

Louisville and Jefferson County Metropolitan Sewer District Second Amended Consent Decree Annual Report FY23



## <u>Louisville & Jefferson County Metropolitan Sewer District</u> <u>Second Amended Consent Decree Annual Report</u>

## **Reporting Period:**

July 1, 2022 through June 30, 2023

## **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:**

September 30, 2023





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September 25, 2023

Director, Division of Enforcement Department for Environmental Protection 300 Sower Boulevard Frankfort, KY 40601

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

Subject:

Annual Report

July 1, 2022 through June 30, 2023 Civil Action No. 3:05-cv-236-S DOJ Case No. 90-5-1-1-08254 Chief, Water Enforcement Branch Enforcement and Compliance Assurance Division U.S. Environmental Protection Agency, Region 4 61 Forsyth Street, SW Atlanta, GA 30303

Attention Director and Chiefs:

Please find attached our Annual Report, prepared in accordance with Paragraph 42 of our Second Amended Consent Decree. This report is for the period July 1, 2022, through June 30, 2023.

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

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

Sincerely,

Angela Akridge, PE

MSD Chief Strategy Officer

for Business Transformation and Regulatory Compliance

CC:

James A. Parrott Jacquelyn Quarles

File

FY23 AR Transmittal Letter Rev. 9/20/2023



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#### INTRODUCTION

The Louisville and Jefferson County Metropolitan Sewer District (MSD) has entered into a Second Amended Consent Decree (2ACD) with the Kentucky Energy & Environment Cabinet (KEEC) and the United States Environmental Protection Agency (EPA). The Second Amended Consent Decree was signed by United States District Judge and entered in United States District Court, Western Division of Kentucky, Louisville Division on September 15, 2022.

#### **Annual Reporting Period**

This is the second Annual Report submitted in accordance with Paragraph 42 of the 2ACD. This report covers the time period from July 1, 2022, through June 30, 2023. The performance metrics used for 2ACD reporting represent service areas subject to the 2ACD, which include Jefferson County and Crestwood, Kentucky. MSD's full regional service area has grown beyond these service areas. The structure for this report is outlined as follows:

Section 1: Project Waterway Improvements Now (WIN) Performance Overview – This section provides an accounting of the current reporting period and the cumulative reductions in volume and in number of occurrences of Unauthorized Discharges from the Sanitary Sewer System (SSS), Combined Sewer System (CSS), and Water Quality Treatment Centers (WQTCs), and discharges from MSD's Combined Sewer Overflow (CSO) locations identified in MSD's Morris Forman Water Quality Treatment Center (WQTC) Kentucky Pollutant Discharge Elimination System (KPDES) permit. This section also provides an accounting of bypasses at MSD's WQTCs that occurred during the current reporting period.

Section 2: Program Activities for Discharge Abatement Plans – This section provides documentation of projects and activities conducted during the current reporting period to implement requirements of the 2ACD, including the Final Long Term Control Plan (LTCP), Final Sanitary Sewer Discharge Plan (SSDP), and Additional Early Action Projects (AEAPs).

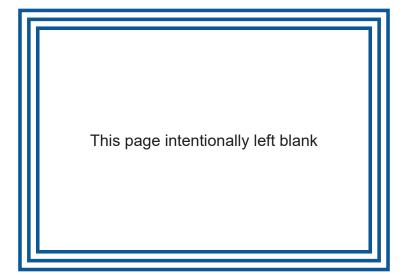
Section 3: Program Activities for Nine Minimum Controls – This section provides documentation of projects and activities conducted during the current reporting period to continue implementation of this program for compliance with the 2ACD.

Section 4: Program Activities for Capacity Management, Operations and Maintenance – This section provides documentation of projects and activities conducted during the current reporting period to continue implementation of this program for compliance with the 2ACD.

Section 5: Program Activities for Sewer Overflow Response Protocol – This section provides documentation of projects and activities conducted during the current reporting period to continue implementation of this program for compliance with the 2ACD.

Section 6: Program Activities for Public Outreach, Education, Notification and Participation – This section provides documentation of projects and activities conducted during the current reporting period to support MSD's Nine Minimum Controls and Capacity Management, Operations and Maintenance Programs.

**Section 7: Program Activities for Asset Management** – This section describes the scope, schedule and status for activities that were active during the current reporting period for continued compliance with the 2ACD.





## SECTION 1: PROJECT WATERWAY IMPROVEMENTS NOW (WIN) PERFORMANCE OVERVIEW

#### 1.1. 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. No new rain gauges have been installed by MSD during the reporting period, and the total network currently has 46 rain gauges, as shown in Figure 1.1. Nine gauges are located within Indiana, eight within adjacent Kentucky counties and the remaining twenty-nine are within Jefferson County. MSD plans to continue to expand the rain gauge network as appropriate sites are identified. Figure 1.2 shows the Jefferson County average daily rainfall amounts by month for the reporting period, based on the monthly average of all MSD rain gauges, compared with the average since FY18.

#### 1.2. AUTHORIZED DISCHARGES — WET WEATHER CSOS

At the end of the reporting period, MSD maintained 98 CSOs in operation. Discharges at permitted CSO locations that are observed during rain events by telemetry only are recorded with MSD's flow monitoring data.

#### 1.2.1. CURRENT REPORTING PERIOD

Table 1.1 includes a summary of wet weather CSO discharges that occurred during the current reporting period. Refer to Appendix A for a detailed listing of discharges that occurred during the current reporting period.

Table 1.1. Wet Weather CSO Discharge Summary - Current Reporting Period

DUE TO	DISCHARGES	VOLUME (MG)
LACK OF SYSTEM CAPACITY	1,293	4,927

#### 1.2.2. CUMULATIVE DISCHARGE REDUCTIONS

MSD is required to achieve 85 percent or greater capture throughout the combined sewer system (CSS). When fully implemented and operational, MSD's suite of wet weather CSO control projects are modeled to achieve up to 95 percent capture of the wet weather combined sewage generated in the service area during the Typical Year, which greatly exceeds the EPA's Presumption Approach requirement of 85 percent. Compliance with the 85 percent capture was achieved with completion of the Waterway Protection Tunnel in 2022. MSD expects to achieve 95 percent modeled performance by December 31, 2026 upon completion of the Morris Forman WQTC Sedimentation Basin Rehabilitation Project per the State Agreed Order Number 150220 Corrective Action Plan. The final phase of the Middle Fork Relief Interceptor, Wet Weather Storage, & Diversion Project, scheduled for completion in 2030, is also expected to provide additional combined system overflow benefits. The Annual Average Overflow Volume (AAOV), derived from the InfoWorks CSO hydraulic model, includes the modeled AAOV for the permitted CSOs as currently constructed, and is included as Appendix B.

#### 1.3. Unauthorized Discharges — Wet Weather SSOs

#### 1.3.1. CURRENT REPORTING PERIOD

Table 1.3 includes volumes and Table 1.4 includes occurrences of wet weather SSO discharges by cause and fiscal year from FY18 through the current reporting period. Refer to Appendix C for a detailed listing of discharges that occurred during the current reporting period. When reviewing against rainfall data, capacity-related SSOs for the current reporting period are in line with expected results. FY19 was the wettest year within the 5-year trend and resulted in much greater overflow volumes and occurrences.

#### 1.3.2. CUMULATIVE DISCHARGE REDUCTIONS

In 2007, MSD had an estimated 218 modeled SSO occurrences for the 10-year storm event. MSD is required to eliminate all 197 modeled SSOs for the 2-year storm event and mitigate the remaining SSOs. Modeled SSO



Figure 1.1. MSD Rain Gauge Network

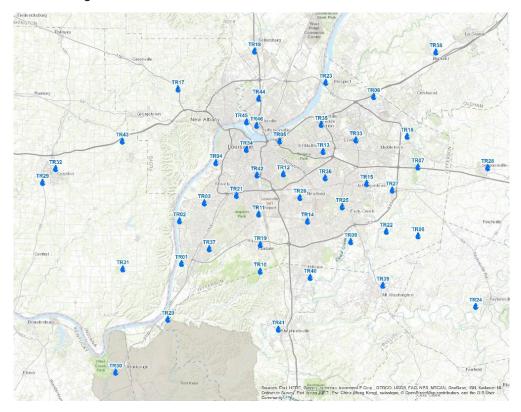
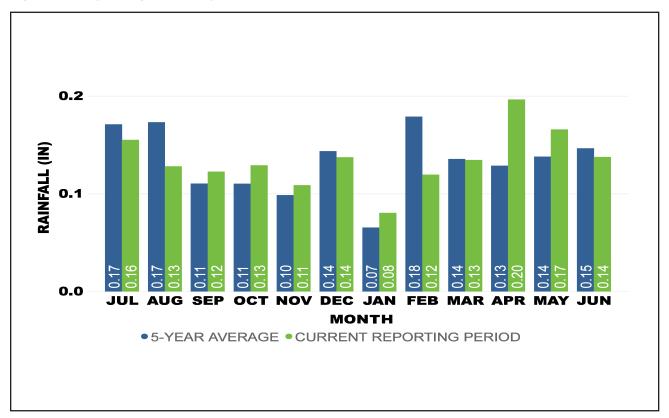


Figure 1.2. Daily Average Rainfall by Month





occurrences are required to be reduced to a level of control (LOC) for the 5-year and 10-year storm events. The modeled reduction is based on projections using current proposed solutions (as of June 30, 2023). Actual projections are subject to change as future projects are designed in detail and constructed. Table 1.2 shows the modeled baseline and reduction in number and volume of SSOs. Figure 1.3 shows the modeled reduction in volume of SSOs for the 2-, 5-, and 10-year storm events and Figure 1.4 shows the modeled reduction in occurrences.

Table 1.2. Wet Weather SSO Cumulative Reduction Modeled Projection - Summary

CALENDAR YEAR END	2-YEAR MODELED OCCURRENCES	2-YEAR MODELED VOLUME (MG)	5-YEAR MODELED OCCURRENCES	5-YEAR MODELED VOLUME (MG)	10-YEAR Modeled Occurrences	10-YEAR MODELED VOLUME (MG)
2007	197	21	211	48	218	75
2023	60	4	167	13	193	34
2034	0	0	137	5	178	21

Figure 1.3. Wet Weather SSO Cumulative Reduction Modeled Projection - Volume

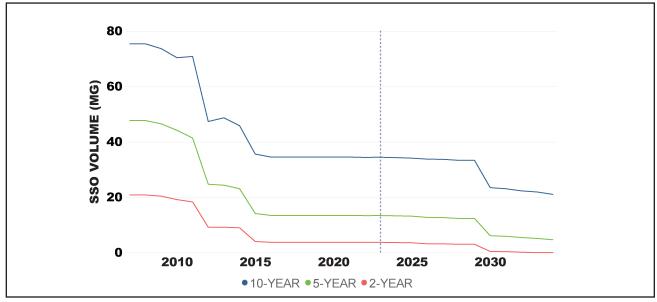
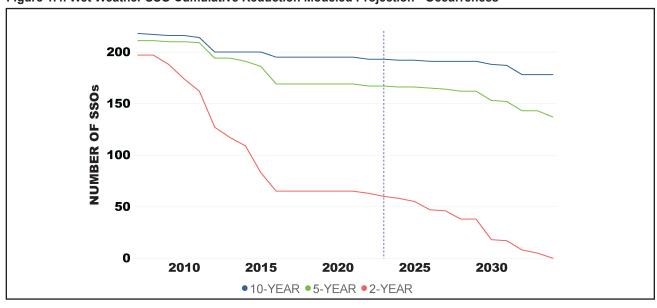


Figure 1.4. Wet Weather SSO Cumulative Reduction Modeled Projection - Occurrences





0

0

0

50,000

9,999

0

0

DAMAGED MSD ASSET

UNDERWATER

## SECOND AMENDED CONSENT DECREE **ANNUAL REPORT FY23 JULY 1, 2022 - JUNE 30, 2023**

FAILURE 252,225 316,505 57,705 1,000 20 0 ROOTS 50,160 24,612 1,100 PUMPED OVERFLOW 1,233,600 156,000 222,000 10,000 2,000 Table 1.3. Wet Weather SSO Discharge Volume (gal) - Historic and Current Reporting Periods 0 OUTAGE (LG&E) 32,950 5,880 5,700 8,950 **OBSTRUCTION-**NOT GREASE / 537,600 263,000 32,400 30,000 0 MECHANICAL FAILURE 13,000 51,075 468,080 34,076 11,750 200 LACK OF SYSTEM 393,125,319 CAPACITY 69,028,830 77,052,713 54,152,281 64,061,104 48,749,703 BLOCKAGE 0 40 0 0 0 PROBLEMS AT 40,750 11,500 0 300 0 0 DUE TO FY20 FY18 FY19 FY22 FY21 FY23

Table 1.4. Wet Weather SSO Discharge Occurrence - Historic and Current Reporting Periods

DUE TO											
	ELECTRICAL PROBLEMS AT MSD	GREASE BLOCKAGE	LACK OF SYSTEM	MECHANICAL FAILURE	OBSTRUCTION- NOT GREASE/	POWER OUTAGE (LG&E)	PUMPED	ROOTS	STRUCT URAL FAILURE	SYSTEM Underwater	UTILITY DAMAGED MSD ASSET
FY18	2	0	189	2	2	2	-	2	2	0	0
FY19	-	-	407	2	-	-	-	0	9	0	0
FY20	0	0	114	5	0	0	-	0	е	-	-
FY21	0	0	155	-	ю	0	-	0	2	0	0
FY22	0	0	235	2	4	2	0	5	0	0	0
FY23	-	0	176	5	0	2	-	2	-	0	0
Toble 4 E	cm:lo/(cmsqcsiQO)	يرمون المحادة	/ June 1	inotoin (100)	7 640 0	oboling Chaite and Chairman Dang olimptolin (100)	مامونتامات				

Table 1.5. Dry Weather CSO Discharge Volume (gal) - Historic and Current Reporting Periods

DUE TO	0						
	ELECTRICAL PROBLEMS AT MSD	MECHANICAL FAILURE	OBSTRUCTION-NOT GREASE / ROOTS	STRUCTURAL FAILURE	UTILITY DAMAGED MSD ASSET	PUMPED DUE TO COE MANUAL	POWER OUTAGE (LG&E)
FY18	142,000	0	30,754	210,578,054	26,888,000	0	0
FY19	000′6	42,667	324,090	27,340,197	0	13,680,000	0
FY20	0	0	15,430	0	0	0	0
FY21	0	0	100,000	2,657	25,028	0	1,200,000
FY22	0	0	0	0	384,658	0	0
FY23	0	0	0	0	0	0	0

Table 1.	Table 1.6. Dry Weather CSO Discharge Occurrence - Historic and Current Reporting Periods	Discharge Occurrer	າce - Historic and Cເ	irrent Reporting Per	spoi		
DUE TO							
	ELECTRICAL PROBLEMS AT MSD	MECHANICAL FAILURE	OBSTRUCTION-NOT GREASE / ROOTS	STRUCTURAL FAILURE	UTILITY DAMAGED MSD ASSET	PUMPED DUE TO COE MANUAL	POWER OUTAGE (LG&E)
FY18	1	0	2	2	9	0	0
FY19	1	1	9	5	0	1	0
FY20	0	0	1	0	0	0	0
FY21	0	0	1	1	2	0	1
FY22	0	0	0	0	2	0	0
FY23	0	0	0	0	0	0	0



### 1.4. Unauthorized Discharges — Dry Weather CSOs

Zero dry weather CSOs occurred during the reporting period, as reflected in Table 1.5, Table 1.6, and Appendix D. Table 1.5 includes volumes and Table 1.6 includes occurrences of dry weather CSO discharges by cause and fiscal year from FY18 through the current reporting period. Refer to Appendix D for a detailed listing of discharges that occurred during the current reporting period. Figure 1.5 shows the modeled reduction in volume of dry weather CSOs and Figure 1.6 shows the modeled reduction in occurrences.

Figure 1.5. Dry Weather CSO Cumulative Reduction Modeled Projection - Volume

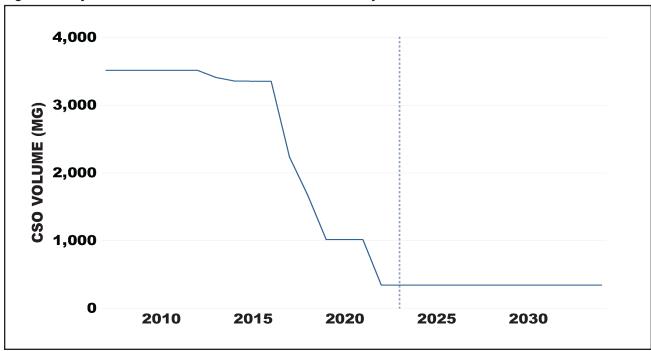
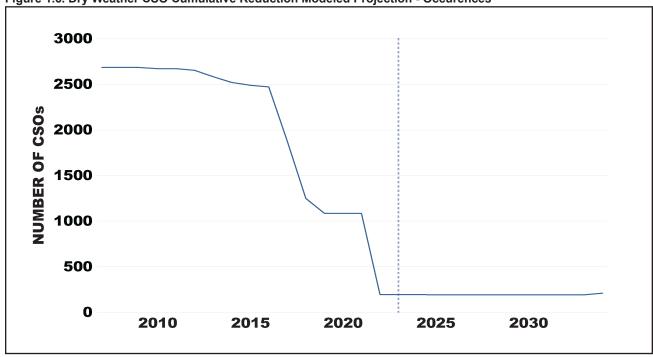


Figure 1.6. Dry Weather CSO Cumulative Reduction Modeled Projection - Occurences





## 1.5. UNAUTHORIZED DISCHARGES — DRY WEATHER SSOS

Table 1.7 includes volumes and Table 1.8 includes occurrences of dry weather SSO discharges by cause and fiscal year from FY18 through the current reporting period. Refer to Appendix E for a detailed listing of discharges that occurred during the current reporting period.

#### 1.6. Bypasses at Water Quality Treatment Centers

Project WIN Quarterly Report 18 included a memorandum, provided as Appendix K in that report, which described the analysis of 44 bypass events that occurred between July 1, 2008, and December 31, 2009. This analysis delineated bypasses into four categories, which were Capacity, External Power Failures, Equipment Failure (Mechanical, Electrical, or Structural), and Human Error. An assessment of bypasses is performed to determine the root cause of each bypass, the failure category, corrective actions to be taken, possible programmatic solutions, and a corrective action completion date.

Table 1.9 includes volumes and Table 1.10 includes occurrences of bypasses by cause and fiscal year from FY18 through the current reporting period. Refer to Appendix F for a detailed listing of bypasses that occurred at Water Quality Treatment Centers during the current reporting period.

#### 1.7. OVERFLOWS

#### 1.7.1. WET INTERIOR OVERFLOWS

Table 1.11 includes occurrences of wet interior overflows by cause and fiscal year through the current reporting period. Refer to Appendix G for a detailed listing of overflows that occurred during the current reporting period.

#### 1.7.2. DRY INTERIOR OVERFLOWS

Table 1.12 includes occurrences of dry interior overflows by cause and fiscal year through the current reporting period. Refer to Appendix G for a detailed listing of overflows that occurred during the current reporting period.

#### 1.7.3. WET EXTERIOR OVERFLOWS

Table 1.13 includes occurrences of wet exterior overflows by cause and fiscal year through the current reporting period. Refer to Appendix H for a detailed listing of overflows that occurred during the current reporting period.

#### 1.7.4. DRY EXTERIOR OVERFLOWS

Table 1.14 includes occurrences of dry exterior overflows by cause and fiscal year through the current reporting period. Refer to Appendix H for a detailed listing of overflows that occurred during the current reporting period.



DUE TO								
ELECTRICAL PROBLEMS AT MSD	PROBLEMS	GREASE BLOCKAGE	MECHANICAL FAILURE	OBSTRUCTION-NOT GREASE / ROOTS	ROOTS	STRUC	STRUCTURAL FAILURE	UTILITY DAMAGED MSD ASSET
0		150	50	3,590	400		101,007	0
750		100	006'2	675	009		118,830	13,315
200		0	350	408	0		1,228,790	8,415
35		200	300	1,895	0		12,250	24,000
20		51	2,125	40,100	1,000		154,207	0
0		1,875	15,150	98	2,320		1,800	330
able 1.8. Dry Weat	ther SSO Dis	scharge Occurren	Table 1.8. Dry Weather SSO Discharge Occurrence - Historic and Current Reporting Periods	urrent Reporting P	eriods			
SWE INCOMINATIONS	SME ISCO	CBEASE BLOCKAGE		TON-MOLECULED	STOOG	CTBIIC	EALITY IN BALLETINE	COM GEO MAG
AT MSD	SD			GREASE / ROOTS			- CNAL TAILONE	ASSET
0		-	-	4	-		4	0
-		-	ε	5	-		1	2
-		0	-	2	0		12	2
+		7	₹	6	0		8	-
-		2	2	4	-		4	0
0		8	e e	2	2		2	2
able 1.9. Bypass Vo	olume (gal)	Table 1.9. Bypass Volume (gal) - Historic and Cur	urrent Reporting Periods	iods				
OVERFLOW	OVERFLOW - CAPACITY	OVERFLOW - EQ FAIL ELECTRICAL	NIL OVERFLOW - EQ FAIL MECHANICAL		OVERFLOW - EQ FAIL Structural	OVERFLOW - HUMAN ERROR	AAN ERROR	OVERFLOW - POWER FAILURE LG&E
	0	200	0		1,210,000	0		0
	0	9,450,000	0		0	300		0
	0	0	1,150	0	92,040	0		0
	0	0	0		0	0		0
2005	500,000	0	0		12,743,000	896,500		0
	0	0	0		0	000'006		45,000,000
1.10. Bypass (	Occurrence	Table 1.10. Bypass Occurrence - Historic and Cur	Current Reporting Periods	iods				
DUE TO								
OVERFLOV	OVERFLOW - CAPACITY	OVERFLOW - EQ FAIL ELECTRICAL	AIL OVERFLOW - EQ FAIL MECHANICAL		OVERFLOW - EQ FAIL STRUCTURAL	OVERFLOW - HUMAN ERROR	MAN ERROR	OVERFLOW - POWER FAILURE LG&E
	0	T	0		1	0		0
	0	T	0		0	T		0
	0	0	2		1	0		0
	0	0	0		0	0		0
	1	0	0		2	3		0

STRUCTURAL FAILURE

LACK OF SYSTEM CAPACITY

0 62 23

900				
	GREASE BLOCKAGE	MECHANICAL FAILURE	OBSTRUCTION-NOT GREASE/ ROOTS	ROOTS
FY18	0	0	8	7
FY19	2	Į	12	7
FY20	2	0	8	3
FY21	2	0	9	9
FY22	2	0	ε	2

Table 1.11. Wet Overflow to the Interior Occurrence - Historic and Current Reporting Periods

Table 1.12. Dry Overflow to the Interior Occurrence - Historic and Current Reporting Periods

FY23

DUE TO					
	GREASE BLOCKAGE	MECHANICAL FAILURE	OBSTRUCTION-NOT GREASE / ROOTS	ROOTS	STRUCTURAL FAILURE
FY18	7	0	31	22	3
FY19	9	0	11	8	0
FY20	5	1	18	8	0
FY21	2	0	17	2	0
FY22	4	0	5	12	0
FY23	4	0	2	18	0
1 1 1 1 E	T - 1 - 2 - 2 - 2 - 2 - 2 - 2 - 2 - 2 - 2				

Table 1.13. Wet Overflow to the Exterior Occurrence - Historic and Current Reporting Periods

DUE TO							
	GREASE BLOCKAGE	MECHANICAL FAILURE	OBSTRUCTION-NOT GREASE / ROOTS	ROOTS	LACK OF SYSTEM CAPACITY	STRUCTURAL FAILURE	LACK OF SYSTEM CAPACITY STRUCTURAL FAILURE UTILITY DAMAGED MSD ASSET
FY18	1	2	ı	3	9	1	0
FY19	0	2	2	0	5	0	1
FY20	1	1	1	2	2	-	0
FY21	0	0	4	0	7	2	0
FY22	0	0	0	1	1	1	0
FY23	0	2	0	0	6	0	0

Table 1.14. Dry Overflow to the Exterior Occurrence - Historic and Current Reporting Periods

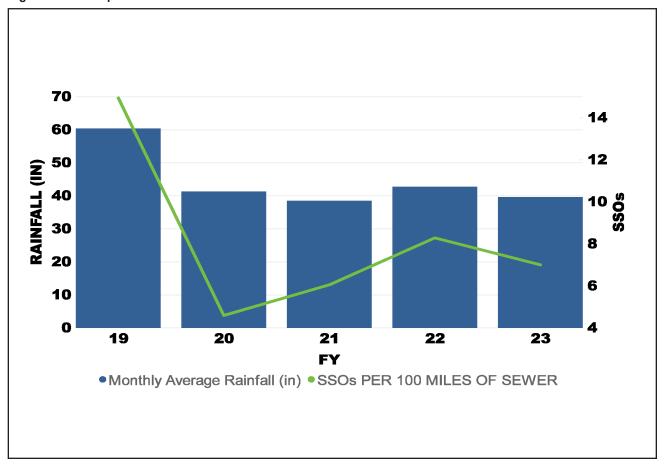
	•				•			
DUE TO								
	GREASE BLOCKAGE	MECHANICAL FAILURE	OBSTRUCTION-NOT GREASE / ROOTS	ROOTS	STRUCTURAL FAILURE	UTILITY DAMAGED MSD ASSET	ELECTRICAL PROBLEMS AT MSD	PUMPED OVERFLOW
FY18	ß	13	17	9	6	-	0	0
FY19	2	11	7	5	2	0	0	0
FY20	-	3	3	3	2	0	0	0
FY21	2	4	15	1	4	0	1	-
FY22	5	11	15	9	1	0	1	0
FY23	5	7	8	2	4	2	0	0

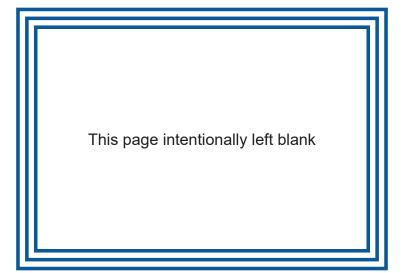


## 1.8. SSOs PER 100 MILES OF SEWER

At the request of the EPA, MSD has prepared an analysis of SSOs per 100 Miles of sewer for the reporting period, as well as the past five years, as is shown in Figure 1.7.

Figure 1.7. SSOs per 100 Miles of Sewer







#### **SECTION 2: PROGRAM ACTIVITIES FOR DISCHARGE ABATEMENT PLANS**

## 2.1. INTEGRATED OVERFLOW ABATEMENT PLAN (IOAP)

As a requirement of the original Consent Decree (CD) and the Amended Consent Decree (ACD), MSD prepared and submitted, for KEEC/EPA review and joint approval, Sanitary Sewer Discharge Plans (SSDP) designed to eliminate Unauthorized Discharges. MSD also prepared and submitted Long Term Control Plans (LTCP), for KEEC/EPA review and joint approval, pursuant to the CSO Control Policy. These plans were submitted under the title of the Integrated Overflow Abatement Plan (IOAP).

MSD developed these Discharge Abatement Plans (DAPs) for the elimination of Unauthorized Discharges, the reduction and control of discharges from CSO locations identified in the Morris Forman WQTC Kentucky Pollutant Discharge Elimination System (KPDES) permit, and the improvement of water quality in the receiving waters. MSD prepared conventional and innovative or alternative designs as part of each plan, including but not limited to: sewer rehabilitation, sewer replacement, sewer separation, relief sewers, above ground or below ground storage, high rate Secondary Treatment, illicit connection removal, remote wet weather Secondary Treatment facilities, and other appropriate alternatives. Designs were based on sound engineering judgment and in accordance with generally accepted engineering design criteria and may include interim remedial measures to reduce pollutant loading and improve water quality in the short term while alternatives for final remedial measures are being developed, evaluated and implemented.

