interceptor and Highgate Springs	ISSDP	30681	HLIHSPS
Hikes Lane Interceptor and Highgate Springs	ISSDP	MSD0012-PS	HLIHSPS
Hikes Lane Interceptor and Highgate Springs	ISSDP	49673	HLIHSPS
Hikes Lane Interceptor and Highgate Springs	ISSDP	49236	HLIHSPS
Hikes Lane Interceptor and Highgate Springs	ISSDP	18483	HLIHSPS
Hikes Lane Interceptor and Highgate Springs	ISSDP	49224	HLIHSPS
Hikes Lane Interceptor and Highgate Springs	ISSDP	18134	HLIHSPS
Hikes Lane Interceptor and Highgate Springs	ISSDP	18471	HLIHSPS
Hikes Lane Interceptor and Highgate Springs	ISSDP	18318-W	HLIHSPS
Hikes Lane Interceptor and Highgate Springs	ISSDP	18505	HLIHSPS
Hikes Lane Interceptor and Highgate Springs	ISSDP	18595	HLIHSPS
Hikes Lane Interceptor and Highgate Springs	ISSDP	73111	HLIHSPS
Hikes Lane Interceptor and Highgate Springs	ISSDP	49672	HLIHSPS

Project Name	PROGRAM	ASSET ID	PROJECT ID
Hikes Lane Interceptor and Highgate Springs	ISSDP	17571	HLIHSPS
Hikes Lane Interceptor and Highgate Springs	ISSDP	18302	HLIHSPS
Hikes Lane Interceptor and Highgate Springs	ISSDP	18297	HLIHSPS
Hikes Lane Interceptor and Highgate Springs	ISSDP	18299	HLIHSPS
Hikes Lane Interceptor and Highgate Springs	ISSDP	30680	HLIHSPS
Hikes Lane Interceptor and Highgate Springs	ISSDP	48886	HLIHSPS
Hikes Lane Interceptor and Highgate Springs	ISSDP	48888	HLIHSPS
Hikes Lane Interceptor and Highgate Springs	ISSDP	48885	HLIHSPS
Lake Forest PS SSO Investigation	IOAP	MSD1169-LS	S_FF_LF_NB01_S_13_C_A
Meadow Stream Pump Station & Force Main Upgrade	IOAP	MSD1082-PS	S_HC_HC_MSD1082_S_09A_C
Meadow Stream Pump Station & Force Main Upgrade	IOAP	91087	S_HC_HC_MSD1082_S_09A_C
Mellwood System Improvements & PS Elimination - Mellwood PS and FM Improvements	IOAP	41374	S_OR_MF_NB01_M_01_B
Mellwood System Improvements & PS Elimination - Mellwood PS and FM Improvements	IOAP	MSD0007-PS	S_OR_MF_NB01_M_01_B
Mellwood System Improvements & PS Elimination - Mellwood PS and FM Improvements	IOAP	MSD0024-PS	S_OR_MF_NB01_M_01_B
Mellwood System Improvements & PS Elimination - Mellwood PS and FM Improvements	IOAP	26752	S_OR_MF_NB01_M_01_B
Mellwood System Improvements & PS Elimination - Mellwood PS and FM Improvements	IOAP	MSD0023-PS	S_OR_MF_NB01_M_01_B
Mellwood System Improvements & PS Elimination - Mellwood PS and FM Improvements	IOAP	MSD0010-PS	S_OR_MF_NB01_M_01_B
Mellwood System Improvements & PS Elimination - Mellwood PS and FM Improvements	IOAP	24472	S_OR_MF_NB01_M_01_B
Mellwood System Improvements & PS Elimination - Mellwood PS and FM Improvements	IOAP	MSD0006-PS	S_OR_MF_NB01_M_01_B
Mellwood System Improvements & PS Elimination - Mellwood PS and FM Improvements	IOAP	24152-W	S_OR_MF_NB01_M_01_B
Mellwood System Improvements & PS Elimination - Winton and Mockingbird Valley Elimination	IOAP	MSD0007-PS	S_OR_MF_NB01_M_01_B
Mellwood System Improvements & PS Elimination - Winton and Mockingbird Valley Elimination	IOAP	24472	S_OR_MF_NB01_M_01_B
Mellwood System Improvements & PS Elimination - Winton and Mockingbird Valley Elimination	IOAP	41374	S_OR_MF_NB01_M_01_B
Mellwood System Improvements & PS Elimination - Winton and Mockingbird Valley Elimination	IOAP	26752	S_OR_MF_NB01_M_01_B