In 2021, MSD, KEEC and EPA completed negotiation of the Second Amended Consent Decree (2ACD) to amend, reprioritize and expand upon some of the provisions set forth in the ACD. MSD had completed many of the requirements of the ACD, including construction of 47 of the 63 SSDP projects and construction of 24 of the 25 LTCP projects required under the ACD. The completed projects resulted in preliminary finding of bacterial reductions in the Ohio River and Beargrass Creek watersheds based on water quality monitoring and modeling. However, MSD had spent approximately \$1B on CD and ACD implementation, and was experiencing changed circumstances for other assets that KEEC and EPA agreed required additional work to be completed in the system and a reprioritization of the work required under the ACD. The 2ACD requires Additional Early Action Plan (AEAP) projects to remediate the Morris Forman WQTC, nine critical interceptors, and Paddy's Run Flood Pump Station (FPS), and the inclusion of an Asset Management Plan. Because these specific projects were in addition to the projects required under the SSDP and LTCP, the 2ACD also modified schedules for the completion of the few remaining projects under the approved SSDP and LTCP plans, as discussed in the following subsections.

A Gantt chart including progress of all IOAP projects during the reporting period, along with anticipated progress for the upcoming reporting period, can be found in Figure 2.1. The Asset Management Plan is discussed in Section 7.

## 2.2. SANITARY SEWER DISCHARGE PLAN (SSDP)

The Sanitary Sewer Discharge Plan (SSDP) addresses the overflows and unauthorized discharges from the Separate Sewer System (SSS). Multiple plans have been submitted under this program: the Updated Sanitary Sewer Overflow Plan (SSOP), submitted February 10, 2006; the Interim Sanitary Sewer Discharge Plan (ISSDP), approved July 24, 2008; the Final SSDP, approved February 12, 2010; a revised SSDP, approved June 19, 2014; and the most recent revision of the SSDP, approved May 19, 2021. The approved documents can be viewed on the MSD 2ACD website, available at **msdprojectwin.org**. Discharge locations associated with SSDP Projects can be found in Appendix I.

The ACD required SSDP projects to be completed by December 31, 2024. Per Paragraph 38.a.(3) of the 2ACD, schedules for any SSDP project cannot extend beyond December 31, 2035. A Gantt chart including progress of SSDP projects during the reporting period, along with anticipated progress for the upcoming reporting period, can be found in Figure 2.1. No projects were certified as completed during the current reporting period. The Monticello Pump Station Elimination and Idlewood Inline Storage projects are anticipated to be completed during the upcoming reporting period.

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## SECOND AMENDED CONSENT DECREE ANNUAL REPORT FY23 JULY 1, 2022 - JUNE 30, 2023

## 2.3. CSO Long Term Control Plan (LTCP)

The CSO Long Term Control Plan (LTCP) addresses the overflows and unauthorized discharges from the Combined Sewer System (CSS). Multiple plans have been submitted under this program: the Interim CSO LTCP (approved February 22, 2007); the Final CSO LTCP (approved February 12, 2010); and the most recent revision of the LTCP, submitted May 19, 2021. The approved documents can be viewed on the MSD Project WIN website, available at **msdprojectwin.org**. Discharge locations associated with LTCP Projects can be found in Appendix I.

The ACD required LTCP projects to be completed by December 31, 2020. Per Paragraph 38.b.(3) of the 2ACD, schedules for any LTCP project cannot extend beyond December 31, 2022. The final LTCP project, which is the Waterway Protection Tunnel, was certified as complete on June 27, 2022. Evaluation of the system will continue through hydraulic modeling, with additional details and Post Construction Compliance Monitoring available in the Annual Report.

Table 2.1. AEAP Project Estimated Costs

AEAP PROJECT	REQUIRED COMPLETION	IOAP INITIAL	CURRENT ESTIMATE	OVERAGE
	DATE	ESTIMATE (2021)	OR COST AT COMPLETION	
Paddy's Run Pump Station Replacement	December 31, 2026 <sup>1</sup>	\$115M	\$250M	\$135.0M
Nine Critical Interceptors	December 31, 2026	\$70M	\$93.7M	\$23.7M <sup>2</sup>
Buechel Trunk Sewer Rehabilitation - E17053		\$3M	\$3.7M	\$0.7M
Harrods Creek Force Main Repair - A20280	June 30, 2022³	\$8.4M	\$8.8M	\$0.4M
Prospect Phase II Area Sewers Rehabilitation - H16075		\$3M	\$2M	-\$1.0M
Broadway Interceptor Infrastructure Rehabilitation - A19208	June 30, 2021³	\$10M	\$24.9M	\$14.9M
I-64 & Grinstead Infrastructure Rehabilitation - H18503		\$16M	\$12.6M	-\$3.4M
Large Diameter Sewer Rehabilitation - A20244		\$8.3M	\$8.2M	-\$0.1M
Rudd Ave Sewer Infrastructure Rehabilitation - H21019		\$2.3M	\$11.6M	\$9.3M
Western Outfall Infrastructure Rehabilitation - H20147		\$16M	\$19M	\$3.0M
Nightingale Rehabilitation - H16074	November 1, 2021 <sup>3</sup>	\$3.0M	\$2.9M	-\$0.1M
Morris Forman WQTC Biosolids Facility	December 31, 2030	\$198M	\$340M	\$142M

<sup>1</sup> This project is dependent on partnership and cooperation with the US Army Corps of Engineers (US-ACE), and as such the deadline may be extended.

<sup>2</sup> The total overage of the nine critical interceptors is eligible to count towards Asset Management Commitments and will be evaluated upon completion of all projects.

<sup>3</sup> Actual certification date for completed project(s)



## 2.4. ADDITIONAL EARLY ACTION PLAN (AEAP) PROJECTS

Since entry of the ACD, MSD determined that the conditions and circumstances regarding its assets have changed, thus necessitating the implementation of additional work in order to meet the objectives of the ACD and to achieve the levels of control for CSOs and SSOs set forth in the approved IOAP. Under the 2ACD, MSD is required to implement new projects listed in Table 2.1.

A Gantt chart including progress of AEAP projects during the reporting period, along with anticipated progress for the upcoming reporting period, can be found in Figure 2.1. The I-64 & Grinstead Infrastructure Rehabilitation, Rudd Avenue Sewer Infrastructure Rehabilitation, Prospect Phase II Area Sewers Rehabilitation, and Large Diameter Sewer Rehabilitation projects have reached substantial completion and are pending certification.

## 2.5. Post-Construction Compliance Monitoring (PCCM)

Within the IOAP, monitoring efforts that support the impact evaluation of both project and plan implementation are discussed in Volume 1, Section 6.3. These efforts are incorporated into MSD's overall environmental data monitoring and management planning and activities, which support various MSD initiatives including operational support, the Municipal Separate Storm Sewer System (MS4) program, hydraulic and water quality modeling, and a range of regulatory reporting and trending requirements. Under the IOAP, the primary compliance assessment objectives will be to certify project completion to the selected overflow control level, both for CSOs and SSOs, to confirm that the CSS performs at a minimum level on a system wide evaluation, and to confirm that SSOs continue to perform at the minimum level of control for each SSO. As such, post-construction compliance monitoring (PCCM) supports impact analysis and the validation of various objectives of IOAP project initiatives, and the overall abatement plan.

#### 2.5.1. PCCM FOR SSDP PROJECTS

Due to the nature of SSDP projects having varying levels of control (associated with 2-, 5-, and 10-year cloud-burst storms), ensuring effective post-construction performance is important at the project level. It is the intent that performance analyses will be conducted for constructed projects as monitoring data becomes available. To complete this effort and independently assess projects that have been certified to date, MSD has partnered with the University of Louisville Center for Infrastructure Research (UofL) for the majority of the project PCCM evaluations.

MSD begins reporting PCCM results on SSDP projects after one year of data is available for analysis, and continues monitoring until three years are documented with no reported overflows. If an overflow occurs that does not meet level of control for the project, an investigation is performed to determine what additional action may be needed. After the remedial measure is completed, MSD monitors for an additional three-year period.

The FY21 2ACD Annual Report included a detailed listing of completed SSDP project post-compliance performance status for projects completed through June 30, 2020, with data through June 30, 2021. Since that time, no projects have been completed that would impact PCCM evaluation.

The status of SSDP projects that have not completed the three-year PCCM monitoring period are listed in Table 2.2, including anticipated remedial measures to achieve compliance as needed.

#### 2.5.2. PCCM FOR LTCP PROJECTS

Because of the interconnectivity of the combined sewer system, a system-wide methodology is necessary for evaluating PCCM within the combined system. It requires a model-based approach to ensure that the certified projects are effective at capturing for treatment or removing 85% of wet weather flows during the typical year when compared to pre-IOAP conditions. Consistent with the CSO Policy, the PCCM program will involve flow metering of the collection system and updated hydraulic modeling to confirm achievement of the target percent capture values. Once system performance has been validated, KDOW will coordinate with MSD to transition to a post-LTCP permit that requires continued operation and maintenance of controls necessary to maintain compliance. LTCP projects will be evaluated holistically according to this PCCM methodology when compared



to the 85% compliance target. The IOAP projects, when fully implemented, are projected to eliminate or capture for treatment 95% of the wet weather combined sewage generated in the service area during the typical year, which greatly exceeds the requirement of 85%.

**Table 2.2. SSDP PCCM Project Status** 

DESCRIPTION	CERTIFICATION DATE	STATUS / REMEDIAL MEASURES
Beargrass Interceptor Rehabilitation Ph 2	December 14, 2010	This project is hydraulically impacted by, and therefore will be analyzed after the completion of, Middle Fork Relief Interceptor, Wet Weather Storage, and UMFPS 2 - PS and Interceptor.
Floydsburg Road I/I Investigation and Rehabilitation	December 17, 2010	Although this project initially passed PCCM review with remediation (8/9/2018), additional remedial measures are planned to address more recent overflow occurrences. A project is being developed to address Private Property I/I issues associated with this project.
Goose Creek PS Improvements & Wet Weather Storage 2 - Devondale Wet Weather Storage	April 15, 2016	Phased project - will be analyzed after completion of Goose Creek PS Improvements & Wet Weather Storage 2 - PS & FM Upgrade.
Lantana #1 PS I/I Investigation & Rehabilitation	December 29, 2011	A revised solution is being developed to address Private Property I/I issues associated with this project
Mellwood System Improvements and PS Eliminations 1 - Mellwood PS & FM Improvements	December 27, 2012	Phased project - will be analyzed after completion of Mellwood System Improvements and PS Eliminations 2 - Winton Avenue and Mockingbird Valley PS Eliminations.
Middle Fork Relief Interceptor, Wet Weather Storage And UMFPS Diversion 1 - Buechel Basin	December 27, 2013	Phased project - will be analyzed after completion of Middle Fork Relief Interceptor, Wet Weather Storage and UMFPS - PS and Interceptor.
Southeastern Diversion Structure & Interceptor	April 19, 2012	This project is hydraulically impacted by, and therefore will be analyzed after the completion of, Middle Fork Relief Interceptor, Wet Weather Storage, and UMFPS 2 - PS and Interceptor.

#### 2.5.3. STREAM FLOW AND WATER QUALITY MONITORING

MSD publishes a synthesis report, called "State of the Streams", that summarizes water quality trends based on data MSD collects through its Long-Term Monitoring Network. The latest report is available at **louisvillemsd. org/WaterQuality**. MSD continues to synthesize and trend water quality data in a report as required by the MS4 permit.

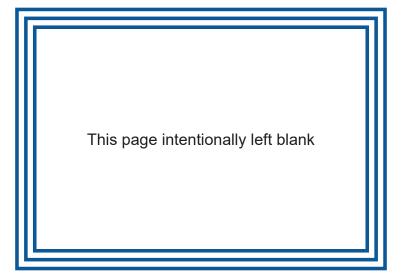
#### 2.6. IOAP ACTIVITY SCHEDULE

A Gantt chart including progress of IOAP projects during the current reporting period and anticipated during the upcoming reporting period can be found in Figure 2.1.



Qtr 3, 2022 Qtr 4, 2022 Qtr 1, 2023 Qtr 2, 2023 Qtr Jul AugSep Oct NovDec Jan Feb Mar Apr MayJun Jul Page 1 of 1 Mon 5/18/26 Wed 7/31/24 **Project Finish** Thu 6/13/24 Wed 6/30/27 Tue 2/27/29 Mon 9/9/24 Sun 8/17/25 Wed 8/5/26 Thu 12/31/26 Fri 12/31/27 Thu 7/31/25 Sat 5/11/24 Wed 7/1/26 Tue 10/21/25 Sat 8/22/26 Sat 5/11/24 Thu 9/4/25 Manual Progress Mon 11/18/19 Tue 7/18/23 Wed 6/14/23 Sun 9/10/23 Sun 11/5/28 Fri 10/17/25 Tue 1/31/23 Thu 7/31/25 Tue 1/31/23 Sat 8/17/24 Thu 5/1/25 Substantial Completion Tue 8/5/25 Wed 3/27/24 Mon 9/16/19 Mon 4/12/21 Sun 10/1/23 Mon 8/1/22 Fri 10/15/21 Mon 7/1/19 Project Start Thu 9/2/21 Thu 7/1/21 Thu 9/2/21 Thu 4/1/21 Fri 4/2/21 Fri 7/1/22 Manual Task Progress ACD Date 12/31/26 12/31/25 12/31/25 12/31/25 12/31/30 12/31/25 12/31/25 12/31/30 12/31/26 12/31/26 12/31/26 12/31/26 12/31/26 12/31/26 % Complete 18% 25% 54% %19 %69 19% %09 46% 38% 58% I-64 and Grinstead Infrastructure Rehabilitatio 72% Western Outfall Infrastructure Rehabilitation 42% %0 % Upper Middle Fork Pump Station, Forcemain Prospect Phase II Area Sewers Rehabilitation **ADDITIONAL EARLY ACTION PLAN (CRITICAL** Morris Forman WQTC New Biosolids Facility Rudd Avenue Infrastructure Rehabilitation Paddy's Run Flood Pump Station Capacity ADDITIONAL EARLY ACTION PLAN (SRP) Large Diameter Sewer Rehabilitation SANITARY SEWER DISCHARGE PLAN **MSD IOAP Commitments Schedule** Summary Leven Pump Station Elimination Kavanaugh Road PS Elimination Task **Buechel Trunk Sewer Rehab Gunpowder PS Elimination** Monticello PS Elimination Idlewood Inline Storage and Interceptor Improvements Data date: 07/28/2023 Budget\_ID Task Name H09186 H09182 H20147 H09242 H09196 D22100 H16075 H21019 H09164 H09171 F18515 A20244 E17053 H18503

Figure 2.1. IOAP Activity Schedule





#### **SECTION 3: PROGRAM ACTIVITIES FOR NINE MINIMUM CONTROLS**

Per Paragraph 37.a. of the 2ACD, the Nine Minimum Controls (NMC) Compliance Report was approved by the KEEC/EPA on February 22, 2007. The approved document can be viewed on the MSD Project WIN website, **msdprojectwin.org**. Highlights of NMC program implementation are outlined below.

#### 3.1. NMC 1: Proper Operation and Maintenance Programs

#### **FY23 Reporting Period**

- · Continued to inspect, maintain and properly operate the CSS pump stations and the Morris Forman WQTC.
- · Continued projects to create improved access to selected CSO sites to facilitate cleaning activities.
- Continued to review catch basin areas against the CSS and explored re-alignment to confirm that the 15-month cleaning cycle is achieving regulatory commitments.
- Updated online CSO & Siphon Training modules for MSD Operations Division CSO/NMC staff and Morris Forman WQTC personnel to supplement CSO Field Training.
- Established performance measures and performance for the current reporting period are shown in Table 3.1
  - Catch basins within the CSS are scheduled to be inspected every 15 months. If it is found that cleaning is necessary during inspection, the catch basin is cleaned at that time. Cleaning totals have been annualized for reporting.
  - CSOs and flapgates are inspected weekly. Siphons are inspected monthly. Debris removal or repair work orders on CSO assets are required to be created the next business day after the inspection, and completed within five business days.
- Performed scheduled cleaning and inspection on gravity mains within the CSS, shown in Table 3.2.

Table 3.1. NMC 1 Performance Measures

ACTIVITY	REQUIRED	COMPLETED	% COMPLETE	GOAL
CATCH BASIN INSPECTION/ CLEANING	17,913	18,517	103.4%	78.0%
CSO INSPECTIONS	5,158	4,793	92.9%	78.0%
SIPHON INSPECTIONS	575	559	97.2%	78.0%
FLAPGATE INSPECTIONS	1,071	1,049	97.9%	78.0%
DEBRIS REMOVAL / REPAIR	618	609	98.5%	100.0%

Table 3.2. Other NMC 1 Activities Completed

ACTIVITY	LINEAR FEET
CLEANING ACTIVITIES	687
INSPECTION ACTIVITIES	508,366

#### **FY24 Reporting Period**

- Continue cleaning and inspection programs, and reporting on programmatic implementation goals.
- Continue implementation of field verification efforts to determine operation and maintenance enhancements to be incorporated into annual training.
- Review the CSO inventory schematics and revise as necessary.



- Update the CSO characterization sheets to reflect the updated and calibrated hydraulic model.
- Incorporate the results of the annual field investigation to adjust and enhance the annual CSO Field Training modules.
- Schedule and conduct the annual CSO Field Training with the MSD Operations Division CSO/NMC staff and Morris Forman WQTC personnel.
- Continue to review catch basin areas against the CSS and explored re-alignment to confirm that the 15-month cleaning cycle is achieving regulatory commitments.

# 3.2. NMC 2: MAXIMIZATION OF STORAGE IN THE COLLECTION SYSTEM 3.2.1. Real Time Control (RTC) Optimization

#### **FY23 Reporting Period**

- Continued operation of Phase 1, 2, and 3 of the RTC system. Wet weather flow was diverted for treatment at Derek R Guthrie Water Quality Treatment Center (WQTC) or Bells Lane High Rate Treatment Facility, or stored in the system during rain events and routed to the Morris Forman WQTC once the system was able to handle the flow, summarized in Table 3.3. See Appendix J for a detailed report.
- Completed the integration of the Rowan PS, Ohio Waterway Protection Tunnel, and associated CSO interceptors into the RTC system.

Table 3.3. Wet Weather Storage and Diversion to Treatment via RTC

RTC METHOD	VOLUME (MG)
Waterway Protection Tunnel	527
LTCP CSO Basin Storage	660
Inline Storage	974
Storm Basin Storage	396
Diversion to Treatment	3,915
Total	6,471

- Continued review of CSOs upstream of Morris Forman WQTC, and noted that flow through the plant is optimized via RTC prior to overflows occurring.
- Continued to implement the wet weather standard operating procedures (SOPs) 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.
- Continued to monitor and evaluate the performance of the RTC system against operational objectives and issue updates to configurations and site tuning as necessary to improve performance of the recently integrated facilities and Csoft 4.
- Identified and began automatic computation of metrics for Key Performance Indicators (KPIs) for development using the HydroWeb dashboard to assist in the evaluation of RTC performance.
- Continued reviewing and updating the master programming and modules guide for RTC facilities to document existing programming and parameters at each facility as a reference to ensure long term continuity of the RTC system.
- Made updates to the master RTC SOP manual based on survey of the Main Diversion Structure (MDS), information gathered while commissioning of the Rowan PS, and to reflect various improvements to the RTC facilities operation.
- Integrated Rowan PS to Csoft including configuration of the RTC system and hydraulic model and local facility automation.



- Completed the integration of the Logan CSO Interceptor into the RTC system and completed validation of the CSO instrumentation associated with the Logan CSO Interceptor.
- Continued review and development of a draft RTC flood mode for facilities along the Ohio River influenced by high river levels to ensure safe operations under RTC control during these conditions and reduce the need for manual operation of the storage basins.

#### **FY24 Reporting Period**

- Continue to monitor system operability in the automated mode and refine the local site tuning of RTC facilities as needed based on performance during varying rain events.
- Continue implementing RTC SOPs and validating operations.
- Finalize the integration of the Rowan Pump Station into RTC and monitor to complete tuning of the control loops and control logics.
- Finalize the master programming and Modules guide and the Master SOP.
- Continue developing the RTC flood mode for facilities along the Ohio River influenced by high river levels.
- Finalize KPIs for the RTC using the HydroWeb dashboard.

#### 3.2.2. STORAGE OPTIMIZATION

The main objective of the RTC performance assessment is to determine whether the available flow and storage capacities within the system are utilized to their optimal potential. MSD staff continues to review and prioritize strategies for performance improvement.

#### **FY23 Reporting Period**

- Implemented several improvements related to operating the Southwestern Parkway CSO Basin under RTC. These included:
  - Implemented and improved a Flow Under the Gate (FUG) calculation for Gates 3 & 7, and made improvements to facility monitoring equipments
  - Completed evaluation of level instrument options to provide additional instrumentation at Gate 7 to allow for development of a flow under the gate equation when flow meters are out of service or invalid.
  - o Replaced problematic FIT 830 flow meter immediately downstream of Gate 7 with a level sensor.
- Completed a review of gate operations at the SOR1 facility to identify the cause of excessive gate movements, actuator failures, and excessive stem nut wear to identify modes of failure and developed an action plan to address identified issues. Began implementing the plan by performing field testing of actuator signals to eliminate electrical interference as a cause for repetitive and cyclic pulsing of actuator start switches.
- Completed survey of the MDS and implemented additional routine maintenance procedures for instrumentation at the MDS and Southern Outfall Retention (SOR1) facilities to improve the reliability of RTC data.
- Corrected programming inconsistencies that cause a critical alarm associated with a regulator dysfunction at Logan CSO Basin and the Southwestern Parkway CSO Basin due to interceptor surcharging.
- Corrected programming at the Portland CSO Basin to ensure site follows RTC setpoint inputs.
- Made improvements to the HydroWeb dashboard for production of CSO and storage-related tables for use by MSD to report information.



- Continued evaluating requirements for the installation of level sensors to improve monitoring of the Southwestern outfall and the Nightingale Pump Station Force Main discharge to the Manning Road sewer.
- Continued design of improvements to the Southwest Outfall Retention #1 (SWOR1) facility to enable increasing the maximum level setpoint.
- Bid and awarded contract for construction of the Sneads Branch Pump Station Elimination Project to allow gravity dewatering to the Logan CSO Basin.
- Continued development of the Hydroweb dashboard with key performance indicators designed to quantify RTC performance.
- · Performed an analysis of rainfall forecasts to determine reliability relative to actual rainfall.
- Identified and corrected various rain gauge data reporting errors.

#### **FY24 Reporting Period**

- Continue to implement hardware, software, and set-point changes as applicable on a site-by-site basis.
- Continue to refine the local site tuning of RTC facilities as needed based on performance during varying rain events.
- · Continue to improve and automate operations of the facilities integrated into the system.
- Continue development of the Hydroweb dashboard.
- Complete design improvements to the SWOR1 facility to enable increasing the maximum level setpoint.
- Complete evaluation of level sensors to improve monitoring of the Southwest Outfall and the Nightingale Pump Station Force Main discharge to the Manning Road sewer and install as recommended.
- Tune flow under the gates equation at Gate 7 at the Southwestern Parkway CSO Basin and adapt control logics to allow dewatering under RTC control to occur when flow meters are out of service or invalid.
- Continue monitoring the real time validation routine for level instrumentation at the MDS and SOR1 facilities and develop recommendations for additional site for deployment of the routine.
- Implement a new validation routine for level instrumentation based on artificial intelligence to improve data anomaly detection. The improved validation routine should increase maintenance efficiency and reliability of data.
- Begin decommissioning the Sneads Branch Pump Station.
- Continue to refine the local tuning of RTC facilities as needed based on performance during varying rain events.
- Finalize the integration of the Rowan Pump Station into RTC and monitor to compete tuning of the control loops and control logics.

# 3.3. NMC 3: REVIEW AND MODIFICATION OF PRETREATMENT REQUIREMENTS

## **FY23 Reporting Period**

 Completed FY23 NMC 3 Trunk Sewer Water Quality Data Collection in September 2022. Finalized pollutants of concern (POCs) and trunkline sewer data (contributory to CSOs) for FY23 Dry Weather Sampling Result Report. Reviewed and evaluated FY21 trunk sewer data against prior trunk sewer data to determine if



changes in pollutants warrant review of contributory Non-Domestic Dischargers (NDDs). Determined POCs and trunkline sewer (contributory to CSOs) dry weather sampling strategy for FY24. Prepared a report to document the findings and recommendations resulting from sampling efforts.

- Continued to send wet weather alerts to NDDs of concern prior to rain events, reminding them of their
  commitment to implement voluntary controls during wet weather events. During this reporting period, the
  MSD service area experienced 52 measurable rain events and 65 events with only trace rainfall. MSD sent
  email notices to NDDs 50 times prior to precipitation events. The email notices contain information regarding
  precipitation expected for a seven-day period. There are currently eight NDDs that voluntarily implement
  controls during wet weather by alternating their cleaning schedule and/or by storing wastewater during a
  rain event.
- Continued to track performance measures to quantify the effectiveness of voluntary controls during wet weather events. The pollutant loading kept out of the CSS per typical rain event in previous fiscal years has been quantified with the data from the wet weather logs submitted by NDDs and is shown in Table 3.4. The typical results of pollutants kept out of the CSS when all NDDs participate are presented Table 3.4, quantified based on the actual rain events when NDDs detained their flow or otherwise reduced their discharge. In Table 3.4, mass is based on typical concentrations for each industry and the reported volume kept out of CSS during each rain event.

**Table 3.4. Voluntary Controls During Wet Weather Events** 

PERFORMANCE MEASURE	NUMBER OF NDDS PARTICIPATING	NUMBER OF WET WEATHER DAYS	VOLUME (GAL)	BOD (LBS)	TSS (LBS)
Typical Pollutants Kept Out of the CSS Per Rain Event	10	N/A	442,100	2,500	1,450
Total Quantity FY23	10	52	15,500,000	78,800	70,700

- Continued to include specific NMC 3-related language, as appropriate, in new and reissued wastewater
  discharge permits to facilities located in the CSS, as well as in all Unusual Discharge Requests (UDRs)
  approved for discharge to the CSS. MSD reissued 22 wastewater discharge permits to users discharging
  to or immediately upstream of the CSS. There were 24 UDRs processed for discharges to Morris Forman
  WQTC in FY23. The UDRs included 15 locations in the CSS and 9 locations in the SSS, of which 3 locations
  in the SSS ultimately discharge to Morris Forman WQTC. To avoid the risk of an overflow occurring, UDR
  permits contain standard condition requirements which restrict discharges into the collection system when
  wet weather conditions are expected.
- Conducted two NMC 3 site inspections at an NDD facility as part of the permit renewal process.
- Conducted five NMC 3 site inspections at Industrial User facilities not currently in the formal NMC 3 program
  as part of the initial permitting or permit renewal process. These facilities were found to have little to no impact during rain events. MSD elected not to request implementation of voluntary controls by these facilities
  at this time because of the limited benefit to be gained. MSD heightened the understanding of the CSS
  operation during wet weather for these industries during the inspections.
- Continued to include hold and release requirements in permits for all new industrial users in the combined sewer system and for existing industrial customers that expand production in the combined sewer system.
   The volume and duration of each hold and release requirement were determined through use of MSD's hydraulic model. MSD applied this requirement to two permits during the reporting period. MSD also documented which permitted industries have 'hold and release' permit requirements.



- Continued to seek out green infrastructure opportunities at NDDs discharging to the CSS and documented the permitted industries that use green infrastructure to reduce flow contributions during wet weather.
- Documented which NDDs have ceased operation during the reporting period.
- Reviewed improvements made to the combined sewer system infrastructure and the potential impact on the NMC 3 program. Updated CSS flows from the most recent calibrated hydraulic model.
- Conducted staff training on implementation of the NMC 3 program.

#### **FY24 Reporting Period**

- Complete FY24 NMC 3 Trunk Sewer Water Quality Data Collection effort. Compare FY24 trunk sewer data against prior trunk sewer data to determine if changes in pollutants warrant review of contributory NDDs.
- Determine POCs, NDDs (based on historical data), and trunkline sewers (contributory to CSOs) for FY24.
   Review NDDs (based on historical data) to identify those that may be removed from the program, as well as any that may need to be added. Prepare a file report to document the findings and recommendations resulting from FY24 NMC 3 trunk sewer collection data.
- Continue to send wet weather alerts to NDDs of concern prior to rain events, reminding them of their commitment to implement voluntary controls during wet weather events.
- Continue to include specific NMC 3 related language, as appropriate, in new and re-issued wastewater discharge permits to facilities located in the CSS, as well as in all Unusual Discharge Requests approved for discharge to the CSS.
- Conduct NMC 3 site inspections at Industrial User permitted facilities not currently in the formal NMC 3 program as part of the permit renewal process.
- Discuss NMC 3 program participation at each annual site inspection for Industrial Users who are currently in the NMC 3 program.
- Track performance measures to monitor the effectiveness of the implementation of NMC 3 within the Pretreatment Program.
- Review new industrial users and existing industrial users with increased discharges in the combined sewer system to determine if hold and release requirements need to be added into their permits. Continue to document which permitted industries have hold and release permit requirements. Continue to document which permitted industries use green infrastructure to trade off for their 'hold and release' program.
- Document which NDDs have ceased operation and quantify the impact/reduction on CSS operation.
- Continue to review improvements made to the combined sewer system infrastructure and their potential
  impact on the NMC 3 program. Consider updated flows from the most recent calibrated hydraulic model.
  Some CSS improvements may result in changes to the ongoing NMC 3 program. Document the changes
  and impacts in a memo to the file.
- Conduct staff training on implementation of the NMC 3 program.



## 3.4. NMC 4: MAXIMIZATION **OF FLOW AT THE MORRIS** FORMAN WATER QUALITY **TREATMENT CENTER (WQTC)**

#### 3.4.1. CAPITAL PROJECTS

NMC capital project schedules for the current and upcoming reporting periods are provided in Figure 3.4. Significant projects for the Morris Forman WQTC are detailed below.

- Design projects for new heating, ventilation, and air conditioning (HVAC) system and a new boiler for the Main Equipment Building are underway.
- Construction of the Primary Sedimentation Basin Rehab project is underway.
- The Biosolids Processing Solution project is underway utilizing a Progressive Design Build delivery method.
- · A Biosolids Master Plan is underway.

## 3.4.2. Morris Forman WQTC

- **PERFORMANCE**
- Continued to maximize flow to the Morris Forman WQTC. Charts that compare plant flow at the Morris Forman WQTC with the occurrence of CSOs at the MDS and the Southwestern PS are included in Appendix K. In November and June, there was a PI data logging error which caused some of the flow data to log the same number repeatedly. This has since been addressed. Refer to Figure 3.1 for location of the CSOs closest to Morris Forman WQTC.
- The Final Effluent PS was in service 59 days during the reporting period.
- Morris Forman WQTC experienced plant violations throughout the reporting period due to continuing failure of the solids handling equipment and the limited availability of alternate solids disposal. Morris Forman WQTC compliance from FY18 through the current reporting period is included in Table 3.5. Permit compliance details for Morris Forman WQTC for the current reporting period are shown in Table 3.6, where a "©" indicates compliance and an "X" indicates noncompliance. MSD continues to employ additional solids processing methods, including dewatered cake, an outside vendor to assist with solids handling in addition to purchasing additional liquid oxygen, and dewatering of regional solids at Derek R. Guthrie WQTC in an effort to meet permit requirements.

**Table 3.5. Morris Forman WQTC Permit Compliance** 

FY	EXCEEDANCES	MONTHS COMPLIANT
FY18	53	1
FY19	60	0
FY20	69	0
FY21	60	1
FY22	77	0
FY23	88	0

Figure 3.1. CSO Locations Relative to Morris Forman WQTC



Table 3.6. Morris Forman WQTC Permit Compliance Details

PARAMETER	JULY	AUG	SEPT	ОСТ	NON	DEC	NAC	FEB	MAR	APRIL	MAY	JONE
Ammonia Nitrogen, 30 Day Secondary Effluent	©	©	<u></u>	©	©	©	<b>©</b>	©	©	©	0	©
Ammonia Nitrogen, 7 Day Secondary Effluent	©	0	©	0	0	0	©	0	©	©	©	©
BOD, 30 Day Secondary Effluent	©	×	×	×	×	×	×	×	×	×	×	×
BOD, 7 Day Secondary Effluent	×	×	×	×	×	×	×	×	×	×	×	×
BOD, Percent Removal	×	×	×	×	×	×	×	×	×	×	×	×
Chlorine, Residual	0	0	0	0	0	0	0	0	0	0	0	0
Dissolved Oxygen	×	0	0	0	0	0	×	0	0	0	×	0
Fecal Coliform, 30 Day Geomean	0	×	×	×	×	<u></u>	0	0	<b>©</b>	×	×	×
Fecal Coliform, 7 Day Geomean	0	×	×	×	×	0	0	0	0	×	×	×
Hd	0	0	0	0	0	0	0	0	0	0	0	0
TSS, 30 Day Secondary Effluent	×	×	×	×	×	×	×	×	×	×	×	×
TSS, 7 Day Effluent	×	×	×	×	×	×	×	×	×	×	×	×
TSS, Percent Removal	×	×	×	×	×	×	×	×	×	×	×	×



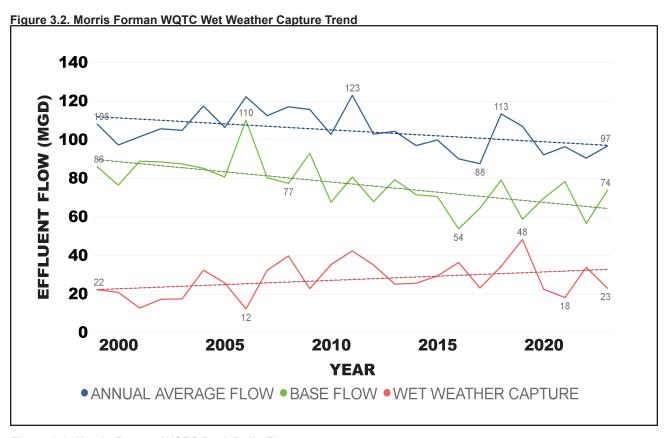
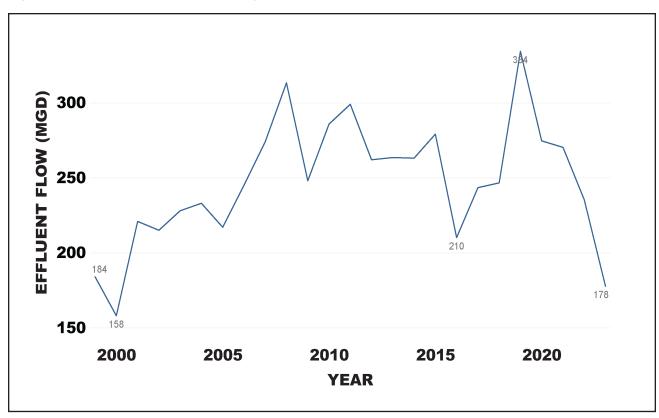


Figure 3.3. Morris Forman WQTC Peak Daily Flow





#### 3.4.3. WET WEATHER CAPTURE

Figure 3.2 graphs annual average flow, base flow and wet weather capture for treatment at Morris Forman WQTC. The wet weather capture is the difference between the annual average flow treated and the base wastewater flow (defined in state regulations as the lowest monthly average day flow during the calendar year). Overall, the long-term base flow trend is decreasing; however, CY2023 (through June 30) shows an increase in base flow compared to CY2020. Until the last couple of years, MSD had a trend of increasing wet weather capture for treatment. Recent system failures along with major capital construction projects at Morris Forman WQTC have impacted the maximum flow rate at Morris Forman WQTC, resulting in decreased wet weather capture during peak flow events. The overall increasing trend in wet weather capture is largely attributed to a combination of capital improvements within the Morris Forman WQTC service area, implementation of RTC facilities in the CSS, and construction and integration of CSO control basins into the RTC system.

Peak daily flow at Morris Forman WQTC is graphed in Figure 3.3. Each data point represents the maximum daily flow treated during the year. This WQTC has experienced failures of major equipment or components resulting in a decrease in peak wet weather capacity over portions of the past six years. Although the instantaneous peak hydraulic capacity of the Morris Forman WQTC is 350 MGD, the sustained flow that can be treated on a daily basis is governed by a number of other factors, including the performance of the biological treatment processes. Numerous improvements and system replacements have occurred or are ongoing to restore the peak capacity and improve reliability. The most significant impact to peak flow is the ongoing Sedimentation Basin Rehabilitation Project which currently has two of the four Sedimentation Basins out of service. While individual years are highly variable due to weather impacts, significant performance improvements have been realized through implementation of the revised wet weather SOP and better wet weather process control at Morris Forman WQTC. These improvements will be enhanced with the Sedimentation Basin Rehabilitation Project.

# 3.5. NMC 5: ELIMINATION OF COMBINED SEWER OVERFLOWS DURING DRY WEATHER

# **FY23 Reporting Period**

- Continued updates of the U.S. Army Corps of Engineers (USACE) Flood Operations and Maintenance Manual to reflect changes in operations that have occurred with the IOAP projects and operational SOP improvements. This will be an ongoing task until all the projects in the IOAP are completed and an ongoing task as NMC programmatic activities are completed.
- Monitored flood pump stations (FPS) for opportunities to pump trapped flow back into the combined sanitary sewer system to avoid dry weather overflows as a result of operation of the flood protection system from the 34th Street, Starkey and 4th Street FPSs. This practice and inspection have been put into place and is accomplished from the associated floodgate in-service work order located in-line with the related CSOs.
- Performed evaluations of dry weather unauthorized discharges to the WUS, with emphasis on the CSS, to
  determine causes and to determine if there is a need for corrective activities.
- Performed inspection and cleaning of fats, oils and grease (FOG) Focus Areas within the CSS, in accordance with Capacity Management, Operations and Maintenance (CMOM) commitments.

- Continue to implement additional operational modifications at FPSs within the CSS to prevent dry weather
  overflows. Discussions with the USACE to continue regarding proposed modifications to these pumping
  stations that will minimize dry weather CSOs due to high river levels. This will be an ongoing activity until all
  the IOAP projects are completed and as staff implements programmatic NMC activities.
- Continue to review SOPs for the FPSs to reflect ongoing operational changes that occur as capital projects and NMC programmatic activities are completed.



- Perform a quarterly evaluation of dry weather overflows to the WUS, with emphasis on the CSS, to determine causes and to determine if there is a need for corrective activities.
- · Perform inspection and cleaning of FOG focus areas within the CSS, in accordance with CMOM commitments.

# 3.6. NMC 6: CONTROL OF SOLIDS AND FLOATABLE MATERIALS IN COMBINED SEWER OVERFLOWS

# **FY23 Reporting Period**

- Continued to monitor and document performance of the CSO108 S&F Control Continuous Deflection Separator (CDS) operation in accordance with the Memorandum of Understanding (MOU) with the Kentucky Nature Preserve (KNP). There are groundwater issues at the site that impact reporting. MSD personnel made a change to the calculation methodology to account for this in February 2023 that will report only sludge flow in event mode. MSD will continue to monitor reporting and implement additional changes if necessary. Copies of the semi-annual CSO108 efficacy reports have been included as Appendix O.
- Continued inspection and maintenance procedures for the S&F structures as part of the weekly CSO inspections and PM cleaning routines, outlined under NMC 1. During the reporting period, 701 work orders were issued for debris removal at the S&F structures.
- Continued working with staff to determine the quantity of debris and floatables captured by catch basin cleaning, at the Headworks of the Morris Forman WQTC, and at the end of line S&F controls. Reports have been developed to capture the amount of material removed through catch basin cleaning and at the end of the line S&F controls. Results for the reporting period are shown in Table 3.7.

Table 3.7. Debris Removed from System

SOURCE	DEBRIS REMOVED (TONS)
Catch Basin & Sewer Cleaning	13,653
Morris Forman WQTC Headworks	1,403

- Continue to monitor and document performance of the CSO108 S&F structure operation in accordance with the MOU with the KNP by MSD crews. Reports will be submitted to KNP on January 30 and July 30 and included as an appendix to subsequent 2ACD Annual Reports.
- Continued inspection and maintenance procedures for the S&F structures as part of the weekly CSO inspections and PM cleaning routines, outlined under NMC 1.
- Track the volume of S&F materials removed from the CSS.
- Develop revised process to track S&F removal at CSO basins.
- Review and refine S&F control operations and maintenance training and administer to appropriate staff.
- Perform CSO S&F Efficacy assessments for approximately 15 CSOs including pre- and post-storm site visits to determine where S&F control devices could be improved or replaced.

# 3.7. NMC 7: POLLUTION PREVENTION PROGRAMS TO REDUCE CONTAMINANTS IN COMBINED SEWER OVERFLOWS

- Continued administration of the Erosion Prevention and Sediment Control (EPSC) Ordinance. Continued
  use of a tracking system for EPSC Notices of Violation (NOVs) and Field Correction Notices (FCNs) within
  the CSS.
- Continued administration of the Hazardous Materials Ordinance, which requires users with hazardous materials on site to submit a spill prevention and control plan. Continued response to spills of hazardous materials and incidents involving discharges to the sewer system and provided spill mitigation kits to the Louisville Metro Fire Department to use to absorb vehicle fluids rather than flushing to the sewer.
- Continued issuance of Wastewater Discharge Permits under the Industrial Pretreatment Program.
- Distributed literature and annual newsletter to significant industrial users (SIUs) on best management practices for prevention of pollution.
- Promoted Green Infrastructure initiatives within Jefferson County, such as guidance on downspout disconnection and rain garden installation.
- Continued to prepare and distribute informational pieces, targeted to inform customers and residents on activities that can be practiced within their homes to assist in the reduction of overflows within the collections system.
- Reviewed and implemented enhancements for training on Stormwater Pollution Prevention Plans (SWPPPs) for the WQTCs and the Central Maintenance Facility (CMF).
- Continued enhancement of the framework for the IOAP green infrastructure program tracking in IPS.
- Utilized and distributed the rain garden handbooks to the public to encourage green infrastructure.
- Discussed water quality topics with students, including what impacts the CSS can have on receiving waterways, and how they can improve water quality through behavior change.
- Partnered with Louisville Metro Council District 21 and Louisville Grows to plant trees along the Preston Highway corridor and adjacent neighborhoods.
- Coordinated trash pick-up and education and outreach events in Mill Creek watershed in partnership with the SW Regional Library, Parks and Recreation, The Nature Conservancy and University of Louisville.
- Supported a cleanup of Middle Fork Beargrass Creek. Other participating groups included council members from Districts 8 & 9, Louisville Olmsted Parks Conservancy, Brightside, the Clean Collaborative, Kentucky Waterways Alliance, and Beargrass Creek Alliance.
- Hosted trash pick-up events at Shawnee Park, Sylvania Park, and the Beargrass Creek Greenway.
- Hired a Watershed Coordinator to help manage the Middle Fork Beargrass Creek Watershed Plan, which is
  focused on non-point source pollution control and reduction in the Middle Fork Beargrass Creek Watershed.
  The plan outlines the use of green infrastructure and community engagement to reduce impacts of non-point
  source pollution including infiltration, capture and treatment of stormwater on site to reduce impacts to the
  MS4 and CSS.
- Continued to draft the Mill Creek Watershed Plan to explore ways to reduce non-point source pollution in Mill Creek and its tributaries. In addition to writing the Watershed Plan, the planning process also includes sampling for water quality and public outreach events in the watershed.
- Hosted summer works students at MSD facilities where they received a water quality certification for Post Construction and Green Infrastructure training they received.



 Distributed Industrial Waste Department newsletter to all 235 industrial contacts which included MSD's Board approval for the Enforcement Response Plan, HMPC inspections, CROMERR submittal to the EPA, PFAS/PFOA update and implementation of Unusual Discharge Request fees.

# **FY24 Reporting Period**

- Continue daily inspections and documentation for EPSC NOVs, FCNs, and all enforcement activities within the CSS with an inspection application for FCNs.
- Continue inspection of hazardous materials from facilities. Continue issuance of Wastewater Discharge Permits under the Industrial Pretreatment Program. Continue distribution of literature to SIUs on best management practices for prevention of pollution.
- Utilize and distribute the rain garden handbook to the public in order to encourage green infrastructure.
- Continue to develop and promote new informational pieces, targeted to inform customers and residents on green infrastructure initiatives within Jefferson County, such as guidance on downspout disconnection and rain gardens.
- Continue to track green infrastructure projects and initiatives in IPS.
- Continue to prepare and distribute informational pieces, targeted to inform customers and residents on activities that can be practiced within their homes to assist in the reduction of overflows within the collection system.
- Continue planning and hosting rain garden events for community groups and students.
- Host summer works students at MSD facilities where they will receive a water quality certification for EPSC,
   Post Construction and Green Infrastructure training they received.
- Continue to coordinate watershed planning and outreach efforts in Mill Creek Watershed in accordance with the 319 Grant.
- Continued to enhance and train on Stormwater Pollution Prevention Plans (SWPPPs) for the WQTCs and the Central Maintenance Facility (CMF).
- · Continue working on watershed planning efforts in Mill Creek and Middle Fork Beargrass Creek watersheds.

# 3.8. NMC 8: Public Notification

Refer to Section 6: Program Activities for Public Outreach, Education, Notification and Participation for information regarding public notification.

# 3.9. NMC 9: MONITORING TO CHARACTERIZE COMBINED SEWER OVERFLOW IMPACTS AND THE EFFICACY OF COMBINED SEWER OVERFLOW CONTROLS

Refer to Section 2.5 for information regarding system monitoring.

# 3.10. NMC ACTIVITY SCHEDULE

A Gantt chart including progress of NMC projects during the reporting period can be found in Figure 3.4.

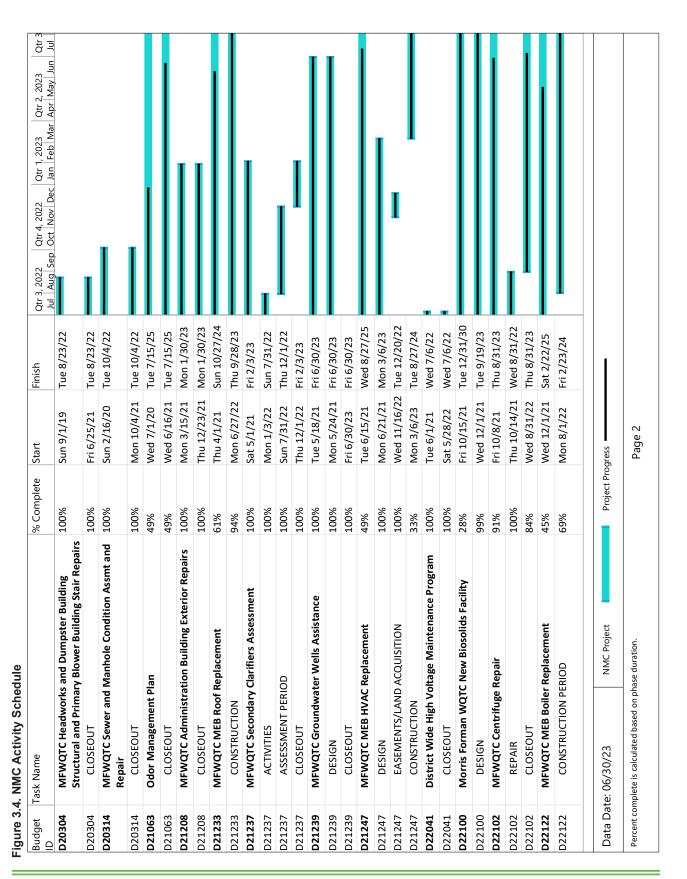
Additional emergency projects may be classified as NMC. Following a thorough review of individual categorizations appropriate projects will be included in the FY23 Mid-Year Status Report.



ğ Apr May Jun Qtr 2, 2023 Jan Feb Mar Qtr 1, 2023 Oct Nov Dec Qtr 4, 2022 Aug Sep Qtr 3, 2022 Mon 10/31/22 Tue 12/31/30 Thu 11/24/22 Thu 12/31/26 Thu 11/24/22 Wed 7/15/26 Wed 6/11/25 Sat 12/10/22 Sat 12/10/22 Wed 5/14/25 Sun 12/26/27 Mon 6/30/25 Mon 4/29/24 Sat 12/31/22 Mon 4/29/24 Fri 10/13/23 Thu 7/31/25 Tue 9/14/27 Tue 1/30/24 Sun 7/30/23 Wed 5/1/24 Sat 9/30/23 Tue 1/30/24 Sun 7/30/23 Sat 3/30/24 Wed 5/1/24 Fri 6/16/23 Fri 9/30/22 Fri 9/30/22 Fri 6/30/23 Fri 9/15/23 Fri 7/8/22 Finish Wed 11/16/22 Mon 3/12/18 Mon 9/16/19 Wed 8/19/20 Fue 11/19/19 Mon 11/4/19 Fue 11/30/21 Wed 5/15/19 Mon 6/27/22 Mon 9/27/21 Tue 12/21/21 Tue 2/18/20 Wed 9/1/21 Mon 7/2/18 Mon 7/4/22 Mon 7/4/22 Tue 11/1/22 Tue 7/23/19 Mon 6/7/21 Sat 6/17/23 Sat 10/1/22 Sat 8/21/21 Thu 4/1/21 Thu 3/3/22 Fri 4/27/18 Thu 8/5/21 Sat 10/1/22 Fri 6/30/23 Tue 3/8/22 Fri 7/1/22 Fri 7/1/22 Fri 7/1/22 Page 1 Start Project Progress % Complete 100% 100% 100% 100% 100% 100% 100% 100% 100% 100% 100% 91% 85% 79% %88 93% 26% %29 31% 41% %09 80% 61% 62% %9/ 95% 20% 84% 64% 1% 59% % Bells Lane WWTF Polymer Dosing System Updates **SWPS Gas Monitoring and SP1 Odor Control** DRGWQTC WWPS & WWSB Rehabilitation MF Peabody Gate Structure Rehabilitation Bells Lane Disinfection System Upgrades Large Diameter Sewer Rehabilitation 26th Street Sewer Repair Emergency NMC Project 15th St Emergency Sewer Repair **MSD NMC Commitments Schedule** INITIATION & PROCUREMENT INITIATION & PROCUREMENT Percent complete is calculated based on phase duration MFWQTC Chiller Replacement FY23 MFWQTC Equipment RR **SGC RTC Enhancements** ASSESSMENT PERIOD **MSD Radio Repeaters** CONSTRUCTION CONSTRUCTION CONSTRUCTION SERVICE PERIOD CONSTRUCTION CONSTRUCTION CONSTRUCTION CLOSEOUT CLOSEOUT CLOSEOUT CLOSEOUT CLOSEOUT CLOSEOUT DESIGN DESIGN Data Date: 06/30/23 Task Name D19130 D19286 D15024 D18132 D20007 32023 A20244 A22183 D19130 32023 320224 Budget 120244 121241 121241 A22183 D15024 D18132 D18132 D19048 D19048 D19048 D19130 D19130 D19286 D20007 220007 220012 220012 20223 20224 2027

Figure 3.4. NMC Activity Schedule



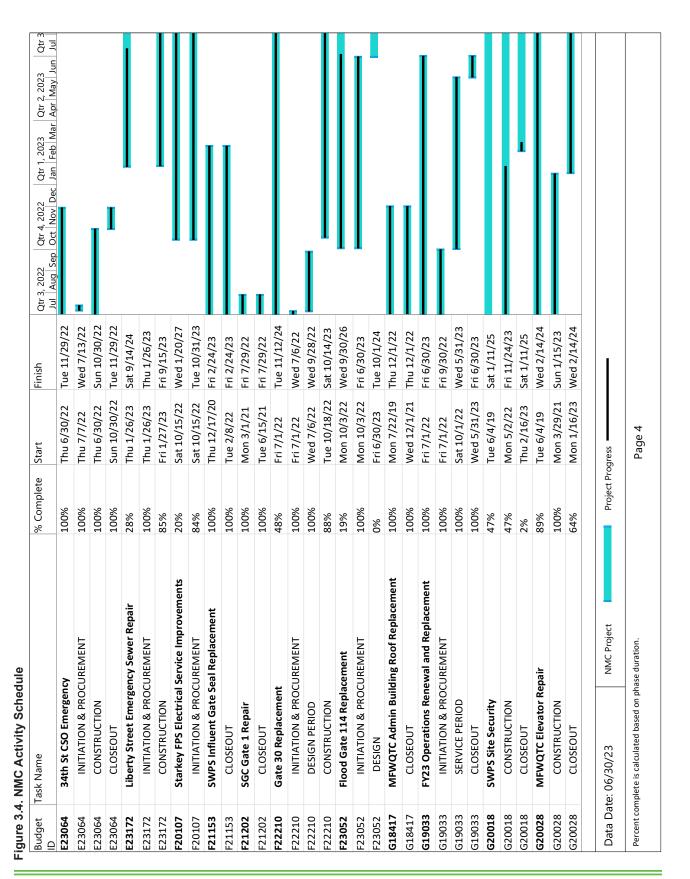




₽⊒ Jul | Aug | Sep | Oct | Nov | Dec | Jan | Feb | Mar | Apr | May | Jun | Qtr 2, 2023 Qtr 1, 2023 Qtr 4, 2022 Qtr 3, 2022 Wed 11/30/22 Mon 12/18/23 Mon 11/25/24 Sat 12/30/23 Mon 2/26/24 Sat 12/30/23 Sat 12/14/24 Thu 7/21/22 Thu 6/26/25 Tue 1/24/23 Tue 5/28/24 Tue 7/30/24 Mon 5/1/23 Mon 5/1/23 Sun 6/30/24 Tue 1/24/23 Sat 1/27/24 Mon 9/5/22 Fri 12/29/23 Thu 5/4/23 Fri 6/30/23 Thu 9/1/22 Fri 6/30/23 Fri 3/31/23 Tue 8/1/23 Fri 3/31/23 Fri 3/31/23 Tue 1/6/26 Tue 2/6/24 Tue 8/1/23 Fri 5/2/25 Finish Wed 11/30/22 Mon 5/16/22 Mon 7/18/22 Wed 3/15/23 Mon 3/20/23 Mon 11/8/21 Thu 3/31/22 Tue 8/30/22 Mon 1/2/23 Tue 8/30/22 Mon 1/2/23 Mon 1/2/23 Mon 1/2/23 Mon 1/2/23 Mon 1/2/23 Mon 5/1/23 Mon 5/1/23 Mon 5/1/23 Mon 5/1/23 Thu 9/1/22 Thu 5/4/23 Fri 4/29/22 Thu 9/1/22 Thu 9/1/22 Fri 3/31/23 Fri 3/31/23 Thu 7/1/21 Sun 8/1/21 Thu 9/8/22 Fri 2/25/22 Fri 4/1/22 Page 3 Start **Project Progress** % Complete 100% 100% 100% 100% 100% 100% 100% 100% 100% 100% 100% 100% 100% 100% %69 39% 31% 51% 20% 31% 27% 78% 64% %89 32% %98 33% 79% MFWQTC Dechlorination Building Roof Replacement 30% %98 58% MFWQTC Activated Sludge Bldg. Roof Replacement MFWQTC Odor Control Chemical Storage Building South Shelby St. Sanitary Sewer Improvements MFWQTC Secondary Improvements (Design FY22 Operations Renewal and Replacement MFWQTC Emergency Elevator Project MFWQTC Computer Room Upgrades EASEMENTS/LAND ACQUISITION **NMC Project** INITIATION & PROCUREMENT **HCWQTC Spare Parts Pole Barn** Percent complete is calculated based on phase duration **Odor Sampling Master Plan Definition Memorandum)** CONSTRUCTION CONSTRUCTION CONSTRUCTION Roof Replacement CLOSEOUT CLOSEOUT CLOSEOUT DESIGN DESIGN DESIGN DESIGN DESIGN DESIGN DESIGN DESIGN Data Date: 06/30/23 Task Name D22186 D23167 D23167 Budget D22175 D22175 D22175 D22175 D22186 D22186 D22211 D22211 D23082 D23082 D23082 D23082 D23166 D23166 D23166 D23167 D23168 D23168 D23168 D23194 D23194 D23194 D23194 E19213 E19213 **E22116** E22116 22116