Mellwood System Improvements & PS Elimination - Winton and Mockingbird Valley Elimination	IOAP	MSD0023-PS	S_OR_MF_NB01_M_01_B
Mellwood System Improvements & PS Elimination - Winton and Mockingbird Valley Elimination	IOAP	MSD0024-PS	S_OR_MF_NB01_M_01_B
Mellwood System Improvements & PS Elimination - Winton and Mockingbird Valley Elimination	IOAP	24152-W	S_OR_MF_NB01_M_01_B
Mellwood System Improvements & PS Elimination - Winton and Mockingbird Valley Elimination	IOAP	MSD0010-PS	S_OR_MF_NB01_M_01_B
Mellwood System Improvements & PS Elimination - Winton and Mockingbird Valley Elimination	IOAP	MSD0006-PS	S_OR_MF_NB01_M_01_B
Anchor Estates PS Elimination 1 - Vannah PS Elimination	IOAP	MSD0057-LS	S_MI_MF_NB06_M_01_A_A - 2

Project Name	PROGRAM	ASSET ID	PROJECT ID
Anchor Estates PS Elimination 1 - Vannah PS Elimination	IOAP	00056-W	S_MI_MF_NB06_M_01_A_A - 2
Anchor Estates PS Elimination 1 - Vannah PS Elimination	IOAP	817	S_MI_MF_NB06_M_01_A_A - 2
Anchor Estates PS Elimination 1 - Vannah PS Elimination	IOAP	0057-W	S_MI_MF_NB06_M_01_A_A - 2
Anchor Estates PS Elimination 1 - Vannah PS Elimination	IOAP	746	S_MI_MF_NB06_M_01_A_A - 2
Anchor Estates PS Elimination 1 - Vannah PS Elimination	IOAP	1106	S_MI_MF_NB06_M_01_A_A - 2
Middle Fork Relief Interceptor, Wet Weather Storage, and UMFLS Diversion 1- Buechel Basin	IOAP	47583	S_MISF_MF_NB01_M_01_C_A1
Middle Fork Relief Interceptor, Wet Weather Storage, and UMFLS Diversion 1- Buechel Basin	IOAP	47604	S_MISF_MF_NB01_M_01_C_A1
Middle Fork Relief Interceptor, Wet Weather Storage, and UMFLS Diversion 1- Buechel Basin	IOAP	47603	S_MISF_MF_NB01_M_01_C_A1
Middle Fork Relief Interceptor, Wet Weather Storage, and UMFLS Diversion 1- Buechel Basin	IOAP	2933	S_MISF_MF_NB01_M_01_C_A1
Middle Fork Relief Interceptor, Wet Weather Storage, and UMFLS Diversion 1- Buechel Basin	IOAP	2935	S_MISF_MF_NB01_M_01_C_A1
Middle Fork Relief Interceptor, Wet Weather Storage, and UMFLS Diversion 1- Buechel Basin	IOAP	8537	S_MISF_MF_NB01_M_01_C_A1
Middle Fork Relief Interceptor, Wet Weather Storage, and UMFLS Diversion 1- Buechel Basin	IOAP	72289	S_MISF_MF_NB01_M_01_C_A1
Middle Fork Relief Interceptor, Wet Weather Storage, and UMFLS Diversion 1- Buechel Basin	IOAP	30376	S_MISF_MF_NB01_M_01_C_A1
Middle Fork Relief Interceptor, Wet Weather Storage, and UMFLS Diversion 1- Buechel Basin	IOAP	45796	S_MISF_MF_NB01_M_01_C_A1
Middle Fork Relief Interceptor, Wet Weather Storage, and UMFLS Diversion 1- Buechel Basin	IOAP	115183	S_MISF_MF_NB01_M_01_C_A1
Middle Fork Relief Interceptor, Wet Weather Storage, and UMFLS Diversion 1- Buechel Basin	IOAP	84155	S_MISF_MF_NB01_M_01_C_A1
Middle Fork Relief Interceptor, Wet Weather Storage, and UMFLS Diversion 1- Buechel Basin	IOAP	23211	S_MISF_MF_NB01_M_01_C_A1
Middle Fork Relief Interceptor, Wet Weather Storage, and UMFLS Diversion 1- Buechel Basin	IOAP	40559	S_MISF_MF_NB01_M_01_C_A1
Middle Fork Relief Interceptor, Wet Weather Storage, and UMFLS Diversion 1- Buechel Basin	IOAP	51160	S_MISF_MF_NB01_M_01_C_A1
Middle Fork Relief Interceptor, Wet Weather Storage, and UMFLS Diversion 1- Buechel Basin	IOAP	51180	S_MISF_MF_NB01_M_01_C_A1
Middle Fork Relief Interceptor, Wet Weather Storage, and UMFLS Diversion 1- Buechel Basin	IOAP	47582	S_MISF_MF_NB01_M_01_C_A1