Figure 3.4. NMC Activity Schedule

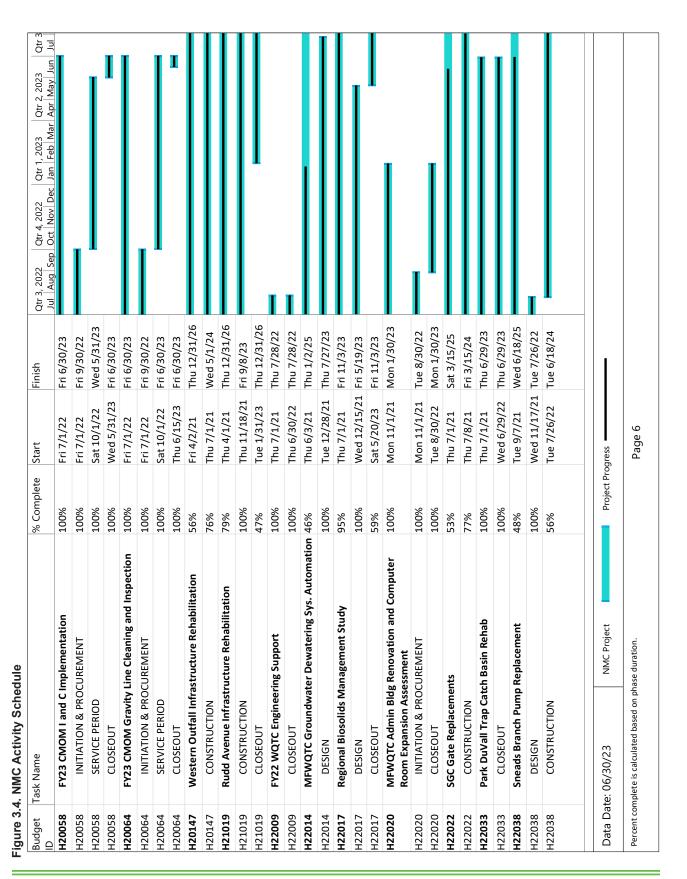






8, 2022 | Qtr 4, 2022 | Qtr 1, 2023 | Qtr 2, 2023 | Qtr 1, 204 | Aug | Sep | Oct | Nov | Dec | Jan | Feb | Mar | Apr | May | Jun | Jul Qtr 2, 2023 Qtr 4, 2022 Qtr 3, 2022 Wed 11/30/22 Thu 12/29/22 Wed 5/31/23 Mon 10/3/22 Mon 10/3/22 Wed 5/31/23 Wed 5/31/23 Wed 9/28/22 Wed 9/28/22 Wed 11/1/23 Tue 1/31/23 Thu 9/29/22 Sat 10/1/22 Sat 5/11/24 Sat 5/11/24 Fri 6/30/23 Fri 9/30/22 Fri 6/30/23 Fri 6/30/23 Fri 9/30/22 Fri 6/30/23 Fri 6/30/23 Thu 9/8/22 Thu 9/8/22 Fri 6/30/23 Fri 6/30/23 Fri 6/30/23 Fri 6/30/23 Fri 6/30/23 Fri 9/30/22 Fri 6/30/23 Fri 6/30/23 Finish Mon 4/12/21 Mon 5/10/21 Wed 5/31/23 Mon 4/12/21 Wed 5/31/23 Wed 5/31/23 Thu 12/1/22 Mon 7/2/18 Tue 1/31/23 Wed 9/1/21 Thu 6/15/23 Sat 10/1/22 Tue 5/31/22 Sat 10/1/22 Sat 10/1/22 Fri 7/16/21 Sun 6/6/21 Sat 10/2/21 Thu 7/1/21 Sat 10/1/22 Fri 7/1/22 Page 5 Project Progress Start % Complete %001 100% 100% 100% 100% 100% 100% 100% 100% %001 100% 100% %001 100% 100% 100% 100% 100% %001 100% 74% 79% 28% 34% 37% 84% %1 %0 1% 1-64 and Grinstead Infrastructure Rehabilitation FY22 Envl Data Collection - MS4 and IOAP FY21 WQTC and FPS Roof Assessments FY23 Plumbing Modification Program CMF Inventory Management System FY23 NMC CSO Inspection Cameras NMC Project INITIATION & PROCUREMENT Percent complete is calculated based on phase duration. SYSTEM INSTALL PERIOD Figure 3.4. NMC Activity Schedule FY23 NMC Support FY23 NMC Support SERVICE PERIOD **Nightingale Rehab** CONSTRUCTION SERVICE PERIOD SERVICE PERIOD FY23 NMC RTC **FY23 NMC RTC FY22 NMC RTC** CLOSEOUT CLOSEOUT CLOSEOUT CLOSEOUT CLOSEOUT CLOSEOUT CLOSEOUT CLOSEOUT CLOSEOUT DESIGN Data Date: 06/30/23 Task Name H18503 H19002 H19005 H19002 H19002 Budget **G23021** G23021 H18503 H19005 H19005 H19005 H19116 119132 119132 120050 G21231 G23021 G23021 G23021 H16074 H16074 H18503 H19002 H19002 H19034 H19034 119116 H19116 119132 119132





2tr 3, 2022 | Qtr 4, 2022 | Qtr 1, 2023 | Qtr 2, 2023 | Qtr Jul | Aug | Sep | Oct | Nov | Dec | Jan | Feb | Mar | Apr | May | Jun | Jul Qtr 2, 2023 Otr 4, 2022 2tr 3, 2022 Wed 12/31/25 Mon 10/16/23 Thu 11/17/22 Thu 11/28/24 Thu 8/31/23 Tue 5/30/23 Thu 1/26/23 Wed 3/1/23 Sat 10/1/22 Thu 8/26/27 Sat 8/26/23 Sun 6/30/24 Sun 6/30/24 Sat 4/26/25 Fri 6/30/23 Fri 7/28/23 Fri 9/30/22 Fri 6/30/23 Fri 7/28/23 Fri 6/30/23 Thu 7/7/22 Thu 9/7/23 Finish Wed 5/31/23 Mon 1/16/23 Wed 8/10/22 Wed 8/10/22 Thu 6/15/23 Thu 1/26/23 Thu 1/26/23 Wed 2/1/23 Wed 3/1/23 Wed 3/1/23 Wed 3/1/23 Sat 10/1/22 Sat 10/1/22 Tue 2/7/23 Tue 2/7/23 Fri 7/1/22 Page 7 Start Project Progress % Complete 100% 100% 100% 100% 100% 100% 100% 100% 100% 100% 100% 100% 15% %66 40% 41% 23% 16% 88% %96 California Neighborhood Trap Catch Basin Rehab California Maple St Trap Catch Basin Rehab NMC Project FY23 WQTC Engineering Support INITIATION & PROCUREMENT **CSO 140 Outfall Reconstruction** Percent complete is calculated based on phase duration **MFWQTC Planning Assistance SWPS Screen Replacement** Figure 3.4. NMC Activity Schedule WQTC Sludge Disposal CONSTRUCTION SERVICE PERIOD SERVICE PERIOD SERVICE PERIOD CLOSEOUT CLOSEOUT DESIGN DESIGN Data Date: 06/30/23 Task Name H23016 H23016 H23033 H23033 H23033 H23048 H23048 H23056 H23056 H23056 H23016 H23016 H23147 H23147 Budget H23056 H23175 H23033 H23147 H23175 H23179 H23179 H23179



# Section 4: Program Activities for Capacity Management, Operations and Maintenance

Per Paragraph 37.b. of the 2ACD, the CMOM Self-Assessment Report was approved by the KDEP/EPA on August 21, 2006. The approved document can be viewed on the MSD 2ACD website, **msdprojectwin.org**. Highlights of CMOM program implementation are outlined below.

# 4.1. CAPACITY MANAGEMENT OPERATIONS AND MAINTENANCE PROGRAM ACTIVITIES

#### 4.1.1. MANAGEMENT PROGRAMS

#### 4.1.1.1. TABLE OF ORGANIZATION

# **M-A-1 Organizational Chart**

The Louisville MSD Organizational Chart is updated every quarter. See Appendix L for the latest version.

# M-A-2 Relationship to Other Departments

# FY23 Reporting Period

- Carried 775 approved positions at the beginning of the reporting period and 801 approved positions at the end of the reporting period. This is an increase of 26 positions.
- Carried 103 vacant positions at the beginning of the reporting period and 107 vacant positions at the end of the reporting period.
- Utilized services of an executive recruiter to find qualified candidates to fill an executive management position critical to the success of the ACD.

#### FY24 Reporting Period

 Continue to hire qualified staff to fill vacant positions, including specialty and senior/mid/upper management positions critical to the success of the ACD.

#### 4.1.1.2. TRAINING PROGRAMS

This section describes MSD's Training Programs. The goal of this program is to ensure employee growth and workplace safety through mandatory training (both initial and ongoing), conference and seminar attendance, certification, accurate record keeping of employee training, and incentives such as pay, promotions and ability to work. All training programs promote MSD's fundamental mission, goals, and policies.

# M-B-1 Technical Training

# M-B-2 Skills Training

# M-B-3 Safety Training

# FY23 Reporting Period

Training for the current reporting period is summarized in Table 4.1, where the session column totals the occurrences of training sessions, and the hours column sums the amount of time for the sessions.

 Conducted Administrative Training sessions including such topics as New Employee Orientation, Project Management, Leadership, Records Retention, Crew Management, Supplier Diversity Procurement Procedures, and Ethics.



- Conducted Collections System training sessions including such topics as Sewer Overflow Response Protocol, Erosion Prevention & Sedimentation Control, Stormwater Pollution Prevention Plans (SWPPP) Training, Combined Sewer Overflow (CSO) & Siphon Preventative Maintenance, Sewer Cleaning, and Construction Blueprints.
- Conducted Equipment training primarily including heavy equipment that enables employees to maintain and operate the collections system, pump stations and treatment plants. Examples include training on mini-excavators, sewer cleaners, cranes, forklifts and backhoes.
- Conducted Reporting training sessions including such topics as Power BI, Telog, Budget Software and eB basics.
- Conducted Safety training in such areas as Traffic Control, Hearing Protection, Confined Space Entry, Blood Borne Pathogens, Hazmat, Lock Out/Tag Out, and Competent Person training for trenching and excavation.
- Conducted Wastewater Operations training focusing on knowledge and skills related to wastewater treatment process and control, including sampling, Louisville Green Management System training, and Wastewater Lab Certification Preparation.

**Table 4.1. Training Program** 

TRAINING TYPE	SESSIONS CONDUCTED	TRAINING HOURS CONDUCTED
Administrative	677	738
Collections System	343	350
Equipment	425	1031
Reporting	87	96
Safety	908	667
Wastewater Operations	318	371

# FY24 Reporting Period

- Continue to increase access to digital training and resource materials for collection system and wastewater treatment employees.
- Continue development of enhanced Fleet mechanic training program.
- Continue to develop competent and capable employees through technical and skills training related to job duties.
- Continue to implement employee performance-based goals as a part of the annual appraisal process and utilize performance results to identify additional training needs.
- · Continue to train employees on MSD Standard Safety Procedures.
- Develop processes to better link organizational goals to individual employee goals.

# 4.1.1.3. SAFETY PROGRAMS

This section describes MSD's Safety Programs. The goal of this program is to eliminate on-the-job injuries. MSD's Safety Programs include safety committees, confined space entry procedures, district wide safety policies, traffic management, lock out/tag out procedures, and proper use of safety equipment.



# M-C-1 Safety Committee

# FY23 Reporting Period

- Conducted meetings with the Safety Committee. This Committee includes representatives from across the Operations Division, including Treatment, Collections System, and Drainage and Flood Protection representatives.
- Performed random job site inspections on Drainage/Sanitary crews, and inspections at all MSD facilities.

# FY24 Reporting Period

- Continue Safety Committee meetings to perform inspections and review policies and incidents. Address safety concerns presented by safety committee members.
- Continue to improve safety culture though quarterly meetings of the CMF Safety Committee, Treatment Safety Committee, Flood Protection Committee and Collections Safety Committee. Maintain a focus on safety culture that includes all personnel.
- Continue to perform random job site inspections on Drainage/Sanitary crews, inspections at Morris Forman WQTC, and quarterly inspections with Operations of WQTCs and flood & viaduct pump stations.

# M-C-2 Confined Space Entry

# FY23 Reporting Period

- Conducted training and monitoring procedures on confined space entries in order to maintain compliance with 29 CFR 1910.146. Health and Safety personnel has spot-checked confined space entries to determine compliance with company procedure.
- Maintained entry equipment and personal protective equipment to provide for safe entry conditions and to maintain compliance with 29 CFR 1910.146.
- Contracted with a vendor to conduct annual inspections on confined space entry equipment such as tripods, wenches, and harnesses.
- Continued to advise personnel on the purchase of multi-gas monitors to replace older models that will no longer be maintained or manufactured.
- Continued to assess confined space monitor calibration status and purchase calibration gas for the six calibration stations.
- Utilized the Confined Space Trainer to train employees on entries under controllable conditions.

- Continue to administer training and monitor procedures on confined space entry in order to maintain compliance with 29 CFR 1910.146. Health and Safety personnel will spot-check confined space entries to determine compliance with company procedure.
- Continue to ensure that all "Permit Required Confined Spaces" are properly labeled in Operations.
- Continue to advise personnel on the purchase of multi-gas monitors to replace older models that will no longer be maintained or manufactured.
- Continue to assess confined space monitor calibration status and purchase calibration gas for the six calibration stations.



Continue utilizing the Confined Space trainer to train employees on entries under controllable conditions.

# M-C-3 General Safety Procedures

# FY23 Reporting Period

- Conducted Emergency Response Team (ERT) fire drills and tornado drills at the Main Office, CMF and Morris Forman WQTC.
- Conducted 8-hour refresher training on hazardous materials for the ERTs.
- Conducted 40-hour HAZ-MAT Technician Level training for newly hired employees.
- · Conducted fire extinguisher training district-wide.
- · Conducted annual audiograms district-wide.
- Replaced current Safety Data Sheets in the MSDS Pro database with updated safety data sheets compliant with the Globally Harmonized System (GHS) standard.

# FY24 Reporting Period

- Continue to conduct training with employees on the new OSHA Hazardous Communications Standard to include Globally Harmonized Systems for material safety data sheets and container labeling.
- Continue to assess the need to update existing procedures and/or create new procedures as conditions and regulatory requirements dictate.
- Continue to conduct 8-hour refresher training on hazardous materials for the ERTs and other required safety sensitive positions.
- Continue to conduct fire extinguisher training district-wide.
- · Continue to conduct fire and tornado drills.
- Continue to conduct annual audiograms district-wide.
- Continue Monthly Safety Day Training as a refresher for safety topics.
- Schedule 40-hour HAZ-MAT Technician Level training for newly hired employees as needed based on hiring demands.
- Continue required safety orientations with contractors to ensure compliance with MSD & KYOSHA regulations and promote a strong safety culture.
- Continue to review and update the MSD Confined Space, Trenching, LOTO and Fall Protection Safety Programs.

# **M-C-4 Traffic Management**

- Purchased and maintained traffic control equipment to reduce hazardous operational exposure.
- Provided training on traffic control on all job sites and as employees are hired or as employee job duties require.



# FY24 Reporting Period

- Continue traffic control training for employees to ensure continued compliance with MSD standards.
- Inspect and replace traffic control equipment regularly to ensure compliance with safety standards.
- Conduct traffic control audits of job sites in streets and roadways.

# M-C-5 Lock Out/Tag Out

# FY23 Reporting Period

- Maintained and communicated enhanced lock out/tag out procedures to employees as required by the OSHA Control of Hazardous Energy standard.
- Continued to develop lock out/tag out procedures as equipment was added or replaced, or as processes were changed.
- Worked with staff at Morris Forman WQTC to train on new machine specific procedures. The SOPs were made available through IPS and eB for improved accessibility.

# FY24 Reporting Period

- Continue to implement lock out/tag out, machine-specific procedures as equipment is added or replaced, or as processes are changed.
- Continue working with staff at Morris Forman WQTC to train on new machine specific procedures.
- Order new LOTO equipment for all MSD staff to coordinate with the new policy.

# **M-C-6 Safety Equipment**

# FY23 Reporting Period

- Continued to review and provide required personal protective equipment to employees.
- Conducted NFPA 1852 required annual testing and maintenance for self-contained breathing apparatus respirators.
- Explored options for more comfortable safety equipment to maintain employee adherence to safety policies and procedures.

- Maintain safety related equipment or replace the equipment per governing policies or as the need arises.
- Continue purchasing additional equipment for confined space, fall protection, trenching and Hazardous Materials.
- Look into making equipment purchases based on recommendations from the FY23 safety equipment exploration.



# **M-C-7 Performance Measures**

# FY23 Reporting Period

- Maintained compliance with OSHA standards.
- Ensured that appropriate staff attended mandatory training on trench excavation safety, confined space, first aid, hazmat response and fire extinguisher usage.
- Safety / worker compensation performance measures for MSD employees are detailed in Table 4.2.

Table 4.2. Safety Incidents and Worker Compensation Claims

PERFORMANCE MEASURE	RESULT
Days Worked (8 Hours)	154,115
Safety Incidents	57
Incidents per Days Worked	0.0004
Worker Comp Claims	36
Worker Comp Claims per Days Worked	0.0002
Days Off due to Work-Related Issues	321
Days Off due to Work-Related Issues per Days Worked	0.0021

# FY24 Reporting Period

- Maintain field inspections as discussed under M-C-1 Safety Committee to reduce the number of incidents.
- Continue to improve compliance with NFPA 70E and the GHS standard as discussed under M-C-3 General Safety Procedures.
- · Continue to foster a strong culture of workplace safety.

# 4.1.1.4. UTILITY INFORMATION MANAGEMENT SYSTEMS

This section describes MSD's Utility Information Management System. The goal of this program is to produce quality information regarding sewer system performance. MSD's Utility Information Management System supports the following programs: management, operations, maintenance, complaint management, and performance indicators.

# M-D-1 Management Information Management Systems

# M-D-2 Operations Information Management Systems

# M-D-3 Maintenance Information Management Systems

# M-D-4 Complaint Management and Tracking Information Management Systems

#### M-D-5 Performance Indicators

- Utilized a wide variety of software to operate the day-to-day business activities associated with wastewater collections, conveyance and treatments. The major Utility Information Management applications are shown in Table 4.3.
- Deployed MaaS360 mobile device management solution. Refreshed SolarWinds monitoring and alerting environment and deployed enhanced capabilities.
- Expanded use of IPS Field Inspector Mobile to regional treatment facilities, MS4 water quality monitoring, and routine sanitary and drainage cleaning activities.
- Completed LOJIC planimetric/topographic map updates for Jefferson, Oldham, Bullitt Counties.



- Completed implementation of online Unusual Discharge Requests (UDR) through the Rhythm for Civics portal.
- Implemented an Accella to IPS interface.
- Developed a mobile application for VARC
- Developed PowerBI dashboards for use by HR, Finance, RIG, and VARC.
- Deployed Project Activity Tracking, Enforcement Log, Erosion Prevention and Sediment Control (EPSC), and Bonds (PEEB) application as a SQL Server Reporting Services (SSRS) report, which allows users to filter the report data based on selection criteria.
- Completed digitization of Morris Forman WQTC daily equipment status tracking and reporting.
- Supported existing custom applications and 3rd party applications.
- Implemented a Single-Sign-On tied to employee's network login information for the ALIM/eB systems.

# FY24 Reporting Period

- Continue planning for SAP upgrade to S/4HANA.
- Explore upgrade of Telog application and equipment.
- Continue to expand use of Field Inspector Mobile within operations.
- Continue to identify online submission opportunities.
- Complete a workforce upgrade of the employee time tracking system.
- Continue digitization of the VARC process.
- Develop an application for employees to electronically track pump station data when working in the pump stations during the flood season.
- · Complete process development for Smell My City data.
- · Complete conversion and migration of existing applications to a single platform with backend as SQL server.
- Continue developing performance metrics dashboards in PowerBI.

# 4.1.1.5. ENGINEERING PROGRAMS

This section describes MSD's Engineering CMOM activities. The goal of this program is to maintain accurate plans of current sewer system infrastructure, oversee construction quality of new infrastructure, and conduct assessments to maximize the efficiency of current WQTCs. MSD's engineering programs include the following: collections and transmission system plans, system inventory, mapping, sewer system design, sewer construction, construction inspection, acquisition considerations, continuing sewer system assessment (CSSA), infrastructure rehabilitation, and a system capacity assurance plan (SCAP).

Table 4.3. Utility Information Management Applications

UTILITY INFORMATION MANAGEMENT (UIM) APPLICATIONS
AssetWorks
CC&B
Csoft 4
eB/Alim
EGIS
GIS
GPS
GraniteNet
InfoMaster Sewer
InfoWorks
InfoWorks ICM
IPS
LabWorks
LINKO
Optimatics
Power BI
SAP
SCADA
Sharepoint
Telog



# M-E-1 Collection and Transmission System Plans

# **M-E-2 System Inventory**

# M-E-3 Mapping

MSD has an extensive collection of record drawings of the sewer facilities dating back to 1874. In addition to the original record drawings, scanned images are stored in eB/Alim, MSD's records management system. Plans are scanned twice during a project life cycle – once when the project is approved for construction and a second time when the plans are made "as-built" after construction completion. After a set of plans has been constructed, the facilities are created in GIS and the attributes of the facilities are stored in a corresponding asset record in the IPS database. Map corrections are also obtained during asset inspection activities.

# FY23 Reporting Period

- Captured assets in the GIS and IPS software programs. Added 856 property service connection records and 18.53 miles of sewer assets.
- Corrected 16 sewer errata.
- Scanned 55 construction plan sets into the eB Imaging System.

# FY24 Reporting Period

- Continue to scan plans and to add and update data in the GIS and asset management software programs based on new construction drawings and feedback from MSD field personnel.
- Update the GIS sewershed layer as projects are completed to support SCAP implementation.
- Continue routine audits and QA/QC methods to ensure data accuracy.

# M-E-4 Sewer System Design

# FY23 Reporting Period

- · Reviewed and proposed revisions to the MSD Design Manual
- Continued to hold the Qualified Post-Construction Inspector (QPCI) training course, which includes a 4-hour training course and qualifying exam. All green infrastructure projects are required to submit an annual inspection by a QPCI to verify continued on-site stormwater management.
- Continued providing AutoCAD templates, including AutoCAD 3D templates, on the MSD public website, for
  use by private firms as well as in-house design.

- Continue to review and update the MSD Design Manual.
- Gather additional data on GMP implementation and update the MSD Design Manual as needed.
- Continue to administer training on the green infrastructure review and inspection process.



# **M-E-5 Sewer Construction**

# **M-E-6 Construction Inspection**

# FY23 Reporting Period

- Continued utilization of the design engineer as the engineer of record or resident project representative (RPR) on significant capital projects.
- Continued utilization of contract inspectors due to workloads.

# FY24 Reporting Period

- Continue acquisition of RPR services for significant capital projects.
- Review and update the Construction Inspector Field Handbook in accordance with updates to the MSD Standards Specifications, Drawings and Design Manual.
- Continue construction inspection activities in-house and continue to supplement with contract inspection as needed.

# **M-E-7 Acquisition Considerations**

# FY23 Reporting Period

- Financed capital expenditures of \$195,366,148.
- Committed professional services funds of \$28,291,797.68.
- Committed construction funds of \$266,267,136.35.

# FY24 Reporting Period

- Budget for capital expenditures up to \$255,310,000.
- Monitor expenditures related to professional services and construction.

# M-E-8 Continuing Sewer System Assessment

# FY23 Reporting Period

- Continued to perform acoustic inspections as a prescreening for gravity pipe under 15 inches in diameter before referral for CCTV inspection.
- Completed cleaning and inspection in the SSS, as shown in Table 4.4.

# FY24 Reporting Period

· Complete cleaning and inspection activities as scheduled in IPS.

**Table 4.4. Continuing Sewer System Assessment Activities** 

ACTIVITY	LINEAR FEET
CHEMICAL ROOT CONTROL	62,395
CLEANING ACTIVITIES	50,004
INSPECTION ACTIVITIES	1,851,147



# M-E-9 Infrastructure Rehabilitation

Refer to Section 2: Program Activities for Discharge Abatement Plans for more details on infrastructure rehabilitation projects identified in the IOAP. Refer to Section 7: Program Activities for Asset Management for rehabilitation projects not specifically identified in the IOAP.

# M-E-10 System Capacity Assurance Program

MSD's System Capacity Assurance Plan (SCAP) was approved February 5, 2015. A copy of the approved SCAP can be viewed on the MSD Project WIN website, **msdprojectwin.org**.

# FY23 Reporting Period

- Continued to collect formula-based defect inspection of sewer lines in various sewersheds across the county. This information is being used to prioritize cleaning and rehabilitation efforts that will remove inflow and infiltration from the system and create capacity credits.
- Tracked pump station capacities, reviewed drawdown testing results and identified action items pertaining to deficiencies. Critical results of this effort are being documented on each asset within the IPS system.
- Submitted credit catchment ledgers to the Kentucky Division of Water (KDOW) and EPA as part of 2ACD reports.
- Reviewed wastewater capacity requests from private development as shown in Table 4.5.

**Table 4.5. SCAP Wastewater Capacity Request Reviews** 

RESULT	REVIEWS	FLOW (GAL/DAY)
CONDITIONALLY APPROVED	531	13,837,869
APPROVED	26	6,741
DENIED	10	332,554

- Running SCAP Balance by sewershed can be found in Appendix M.
- · Generated inflow and infiltration reduction projects and calculated related capacity credits.

MSD continues to monitor capacity request reporting for opportunities to improve. Credit projects have begun to address the negative balance identified in Floyds Fork sewershed and modifications to the credit calculation tool are underway to allow for updated reporting.

- Continue to perform inspection of sewer lines in various sewersheds across the service area as scheduled.
   Continue tracking pump station capacities through testing, investigation and capacity evaluations.
- Update WQTC capacities and track new development flows.
- Continue to generate inflow and infiltration reduction projects and calculate related capacity credits.
- Continue to enhance credit calculation protocols and tracking in IPS.
- Continue to enhance the procedures for documentation of rehabilitation and the calculation of SCAP credits.
- Update SCAP areas based on pump station elimination projects that have been completed.



#### 4.1.1.6. Sanitary Sewer Overflow Reporting and Notification Program

This section describes MSD's SSO Reporting and Notification Program. The goal of this program is to maintain accurate, up to date records of SSOs and to ensure proper, timely notification of the agencies and organizations through unpermitted discharge reporting, SSO notification and tracking.

# M-F-1 Unauthorized Discharge Reporting

Refer to Section 1: Project Waterway Improvements Now (WIN) Performance Overview for detailed information.

# M-F-2 Sanitary Sewer Overflow Notification

# M-F-3 Tracking Sanitary Sewer Overflows

Refer to Section 5: Program Activities for Sewer Overflow Response Protocol for detailed information.

# 4.1.1.7. FINANCING AND COST ANALYSIS PROGRAM

This section describes MSD's Financing and Cost Analysis Program. The goal of this program is to provide a detailed cost analysis for both the capital and operational costs of MSD for use in future budgeting and decision making.

# M-G-1 Operations Cost

# M-G-2 Maintenance Cost

#### M-G-3 Capital Improvement Funding

#### M-G-4 Management Programs Cost

# M-G-5 Life Cycle Cost

# M-G-6 Budget and Customer Rate Setting

# FY23 Reporting Period

Budget performance is shown in Table 4.6. Reported amounts for the program are unaudited financial results.

# FY24 Reporting Period

• Set the operating budget at \$185,017,872 and the capital budget at \$255,310,000.

**Table 4.6. Financing and Cost Analysis Program Performance** 

PERFORMANCE MEASURE	BUDGET	ACTUAL
Operating Revenue Growth	9%	7%
Operating Revenue	\$378,706,015	\$392,025,991
Wastewater / Stormwater Revenue	\$374,242,019	\$385,162,739
Investment Income	\$11,526,000	\$19,117,892
Senior Debt Service Coverage Ratio	186%	208%
Total Operating Expenses	\$176,668,278	\$169,847,558
Total Capital Expenses	\$195,366,148	\$194,846,001



# 4.1.1.8. EQUIPMENT AND TOOLS MANAGEMENT AND MAINTENANCE PROGRAM

This section describes MSD's Equipment and Tools Management Programs. The goal of this program is to facilitate efficient repair and support of MSD's sewer systems through an accurate spare parts inventory, a timely equipment maintenance schedule, vehicle repair, and needed tools and supplies.

# M-H-1 Spare Parts Inventory Management

# M-H-2 Equipment and Tools Repair Management

# FY23 Reporting Period

- Attended regular safety inspections and meetings, and supported safety standards as part of participation in CMF and Morris Forman Safety Committees.
- Trained all employees in advanced safety of material handling and storeroom functionality.
- Continued annual audit of SOPs for tooling inspections and implement improved security measures for cost savings initiatives and asset management.
- Implemented an electronic UPS terminal for shipping at CMF and Morris Forman (This is an ongoing project). Worked with Morris Forman leadership to designate proper locations to place a pallet/floor digital scale and computer terminal. This allows the end user to directly set up ground, air, or overnight shipments on their own. This also helps MSD's UPS accounts continue without being delinquent.
- Developed a capital spare parts process with MSD Engineering and Operations Divisions. Procedures for this process have been drafted and are being evaluated.

# FY24 Reporting Period

- Continue participation on CMF and Morris Forman WQTC Safety Committees by attending regular safety inspections, safety meetings, and supporting safety standards.
- Continue training on safety related storeroom processes and inventory for all employees.
- Continue annual audit of SOP for tooling inspections and implement improved security measures for cost savings initiatives and asset management that aligned with departmental goals when necessary.
- Continue barcode scanning initiatives for inventory control.
- Continue to develop the capital spare parts process with MSD Engineering and Operations Divisions.

# M-H-3 Vehicle Repair

MSD's vehicle repair maintenance program addresses over 830 pieces of rolling stock, including automobiles, trucks, trailers, construction equipment (backhoes, mobile cranes, etc.), and specialty sewer maintenance equipment. 2ACD reports specifically address maintenance issues related to the grouping of Mission Critical Equipment (MCEs) that were identified as being essential to meeting commitments related to NMC and CMOM activities, including catch basin cleaners (mechanical clamshell type), high-pressure sewer flusher / jetter trucks, teleinspection vehicles, and combination vacuum sewer / catch basin cleaner trucks.

# FY23 Reporting Period

Monitored equipment and work order data using the AssetWorks Fleet Management Information System Reports to analyze and target areas where improvement is needed and to plan future replacements.



- Monitored preventive maintenance (PM) schedules to ensure they remain within industry standards, specifically addressing the operating environment of all MCE increasing the frequency of PM performed to improve availability to the operating division.
- Analyzed FY23 capital purchasing needs, including the evaluation of the following MCE for replacement:
  - Heavy Duty Vacuum Sewer / Catch Basin Cleaner Truck: Received four replacement units which were placed in service in October 2022.
  - Jetter / Flusher Truck: Received three replacement units which were placed in service in March 2023.
  - o Tele-Inspection Vehicles: Received two replacement units.
  - o Catch Basin Cleaner: One unit remains on order from the FY22 Capital Replacement Plan.
- Continued efforts associated with the One Water Initiative with Louisville Water Company (LWC) to capitalize on fleet services opportunities to realize cost savings while better serving our customers and increasing levels of service to the community. Remained in conversations with both MSD and LWC union leadership regarding opportunities to capitalize on shared resources.
- Monitored and reported availability and turnaround time of MCE and fleet targeting each equipment type's
  overall average goals. Metrics include measures for availability and shop turnaround time as shown in Table
  4.7.

**Table 4.7. Mission Critical Equipment and Fleet Performance Measures** 

PERFORMANCE MEASURE	GOAL	RESULT
MCE Availability	80%	92%
Fleet Availability	95%	97%

- Continue monitoring equipment and work order data using AssetWorks system reports to analyze and target areas where improvement is needed and to plan future replacements.
- Continue monitoring preventive maintenance (PM) schedules to ensure they remain within industry standards, specifically addressing the operating environment of all MCE increasing the frequency of PM performed to improve availability to the Operations Division.
- Analyze FY24 capital purchasing needs, including the evaluation of all MCE for replacement.
  - Heavy Duty Vacuum Sewer / Catch Basin Cleaner Truck: Upon contract award, order and place in service one new unit to replace aging equipment and improve availability. Coordinate operator and fleet technician training upon receipt.
  - Tele-Inspection Vehicles: Place two replacement units in service in July 2023.
- Continue to explore One Water Initiatives with LWC to capitalize on fleet services opportunities to realize
  cost savings while better serving our customers and increasing levels of service to the community.
- Continue monitoring and reporting availability and turnaround time of MCE targeting each equipment type's overall average goals.



# M-H-4 Supplies Management

# FY23 Reporting Period

- Continued weekly meetings with departments for improved customer service, inventory management of critical spare parts, reorganization of new storeroom locations, and PPE/safety upgrades.
- Reviewed current SOPs to verify compatibility with current organizational direction. Updated SOPs for quality improvements and determined best practices to improve operations through continuous training of Storeroom applications.
- Participated in Annual Organizational events (i.e. River Sweep); helping trace the life, valuation and spend
  of assets for proper & transparent auditing purposes.
- Continued asset management processes to replace identified spare parts from Morris Forman WQTC flood events.
- Continued Bar-Code Scanning initiatives for inventory control.
- · Continued updating inventory descriptions and relocating like parts.

# FY24 Reporting Period

- Continue to update SOPs for quality improvements and determine best practices to improve operations, utilizing "Back to Basics" guidelines.
- Continue to resubmit selected Material Master Forms for reprocessing to reconcile vendor's Unit of Measure with storeroom's Unit of Issue, in order to improve inventory and ordering processes.
- Complete upgrade security of Cedar Creek Storeroom with camera surveillance.
- Continue improvements to Material Master Form.
- Continue to implement plan to reorganize CMF North Warehouse.
- Continue barcode scanning initiatives for inventory control.
- Continue to update inventory descriptions and relocate like parts. Explore possible layout plans to include, but not limited to; climate controls for ESD's, security, RFID technologies, and storing 'like-spares" that belong to specific fixed assets together.
- Continue cycle counts after each morning rush and before system processing.
- Continue storeroom follow-up program to ensure accountability of vendors and visibility of incoming assets.
- · Continue "Back to Basics" training for goal setting and incorporate focus commodities for team members

# 4.1.1.9. CUSTOMER SERVICE PROGRAMS

This section describes MSD's Customer Service Programs. The goal of this program is to strengthen and maintain a healthy relationship between MSD and the public through service programs which include complaint management, public information and public education.



# **M-I-1 Customer Service**

# **M-I-2 Public Information**

# M-I-3 Public Education

# FY23 Reporting Period

- Mailed out 235 Project WIN and Plumbing Modification Program packets of information or applications.
- Continued usage of a customer service portal for customers to submit service requests online, eservice.
   louisvillemsd.org. Accepted 321 service requests online.
- Table 4.8 illustrates the number of calls accepted and answered by our Customer Relations Specialists. The
  monthly average number of calls accepted and answered for FY23 was 43,365 and 42,138 respectively.
- Filled 2 vacant agent positions.

**Table 4.8. Customer Service Call Data** 

PERFORMANCE MEASURE	GOAL MAXIMUM	RESULT
Calls Received		43,365
Calls Abandoned		1,227
Abandoned Call Rate	5%	3%

# FY24 Reporting Period

- · Continue efforts to keep the number of abandoned calls below target level.
- Continue recruitment efforts to fill vacant Customer Relations positions to better serve customer needs.
- Continue to improve the functionality of the portal for service request submission and routing.

#### 4.1.1.10. LEGAL SUPPORT PROGRAMS

The following support programs are included in this section: inter-jurisdictional agreement, ordinances, pretreatment legal support, grease control legal support, service laterals legal support, septic tank haulers legal support, and "Call Before You Dig" legal support.

# M-J-1 Inter-Jurisdictional Agreement

M-J-2 Ordinances

**M-J-3 Pretreatment** 

M-J-4 Grease Control

M-J-5 Service Laterals

M-J-6 Septic Tank Haulers Legal Support

M-J-7 "Call Before You Dig"

# FY23 Reporting Period

Over the past fiscal year, the MSD legal department has provided a variety of legal services designed to support MSD in its efforts to implement programs to abate sanitary sewer overflows. The services most directly related to this effort include:



- Participated in and/or provided legal advice and other functions pertaining to the procurement of construction and professional service contractors to provide services and/or perform work in furtherance of IOAP -related projects.
- Participated in the acquisition of properties and/or property interests (easements and/or fee simple owner-ship) critical to the completion of IOAP-related sewer construction projects. The department's participation has included assisting in the negotiation and structuring of purchase and sale agreements, drafting acquisition related documents, drafting easements, title research, and performing or providing oversight of the closing of acquisition transactions, as well as initiating legal proceedings to acquire property through eminent domain.
- Provided support and assistance to the Development & Stormwater Services department in the negotiation and preparation of green infrastructure and long-term maintenance agreements.
- Provided support, assistance and counsel to regulatory programs and enforcement actions brought under the Wastewater Stormwater Discharge Regulations, Hazardous Materials Ordinance, and Erosion Prevention and Sediment Control Ordinance.

# FY24 Reporting Period

Continue to provide legal services to support MSD.

# 4.1.1.11. WATER QUALITY MONITORING PROGRAMS

This section describes MSD's Water Quality Monitoring Program. The goal of this program is to maintain an accurate, consistent record of water quality in receiving bodies of water. Monitoring results are used to determine the effect of effluent discharge and/or spills through the following monitoring programs: routine water quality, investigative water quality, and water quality monitoring for spill impact. Water Quality monitoring data is also assessed and provided in the Water Quality Synthesis Report.

# M-K-1 Routine Water Quality Monitoring Programs

# M-K-2 Investigative Water Quality Monitoring

#### M-K-3 Water Quality Monitoring for Spill Impact

MSD has aggressively pursued a watershed management approach that relies heavily on an established water quality monitoring program. The program has an extensive in-stream monitoring effort for tributary streams and for emergency spill responses, including:

- Ambient monitoring at 28 Long Term Monitoring Network (LTMN) locations across Jefferson County to monitor multiple physical and biological indicator parameters in accordance with the MS4 permit. One of the sites is currently out of service. MSD is currently working on a project to relocate the site to a more suitable location.
  - Continuous monitoring for pH, conductivity, temperature, dissolved oxygen, and stream flow are collected at 27 of the 28 ambient locations. Two locations, Lexington Road and Brown Park, also continuously collect turbidity.
  - Biological sampling and/or evaluation for algae, fish, habitat, and benthic macroinvertebrates are currently conducted every two years at 27 of the 28 ambient locations.
  - Quarterly sampling for Total Suspended Solids (TSS), E. coli, total nitrogen, oil and grease, copper, and pH is currently conducted on a quarterly basis at 27 of the 28 ambient locations.
  - Recreational contact monitoring is conducted seasonally from May through October is currently conducted at 27 of the 28 ambient monitoring sites for E. coli.



- Wet weather monitoring is conducted over the course of the MS4 permit term for three storm events at 27 of the 28 ambient locations and an additional 15 locations.
- Combined Sewer Overflows (CSOs)/Significant Industrial Users (SIUs) point sampling monitors the risk of water quality impairment to discharges associated with SIUs and General Discharge Permits through the NMC 3 Pretreatment Program.
- CSO flow monitoring measures flow within the combined sewer system to provide improved data input into water quality models.

Additional information on these programs is provided in Section 2.5.3. Stream Flow and Water Quality Monitoring.

# 4.1.1.12. CONTINGENCY PLAN FOR SEWER AND TREATMENT PLANT

This section describes MSD's Contingency Plan for the wastewater collection and treatment system. The goal of this program is to provide a protocol for emergency response and notification. The following elements are included in this section: contingency planning process, response flow diagram, public notification plan, agency notification plan, emergency flow control plan, emergency operations and maintenance plan, preparedness training program, water quality monitoring plan, and Sewer Overflow Response Protocol (SORP). The SORP requires training for all MSD employees.

# M-L-1 Contingency Planning Process

# M-L-2 Response Flow Diagram

# FY23 Reporting Period

- Continued efforts to improve disaster response protocols.
- Practiced annual floodwall closure installations.
- Practiced annual levee inspections.
- Continued collaboration with the Kentucky Transportation Cabinet, University of Louisville, and Louisville Metro Government to develop a pilot project to install flood sensors in viaducts to alert when flooding is occurring.
- Initiated collaboration with the Louisville & Southern Indiana Area Maritime Security Committee (AMSC) to engage with area emergency response members.
- Performed a Critical Asset Risk Management Pilot Study at 5 MSD facilities to evaluate threats, risk, and assess resiliency practices.
- · Continued efforts to update the Business Continuity Plan in alignment with organizational role changes.
- Continued updates to the Incident Management Team structure.

- Continue to practice annual floodwall closure installations.
- Continue to practice annual levee inspections.
- Continue development of the Critical Asset Risk Management tool.
- Continue revision of Business Continuity Plan using the critical path.
- Continue to work with other agencies to develop a Catastrophic Urban Flood Plan.



Add redundant communication paths to provide improved network resiliency for key sites.

# M-L-3 Public Notification Plan

# M-L-4 Agency Notification Plan

Refer to Section 5: Program Activities for Sewer Overflow Response Protocol for more details on public and agency notifications.

# M-L-5 Emergency Flow Control Plan

# M-L-6 Emergency Operations and Maintenance Plan

MSD continues to improve and enhance the comprehensive disaster response and business continuity plan.

# FY23 Reporting Period

 Continued development of a catastrophic urban flood plan in conjunction with the Department of Homeland Security, US Army Corps of Engineers, Kentucky Emergency Management, Louisville Emergency Management Agency and other partners.

# FY24 Reporting Period

- Continue development of a catastrophic urban flood plan.
- Continue development of operational emergency response SOPs
- · Perform revision of the Unexpected Events Communication Plan.

# M-L-7 Preparedness Training

Refer to 4.1.1.2. Training Programs for details on training for emergency response procedures.

# M-L-8 Water Quality Monitoring Plan

Refer to 2.5. Post-Construction Compliance Monitoring (PCCM) and 4.1.1.11. Water Quality Monitoring Programs for more details on the MSD Water Quality Monitoring Plan.

#### M-L-9 Sewer Overflow Response Protocol

Refer to Section 5: Program Activities for Sewer Overflow Response Protocol for details on MSD's SORP program.

#### 4.1.2. OPERATIONS PROGRAMS

# 4.1.2.1. Pump Station Operations Programs

This section describes MSD's Pump Station Operation Programs. The goal of this program is to maintain pump stations for optimal use during routine and emergency operations through well documented operating procedures.

# O-A-1 Routine Operating Programs

# FY23 Reporting Period

Continued review and updates, as needed, of the U.S. Army Corps of Engineers (USACE) Flood Operations
and Maintenance Manual based on USACE and staff review comments. The manual is continuously under
review as MSD completes both LTCP and NMC programmatic activities.



- Determined capital project priorities and the budgetary needs related to flood protection system pump stations during regular meetings with MSD Operations and Engineering staff.
- Continued Operations staff training for pump stations and diversion structures at newly constructed CSO storage basins.
- Replaced 21 sanitary pumps in the collections system. Repaired or rehabilitated an additional 60 pumps throughout the collections system.
- Continued Telemetry panel replacements at pump stations with new systems being procured, received, and installed at several stations within the collections system.
- · Installed new modernized Control and Telemetry panels along with 4 new pumps at Muddy Fork PS.
- Installed a new Telemetry panel at Hazelwood PS.
- Installed a new Control panel and motor starter at Jefferson Hill PS.
- · Installed a replacement grinder at Goose Creek PS.

# FY24 Reporting Period

- Continue regular meetings with MSD Operations and Engineering staff to determine capital project priorities and advise on the budgetary needs on a quarterly basis.
- Continue Operations staff training for pump stations and diversion structures at newly constructed CSO storage basins.
- Continue reviewing pump stations for the installation of level sensors in support of improved monitoring capability.
- Continue to provide backup power at critical pump stations.
- Continue telemetry panel replacement projects for pump stations with outdated processors, at risk of submergence, or with multiple PLC or communications failures.
- Install 9 replacement sanitary pumps for the collections system.
- Install modernized Control panels at multiple pump stations as needed.
- Procure a replacement spare grinder for Eastwood/Fisherville PS.
- Begin procurement for a project at Treeline PS to replace a generator that has experienced catastrophic failure and replace ATS and Control panel with modernized equipment.

# O-A-2 Emergency Operating Programs

# FY23 Reporting Period

- Reviewed and updated procedures for installation and hand off of backup power supply and mobile generator staging and operation.
- Procured 10 portable generators to replace aging equipment.
- Completed Bluegrass Fields PS upgrade including installation of backup generator.

- Continue to evaluate pump stations for inclusion in the Green Line program.
- Install a standby generator and ATS at Preston Village PS.



#### 4.1.2.2. PRETREATMENT PROGRAM

This section describes MSD's Pretreatment Programs. The goal of this program is to protect MSD's sewer system and treatment plants by requiring industrial users to pretreat their effluent to required levels through industrial user permitting, inspection, sampling and enforcement.

#### **O-B-1 Industrial User Permit**

# O-B-2 Inspection

# O-B-3 Sampling Enforcement

Administered pretreatment limitations at Hite Creek, Floyds Fork, Derek R. Guthrie and Morris Forman WQTCs. Additional information related to the MSD Pretreatment Program for the combined sewer system can be found in Section 3.3. NMC 3: Review and Modification of Pretreatment Requirements.

# FY23 Reporting Period

- Continue to administer the Dental Amalgam Program (DAP) for MSD service areas and identify new dental office(s) that can submit a one-time compliance dental amalgam report.
- Submitted EPA approved ERP changes to MSD board and received approval for ERP changes.
- · Implemented Unusual Discharge Request fees.

# FY24 Reporting Period

- Continue to administer the DAP for MSD service areas and identify new dental office(s) that can submit a one-time compliance dental amalgam report.
- Await approval of EPA's Cross-Media Electronic Reporting Rule to utilize third-party software and allow online submission of self-monitoring report data from permitted industries.
- · Develop and implement a PFAS Road Map Development.

# 4.1.2.3. CORROSION CONTROLS PROGRAM

This section describes MSD's Corrosion Controls Program. The goal of this program is to extend the life of MSD's sewer system by controlling the corrosive effects of hydrogen sulfide (H2S) and other corrosive chemicals in the system through inspection, control measures, monitoring, and performance measures.

# **O-C-1 Inspection**

# **O-C-2 Control Measures**

# O-C-3 Monitoring

# O-C-4 Performance Measures

Hydrogen sulfide is a serious problem for the structural integrity of the collection system, as well as a nuisance to the public due to odor. In most instances, it is possible to mitigate odor complaints without addressing corrosion concerns.

# FY23 Reporting Period

 Continued to clean MSD facilities to minimize impact of corrosion and odors. Completed 155 cleaning work orders on the collection system.



- Continued to enhance asset review and documentation by further defining service request responsibilities related to odor complaints.
- Continued contracting with professional engineering services to assist MSD with odor control for the collection system, regional WQTCs, and Ohio River Force Main (ORFM).
- Continued to monitor and evaluate gravity lines within the collections system through the CSSA/Blockage Abatement Program using the corrosion indexes.
- Continued to have monthly meetings with Evoqua to review their level of service and make adjustments to the Calcium Nitrate feeds system and make repairs, as necessary.
- Replaced 5 ARV's on the ORFM and 6 ARV's on the Pope Lick Force Main.
- Inspected and rehabilitated 140 ARV's in the Collection System.
- Replaced carbon media for vapor phase odor control at the Eastwood/Fisherville PS.
- Added a vapor link monitoring unit to the Mt. Washington Road Force Main to create efficiency of the Calcium Nitrate feed system at the Mt. Washington PS.
- Installed an odor control feed line to the influent splitter box at North Beckley PS. By installing the feed line to the influent splitter box instead of the wet wells, chemical distribution of Calcium Nitrate has greatly improved at the pump station.

- Continue to clean MSD facilities to minimize impact of odors and corrosion caused by H<sub>2</sub>S on the collection system and to allow level control devices to function properly.
- Create further training and documentation on maintenance activities and work flow for better tracking of work performed and time and materials used.
- Monitor and evaluate gravity lines within the collections system through the CSSA/Blockage Abatement Program.
- Continue to monitor Evoqua's Full Service Odor Control Contract. Partner with Webster Environmental to streamline and improve the Odor Control program.
- Continue review of underground tank pump station sites, which may be susceptible to corrosion. Projects include application of epoxy coatings as for corrosion control and calcium nitrate as for H<sub>2</sub>S elimination.
- Design and construct air release valve replacement using non-corrosive materials on the Goose Creek and West Goose Creek force mains. 10 ARV's have been identified to be replaced during the FY24 reporting period.



#### 4.1.2.4. Grease Trap Inspection and Enforcement Program

This section describes MSD's Grease Trap Inspection and Enforcement Programs. The goal of this program is to reduce the amount of fats, oils and grease (FOG) that enter MSD's sewer system and treatment plants through permitting, inspection, enforcement, performance measures, and the FOG program.

**O-D-1 Permitting** 

O-D-2 Inspection

O-D-3 Enforcement

**O-D-4 Performance Measures** 

O-D-5 Fats, Oils and Grease Program

# FY23 Reporting Period

- Issued 857 enforcement actions to include FCNs, NOVs and CNs to food service establishments (FSEs)
  requiring action(s) to prevent and/or eliminate grease blockages in MSD's collections system. The enforcement actions required FSEs to install and/or modify and service grease control equipment, with additional
  requirements to submit documentation of installations, service and/or modifications.
- Conducted 120 Plan Review Final Release inspections to ensure proper grease control equipment was installed at new and/or modified FSEs.
- Mailed 380 FOG residential public service notifications. The public service outreach informed residents of a
  recent sanitary sewer blockage occurrence near their home, as well as measures that could be taken within
  a residential dwelling to prevent any further occurrences.
- Conducted five Certified Grease Waste Hauler (CGWH) training classes for haulers servicing grease control equipment within Jefferson County. Grease haulers from various MSD Certified Grease Waste Hauler facilities participated and received certification cards collectively. Classes were held on November 3, 2022; December 1, 2022; January 25, 2023; April 12, 2023; and May 16, 2023. CGWHs as well as master and journeyman plumbers that service or repair grease traps or grease interceptors within MSD's service area are required to participate and receive approval to service grease control equipment. FSEs in MSD's service area must only utilize MSD's CGWHs or plumbers that have obtained the appropriate certification.
- Continued to track FOG removal by CGWHs. Collectively, 3.04 gallons of FOG was removed from grease control equipment maintained by area FSEs during the reporting period. Collectively, CGWHs in Jefferson County serviced approximately 5,392 items of grease control equipment.
- Continued to track FOG program performance measures.
- Completed a comprehensive FOG Program Assessment Report that identified program areas for improvements and enhancements. The recommendations from this report will be used to develop initiatives. A comprehensive FOG Program Guidance Document was developed to define the scope of program initiatives, proper documents, policies and procedures.

- Continue to conduct inspections at FSEs and issue enforcement actions as appropriate for violations of the MSD Wastewater/Stormwater Discharge Regulations.
- Continue to send FOG residential public outreach letters to residents in neighborhoods in the MSD service area that had FOG issues.



- Participate in public education and outreach programs to inform the public regarding MSD's FOG program.
- · Continue to host at least two CGWH training classes per year.
- Continue to track FOG program performance measures and develop reporting tools.
- Develop a framework for periodic performance of a FOG Characterization Study.
- Continue work with consultant to develop interface between IPS and LINKO for reporting and portal access.
- Develop initiatives based on recommendations from the comprehensive FOG Program Assessment Report.

#### 4.1.2.5. New Connection Tap-In Program

This section describes MSD's New Connection Tap-In Program. The goal of this program is to ensure that future connections do not compromise the capacity of the receiving treatment plant. The program is implemented using a new service tap approval process, inspection, enforcement, and performance measures for new connections to existing sewers and increased flow on existing service connections. All new service connections are installed by contractors that have a master plumber on staff. New connections made to public sanitary sewers are inspected by MSD personnel.

All new and changes to wastewater discharge volumes are reviewed through MSD's SCAP process. Developers are required to submit proposed flows to MSD's system and those flows are traced through MSD's infrastructure to identify lack of system capacity. Where capacity in the system exists, capacity requests are approved for 90 days. Where capacity does not exist, upgrades to infrastructure are undertaken or the capacity request is not approved.

#### O-E-1 Installation of New Service Taps

**O-E-2 Inspection** 

O-E-3 Enforcement

# **O-E-4 Performance Measures**

# O-E-5 Other

# FY23 Reporting Period

- Refer to Table 4.5 for details regarding new flow approved through the SCAP process.
- Inspected installation of 86 new property service connections (PSCs) on existing MSD's sewers.

# FY24 Reporting Period

- Continue to review projects for capacity available through SCAP program.
- Implement new property service connection workflow in IPS.

# 4.1.2.6. FLOW MONITORING FIELD OPERATION PROGRAMS

This section describes MSD's Flow Monitoring Field Operation Programs. The goal of this program is to provide accurate flow data for use in evaluating various aspects of MSD's sewer system. Flow is monitored at both permanent and temporary stations.

# **O-F-1 Permanent Stations**

# O-F-2 Temporary Stations

Refer to Section 2.5.3. Stream Flow and Water Quality Monitoring for details on water quality monitoring efforts.



# 4.1.2.7. SEPTIC TANK HAULERS PROGRAM

MSD does not accept septic tank waste. This is handled through private contractors in Jefferson County.

# 4.1.2.8. "CALL BEFORE YOU DIG" PROGRAM

This section describes MSD's "Call Before You Dig" Program. The goal of this program is to prevent the damaging or cutting of sewer lines and other MSD assets and subsequent spills through permitting, inspection, enforcement, and performance measures.

# **O-H-1 Permitting**

# **O-H-2 Inspection**

# O-H-4 Performance Measures

# FY23 Reporting Period

- Contracted with a locating company to locate all requests with the MSD service area. The contract is set up to handle Louisville Water Company (LWC) requests as well (invoiced separately). Invoices totaled \$1,017,518.95 for 101,457 locate requests to identify MSD facilities during the reporting period.
- Contracted with the KY 811 (BUD Center) for underground utility information call center services. Invoices totaled \$153,396.00 to participate in this program for the reporting period.
- Sent 102,264 requests to the BUD Center for the marking of other utilities during this reporting period.

#### FY24 Reporting Period

Continue to contract for utility locating services.

# **O-H-3 Enforcement**

Enforcement is handled by the Commonwealth of Kentucky.

#### 4.1.3. MAINTENANCE PROGRAMS

# 4.1.3.1. Pump Station Preventive Maintenance

This section describes MSD's Pump Station Structured Maintenance program. The goal of this program is to prevent unanticipated repairs and subsequent down-time by providing scheduling, staff, and records to perform routine, preventive pump station maintenance. Electrical, mechanical, and physical maintenance are included in this section.