Middle Fork Relief Interceptor, Wet Weather Storage, and UMFLS Diversion 1- Buechel Basin	IOAP	47034	S_MISF_MF_NB01_M_01_C_A1

Project Name	PROGRAM	ASSET ID	PROJECT ID
Middle Fork Relief Interceptor, Wet Weather Storage, and UMFLS Diversion 1- Buechel Basin	IOAP	72288	S_MISF_MF_NB01_M_01_C_A1
Middle Fork Relief Interceptor, Wet Weather Storage, and UMFLS Diversion 1- Buechel Basin	IOAP	115184	S_MISF_MF_NB01_M_01_C_A1
Middle Fork Relief Interceptor, Wet Weather Storage, and UMFLS Diversion 1- Buechel Basin	IOAP	115185	S_MISF_MF_NB01_M_01_C_A1
Middle Fork Relief Interceptor, Wet Weather Storage, and UMFLS Diversion 1- Buechel Basin	IOAP	08935-SM	S_MISF_MF_NB01_M_01_C_A1
Middle Fork Relief Interceptor, Wet Weather Storage, and UMFLS Diversion 1- Buechel Basin	IOAP	45835	S_MISF_MF_NB01_M_01_C_A1
Middle Fork Relief Interceptor, Wet Weather Storage, and UMFLS Diversion 1- Buechel Basin	IOAP	51161	S_MISF_MF_NB01_M_01_C_A1
Middle Fork Relief Interceptor, Wet Weather Storage, and UMFLS Diversion 1- Buechel Basin	IOAP	IS021A-SI	S_MISF_MF_NB01_M_01_C_A1
Middle Fork Relief Interceptor, Wet Weather Storage, and UMFLS Diversion 1- Buechel Basin	IOAP	23212	S_MISF_MF_NB01_M_01_C_A1
Middle Fork Relief Interceptor, Wet Weather Storage, and UMFLS Diversion 1- Buechel Basin	IOAP	47593	S_MISF_MF_NB01_M_01_C_A1
Middle Fork Relief Interceptor, Wet Weather Storage, and UMFLS Diversion 1- Buechel Basin	IOAP	27005	S_MISF_MF_NB01_M_01_C_A1
Middle Fork Relief Interceptor, Wet Weather Storage, and UMFLS Diversion 1- Buechel Basin	IOAP	15194	S_MISF_MF_NB01_M_01_C_A1
Middle Fork Relief Interceptor, Wet Weather Storage, and UMFLS Diversion 1- Buechel Basin	IOAP	2932	S_MISF_MF_NB01_M_01_C_A1
Middle Fork Relief Interceptor, Wet Weather Storage, and UMFLS Diversion 1- Buechel Basin	IOAP	27007	S_MISF_MF_NB01_M_01_C_A1
Middle Fork Relief Interceptor, Wet Weather Storage, and UMFLS Diversion 1- Buechel Basin	IOAP	90700	S_MISF_MF_NB01_M_01_C_A1
Middle Fork Relief Interceptor, Wet Weather Storage, and UMFLS Diversion 2 - PS Diversion and Storage	IOAP	47583	S_MISF_MF_NB01_M_01_C_A1
Middle Fork Relief Interceptor, Wet Weather Storage, and UMFLS Diversion 2 - PS Diversion and Storage	IOAP	115184	S_MISF_MF_NB01_M_01_C_A1
Middle Fork Relief Interceptor, Wet Weather Storage, and UMFLS Diversion 2 - PS Diversion and Storage	IOAP	45796	S_MISF_MF_NB01_M_01_C_A1
Middle Fork Relief Interceptor, Wet Weather Storage, and UMFLS Diversion 2 - PS Diversion and Storage	IOAP	47582	S_MISF_MF_NB01_M_01_C_A1
Middle Fork Relief Interceptor, Wet Weather Storage, and UMFLS Diversion 2 - PS Diversion and Storage	IOAP	72289	S_MISF_MF_NB01_M_01_C_A1

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Middle Fork Relief Interceptor, Wet Weather Storage, and UMFLS Diversion 2 - PS Diversion and Storage	IOAP	40559	S_MISF_MF_NB01_M_01_C_A1
Middle Fork Relief Interceptor, Wet Weather Storage, and UMFLS Diversion 2 - PS Diversion and Storage	IOAP	23211	S_MISF_MF_NB01_M_01_C_A1
Middle Fork Relief Interceptor, Wet Weather Storage, and UMFLS Diversion 2 - PS Diversion and Storage	IOAP	27007	S_MISF_MF_NB01_M_01_C_A1
Middle Fork Relief Interceptor, Wet Weather Storage, and UMFLS Diversion 2 - PS Diversion and Storage	IOAP	08935-SM	S_MISF_MF_NB01_M_01_C_A1