# S-A-1 Electrical Maintenance

# S-A-2 Mechanical Maintenance

#### S-A-3 Physical Maintenance

- Continued to annually train staff to use the IPS asset management system to track pump station work orders as well as associated pump station assets.
- Ensured collaboration between Engineering and Operations on the design and construction of pump stations at CSO storage basins and diversion structures.
- Continued structured maintenance for sanitary pump stations as shown in Table 4.9. This measure also
  includes structured maintenance at flood pump stations in the CSS.



Table 4.9. Sanitary PS Structured Maintenance

PERFORMANCE MEASURE	GOAL	RESULT
Sanitary PS Structured Maintenance Completion Rate	78.0%	96.4%

## FY24 Reporting Period

- Continue structured maintenance for sanitary and flood pump stations.
- Continue to annually train staff to use the IPS asset management system to track pump station work orders as well as associated pump station assets.
- Continue collaboration between Operations and Engineering staff, designers and contractors to incorporate
  changes to the system with the elimination of the non-regional WQTCs and the addition of storage basins
  and associated pump stations as required by the IOAP.
- · Continue to develop and improve SOPs, training, and reporting related to subsequent repairs.

#### 4.1.3.2. FORCE MAIN PREVENTIVE MAINTENANCE

This section describes MSD's Force Main Preventive Maintenance program. The goal of this program is to prevent unanticipated repairs and subsequent down-time by providing scheduling, staff, and records to perform routine, preventive force main maintenance. The maintenance programs include walking the force main alignment to find cave-ins and air relief valve inspections.

#### S-B-1 Air Release Valves

#### S-B-2 Valve Exercise Program

#### FY23 Reporting Period

- Conducted the Annual Force Main Program evaluation and completed inspections on force mains listed in Table 4.10, covering 301,014 linear feet. Each inspection consisted of inspecting wet wells, valve vaults, air release valves, and discharge manholes; pumping out access vaults to lube, grease and exercise cross-connections; and observing the ground above the lines for evidence of pipe failure below ground.
- Continued to initiate corrective work orders for defects found on other assets during inspections.

#### FY24 Reporting Period

- Conduct the Annual Force Main Program evaluation.
- Continue to initiate corrective work orders for defects found on other assets during inspections.

#### 4.1.3.3. GRAVITY LINE PREVENTIVE MAINTENANCE

This section describes MSD's Gravity Line Preventive Maintenance program. The goal of this program is to reduce infiltration and increase efficiency of the gravity line system through routine cleaning, root control, and manhole preventive maintenance.

## S-C-1 Routine Hydraulic Cleaning

#### S-C-2 Routine Mechanical Cleaning

## S-C-3 Root Control Program

#### S-C-4 Manhole Preventive Maintenance

Refer to 4.1.1.5. Engineering Programs for details on gravity line preventive maintenance efforts.

Table 4.10. Force Main Inspections

FORCE MAIN	INSPECTED LENGTH (FT)
ADAMS RUN #1 FM	3,877
APPLE PATCH FM	1,942
ARBOR MANOR FM	4,174
ASHBURTON FM	438
BARDSTOWN ROAD FM	2,532
BAY HARBOR FM	3,810
BECKLEY STATION FM	7,291
BERRYTOWN FM	466
BLUEGRASS FIELDS FM	1,503
BRANDYWYNE FM	575
BRIDGE POINTE FM	4,007
CINDERELLA FM	2,964
COVERED COVE FM	3,683
CROSSGATE FM	450
DENBEIGH FM	416
DOMINION WAY FM	2,346
EASTWOOD-FISHERVILLE FM	12,089
EDITH AVENUE FM	13,469
FAIRMOUNT ROAD FM	5,281
FAIRWAY VIEW FM	4,964
FARMVIEW PLAZA FM	918
GRAND AVENUE FM	26,967
GUNPOWDER FM	3,476
HARRODS CREEK FM	27,370
INDUSTRIAL FM	1,741
JARVIS LANE FM	304
LAKE FOREST FM	1,428
ORFM	81,484
ROSA TERRACE FM	1,521
RUBBERTOWN FM	9,485
ST. PATRICK SCHOOL FM	404
WEST COUNTY SLUDGE MAIN	69,331
WORTHING FM	308

## 4.1.3.4. EQUIPMENT AND COLLECTIONS SYSTEM MAINTENANCE

## S-D-1 Equipment Maintenance

Equipment and vehicle maintenance is discussed in detail in 4.1.1.8. Equipment and Tools Management and Maintenance Program.



# 4.2. Comprehensive Performance Evaluations and Composite Correction Plans (CPE/CCP)

Under the 2ACD, MSD implemented a Comprehensive Performance Evaluation (CPE) and Composite Correction Plan (CCP) program for MSD's Water Quality Treatment Centers (WQTCs). Per Paragraphs 12 and 13 of the 2ACD, MSD timely submitted all program submittals and eliminated required WQTCs by December 31, 2015, as required. Although the ACD CPE/CCP improvements are completed, MSD will continue to implement CPE/CCP activities as part of the MSD's CMOM program. This section will list performance measures established for the WQTCs and activities per WQTC as they occur each reporting period. Schedules for CPE/CCP related capital projects are provided in 4.3. CMOM Activity Schedule.

#### 4.2.1. ALL WATER QUALITY TREATMENT CENTERS

MSDs policy is to operate WQTCs in full compliance with the permitted effluent water quality standards. However, circumstances sometimes arise that may cause WQTCs to exceed the permitted effluent limits. This reality is recognized by the National Association of Clean Water Agencies (NACWA), which gives awards at different levels based on the number of effluent parameter exceedances during the calendar year:

- · Silver Five or fewer exceedances per year
- Gold Zero exceedances per year
- Platinum Zero exceedances per year for five years

Based on past operating history, MSD has established the target for all treatment centers of receiving at least the NACWA Silver Award.

## FY23 Reporting Period

 Continued structured maintenance for WQTCs as shown in Table 4.11. Additional emphasis and planning have been conducted to improve performance.

Table 4.11. WQTC Structured Maintenance

PERFORMANCE MEASURE	GOAL	RESULT
WQTC Structured Maintenance Completion Rate	78%	77%

 All four operational regional WQTCs have achieved the NACWA Silver Award goal since FY18. Cedar Creek WQTC has maintained NACWA Platinum Award status since FY09 as shown in Table 4.12.

#### FY24 Reporting Period

- Continue to track exceedances at the regional WQTCs.
- Continue structured maintenance for all WQTCs and refine program metrics including interim targets to ensure continued performance and attainment of the goal. This performance goal target will be increased in FY24.

# 4.2.2. HITE CREEK WATER QUALITY TREATMENT CENTER

#### FY23 Reporting Period

Completed construction of the expansion project to 9.0 MGD average daily flow.

#### FY24 Reporting Period

Design will be initiated for a new Sludge Screening Facility.

Table 4.12. Regional WQTC Permit Compliance

PLANT NAME	FY	EXCEEDANCES	MONTHS COMPLIANT
CEDAR CREEK	FY18	0	12
CEDAR CREEK	FY19	0	12
CEDAR CREEK	FY20	0	12
CEDAR CREEK	FY21	0	12
CEDAR CREEK	FY22	0	12
CEDAR CREEK	FY23	0	12
DEREK R. GUTHRIE	FY18	3	10
DEREK R. GUTHRIE	FY19	2	10
DEREK R. GUTHRIE	FY20	0	12
DEREK R. GUTHRIE	FY21	0	12
DEREK R. GUTHRIE	FY22	2	10
DEREK R. GUTHRIE	FY23	0	12
FLOYDS FORK	FY18	2	11
FLOYDS FORK	FY19	0	12
FLOYDS FORK	FY20	0	12
FLOYDS FORK	FY21	1	11
FLOYDS FORK	FY22	0	12
FLOYDS FORK	FY23	0	12
HITE CREEK	FY18	1	11
HITE CREEK	FY19	0	12
HITE CREEK	FY20	0	12
HITE CREEK	FY21	3	11
HITE CREEK	FY22	0	12
HITE CREEK	FY23	0	12

## 4.2.3. FLOYDS FORK WATER QUALITY TREATMENT CENTER

#### FY23 Reporting Period

· Design was completed and construction begun for the Tertiary Filter Building Roof replacement.

# FY24 Reporting Period

- Complete Tertiary Building Roof replacement.
- Design will be initiated for improvements to add automatic decanting to the sludge storage tanks.
- · Design will be initiated for improvements to the Sodium Aluminate system.
- Design will be initiated for replacement and addition of VFDs to the influent pump station.

# 4.2.4. DEREK R. GUTHRIE WATER QUALITY TREATMENT CENTER

# FY23 Reporting Period

Completed design for improvements to Clarifiers 4-6.



- Construction was initiated for roof repairs to several buildings.
- Began construction of RAS Pumps 2&3 Replacement.
- Began construction for Wet Weather Pump Station WWSB HVAC Improvements.
- · Began construction for a new Sodium Bisulfite Building.

#### FY24 Reporting Period

- Construction will be completed for the Lab Upgrade.
- · Construction will be completed for repair of concrete entrance/exit pads to the solids dewatering facility.
- Continue construction for RAS Pumps 2&3 Replacement.
- Continue construction for Wet Weather Pump Station WWSB HVAC Improvements.
- Continue construction for a new Sodium Bisulfite Building.
- Construction of improvements to Clarifiers 4 6 will begin.

#### 4.2.5. CEDAR CREEK WATER QUALITY TREATMENT CENTER

#### FY23 Reporting Period

- Construction was initiated for new decanters, tank covers, and odor control for the Solids Holding Tanks.
- Construction was initiated for roof repairs to several buildings.
- Design was completed for replacement of the tertiary filters.
- Design was initiated for a new administration building.
- · Began design for a new Solids Screening and Dewatering Facility.

#### FY24 Reporting Period

- Construction will be completed to install new decanters, tank covers, and odor control for the Solids Holding Tanks.
- Construction is underway to install improvements to for re-rating of the plant capacity to 9.0 MGD.
- Construction of several building roof replacements will be completed.
- Construction will begin for replacement of the tertiary filter system to replace sand filters with cloth filters.
- Design will be completed for a new administration building.
- Continue design for a new Solids Screening and Dewatering Facility.
- Design will begin for UV Disinfection System Improvements.

# 4.3. CMOM ACTIVITY SCHEDULE

A Gantt chart including progress of CMOM projects during the reporting period can be found in Figure 4.1

Additional emergency projects may be classified as CMOM. Following a thorough review of individual categorizations appropriate projects will be included in the FY23 Mid-Year Status Report.



Jan Feb Mar Apr May Jun Qtr 2, 2023 Qtr 1, 2023 Oct Nov Dec Qtr 4, 2022 Sep And Qtr 3, 2022 Wed 10/2/30 Mon 10/31/22 Mon 10/31/22 Mon 10/31/22 Tue 11/15/22 Sun 11/13/22 Tue 10/31/23 Tue 10/31/23 Tue 11/15/22 Thu 11/16/23 Sun 10/20/24 Tue 10/24/23 Mon 5/15/23 Thu 5/25/23 Sat 11/19/22 Thu 5/25/23 Thu 5/25/23 Thu 9/29/22 Thu 5/25/23 Tue 5/30/23 Thu 5/25/23 Sat 10/1/22 Mon 7/3/23 Fri 12/1/23 Sat 9/30/23 Fri 6/30/23 Fri 6/30/23 Fri 6/30/23 Fri 6/30/23 Fri 6/30/23 Fri 9/1/23 Fri 9/1/23 Finish Mon 10/31/22 Mon 11/14/22 Mon 11/14/22 Page 1 Mon 8/3/09 Sun 11/13/22 Mon 12/2/19 Wed 5/31/23 Mon 5/15/23 Wed 5/25/22 Thu 9/29/22 Mon 5/1/23 Mon 5/1/23 Thu 5/25/23 Mon 8/3/09 Thu 4/28/22 Sat 10/1/22 Wed 9/1/21 Thu 7/1/21 Fri 6/30/23 Tue 5/2/23 Thu 6/1/23 Thu 6/1/23 Thu 7/1/21 Thu 7/1/21 Wed 9/1/21 Fri 7/1/22 Fri 4/8/22 Fri 7/1/22 Fri 7/1/22 Fri 5/6/22 Fri 7/1/22 Fri 7/1/22 Project Progress Start % Complete 100% 64% 92% 47% 41% 46% %68 %68 87% %0 I&I Rehabilitation and PSC Program Support Concrete Repairs at DRG Dewatering Bldg Supplemental Engineering Staff Support **Cedar Forest PS Elimination Excess Cost** Gorham Way Pump Station Elimination **MSD CMOM Commitments Schedule** CMOM Project Harrods Creek Force Main Repair INITIATION & PROCUREMENT **Lower Floyds Fork Facilities Plan** INITIATION & PROCUREMENT INITIATION & PROCUREMENT INITIATION & PROCUREMENT INITIATION & PROCUREMENT Ohio River Area Facilities Plan Project Management Services Percent complete is calculated based on phase duration FY23 Construction Inspection PS Action Plan Evaluation CASHFLOW START SERVICE PERIOD SERVICE PERIOD SERVICE PERIOD SERVICE PERIOD SERVICE PERIOD SERVICE PERIOD CLOSEOUT CLOSEOUT CLOSEOUT CLOSEOUT CLOSEOUT CLOSEOUT CLOSEOUT DESIGN Task Name Data Date: 07/28/23 Budget ID A23070 A23070 A23070 A20280 A22205 A22205 A19122 A20280 A23141 A23141 222029 414129 14129 119122 419122 419122 **A22195 A22195** A22195 **A22205** 423070 123141 423211 123211 123219 123219 123219 23219 22028 222028 222029



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Apr May Jun Qtr 2, 2023 Jan Feb Mar Qtr 1, 2023 Otr 3, 2022 | Otr 4, 2022 Jul | Aug | Sep | Oct | Nov | Dec Wed 5/31/23 Thu 12/22/22 Mon 2/20/23 Wed 1/22/25 Mon 2/20/23 Mon 8/14/23 Wed 2/19/25 Tue 11/21/23 Wed 8/30/23 Wed 2/15/23 Wed 8/30/23 Thu 4/27/23 Thu 2/19/26 Fri 10/13/23 Tue 9/20/22 Tue 5/30/23 Tue 8/13/24 Wed 7/6/22 Wed 2/5/25 Sat 10/7/23 Fri 4/14/23 Fri 6/30/23 -ri 6/30/23 Fri 6/30/23 ri 5/31/24-Fri 5/31/24 Sat 9/9/23 Sat 9/9/23 Finish Page 5 Mon 2/20/23 Mon 2/20/23 Wed 2/15/23 Mon 4/10/23 Wed 5/31/23 Wed 5/31/23 Mon 1/2/23 Tue 9/20/22 Mon 1/2/23 Mon 1/2/23 Mon 1/2/23 Mon 1/2/23 Thu 12/2/21 Tue 2/14/23 Mon 1/2/23 Mon 1/2/23 Thu 12/2/21 Mon 1/2/23 Mon 7/5/21 Mon 8/8/22 Thu 6/3/21 Tue 6/6/23 Fri 6/30/23 Sun 8/1/21 Fri 7/1/22 Fri 7/1/22 Fri 7/1/22 **Project Progress** Fri 7/1/22 Start % Complete 100% 100% 100% 100% 100% 100% 100% 100% 100% 100% 100% 100% 100% 29% 73% %69 19% 35% 95% 89% 23% 26% 27% 29% 21% 93% 77% 25% HCWQTC Aeration Blower Buildings, Sec 1 & FY23 CMOM Collection System Pump Rehab DRGWQTC Grit Electric MCC Building Roof FY23 CMOM Infrastructure Rehabilitation DRGWQTC Clarifier MCC and Grit Electric Lake Forest Pump Station Eliminations **EASEMENTS/LAND ACQUISITION Modesto Pump Station Elimination CMOM Project MCC Buildings Roof Replacement** INITIATION & PROCUREMENT Percent complete is calculated based on phase duration **DRGWQTC Roof Repairs** 2 Roof Replacement SERVICE PERIOD SERVICE PERIOD CONSTRUCTION CONSTRUCTION & Replacement Replacement CLOSEOUT CLOSEOUT CLOSEOUT DESIGN DESIGN DESIGN DESIGN DESIGN Task Name Data Date: 07/28/23 Budget ID D23163 D23163 D23165 D23161 D23162 D23162 D23163 E15035 E18094 E18094 E18094 E18470 E18470 D23161 D23163 D23165 E18094 E18470 E21062 D23162 D23165 E15035 E18470 D23161 E15035 E21062 E21062 E21062



Qtr 2, 2023 Apr May Feb Mar Qtr 1, 2023 Jan Oct Nov Dec Qtr 4, 2022 Sep Qtr 3, 2022 And Wed 11/15/23 Wed 11/27/24 Mon 10/21/24 Mon 12/12/22 Mon 12/12/22 Mon 11/15/27 Wed 8/23/23 Wed 2/25/26 Wed 6/19/24 Wed 6/19/24 Wed 5/31/23 Mon 1/30/23 Wed 1/25/23 Tue 9/30/25 Tue 7/11/23 Tue 10/4/22 Tue 7/11/23 Sat 6/29/24 Sat 9/30/23 Sat 6/29/24 Fri 4/21/23 Fri 6/19/26 Fri 6/30/23 Fri 6/30/23 Fri 6/30/23 Fri 6/30/23 Fri 6/30/23 Sun 4/7/24 Fri 2/23/24 Fri 6/30/23 Fri 8/12/22 Fri 7/8/22 Finish Page 6 Tue 12/20/22 Wed 3/16/22 Mon 8/15/22 Mon 1/30/23 Mon 1/30/23 Mon 1/30/23 Wed 5/31/23 Mon 3/16/20 Mon 5/16/22 Mon 2/27/23 Mon 1/30/23 Wed 9/29/21 Wed 7/1/20 Wed 7/1/20 Wed 7/1/20 Mon 5/2/22 Wed 7/1/20 Mon 3/7/22 Tue 5/31/22 Sat 4/22/23 Mon 7/4/22 Thu 6/3/21 Tue 6/7/22 Tue 6/7/22 Fri 6/30/23 Fri 1/20/23 Fri 1/20/23 Thu 6/2/22 Fri 6/30/23 Fri 7/1/22 Fri 7/1/22 Project Progress Start % Complete 100% 100% 100% 100% 100% 100% 100% 100% 100% 100% 100% 100% 100% 100% 100% 100% 100% 25% 81% 75% 28% %89 87% 31% 93% 43% 49% 14% Admiral Rd Pump Station Improvements Pirogue Court Pump Station Elimination FY23 SCADA System and Rain Gauge **EASEMENTS/LAND ACQUISITION** CMOM Project Lantana Drive PS No 1 Elimination FY22 Renewal and Replacement INITIATION & PROCUREMENT INITIATION & PROCUREMENT INITIATION & PROCUREMENT INITIATION & PROCUREMENT Wathen Lane PS Rehabilitation Sanders Lane PS Rehabilitation **Bluegrass Fields PS Renovation** Percent complete is calculated based on phase duration. Sonne Avenue PS Elimination Rosa Terrace PS Elimination Field Equipment Upgrades CONSTRUCTION CONSTRUCTION SERVICE PERIOD SERVICE PERIOD CONSTRUCTION CONSTRUCTION CONSTRUCTION CLOSEOUT CLOSEOUT CLOSEOUT CLOSEOUT CLOSEOUT CLOSEOUT DESIGN Task Name Data Date: 07/28/23 Budget ID E21090 G18147 E21066 21070 E21090 E21090 E22233 E22233 E22233 E23149 E23149 F20321 F20321 G18147 E21066 E21070 E21071 E21091 E21091 E22233 E23148 E23148 E23148 E23148 E23149 E23149 G18147 G18147 **G18147** G22001 322001 E21071



Apr May Jun Qtr 2, 2023 Jan Feb Mar Qtr 1, 2023 Oct Nov Dec Qtr 4, 2022 Sep And Qtr 3, 2022 Ξ Mon 12/18/23 Wed 11/30/22 Thu 12/31/26 Thu 12/31/26 Wed 5/31/23 Wed 1/17/24 Wed 5/31/23 Sat 12/31/22 Wed 5/31/23 Wed 5/31/23 Fri 11/18/22 Sun 7/30/23 Sun 7/30/23 Sat 9/30/23 Sat 10/1/22 Sat 9/30/23 Fri 6/30/23 Fri 6/30/23 Thu 5/4/23 Fri 7/14/23 Fri 6/30/23 Fri 6/30/23 Fri 6/30/23 Fri 6/30/23 Fri 6/30/23 Thu 6/1/23 Fri 6/30/23 Fri 6/30/23 Fri 9/30/22 Fri 9/30/22 Fri 9/30/22 Fri 9/30/22 Finish Page 7 Mon 11/2/15 Wed 6/14/23 Wed 5/31/23 Wed 5/31/23 Wed 5/31/23 Wed 5/31/23 Mon 6/13/22 Wed 9/15/21 Fhu 12/1/22 Thu 12/1/22 Tue 5/31/22 Sat 10/1/22 Sat 10/1/22 Thu 9/8/22 Thu 9/8/22 Sun 1/1/23 Thu 9/8/22 Thu 9/8/22 Tue 2/7/23 Tue 2/7/23 Thu 5/4/23 Thu 6/1/23 Thu 6/1/23 Thu 6/1/23 Fri 6/30/23 Thu 7/1/21 Fri 3/8/19 Fri 7/1/22 Fri 7/1/22 **Project Progress** Fri 7/1/22 Fri 7/1/22 Start % Complete 100% 100% 100% 100% 100% 100% 100% 100% 100% 100% 100% 100% 100% 100% 100% 100% 100% 100% 100% 28% 34% 46% 32% 20% %06 53% 1% %0 3% Prospect Phase II Area Sewers Rehabilitation **Design Manual and Specifications Updates** FY22 CMOM Infrastructure Rehabilitation **McNeely Lake PS Elimination Excess Cost CMF Inventory Management System** INITIATION & PROCUREMENT CMOM Project **Beckley Trace Property Purchase** FY23 Renewal and Replacement INITIATION & PROCUREMENT SYSTEM INSTALL PERIOD Percent complete is calculated based on phase duration. CMF Compost Facility HCWQTC Expansion SERVICE PERIOD SERVICE PERIOD SERVICE PERIOD CONSTRUCTION CONSTRUCTION CLOSEOUT CLOSEOUT DESIGN CLOSEOUT CLOSEOUT CLOSEOUT CLOSEOUT CLOSEOUT CLOSEOUT DESIGN DESIGN Task Name Data Date: 07/28/23 **Budget ID** 114126 G23086 G23086 G23089 G23089 G23001 G23001 G23021 G23021 G23220 523220 523220 109215 H09215 114126 116075 116075 523001 523021 G23086 G23086 G23089 G23089 G23174 G23174 G23174 523220 114126 116075 523001 523021 523021



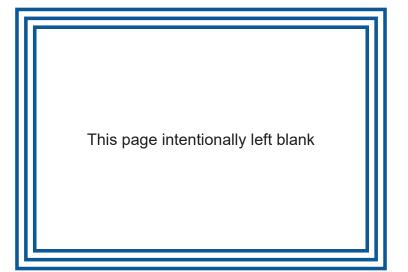
Apr May Jun Qtr 2, 2023 Feb Mar Qtr 1, 2023 Jan | Feb | N Oct Nov Dec Qtr 4, 2022 Sep Qtr 3, 2022 Aug ⇉ Wed 8/30/23 Wed 8/30/23 Mon 6/26/23 Wed 5/31/23 Wed 5/31/23 Wed 5/31/23 Wed 8/31/22 Wed 8/31/22 Tue 12/2/25 Thu 7/28/22 Thu 7/28/22 Sun 6/30/24 Wed 7/6/22 Fri 6/30/23 Sun 4/1/29 Fri 6/30/23 Fri 9/30/22 Fri 5/31/24 Fri 6/30/23 Fri 9/30/22 Fri 6/30/23 Fri 6/30/23 Fri 6/30/23 Sun 7/3/22 Fri 6/30/23 Fri 6/30/23 Fri 6/30/23 Fri 6/30/23 Fri 9/30/22 Fri 6/30/23 Fri 6/30/23 Fri 9/30/22 Finish Wed 5/31/23 Wed 5/31/23 Wed 5/31/23 Wed 5/31/23 Wed 7/6/22 Tue 5/31/22 Thu 6/15/23 Thu 6/30/22 Fri 12/31/21 Tue 8/24/21 Sat 10/1/22 Sat 10/1/22 Sat 10/1/22 Sun 7/3/22 Thu 7/1/21 Sat 10/1/22 Thu 7/1/21 Thu 7/1/21 Thu 7/1/21 Fri 4/1/22 Fri 4/1/22 Fri 7/1/22 Fri 7/1/22 Fri 7/1/22 Thu 7/1/21 Fri 7/1/22 Project Progress Start % Complete 100% FY22 CMOM Gravity Line Cleaning and Inspect 100% FY23 CMOM Gravity Line Cleaning and Inspect 100% 100% 21% 42% %99 62% 81% 84% FY23 Plumbing Modification Program FY23 CMOM I and C Implementation CMOM Project INITIATION & PROCUREMENT AI Aquasight Software at CCWQTC FY22 WQTC Engineering Support INITIATION & PROCUREMENT Percent complete is calculated based on phase duration. **FY23 CMOM SCAP AAM FOG Admiral Rd Force Main** FY23 NMC Support SERVICE PERIOD SERVICE PERIOD SERVICE PERIOD **Water Reuse Study** SERVICE PERIOD SERVICE PERIOD SERVICE PERIOD **Barcoding Phase 2** STUDY PHASE CLOSEOUT CLOSEOUT CLOSEOUT CLOSEOUT CLOSEOUT CLOSEOUT CLOSEOUT DESIGN Task Name Data Date: 07/28/23 **Budget ID** H19019 H20058 H20058 H20063 H22009 H22009 119002 H19019 H20021 H20021 H20021 H20058 H20063 H20064 H20064 H20064 H20064 H22010 H22010 122016 119002 119002 119005 119005 119005 119005 H19019 H19019 H20058 122015 122015 H19002



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# Section 5: Program Activities for Sewer Overflow Response Protocol

Per Paragraph 38.c. of the 2ACD, MSD's initial Sewer Overflow Response Protocol (SORP) was approved by KEEC/EPA on August 22, 2006. MSD is required to review the SORP annually and propose changes as appropriate as a component of the 2ACD Mid-Year Report, and provide updates to the Louisville Regional Office of the Division of Water within 15 days of incorporation of the update. The approved document can be viewed on the MSD Project WIN website **msdprojectwin.org**.

The following activities were performed during this reporting period.

## 5.1. DISCHARGE DEFINITIONS AND DOCUMENTATION

MSD enters and maintains information related to unauthorized discharges and overflows that are observed by MSD staff in the Infor Public Sector (IPS) asset management system utilizing procedures reviewed and improved through efforts associated with components of the Sewer Overflow Response Protocol (SORP), as required under the Second Amended Consent Decree. These overflows and discharges are categorized using the following categories:

- Asset Type
  - Water Quality Treatment Center (WQTC)
  - Combined Sewer Overflow (CSO)
  - Collections System Assets associated with a Sanitary Sewer Overflow (SSO)
    - Pump Stations –sanitary, flood and viaduct pump stations
    - Access Points manholes, valves and inlets
    - Mains sanitary and combined system mains
    - Service Connections customer service lines
- Weather Dry or wet
- Result Waters of the United States (WUS), Exterior (i.e., to the ground), or Interior (i.e., inside a building)
- · Cause The issue that caused the discharge, including the following groups:
  - Bypass / Upset at a WQTC (or Blending at Jeffersontown WQTC, for discharges that occurred prior to WQTC elimination) as defined by permit
  - Capacity Lack of Capacity or Pumped Overflow during wet weather
  - Maintenance & Operations Issue Electrical Problem at MSD, Grease Blockage, Mechanical Failure, Obstruction (Not Grease or Roots), Power Outage, Pumped due to USACE Manual Requirements, Roots, Structural Issue, or Utility Damage

All overflow reporting documentation is stored in MSD's asset management system, IPS. Unauthorized discharges to the Waters of the United States (WUS) have been reported to the Kentucky Energy and Environment Cabinet (KEEC) and the Environmental Protection Agency (EPA) per the approved SORP.

MSD has developed performance measures to monitor the operation of the collections system and WQTCs, with the goal of reducing sewer overflows and improving surface water quality. The data reported in this document is the best, most up-to-date data available as of the document date. There may be changes to historic



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5,000       37,660       7,500         0       746,700       0         0       410,200       26,000         0       716,670       25,000         0       112,400       20,000         0       131,100       20,000         0       100,000       51,000	 ~ <u>~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ </u>	GENERAL NATURE	LACK OF SYSTEM CAPACITY	MECHANICAL FAILURE	POWER OUTAGE (LG&E)	STRUCTURAL FAILURE	UTILITY DAMAGED MSD ASSET
0     746,700     0       0     410,200     26,000       0     716,670     25,000       0     112,400     20,000       0     131,100     20,000       0     100,000     51,000       0     140,000     0	90	5,000	37,660	7,500	0	3,000	0
0     410,200     26,000       0     716,670     25,000       0     112,400     20,000       0     131,100     20,000       0     100,000     51,000	25,000	0	746,700	0	38,700	69,300	0
0     716,670     25,000       0     112,400     20,000       0     131,100     20,000       0     100,000     51,000	7,000	0	410,200	26,000	0	5,055,100	0
0 112,400 20,000 0 131,100 20,000 0 100,000 51,000	0	0	716,670	25,000	0	232,750	3,000
0 131,100 20,000 0 100,000 51,000	0	0	112,400	20,000	0	104,000	0
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data as the data is reviewed for quality and accuracy and updated on a continuous basis by MSD administrative and field staff.

## 5.2. OVERFLOW MANAGEMENT AND FIELD DOCUMENTATION

## **FY23 Reporting Period**

- Documented overflows and unauthorized discharges to waters of the US (WUS) during the reporting period as documented in Section 5.1.
- Hauled sewage from pump stations to mitigate sanitary overflows as indicated in Table 5.1. No sites were
  routinely (3 or more times per year) hauled to prevent overflows during rain events, depending on the magnitude and location of the storm.
- Reported discharges that reached the WUS within 24 hours as shown in Table 5.2. Discharges that were not reported within 24 hours are explained in Table 5.3.

**Table 5.2. Discharge Notifications** 

TOTAL DISCHARGES	REPORTED WITHIN 24 HOURS	RESULT
209	206	99%

Table 5.3	. Late	Discharge	<b>Notifications</b>
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WORK ORDER#	REPORT TIME (HRS)	CAUSE
3623024	67	Area flooded and inaccessible
3670039	33	Extreme storm event. Waiting to complete the discharge information
3670040	31	Extreme storm event. Waiting for discharge information.

- Monitored approximately 143 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 reporting period, MSD executed a total of 928 wet weather inspections on a total of 10 days, and documented 213 unauthorized discharges through route reconnaissance.
- Monitored the West County route via telemetry. Discharge work orders are created as required based on telemetry observations.
- Continued to monitor over 300 sites via telemetry.

# **FY24 Reporting Period**

- Continue to monitor data, train staff and update information as needed.
- Continue to monitor over 300 sites via telemetry.
- Continue to haul to prevent overflows and backups during rain events until system improvements are completed.
- Continue to monitor documented collections system SSO sites, which have been grouped into routes based on the range of rainfall rates necessary to cause a SSO.
- Continue the daily, monthly and quarterly data reviews with staff from Engineering and Operations Divisions to ensure accuracy and consistency in reporting.
- Schedule additional field reviews of SORP procedures after rain events to both ensure successful implementation and to assist with the annual SORP overall review.

# 5.3. REGULATORY REPORTING AND DATA MANAGEMENT

#### **FY23 Reporting Period**

- Conducted daily review with staff to perform quality control on discharge work orders.
- Conducted a monthly review of the discharge work orders and updated the associated assets in IPS as needed.
- Performed a detailed review and trend analysis on the discharge data and incorporated the findings into the quarterly SORP training.

# **FY24 Reporting Period**

- Continue to perform quality control on discharge work orders with appropriate staff.
- Update assets in IPS when new overflow locations are identified.
- Continue to review the overflow data for trends. These trends are discussed with staff in the Quarterly SORP training and documented in the Quarterly Reports.

## 5.4. STAFF TRAINING & COMMUNICATION

#### **FY23 Reporting Period**

Continued training through the online training delivery system, which allows more flexibility for employees to
complete training at convenient times during the quarter and to integrate SORP training with new employee
and contractor orientation. SORP training activities are detailed in Table 5.4. Training module descriptions
can be found in the latest version of the SORP manual, available at msdprojectwin.org.

**Table 5.4. SORP Training Details** 

TRAINING MODULE	STAFF TRAINED
Annual	389
Assessment, Mitigation, & Documentation	272
Preparing for Overflows, Monitoring, & Mobilization	288
Public Notification & Overflow Cleanup	251
Reporting & Follow-up	249

# **FY24 Reporting Period**

- Continue to integrate SORP training with new employee and contractor orientation.
- Schedule and administer SORP Quarterly and Annual Training.
- · Continue to review and update the data associated with overflows.

#### 5.5. Public Notification and Communication

Refer to Section 6: Program Activities for Public Outreach, Education, Notification and Participation for information regarding public notification.



# Section 6: Program Activities for Public Outreach, Education, Notification and Participation

# **6.1. Public Notification Program**

MSD has developed a program aimed at notifying the community of the objectives of the 2ACD, and ways to reduce the risks of coming into contact with sewage overflows.

#### 6.1.1. OVERFLOW ADVISORY SIGNS

#### **FY23 Reporting Period**

- Updated sign inventory to ensure all needed signs are in place.
- Performed the annual sign inspection process in the spring. There were 1,164 signs inspected, 1,125 signs cleaned, and 508 replaced.

#### **FY24 Reporting Period**

- Perform an evaluation comparing the documented overflows with existing sign locations to ensure all needed signs are in place.
- · Perform the annual sign inspections as scheduled in IPS.

## **6.1.2. ELECTRONIC NOTIFICATIONS**

## **FY23 Reporting Period**

- Continued to utilize the Louisville Metro e-mail alert system to broadcast messages to the public. Through this, customers are able to sign up to receive email alerts regarding sewer overflows.
- Provided notification on the MSD website (louisvillemsd.org) and MSD's 2ACD website (msdprojectwin.org) for wet weather overflows during rain events and unauthorized discharges of more than 1,000 gallons.

#### **FY24 Reporting Period**

- Continue sending email alerts to customers who have signed up to receive information through the e-mail alert system.
- Continue to provide web notification for wet weather overflows and significant unauthorized discharges.

# **6.1.3. PRINT NOTIFICATIONS**

#### **FY23 Reporting Period**

- Sent 380 public outreach letters to residents in areas that have FOG issues.
- Mailed 273 Project WIN information packets to customers who called with questions about the Amended Consent Decree – specifically regarding overflows, discharges, plumbing modification and the surcharge fee.
- In April 2023, distributed the annual mailing to over 20,000 residents who live within 500 feet of Beargrass Creek and/or the Ohio River, advising the use of caution around streams during and immediately following rain events, as the streams may contain untreated sewage.
- Provided annual notification to the community at large in a Courier Journal newspaper advertisement, advising the use of caution around streams during and immediately following rain events, as the streams may contain untreated sewage.

# **FY24 Reporting Period**

- Continue to send out FOG residential public outreach letters to areas that have FOG issues.
- Continue to mail Project WIN information packets to customers who call with questions about the Amended Consent Decree – specifically regarding overflows, discharges, plumbing modification and the surcharge fee.
- Provide annual notification and informational material to the community by May 1, 2024, including information related to public health impacts associated with sewer overflows and an update of Project WIN initiatives.
- Distribute, prior to May 1, 2024, the annual mailing to residents who live within 500 feet of Beargrass Creek and/or the Ohio River, advising the use of caution around streams during and immediately following rain events as the streams may contain untreated sewage.

# **6.2. Public Education Programs**

A public education program about Louisville MSD's primary business functions of wastewater treatment, stormwater management and flood protection has been developed and is in use across multiple platforms. MSD uses earned media through local and regional outlets to educate the public about MSD's vital services, initiatives, 2ACD projects and more.

## **FY23 Reporting Period**

- Continued to identify areas of public knowledge requiring additional effort and attention and target public education efforts to fill the gaps, including through the Project WIN / MS4 Public Behavior Change Assessment Survey, which is currently underway.
- · Shared the benefits of fostering good water quality.
- In partnership with UofL, MSD expanded the use of a "Cornerstone" course to a spring semester audience.
  The course allows freshman engineering students to design, build, and optimize a physical model of a combined system, including wet-weather storage and treatment. This is a unique opportunity to engage existing customers on how the system works, the water quality benefits of Consent Decree program investments, and the shared responsibility of achieving safe, clean waterways.
- Continued to provide information on MSD's Green Infrastructure incentive programs, Louisville's tree canopy, sewer overflow prevention, pollution prevention and other topics, including the events listed in Table 6.1.

# **FY24 Reporting Period**

 Continue to re-tool public education efforts to address areas of public knowledge requiring additional effort and attention.

Table 6.1. Public Education Workshops & Activities

DATE(S)	EVENT	BENEFIT / RELEVANCE / IMPACT	
July 4, 2022	Waterfront Park 4th of July	MSD staff shared the enviroscape model with attendees of the Waterfront Park 4th of July celebration, primarily families with elementary to middle school aged children. The enviroscape provided a visual demonstration to discuss watersheds and impacts of pollution.	
July 12, September 13, and November 29, 2022	MSD CIAIRity (Odor Control) Public Meeting	Online public meeting hosted by MSD to discuss odor control program. The presentation included information to remove leaves and debris from catch basins and to put leaves and sticks in compost or yard waste.	



Table 6.1. Public Education Workshops & Activities

DATE(S)	ation Workshops & Activition  EVENT	BENEFIT / RELEVANCE / IMPACT
August 18-28, 2022	Kentucky State Fair Booth	MSD partnered with Ripple Effects to host a booth at the Kentucky State Fair. Displays included native plants, information regarding how rain gardens benefit water quality and stormwater, and a macroinvertebrate activity demonstrating how bugs can relate to stream health. Native plant seed packets, rain garden handbooks, rain garden plant guides and Mandy the Salamander books were distributed.
September 17, 2022	Jefferson Town Gas Light Event - Touch a Truck	MSD demonstrated the vactor truck and TVI truck as part of the Explore a Truck Event. MSD also hosted the enviroscape in the booth to teach the public about pollution that can impact our local streams through stormwater. Then, children had the opportunity to participate in a trivia question where they could win a prize. MSD also distributed Mandy books and activity books along with reusable bags.
September 21, 2022	MSD Watershed Planning in Jefferson County Presentation	For KSPE's September Lunch and Learn, Colette Easter presented on the value and need for watershed planning to improve water quality in Jefferson County. The progress being made on two watershed plans in Jefferson County was presented, as well as how engineers in our community can help in the development and implementation of the plans.
September 20, 2022	KAMM Presentations	Presentations at the Kentucky Association of Mitigations Managers Annual Conference about flood risks and project prioritization, and building emergency preparedness and resiliency.
October 8-12, 2022	WEFTEC Presentations	Presentations at the Water Environment Federation Technical Exhibit & Conference (WEFTEC) on water equity and management.
January 19, 2023	MSD "Can You Dig It?" Event	Event to inform contractors about upcoming capital construction projects and other contract opportunities with MSD.
February 23, 2023	SRWW Annual Conference	MSD presented updates on watershed planning in Jefferson County, specifically about the Mill Creek efforts and Middle Fork Beargrass Creek updates.
April 19, 2023	Mill Creek Final Concept Release - SW Regional Library	MSD attended a presentation about the final plan for the restoration of the Mill Creek corridor. MSD is currently developing a watershed plan through a 319 grant based on sampling data, and shared information as part of the event. MSD also distributed flyers about rain gardens.
May 18, 2023	MSD Field Day	MSD conducted the Annual Field Day event with presentations about green infrastructure, current projects, and outreach opportunities.
June 1, 2023	Louisville Public Library Outreach	MSD provided 200 River to River brochures to accompany the Louisville Public Library summer reading program.
March 30, April 3, April 4, April 10, July 10, and July 12, 2023	UofL Cornerstone Course	MSD has helped develop material for an engineering course at U of L where students design, build, and optimize a physical model of a combined system, including wet-weather storage and treatment. MSD was able to visit the class six times to talk to students about their projects, and answer their questions about the combined system and MSD in general.



- Expand the UofL Cornerstone course to include a more robust representation of the combined sewer system.
- For future Project WIN surveys, MSD sees significant benefits in aligning these efforts with the NPDES process as laid out in the MS4 permit requirements. There are potential enhancements to the survey that will be proposed prior to the next MS4 survey.

## 6.2.1. RADIO AND TV ACTIVITIES

# **FY23 Reporting Period**

- Coordinated with Metro TV to air broadcasts of public input meetings listed in Table 6.2. More information about public information meetings can be found in 6.3.1. IOAP Project and Program Meetings.
- Continued to utilize various media outlets, including TV, radio and the newspaper, to serve as a conduit for disseminating information to the public.

Table 6.2. Metro TV Broadcasts

PROJECT	PHASE	AIRINGS
Ohio River Tunnel	Construction Meeting	44
Stormwater Drainage	Educational Content	24
Wastewater Treatment	Educational Content	23
Waterway Protection Tunnel	Commissioning	22
Clean Water Act	Educational Content	14

#### **FY24 Reporting Period**

- Continue coordination with Metro TV to show IOAP project public input meetings and special interest material.
- Continue to utilize radio and TV to serve as a conduit for disseminating information to the public.

#### 6.2.2. PRINTED MEDIA ACTIVITIES

#### **FY23 Reporting Period**

- Purchased public service advertising messages in the Courier Journal, Business First, Oldham Era, and Pioneer News, reaching an estimated 959,600 people for 2ACD messaging.
- Continued to distribute a Waterfront and Beargrass Creek Walking & Paddling Guide, which includes information on CSOs, green infrastructure and ideas to reduce SSOs and mitigate CSOs.
- Utilized direct mail communications through post card, letters and bill inserts external communications.

## **FY24 Reporting Period**

Continue to utilize printed media to serve as a conduit for disseminating information to the public.

# 6.2.3. DIGITAL MEDIA ACTIVITIES

Social media, MSD's website (**louisvillemsd.org**), and MSD's 2ACD website (**msdprojectwin.org**) are important methods to reach and educate the public. MSD is on Facebook, Twitter and Instagram.

## **FY23 Reporting Period**

Maintained the 2ACD website, which includes a repository of public documents related to Project WIN, tips
for customers to help control overflows through their personal actions, information about the history and
background of Project WIN and a place to sign up for overflow advisory emails warning when significant



precipitation has caused overflows in MSD's system. The Project WIN website can also be accessed by navigating through the Consent Decree link on MSD's website.

- Maintained the Overflow Advisory Level indicator on MSD's website and MSD's 2ACD website. The indicator
  provides important information on the condition of area streams and shows a warning if overflows are likely
  to be happening or have happened in the past 48 hours.
- Included 2ACD compliance, wastewater facility upgrades, and aging infrastructure as key topics in the Critical Repair & Reinvestment Plan. Public education about this initiative continues to include posts on MSD's website and social media accounts.
- Released monthly social media ads containing messages related to upcoming IOAP project public meetings when applicable.
- Augmented print ads with a digital campaign, reaching more than 915,000 through Meta and YouTube. The
  digital online campaign continued to increase awareness of the Waterway Protection Tunnel project, sewer
  overflows, Bowl Patrol, and the clAlRity program.
- Released 570 posts on topics including environmental awareness, outreach programs, events, health and safety, and public meetings, receiving over 180,000 impressions from 72,000 users. Public outreach campaigns supported included World Water Day, World Wildlife Day, World Habitat Awareness Month, World Toilet Day, Earth Day, and the 50th Anniversary of the Clean Water Act.
- Posted the StreamLine to Twitter and Facebook accounts and online, reaching 75,000 customers and staff quarterly. 2ACD-related articles are contained in each issue of this newsletter.
- Continued to provide the Waterfront and Beargrass Creek Walking & Paddling Guide online at louisvillemsd.org/programs/education and louisvillemsd.org/at-home.
- Continued to provide information on MSD's green infrastructure incentive programs, Louisville's tree canopy, sewer overflow prevention, pollution prevention and other topics.
- Continued to provide information and videos illustrating wastewater treatment, stormwater/drainage, and flood protection online at **louisvillemsd.org/what-we-do**.
- Continued use of an animated short titled "Club Flush" with characters from the Bowl Patrol. The Bowl Patrol
  are characters created for MSD to educate the public about what is and isn't safe to flush.
- Continued to maintain the education web-page (louisvillemsd.org/programs/education) with user-friendly links that direct to pages titled Bowl Patrol, Speaker Request, Book a field trip, Classroom Education, At home, and Mandy the Salamander. The Mandy the Salamander page contains a video, storybook, puzzles, games, and videos of steam testing to educate younger children about the importance of clean waterways.
- Continued to use the Careers web-page (louisvillemsd.org/careers) to share information about MSD's role
  in the community and potential employment opportunities.

## **FY24 Reporting Period**

- Continue to post Project WIN information on the website.
- Continue to provide information through social media platforms.
- Continue to post the MSD StreamLine to customers and staff each month.



# 6.3. 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 2ACD program elements.

#### **FY23 Reporting Period**

- Presented, attended, and / or facilitated meetings related to green infrastructure as detailed in Table 6.3.
- Presented, attended, and / or facilitated meetings related to clean streams as detailed in Table 6.4.
- Presented, attended, and / or facilitated student outreach as detailed in Table 6.5.
- Conducted the Annual Field Day event to present on green infrastructure, current projects, and outreach
  opportunities.

#### **FY24 Reporting Period**

- Continue to present, attend, and / or facilitate meetings related to green infrastructure, clean streams, and student outreach.
- Conduct the Annual Field Day event to present on green infrastructure, current projects, and outreach
  opportunities.

#### **6.3.1. IOAP PROJECT AND PROGRAM MEETINGS**

#### 6.3.1.1. WET WEATHER TEAM

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

# **FY23 Reporting Period**

A Wet Weather Team meeting was held on December 7, 2022.

#### **FY24 Reporting Period**

- A Wet Weather Team Meeting is scheduled for November 2023
- Schedule Wet Weather Team meetings as needed.

Table 6.3. Green Infrastructure Workshops & Activities

DATE(S)	EVENT	BENEFIT / RELEVANCE / IMPACT
January 25, 2023	Green Infrastructure and the MS4 Permit: A Compendium of Case Studies	Lori Rafferty and Brett Clark gave a presentation on green infrastructure and the MS4 permit for an EPA webinar.
March 18, 2023	Southend Beautification Campaign Tree Planting	Tree planting event sponsored by Louisville Grows and Metro Council District 21. Tree were donated through the MSD tree grant program.
May 18, 2023	MSD Field Day	MSD conducted the Annual Field Day event with presentations about green infrastructure, current projects, and outreach opportunities.
July 28, 2022	Sprouting Gardeners Rain Garden/Watershed Presentation	MSD was requested to speak to a summer camp for kids about water conservation. MSD staff presented the Color Me a Watershed activity, a macroinvertebrate activity that explains how bugs help MSD understand stream health, and lead a tour of two rain gardens onsite.



Table 6.4. Clean Stream Workshops & Activities

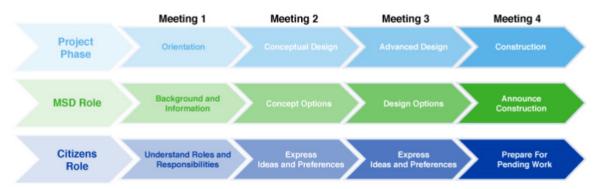
DATE(S)	EVENT	BENEFIT / RELEVANCE / IMPACT
September 21, 2022	Holy Cross Day of Service	Two houses within the Holy Cross High School partnered with MSD to give back to the Mill Creek Watershed through a trash pick up and park rehabilitation day. 20 students and their teachers helped to pick up trash at Sylvania Park and helped to plant new trees, pull weeds, pick up trash and create seed packets at Rose Farm Park.
October 15, 2022	Mini Beargrass Creek River Sweep	Trash pickup event at Karen Lynch Park and the MSD Beargrass Creek Pump Station.
November 5, 2022	Mill Creek Trash Cleanup and Community Event	As part of the 319 watershed planning efforts for Mill Creek, MSD and partners hosted a trash cleanup with two shifts and a community event to share water quality messaging and current projects in the watershed.
April 22, 2023	Beargrass Creek Earth Day Sweep	MSD helped support a cleanup of Middle Fork Beargrass Creek, partnering with Council Districts 8&9, the Louisville Olmsted Parks Conservancy, Brightside, the Clean Collaborative, Kentucky Waterways Alliance, and the Beargrass Creek Alliance.
June 10, 2023	Sylvania Park Sweep	MSD coordinated with Metro Parks Natural Areas to cleanup Sylvania Park and adjacent banks of Mill Creek.
June 18, 2023	Shawnee Park Ohio River Sweep	Trash pickup event at Shawnee Park. MSD coordinated with Origin Park and David Wicks to plan a park-to-park paddle across the Ohio River, but water conditions at the boat ramp prevented the canoes from launching.

**Table 6.5. Outreach Activities for Students** 

DATE(S)	EVENT	BENEFIT / RELEVANCE / IMPACT
July 11 and 22, 2022	LFPL Summer Reading Program - Mandy the Salamander	MSD staff shared a brief video with young children about Mandy the Salamander before reading the Mandy children's book, which contains information geared towards a young audience about keeping streams clean, and the processes related to wastewater and stormwater. Activities were provided to the children that included coloring and puzzles.
September 24, 2022	Family STEAM Day	During the South Central Regional Library STEAM event, MSD explained to families how waterways are protected through MSD's treatment of wastewater and protection of stormwater.
October 18 and 26, 2022	Trinity High School Field Trip to Floyds Fork WQTC	The Trinity High School sophomore class attended the MSD hosted field trip at the Floyds Fork Water Quality Treatment Center. During this tour students were able to tour the process of the water quality treatment center and learned how MSD works to protect our communities water quality. The students then were given the opportunity to learn about the watershed monitoring program and how the instream data is collected and monitored to determine current and potential improvement. MSD also collects macroinvertebrate samples as an indicator of pollution in the water column. There were a total of 60 students and 5 teachers over two days that participated in the 2 hour tour and activities.
March 21, 2023	St Margaret & Mary Mandy Meet and Greet	Water cycle activity event with Mandy the Salamander in the classroom
Ongoing	Kentucky Science Center Waterway Protection Tunnel Exhibit	MSD partnered with the Kentucky Science Center to create an exhibit on the Waterway Protection Tunnel and how it keeps waterways safe and clean for local wildlife.

Figure 6.1. MSD's Significant Capital Project Meeting Process

# Project Phases and Responsibilities



#### 6.3.1.2. Public Meetings for Significant Capital Projects

Public outreach compliments the public education components of Project WIN by engaging and seeking input from community stakeholders in order to successfully implement capital projects. The four-phase process for applicable Significant Capital Projects is illustrated in Figure 6.1. MSD has also adapted to allow virtual meeting forums that remove barriers for customers to participate and often supplements stakeholder meetings with educational outreach videos and informational materials available on social media, TV, and radio. The current IOAP outreach activities and public meetings are using this process to elicit qualitative and quantitative information and enhance engagement with customers. MSD is continuing to use this process to elicit qualitative and quantitative information and enhance engagement with customers. Although no applicable projects moved forward during the current reporting period, additional information regarding the Significant Capital Project Meeting Process may be found at the Project WIN Public Input Website, available at msdprojectwin.org/public-input.

#### **FY23 Reporting Period**

MSD held one Significant Capital Project meeting during the current reporting period. The Waterway Protection Tunnel ribbon-cutting was celebrated on October 18, 2022.

## **FY24 Reporting Period**

- Schedule Structured Public Involvement meetings as needed.
- The Paddy's Run Groundbreaking Event will be held August 15, 2023.
- Plan outreach activity schedule for IOAP Projects with design underway.



## SECTION 7: PROGRAM ACTIVITIES FOR ASSET MANAGEMENT

Per Paragraph 40 of the 2ACD, MSD was required to submit an Asset Management (AM) Plan to KEEC/EPA for review and joint approval by June 30, 2021. The Strategic Asset Management Plan was submitted on June 30, 2021 and is currently under review by KEEC/EPA. The unapproved document can be viewed on the MSD 2ACD website, **msdprojectwin.org**. Highlights of the AM program implementation are outlined below.

# 7.1. STRATEGIC ASSET MANAGEMENT PLAN

Per Paragraph 40, the AM program should provide a long-term maintenance and funding strategy for the rehabilitation and renewal of MSD's aging sewer system and WQTC infrastructure, including practices and procedures to ensure that planned maintenance can be conducted and capital assets can be repaired, replaced or upgraded on time with funding available to cover the costs. MSD developed a Strategic Asset Management Plan (SAMP) that, when approved, will be the primary document that guides MSD's efforts in the administration of asset management activities. It brings focus to the strategy for improved asset management, and provides the overarching framework for achieving the mission, strategic goals, and critical success factors of the AM Program, as described in the AM Program Charter. Rather than being an extensive manual of practice on AM, the SAMP is a concise framework that creates a consistent approach for all MSD divisions which operate and maintain the assets. The SAMP framework provides the "rule book" for how facility and system plans will be created and implemented to help meet the established service level expectations and other operational objectives at the lowest life cycle cost.

The SAMP serves several purposes:

- Provides a standardized approach for the overall AM framework and business rules across all facilities and systems.
- Provides information about the information systems where the asset inventory data are located.
- Provides criticality criteria to determine individual asset inspection, replacement, and rehabilitation rankings.
- · Provides information on the established levels of service (LOS) and performance measures.
- Identifies condition assessment, operation and maintenance, and renewal and replacement strategies and techniques.
- Identifies currently known data requirements and program enhancements.
- Provides a framework for capital planning and decision making.

In addition to the SAMP, Tactical Asset Management Plans (TAMPs) will define activities at the facility level. An Implementation Plan, or AM Roadmap, defines the sequencing, scheduling, and prioritization of asset management program activities. The AM Roadmap includes prioritized SAMP improvement strategies recommended for the ultimate fulfillment of a successful AM program.

Per Paragraph 40.d., KEEC, EPA and MSD acknowledge that implementation of the SAMP will result in the plan becoming a dynamic document that will be updated over time with greater specificity regarding specific projects for rehabilitation. The SAMP will be reviewed annually, and any significant changes to the SAMP submitted on June 30, 2021 will be documented in subsequent 2ACD Annual Reports and the updated document will be posted on MSD's 2ACD website, msdprojectwin.org.



# 7.2. TACTICAL ASSET MANAGEMENT PLANS

In recognition of the fact that each facility and system owned and operated has specific assets, conditions, and requirements under which they are operated, the management of these facility and system assets are also governed by TAMPs. The TAMP structure is like that of the SAMP, but the TAMP describes the specifics for AM at a particular location or within a particular system and identifies actions that are being implemented to achieve the standards and goals listed in the SAMP.

As TAMPs are completed, sections will be added to subsequent 2ACD Annual Reports. The TAMPs will also be updated annually, and any significant changes to the TAMPs or progress updates will be documented in subsequent 2ACD Annual Reports.

#### 7.2.1. MORRIS FORMAN WQTC TAMP

#### **FY23 Reporting Period**

- Completed refinement of physical asset inventory in IPS development environment.
- Continued development of buried asset registry.
- · Began review of asset class plans and structured maintenance job plans.
- Developed first phase of dashboards in Power BI to monitor asset inventory compliance, work documentation compliance, and levels of service/performance measure attainment.