Middle Fork Relief Interceptor, Wet Weather Storage, and UMFLS Diversion 2 - PS Diversion and Storage	IOAP	15194	S_MISF_MF_NB01_M_01_C_A1
Middle Fork Relief Interceptor, Wet Weather Storage, and UMFLS Diversion 2 - PS Diversion and Storage	IOAP	IS021A-SI	S_MISF_MF_NB01_M_01_C_A1
Middle Fork Relief Interceptor, Wet Weather Storage, and UMFLS Diversion 2 - PS Diversion and Storage	IOAP	51180	S_MISF_MF_NB01_M_01_C_A1
Middle Fork Relief Interceptor, Wet Weather Storage, and UMFLS Diversion 2 - PS Diversion and Storage	IOAP	2933	S_MISF_MF_NB01_M_01_C_A1
Middle Fork Relief Interceptor, Wet Weather Storage, and UMFLS Diversion 2 - PS Diversion and Storage	IOAP	51161	S_MISF_MF_NB01_M_01_C_A1
Middle Fork Relief Interceptor, Wet Weather Storage, and UMFLS Diversion 2 - PS Diversion and Storage	IOAP	51160	S_MISF_MF_NB01_M_01_C_A1
Middle Fork Relief Interceptor, Wet Weather Storage, and UMFLS Diversion 2 - PS Diversion and Storage	IOAP	47604	S_MISF_MF_NB01_M_01_C_A1
Middle Fork Relief Interceptor, Wet Weather Storage, and UMFLS Diversion 2 - PS Diversion and Storage	IOAP	115185	S_MISF_MF_NB01_M_01_C_A1
Middle Fork Relief Interceptor, Wet Weather Storage, and UMFLS Diversion 2 - PS Diversion and Storage	IOAP	23212	S_MISF_MF_NB01_M_01_C_A1
Middle Fork Relief Interceptor, Wet Weather Storage, and UMFLS Diversion 2 - PS Diversion and Storage	IOAP	47603	S_MISF_MF_NB01_M_01_C_A1
Middle Fork Relief Interceptor, Wet Weather Storage, and UMFLS Diversion 2 - PS Diversion and Storage	IOAP	27005	S_MISF_MF_NB01_M_01_C_A1
Middle Fork Relief Interceptor, Wet Weather Storage, and UMFLS Diversion 2 - PS Diversion and Storage	IOAP	2935	S_MISF_MF_NB01_M_01_C_A1
Middle Fork Relief Interceptor, Wet Weather Storage, and UMFLS Diversion 2 - PS Diversion and Storage	IOAP	8537	S_MISF_MF_NB01_M_01_C_A1
Middle Fork Relief Interceptor, Wet Weather Storage, and UMFLS Diversion 2 - PS Diversion and Storage	IOAP	90700	S_MISF_MF_NB01_M_01_C_A1
Middle Fork Relief Interceptor, Wet Weather Storage, and UMFLS Diversion 2 - PS Diversion and Storage	IOAP	2932	S_MISF_MF_NB01_M_01_C_A1

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Middle Fork Relief Interceptor, Wet Weather Storage, and UMFLS Diversion 2 - PS Diversion and Storage	IOAP	47034	S_MISF_MF_NB01_M_01_C_A1
Middle Fork Relief Interceptor, Wet Weather Storage, and UMFLS Diversion 2 - PS Diversion and Storage	IOAP	72288	S_MISF_MF_NB01_M_01_C_A1
Middle Fork Relief Interceptor, Wet Weather Storage, and UMFLS Diversion 2 - PS Diversion and Storage	IOAP	47593	S_MISF_MF_NB01_M_01_C_A1
Middle Fork Relief Interceptor, Wet Weather Storage, and UMFLS Diversion 2 - PS Diversion and Storage	IOAP	30376	S_MISF_MF_NB01_M_01_C_A1
Middle Fork Relief Interceptor, Wet Weather Storage, and UMFLS Diversion 2 - PS Diversion and Storage	IOAP	84155	S_MISF_MF_NB01_M_01_C_A1
Middle Fork Relief Interceptor, Wet Weather Storage, and UMFLS Diversion 2 - PS Diversion and Storage	IOAP	115183	S_MISF_MF_NB01_M_01_C_A1
Middle Fork Relief Interceptor, Wet Weather Storage, and UMFLS Diversion 2 - PS Diversion and Storage	IOAP	45835	S_MISF_MF_NB01_M_01_C_A1
Fairway View PS Improvements	IOAP	MSD1065-PS	S_HC_HS_NB01_S_03_C_A
Riding Ridge PS Improvements	IOAP	MSD1060-LS	S_HC_HN_NB01_S_03_C_A
Shively Interceptor	IOAP	MSD0047-PS	S_MC_WC_NB01_M_01_A
Shively Interceptor	IOAP	4498	S_MC_WC_NB01_M_01_A
Shively Interceptor	IOAP	MSD0049-PS	S_MC_WC_NB01_M_01_A
Shively Interceptor	IOAP	4542	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	MSD0044-PS	S_MC_WC_NB01_M_01_A
Shively Interceptor	IOAP	MSD0048-PS	S_MC_WC_NB01_M_01_A
Shively Interceptor	IOAP	MSD0050-PS	S_MC_WC_NB01_M_01_A
Shively Interceptor	IOAP	MSD0043-PS	S_MC_WC_NB01_M_01_A
Chenoweth Hills WQTC Elimination & PS Improvements	IOAP	92061	S_JT_JT_NB01A_M_03_C
Chenoweth Hills WQTC Elimination & PS Improvements	IOAP	86052	S_JT_JT_NB01A_M_03_C
Chenoweth Hills WQTC Elimination & PS Improvements	IOAP	MSD0263	S_JT_JT_NB01A_M_03_C
Chenoweth Hills WQTC Elimination & PS Improvements	IOAP	MSD1043-PS	S_JT_JT_NB01A_M_03_C
Chenoweth Hills WQTC Elimination & PS Improvements	IOAP	MSD0196-PS	S_JT_JT_NB01A_M_03_C
Chenoweth Hills WQTC Elimination & PS Improvements	IOAP	64096	S_JT_JT_NB01A_M_03_C
Chenoweth Hills WQTC Elimination & PS Improvements	IOAP	MSD0263A-PS	S_JT_JT_NB01A_M_03_C
Fairmount Road Pump Station Off-Line Storage	IOAP	81316	S_FF_CC_81316_M_03_C_A
Fairmount Road Pump Station Off-Line Storage	IOAP	97362	S_FF_CC_81316_M_03_C_A
Jeffersontown WQTC Elimination	IOAP	28391	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	28392	S_JT_JT_NB01_M_01_C_A
Jeffersontown WQTC Elimination	IOAP	28395	S_JT_JT_NB01_M_01_C_A

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Jeffersontown WQTC Elimination	IOAP	IS028-SI	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	28551	S_JT_JT_NB01_M_01_C_A
Jeffersontown WQTC Elimination	IOAP	MSD0255	S_JT_JT_NB01_M_01_C_A
Jeffersontown WQTC Elimination	IOAP	28173	S_JT_JT_NB01_M_01_C_A
Klondike Interceptor	IOAP	26651	S_SD_MF_NB04_S_01_B_A
Klondike Interceptor	IOAP	26650	S_SD_MF_NB04_S_01_B_A
Klondike Interceptor	IOAP	20644	S_SD_MF_NB04_S_01_B_A
Klondike Interceptor	IOAP	66232	S_SD_MF_NB04_S_01_B_A
Klondike Interceptor	IOAP	49513	S_SD_MF_NB04_S_01_B_A
Klondike Interceptor	IOAP	25676	S_SD_MF_NB04_S_01_B_A
Lea Ann Way System Improvements	IOAP	MSD1200-PS	S_PO_WC_PC08_M_01_C
Lea Ann Way System Improvements	IOAP	29933	S_PO_WC_PC08_M_01_C
Lea Ann Way System Improvements	IOAP	31074	S_PO_WC_PC08_M_01_C
Lea Ann Way System Improvements	IOAP	31073	S_PO_WC_PC08_M_01_C
Lea Ann Way System Improvements	IOAP	57874	S_PO_WC_PC08_M_01_C
Lea Ann Way System Improvements	IOAP	29948	S_PO_WC_PC08_M_01_C
Lea Ann Way System Improvements	IOAP	MSD1010-PS	S_PO_WC_PC08_M_01_C
Prospect #1 - WQTC Eliminations	IOAP	MSD0192-PS	S_OR_MF_NB04_M_03_B_B
Prospect #1 - WQTC Eliminations	IOAP	MSD1063-PS	S_OR_MF_NB04_M_03_B_B
Prospect #1 - WQTC Eliminations	IOAP	MSD0123-PS	S_OR_MF_NB04_M_03_B_B
Prospect #1 - WQTC Eliminations	IOAP	MSD0193-PS	S_OR_MF_NB04_M_03_B_B
Prospect #1 - WQTC Eliminations	IOAP	40870	S_OR_MF_NB04_M_03_B_B
Prospect #1 - WQTC Eliminations	IOAP	MSD1044-PS	S_OR_MF_NB04_M_03_B_B
Prospect #1 - WQTC Eliminations	IOAP	MSD0183-PS	S_OR_MF_NB04_M_03_B_B
Prospect #1 - WQTC Eliminations	IOAP	22436	S_OR_MF_NB04_M_03_B_B
Prospect #1 - WQTC Eliminations	IOAP	40872	S_OR_MF_NB04_M_03_B_B
Prospect #1 - WQTC Eliminations	IOAP	40871	S_OR_MF_NB04_M_03_B_B
Prospect #1 - WQTC Eliminations	IOAP	65635	S_OR_MF_NB04_M_03_B_B
Prospect #1 - WQTC Eliminations	IOAP	42680	S_OR_MF_NB04_M_03_B_B
Prospect #1 - WQTC Eliminations	IOAP	89791	S_OR_MF_NB04_M_03_B_B
Prospect #1 - WQTC Eliminations	IOAP	89646	S_OR_MF_NB04_M_03_B_B
Prospect #1 - WQTC Eliminations	IOAP	40879	S_OR_MF_NB04_M_03_B_B
Prospect #1 - WQTC Eliminations	IOAP	42675	S_OR_MF_NB04_M_03_B_B
Prospect #1 - WQTC Eliminations	IOAP	40880	S_OR_MF_NB04_M_03_B_B
Prospect #1 - WQTC Eliminations	IOAP	MSD0186-PS	S_OR_MF_NB04_M_03_B_B
Prospect #1 - WQTC Eliminations	IOAP	65633	S_OR_MF_NB04_M_03_B_B
Prospect #1 - WQTC Eliminations	IOAP	65623	S_OR_MF_NB04_M_03_B_B
Prospect #2 - Harrods Creek PS and FM	IOAP	40870	S_OR_MF_NB04_M_03_B_B

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Prospect #2 - Harrods Creek PS and FM	IOAP	89791	S_OR_MF_NB04_M_03_B_B
Prospect #2 - Harrods Creek PS and FM	IOAP	65623	S_OR_MF_NB04_M_03_B_B
Prospect #2 - Harrods Creek PS and FM	IOAP	MSD0123-PS	S_OR_MF_NB04_M_03_B_B
Prospect #2 - Harrods Creek PS and FM	IOAP	MSD1044-PS	S_OR_MF_NB04_M_03_B_B
Prospect #2 - Harrods Creek PS and FM	IOAP	89646	S_OR_MF_NB04_M_03_B_B
Prospect #2 - Harrods Creek PS and FM	IOAP	40879	S_OR_MF_NB04_M_03_B_B
Prospect #2 - Harrods Creek PS and FM	IOAP	40880	S_OR_MF_NB04_M_03_B_B
Prospect #2 - Harrods Creek PS and FM	IOAP	MSD0186-PS	S_OR_MF_NB04_M_03_B_B
Prospect #2 - Harrods Creek PS and FM	IOAP	MSD1063-PS	S_OR_MF_NB04_M_03_B_B
Prospect #2 - Harrods Creek PS and FM	IOAP	MSD0192-PS	S_OR_MF_NB04_M_03_B_B
Prospect #2 - Harrods Creek PS and FM	IOAP	MSD0183-PS	S_OR_MF_NB04_M_03_B_B
Prospect #2 - Harrods Creek PS and FM	IOAP	65633	S_OR_MF_NB04_M_03_B_B
Prospect #2 - Harrods Creek PS and FM	IOAP	22436	S_OR_MF_NB04_M_03_B_B
Prospect #2 - Harrods Creek PS and FM	IOAP	42675	S_OR_MF_NB04_M_03_B_B
Prospect #2 - Harrods Creek PS and FM	IOAP	40872	S_OR_MF_NB04_M_03_B_B
Prospect #2 - Harrods Creek PS and FM	IOAP	65635	S_OR_MF_NB04_M_03_B_B
Prospect #2 - Harrods Creek PS and FM	IOAP	MSD0193-PS	S_OR_MF_NB04_M_03_B_B
Prospect #2 - Harrods Creek PS and FM	IOAP	40871	S_OR_MF_NB04_M_03_B_B
Prospect #2 - Harrods Creek PS and FM	IOAP	42680	S_OR_MF_NB04_M_03_B_B
Prospect #3 - ORFM System Improvements	IOAP	40871	S_OR_MF_NB04_M_03_B_B
Prospect #3 - ORFM System Improvements	IOAP	65635	S_OR_MF_NB04_M_03_B_B
Prospect #3 - ORFM System Improvements	IOAP	22436	S_OR_MF_NB04_M_03_B_B
Prospect #3 - ORFM System Improvements	IOAP	89646	S_OR_MF_NB04_M_03_B_B
Prospect #3 - ORFM System Improvements	IOAP	40879	S_OR_MF_NB04_M_03_B_B
Prospect #3 - ORFM System Improvements	IOAP	40880	S_OR_MF_NB04_M_03_B_B
Prospect #3 - ORFM System Improvements	IOAP	MSD0193-PS	S_OR_MF_NB04_M_03_B_B
Prospect #3 - ORFM System Improvements	IOAP	MSD0183-PS	S_OR_MF_NB04_M_03_B_B
Prospect #3 - ORFM System Improvements	IOAP	MSD1063-PS	S_OR_MF_NB04_M_03_B_B
Prospect #3 - ORFM System Improvements	IOAP	MSD0192-PS	S_OR_MF_NB04_M_03_B_B
Prospect #3 - ORFM System Improvements	IOAP	42675	S_OR_MF_NB04_M_03_B_B
Prospect #3 - ORFM System Improvements	IOAP	40872	S_OR_MF_NB04_M_03_B_B
Prospect #3 - ORFM System Improvements	IOAP	65633	S_OR_MF_NB04_M_03_B_B
Prospect #3 - ORFM System Improvements	IOAP	MSD1044-PS	S_OR_MF_NB04_M_03_B_B
Prospect #3 - ORFM System Improvements	IOAP	MSD0186-PS	S_OR_MF_NB04_M_03_B_B
Prospect #3 - ORFM System Improvements	IOAP	MSD0123-PS	S_OR_MF_NB04_M_03_B_B
Prospect #3 - ORFM System Improvements	IOAP	40870	S_OR_MF_NB04_M_03_B_B
Prospect #3 - ORFM System Improvements	IOAP	65623	S_OR_MF_NB04_M_03_B_B
Prospect #3 - ORFM System Improvements	IOAP	42680	S_OR_MF_NB04_M_03_B_B
Prospect #3 - ORFM System Improvements	IOAP	89791	S_OR_MF_NB04_M_03_B_B

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Anchor Estates PS Elimination 2 - Anchor Estates #1 and #2 PS Elimination	IOAP	1106	S_MI_MF_NB06_M_01_A_A - 1
Anchor Estates PS Elimination 2 - Anchor Estates #1 and #2 PS Elimination	IOAP	MSD0057-LS	S_MI_MF_NB06_M_01_A_A - 1
Anchor Estates PS Elimination 2 - Anchor Estates #1 and #2 PS Elimination	IOAP	817	S_MI_MF_NB06_M_01_A_A - 1
Anchor Estates PS Elimination 2 - Anchor Estates #1 and #2 PS Elimination	IOAP	00056-W	S_MI_MF_NB06_M_01_A_A - 1
Anchor Estates PS Elimination 2 - Anchor Estates #1 and #2 PS Elimination	IOAP	746	S_MI_MF_NB06_M_01_A_A - 1
Caven Ave Pump Station Elimination	IOAP	70212	S_PO_WC_PC09_M_09B_C
Caven Ave Pump Station Elimination	IOAP	61667	S_PO_WC_PC09_M_09B_C
Caven Ave Pump Station Elimination	IOAP	MSD0133-PS	S_PO_WC_PC09_M_09B_C
Caven Ave Pump Station Elimination	IOAP	17724	S_PO_WC_PC09_M_09B_C
Caven Ave Pump Station Elimination	IOAP	61687	S_PO_WC_PC09_M_09B_C
Caven Ave Pump Station Elimination	IOAP	27116	S_PO_WC_PC09_M_09B_C
Ashburton PS Improvements & Diversion	IOAP	MSD0165-PS	S_FF_FF_NB03_M_01_C_A
Bardstown Rd. PS Improvements	IOAP	88545	S_CC_CC_MSD1025_S_03_B
East Rockford PS Relocation	IOAP	04699-W	S_MC_WC_NB02_S_03_C
Fox Harbor Inline Storage	IOAP	62769	S_HC_HN_NB03_S_09A_A_A
Gunpowder PS Inline Storage	IOAP	MSD1055-LS	S_HC_HN_NB02_S_09A_C_B
Lucas Lane PS Inline Storage	IOAP	MSD0199-LS	S_FF_BT_NB01_S_09A_C_A
Raintree and Marian Ct 1 - PS Elimination	IOAP	28395A	S_JT_JT_NB03_M_01_C
Raintree and Marian Ct 1 - PS Elimination	IOAP	28719	S_JT_JT_NB03_M_01_C
Raintree and Marian Ct 1 - PS Elimination	IOAP	28729-W	S_JT_JT_NB03_M_01_C
Raintree and Marian Ct 1 - PS Elimination	IOAP	MSD0149-PS	S_JT_JT_NB03_M_01_C
Raintree and Marian Ct 2 - Pipe Upgrades	IOAP	MSD0149-PS	S_JT_JT_NB03_M_01_C
Raintree and Marian Ct 2 - Pipe Upgrades	IOAP	28395A	S_JT_JT_NB03_M_01_C
Raintree and Marian Ct 2 - Pipe Upgrades	IOAP	28719	S_JT_JT_NB03_M_01_C
Raintree and Marian Ct 2 - Pipe Upgrades	IOAP	28729-W	S_JT_JT_NB03_M_01_C
St. Rene Rd. PS Inline Storage	IOAP	94187	S_FF_CH_NB01_S_09A_C_A
Charleswood Interceptor Extension	IOAP	25480	S_PO_WC_PC03_M_01_C
Charleswood Interceptor Extension	IOAP	25479	S_PO_WC_PC03_M_01_C
Charleswood Interceptor Extension	IOAP	25477	S_PO_WC_PC03_M_01_C
Charleswood Interceptor Extension	IOAP	MSD0130-PS	S_PO_WC_PC03_M_01_C
Dell Rd and Charlane Pkwy Interceptor Improvements	IOAP	28415	S_JT_JT_NB02_M_01_C
Dell Rd and Charlane Pkwy Interceptor Improvements	IOAP	98564	S_JT_JT_NB02_M_01_C
Dell Rd and Charlane Pkwy Interceptor Improvements	IOAP	28250	S_JT_JT_NB02_M_01_C
Dell Rd and Charlane Pkwy Interceptor Improvements	IOAP	99649	S_JT_JT_NB02_M_01_C
Dell Rd and Charlane Pkwy Interceptor Improvements	IOAP	28416	S_JT_JT_NB02_M_01_C
Dell Rd and Charlane Pkwy Interceptor Improvements	IOAP	28340	S_JT_JT_NB02_M_01_C
Dell Rd and Charlane Pkwy Interceptor Improvements	IOAP	104289	S_JT_JT_NB02_M_01_C
Dell Rd and Charlane Pkwy Interceptor Improvements	IOAP	28414	S_JT_JT_NB02_M_01_C
Dell Rd and Charlane Pkwy Interceptor Improvements	IOAP	28417	S_JT_JT_NB02_M_01_C

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Dell Rd and Charlane Pkwy Interceptor Improvements	IOAP	28413	S_JT_JT_NB02_M_01_C
Dell Rd and Charlane Pkwy Interceptor Improvements	IOAP	28249	S_JT_JT_NB02_M_01_C
Dell Rd and Charlane Pkwy Interceptor Improvements	IOAP	28336	S_JT_JT_NB02_M_01_C
Leven PS Elimination	IOAP	36419	S_PO_WC_PC10_M_01_C
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
Cinderella PS Elimination	IOAP	MSD1013-PS	S_PO_WC_PC04_M_01_C
Cinderella PS Elimination	IOAP	60679	S_PO_WC_PC04_M_01_C
Cinderella PS Elimination	IOAP	35309	S_PO_WC_PC04_M_01_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
Idlewood Inline Storage	IOAP	28984	S_CC_CC_70158_M_09A_C
Idlewood Inline Storage	IOAP	28998	S_CC_CC_70158_M_09A_C
Sutherland Interceptor	IOAP	16649	S_SD_MF_NB05_M_01_A
Goose Creek PS Improvements & Wet Weather Storage 1 - Devondale Wet Weather Storage	IOAP	MSD0040-PS	S_MI_MF_NB04_M_03_B
Goose Creek PS Improvements & Wet Weather Storage 1 - Devondale Wet Weather Storage	IOAP	117721	S_MI_MF_NB04_M_03_B
Goose Creek PS Improvements & Wet Weather Storage 2 - PS and FM Upgrades	IOAP	62420	S_MI_MF_NB04_M_03_B
Goose Creek PS Improvements & Wet Weather Storage 2 - PS and FM Upgrades	IOAP	91629	S_MI_MF_NB04_M_03_B
Goose Creek PS Improvements & Wet Weather Storage 2 - PS and FM Upgrades	IOAP	46891	S_MI_MF_NB04_M_03_B
Goose Creek PS Improvements & Wet Weather Storage 2 - PS and FM Upgrades	IOAP	MSD1024-PS	S_MI_MF_NB04_M_03_B
Goose Creek PS Improvements & Wet Weather Storage 2 - PS and FM Upgrades	IOAP	62418	S_MI_MF_NB04_M_03_B
Goose Creek PS Improvements & Wet Weather Storage 2 - PS and FM Upgrades	IOAP	43472	S_MI_MF_NB04_M_03_B
Goose Creek PS Improvements & Wet Weather Storage 2 - PS and FM Upgrades	IOAP	91630	S_MI_MF_NB04_M_03_B
Goose Creek PS Improvements & Wet Weather Storage 2 - PS and FM Upgrades	IOAP	105936	S_MI_MF_NB04_M_03_B
Goose Creek PS Improvements & Wet Weather Storage 2 - PS and FM Upgrades	IOAP	21628-W	S_MI_MF_NB04_M_03_B
Government Center PS Elimination	IOAP	94541	S_PO_WC_PC06_M_01_C
Government Center PS Elimination	IOAP	MSD0180-PS	S_PO_WC_PC06_M_01_C
Government Center PS Elimination	IOAP	94542	S_PO_WC_PC06_M_01_C
Kavanaugh Rd. PS Improvements	IOAP	MSD1085-PS	S_HC_HC_MSD1085_S_03_A
Little Cedar Creek Interceptor Improvements	IOAP	67997	S_CC_CC_67997_M_01_C
Little Cedar Creek Interceptor Improvements	IOAP	89197	S_CC_CC_67997_M_01_C
Little Cedar Creek Interceptor Improvements	IOAP	89196	S_CC_CC_67997_M_01_C
Little Cedar Creek Interceptor Improvements	IOAP	86423	S_CC_CC_67997_M_01_C
Little Cedar Creek Interceptor Improvements	IOAP	89195	S_CC_CC_67997_M_01_C
Little Cedar Creek Interceptor Improvements	IOAP	86424	S_CC_CC_67997_M_01_C
Eden Care PS SSO Investigation	IOAP	MSD1105-PS	S_FF_FF_NB02_S_13_C
Leland Road SSO Investigation	IOAP	96020	S_OR_MF_NB02_S_13_C