#### **FY24 Reporting Period**

- Finalize asset inventory refinement and move to IPS production.
- Continue development of buried asset registry.
- Continue review of asset class plans and structured maintenance job plans.
- Continue development of dashboards in Power BI to monitor asset inventory compliance, work documentation compliance, and levels of service/performance measure attainment.
- Begin review and refinement of asset rehabilitation and replacement recommendations based on condition assessment and available data.
- Begin review and digitization of asset document physical library (e.g., O&M manuals, shop drawings) to make readily available to staff and identify gaps.
- Begin design of problem / cause / remedy or failure coding strategy on asset work orders for improved rehabilitation & replacement workflow.
- Document interface development needs for improved workflows related to SCADA outputs, labor hours, and work scheduling.
- · Implement condition assessment by equipment type in IPS.

## 7.2.2. Pump Stations, Force Mains, and Gates (PSFMG) TAMP

## **FY23 Reporting Period**

- Completed physical asset inventory, labeling, and condition assessment, and imported inventory into IPS
  development environment for refinement.
- Began review of asset class plans and structured maintenance job plans.
- Developed first phase of dashboards in Power BI to monitor asset inventory compliance, work documentation compliance, and levels of service/performance measure attainment.



#### FY24 Reporting Period

- Finalize asset inventory refinement and move to IPS production.
- Continue review of asset class plans and structured maintenance job plans.
- Continue development of dashboards in Power BI to monitor asset inventory compliance, work documentation compliance, and levels of service/performance measure attainment.
- Begin review and refinement of asset rehabilitation and replacement recommendations based on condition assessment and available data.
- Begin design of problem / cause / remedy or failure coding strategy on asset work orders for improved rehabilitation & replacement workflow.
- Document interface development needs for improved workflows related to SCADA outputs, labor hours, and work scheduling.
- Implement condition assessment by equipment type in IPS.

#### 7.2.3. CEDAR CREEK WQTC TAMP

#### **FY23 Reporting Period**

- Completed TAMP development February 6, 2023. TAMP includes system overview; definitions of levels of service and performance measures to be developed; documentation of asset classes and hierarchy; documentation of critical processes/subprocesses and risk register; documentation of condition assessment methods; and documentation of renewal/replacement justification.
- Completed physical asset inventory, labeling, and condition assessment, and imported inventory into IPS development environment for refinement.
- Developed first phase of dashboards in Power BI to monitor asset inventory compliance, work documentation compliance, and levels of service/performance measure attainment.

#### **FY24 Reporting Period**

- Finalize asset inventory refinement and move to IPS production.
- Begin review of asset class plans and structured maintenance job plans.
- Continue development of dashboards in Power BI to monitor asset inventory compliance, work documentation compliance, and levels of service/performance measure attainment.
- Begin review and refinement of asset rehabilitation and replacement recommendations based on condition assessment and available data.
- Begin design of problem / cause / remedy or failure coding strategy on asset work orders for improved rehabilitation & replacement workflow.
- Document interface development needs for improved workflows related to SCADA outputs, labor hours, and work scheduling.
- Implement condition assessment by equipment type in IPS.

#### 7.2.4. GRAVITY LINEAR TAMP

#### **FY23 Reporting Period**

Completed TAMP development June 1, 2023. TAMP includes system overview; definitions of levels of service and performance measures to be developed; documentation of asset classes and hierarchy; documentation of critical assets and risk register; documentation of condition assessment methods; and documentation of renewal/replacement justification.



 Developed first phase of dashboards in Power BI to monitor asset inventory compliance, work documentation compliance, and levels of service/performance measure attainment.

#### **FY24 Reporting Period**

- · Implement asset hierarchy updates.
- Begin review of asset class plans and structured maintenance job plans.
- Begin development of dashboards in Power BI to monitor asset inventory compliance, work documentation compliance, and levels of service/performance measure attainment.
- Begin design of problem / cause / remedy or failure coding strategy on asset work orders for improved rehabilitation & replacement workflow.
- · Document interface development needs for improved workflows related to labor hours and work scheduling.

## 7.3. ASSET MANAGEMENT PROGRAM COSTS

Per Paragraph 40.e. of the 2ACD, MSD is required to spend a total of \$375M on AM projects by June 30, 2035. Eligible costs include work and/or services associated with planning, inspection, field testing, design, permitting, bidding, construction, commissioning (asset start-up), rehabilitation, replacement, and renewal of MSD's Sewer System and WQTC infrastructure. Costs that are not eligible costs to be counted include work and/or services associated with asset management software, programming, financing, grant or loan applications, or annual operating budget line items (power, chemicals, labor, or services associated with preventative or corrective maintenance). Appendix N provides a list of actual costs spent on projects that meet the definition provided above for the current reporting period. Note that project spending is based on the date of expenditure, and may include projects with no spending during the reporting period. Any negative spend is associated with accruals from prior fiscal years and will be reconciled.

Cumulative tracking of asset management spending after June 30, 2020 is shown in Table 7.1. Per Paragraph 49 of the 2ACD, MSD is required to demonstrate a minimum level of spending every 5 years beginning with \$112.5M through FY25.

Table 7.1. Asset Management Program Costs - Current and Historic Reporting Periods

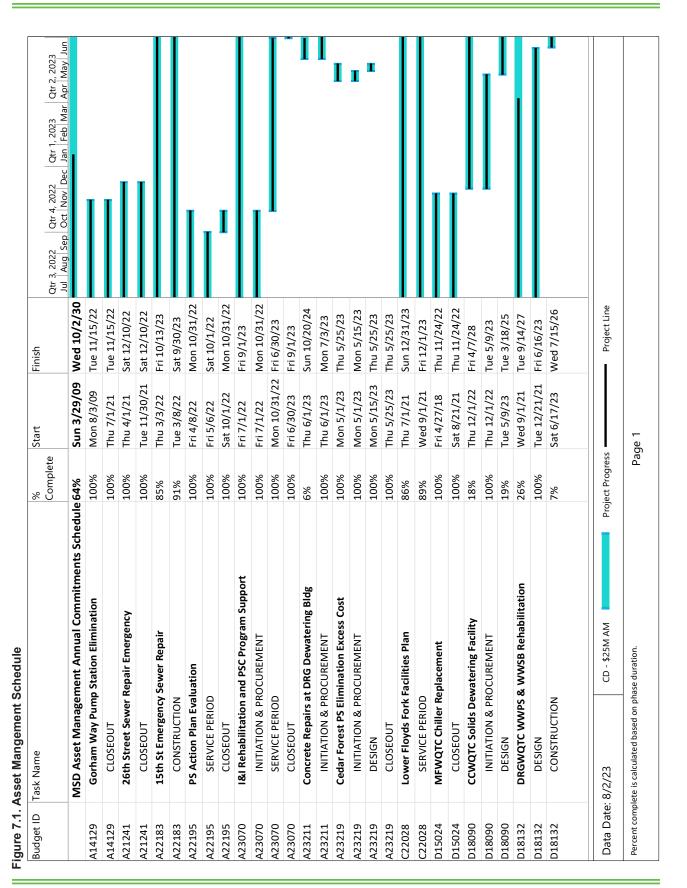
FISCAL YEAR	ACTUAL EXPENDITURES
FY21	\$21,130,281
FY22	\$35,960,568
FY23	\$52,370,329
Program Expenditures to Date	\$109,461,177

When reviewing the look-ahead for future asset management needs, the Admiral Way solution will be critical for SSO reductions and system Asset Management commitments. This budgeted solution will help mitigate capacity issues in the Fishpool Interceptor and address existing overflows at manholes 93703 and 93705 to a 2-year level of control. This project has also been reported in Appendix I as the Asset Management Program solution for resolving SSOs at these locations. The project is currently in design with spending to be reflected in the next reporting period's Asset Management costs.

## 7.4. AM ACTIVITY SCHEDULE

A Gantt chart including progress of AM projects during the reporting period can be found in Figure 7.1.







Jan Feb Mar Apr May Jun Qtr 2, 2023 Qtr 1, 2023 Oct Nov Dec Qtr 4, 2022 Sep Qtr 3, 2022 And Wed 11/30/22 Wed 11/30/22 Thu 12/22/22 **Project Line** Thu 12/22/22 Wed 5/14/25 Wed 6/11/25 Sun 12/26/27 Mon 6/30/25 Sun 12/31/23 Mon 2/13/23 Wed 3/17/27 Sun 4/16/23 Tue 6/27/23 Tue 6/27/23 Sun 7/30/23 Sun 4/16/23 Sun 7/30/23 Mon 1/9/23 Thu 7/28/22 Sat 3/30/24 Fri 12/29/23 Thu 7/28/22 Tue 5/14/24 Fri 6/30/23 Fri 9/15/23 Fri 12/1/23 Fri 9/30/22 Fri 9/15/23 Fri 8/29/25 Fri 7/8/22 Finish Wed 5/15/19 Wed 1/31/18 Tue 11/30/21 Mon 6/27/22 Fue 11/19/19 Wed 7/28/21 Wed 8/10/22 Wed 8/10/22 Mon 2/13/23 Tue 2/18/20 Tue 9/29/20 Thu 8/15/19 Mon 7/4/22 Fue 9/15/20 Mon 1/1/18 Wed 4/5/23 Sat 12/4/21 Sat 5/28/22 Mon 7/4/22 Sat 10/1/22 Mon 1/9/23 Fri 7/15/22 Tue 6/4/19 rue 6/4/19 Fri 6/30/23 Fri 7/15/22 Sat 4/2/22 Fri 7/1/22 Fri 7/1/22 Fri 7/1/22 Start Page 2 Project Progress Complete 100% 100% 100% DRGWQTC Clarifier Grout Repair and RAS Gate Replacemen 100% Fairmount Road Pump Station Force Main Extension - Phase 100% 100% 100% 100% 100% 100% 100% 100% %99 95% 72% 93% %29 31% 45% 91% 41% %09 %06 **SWPS Gas Monitoring and SP1 Odor Control CCWQTC Effluent Parshall Flume Upgrade** FFWQTC Regional Facilities Plan Update Peabody Gate Structure Rehabilitation **CCWQTC Sodium Aluminate Building** Kirby Lane Pump Station Elimination **EASEMENTS/LAND ACQUISITION CCWQTC Admin Building Expansior** CD - \$25M AM **ORFM Odor and Corrosion Control** INITIATION & PROCUREMENT INITIATION & PROCUREMENT INITIATION & PROCUREMENT INITIATION & PROCUREMENT FY23 MFWQTC Equipment RR Percent complete is calculated based on phase duration ASSESSMENT PERIOD SGC RTC Enhancements SERVICE PERIOD CONSTRUCTION SERVICE PERIOD CLOSEOUT CLOSEOUT CLOSEOUT CLOSEOUT CLOSEOUT DESIGN Task Name Data Date: 8/2/23 Budget ID D18292 D19286 D20008 D20008 D20008 D20012 D18285 D18292 D18489 D20007 D20017 20149 D18285 D18489 D19130 D19130 D20007 D20012 D19039 D19039 D19130 D19130 D19286 D20007 D20008 220017 320148 20148

Figure 7.1. Asset Mangement Schedule



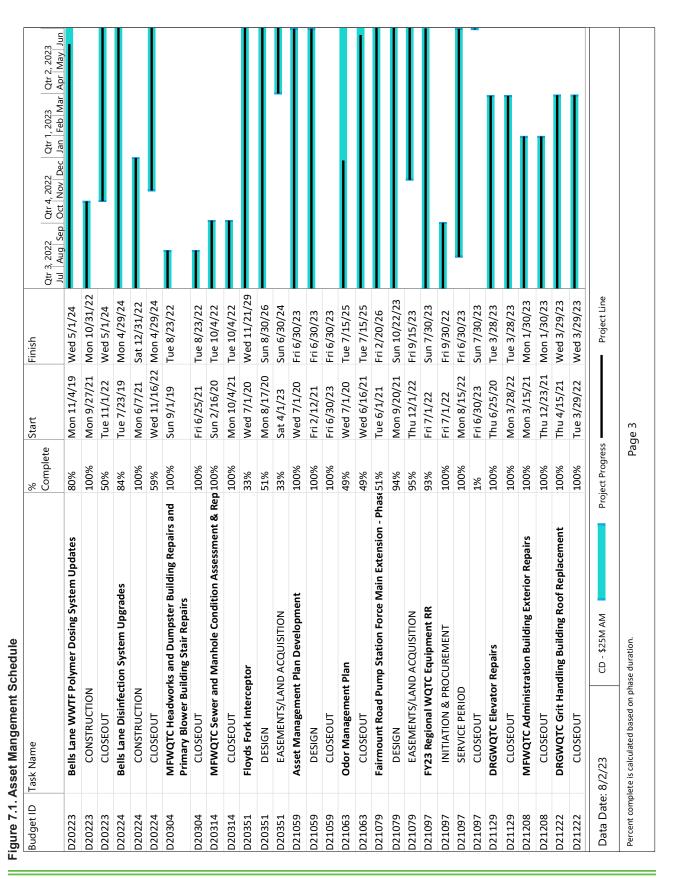
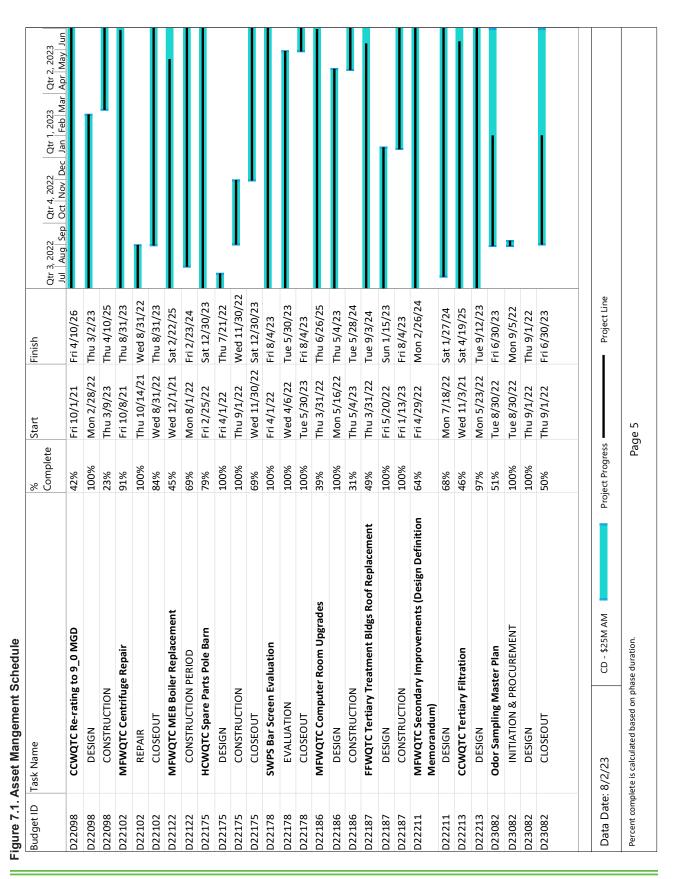


Figure 7.1. Asset Mangement Schedule

D21223						
1223			Complete			Qtr 3, 2022         Qtr 4, 2022         Qtr 1, 2023         Qtr 2, 2023           Jul Aug Sep Oct Nov Dec Jan Feb Mar Apr May Jun
	HCWQTC Grit Building Roof Replacement	of Replacement	100%	Thu 4/15/21	Thu 10/6/22	
D21223	CLOSEOUT		100%	Thu 9/30/21	Thu 10/6/22	
D21224	DRGWQTC Sodium Hypochlo Buildings Roof Replacement	DRGWQTC Sodium Hypochlorite and Process Water Buildings Roof Replacement	100%	Thu 4/15/21	Thu 7/6/23	
D21224	CONSTRUCTION		100%	Mon 11/22/21	Wed 7/6/22	
D21224	CLOSEOUT		100%	Wed 7/6/22	Thu 7/6/23	
D21230	DRG RAS Pumps 2 and 3 Replacement	Replacement	54%	Wed 5/5/21	Sat 10/5/24	
D21230	DESIGN		100%	Tue 5/11/21	Tue 8/16/22	I
D21230	CONSTRUCTION		46%	Mon 10/24/22	Tue 8/6/24	
D21233	MFWQTC MEB Roof Replacement	acement	61%	Thu 4/1/21	Sun 10/27/24	
D21233	CONSTRUCTION		94%	Mon 6/27/22	Thu 9/28/23	
D21237	MFWQTC Secondary Clarifiers Assessment	ifiers Assessment	100%	Sat 5/1/21	Fri 2/3/23	
D21237	ACTIVITIES		100%	Mon 1/3/22	Sun 7/31/22	I
D21237	ASSESSMENT PERIOD		100%	Sun 7/31/22	Thu 12/1/22	
D21237	CLOSEOUT		100%	Thu 12/1/22	Fri 2/3/23	
D21239	MFWQTC Groundwater Wells Assistance	Vells Assistance	100%	Tue 5/18/21	Fri 6/30/23	
D21239	DESIGN		100%	Mon 5/24/21	Fri 6/30/23	
D21239	CLOSEOUT		100%	Fri 6/30/23	Fri 6/30/23	
D21242	DRGWQTC Lab Upgrade		%09	Tue 6/1/21	Thu 9/26/24	
D21242	CONSTRUCTION		95%	Mon 6/27/22	Fri 10/6/23	
D21247	MFWQTC MEB HVAC Replacement	lacement	49%	Tue 6/15/21	Wed 8/27/25	
D21247	DESIGN		100%	Mon 6/21/21	Mon 3/6/23	
D21247	EASEMENTS/LAND ACQUISITION	UISITION	100%	Wed 11/16/22	Tue 12/20/22	I
D21247	CONSTRUCTION		33%	Mon 3/6/23	Tue 8/27/24	
D22041	District Wide High Voltage Maintenance Program	e Maintenance Program	100%	Tue 6/1/21	Wed 7/6/22	
D22041	CLOSEOUT		100%	Sat 5/28/22	Wed 7/6/22	
D22042	<b>FFWQTC Power Factor Correction</b>	rrection	29%	Mon 5/24/21	Fri 11/29/24	
D22042	CONSTRUCTION		%98	Tue 2/8/22	Thu 11/30/23	
D22080	DRG Clarifier 4-6 Mechanism Updat	ism Update	%95	Sat 5/1/21	Tue 6/10/25	
D22080	DESIGN		%26	Thu 5/6/21	Sun 10/29/23	
					-	
Data Date: 8/2/23		CD - \$25M AM	Project Progress		■ Project Line	



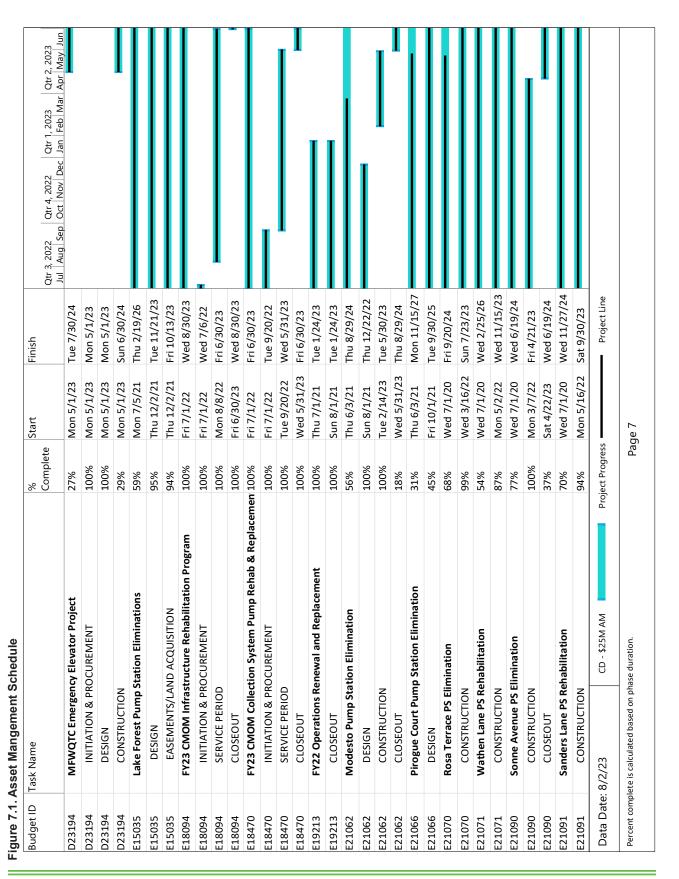




Apr May Jun Qtr 2, 2023 Feb Mar Qtr 1, 2023 Otr 3, 2022

Jul | Aug | Sep | Oct | Nov | Dec Mon 11/25/24 Mon 12/18/23 Project Line Fhu 12/21/23 Mon 2/20/23 Sat 10/21/23 Wed 7/26/23 Mon 2/20/23 Wed 7/26/23 Wed 2/15/23 Mon 3/27/23 Tue 9/26/23 Sat 12/14/24 Tue 9/10/24 Thu 9/28/23 Sun 8/18/24 Thu 4/27/23 Thu 5/18/23 Sat 8/19/23 Sat 4/19/25 Fri 3/31/23 Fri 4/14/23 Fri 3/31/23 Tue 8/1/23 ri 3/31/23 Tue 8/1/23 Fri 3/31/23 Sat 2/8/25 Fri 3/7/25 Fri 5/2/25 Finish Mon 2/20/23 Mon 2/20/23 Wed 2/15/23 Mon 4/10/23 Wed 3/15/23 Mon 1/2/23 rhu 6/15/23 Mon 1/2/23 Thu 3/9/23 Tue 6/6/23 Fri 3/31/23 Fri 3/31/23 Fri 3/31/23 Start Page 6 Project Progress Complete 100% 100% 100% 100% 100% 100% 100% 100% 100% 100% 100% 100% 100% 100% 100% 100% 27% 31% %68 25% %98 84% 30% 32% %98 34% 29% HCWQTC Aeration Blower Buildings, Sec 1 & 2 Roof Replace 30% % **DRGWQTC Grit Electric MCC Building Roof Replacement** DRGWQTC Clarifier MCC and Grit Electric MCC Buildings MFWQTC Odor Control Chemical Storage Building Roof MFWQTC Activated Sludge Building Roof Replacement MFWQTC Dechlorination Building Roof Replacement CCWQTC Maintenance Offices Roof Replacement CD - \$25M AM INITIATION & PROCUREMENT Figure 7.1. Asset Mangement Schedule Percent complete is calculated based on phase duration **DRGWQTC Roof Repairs** CCWQTC Roof Repairs CONSTRUCTION CONSTRUCTION Roof Replacement Replacement DESIGN DESIGN DESIGN DESIGN DESIGN DESIGN DESIGN DESIGN Task Name Data Date: 8/2/23 Budget ID D23159 D23159 D23160 D23160 D23163 D23163 D23163 D23163 D23165 D23165 D23166 D23166 33168 D23159 D23161 D23161 D23161 D23162 D23162 D23162 D23167 D23160 D23160 D23167 333168 D23165 D23166 23167 233168







Jan Feb Mar Apr May Jun Qtr 2, 2023 Qtr 1, 2023 | Aug | Sep | Oct | Nov | Dec Otr 4, 2022 Qtr 3, 2022 Sun 10/30/22 Tue 10/31/23 **Project Line** Tue 11/29/22 Tue 11/29/22 Wed 7/13/22 Wed 9/30/26 Wed 1/20/27 Tue 7/11/23 Tue 7/11/23 Thu 1/26/23 Fri 12/29/23 Sat 9/14/24 Tue 10/1/24 Tue 10/4/22 Thu 12/1/22 Thu 12/1/22 Sat 6/29/24 Fri 6/19/26 Fri 9/15/23 Sat 6/29/24 Fri 2/23/24 Fri 2/24/23 Fri 2/24/23 Fri 6/30/23 Tue 1/6/26 Tue 2/6/24 Fri 8/12/22 Sun 4/7/24 Fri 7/29/22 Fri 7/29/22 Fri 6/30/23 Fri 7/8/22 Finish Mon 11/8/21 Mon 3/20/23 Mon 8/15/22 Mon 2/27/23 Sun 10/30/22 Sat 10/15/22 Sat 10/15/22 Mon 3/16/20 Thu 12/17/20 Mon 10/3/22 Mon 10/3/22 Tue 12/20/22 Mon 7/22/19 Wed 12/1/21 Thu 6/30/22 Thu 1/26/23 Thu 6/30/22 Thu 1/26/23 rue 6/15/21 Fri 1/27/23 Mon 3/1/21 Mon 7/4/22 Thu 7/7/22 Thu 9/8/22 rue 6/7/22 Tue 6/7/22 Thu 6/2/22 Tue 2/8/22 Fri 6/30/23 Fri 6/30/23 Fri 7/1/22 Fri 7/1/22 Start Page 8 Project Progress Complete 100% 100% 100% 100% 100% 100% 100% 100% 100% 100% 100% 100% 100% 100% 100% 100% 100% 85% 20% 84% 55% 36% 51% 28% 19% % South Shelby St. Sanitary Sewer Improvements Starkey FPS Electrical Service Improvements MFWQTC Admin Building Roof Replacement Admiral Rd Pump Station Improvements Liberty Street Emergency Sewer Repair **SWPS Influent Gate Seal Replacement** EASEMENTS/LAND ACQUISITION **EASEMENTS/LAND ACQUISITION** Lantana Drive PS No 1 Elimination CD - \$25M AM INITIATION & PROCUREMENT **Bluegrass Fields PS Renovation** Figure 7.1. Asset Mangement Schedule Flood Gate 114 Replacement Percent complete is calculated based on phase duration 34th St CSO Emergency CONSTRUCTION CONSTRUCTION CONSTRUCTION SGC Gate 1 Repair CLOSEOUT CLOSEOUT CLOSEOUT CLOSEOUT CLOSEOUT CLOSEOUT DESIGN DESIGN Task Name Data Date: 8/2/23 Budget ID E22116 E22116 E22233 E22223 E22233 E2223 E23064 E23064 E23064 E23172 -20107 F20107 -20321 -21153 -21202 :21202 :23052 -23052 -23052 E22116 E23064 E23172 E23172 F20321 F21153 318147 **G18147** 318147 **G18147** 318147 318417 318417



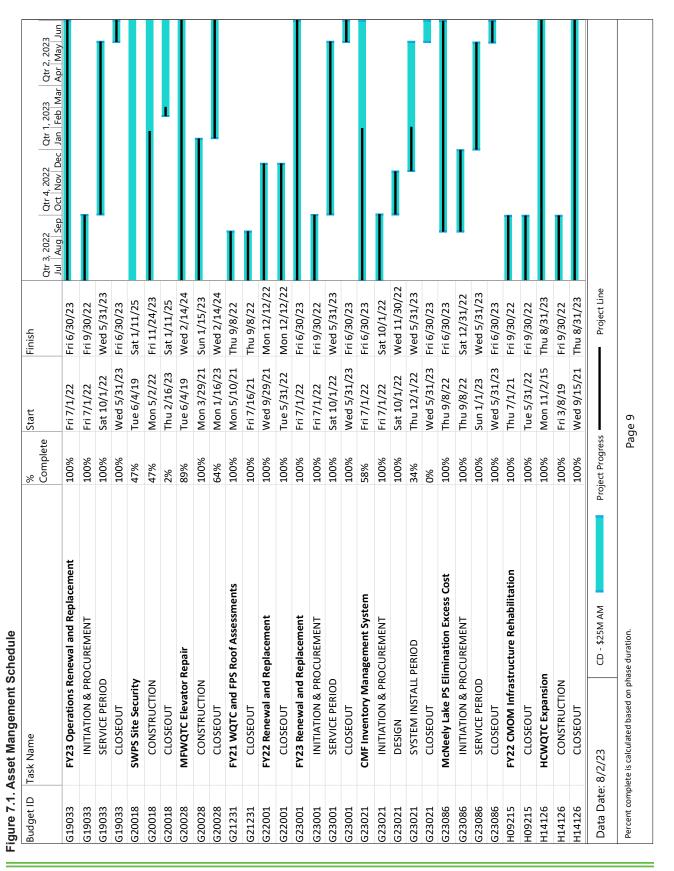
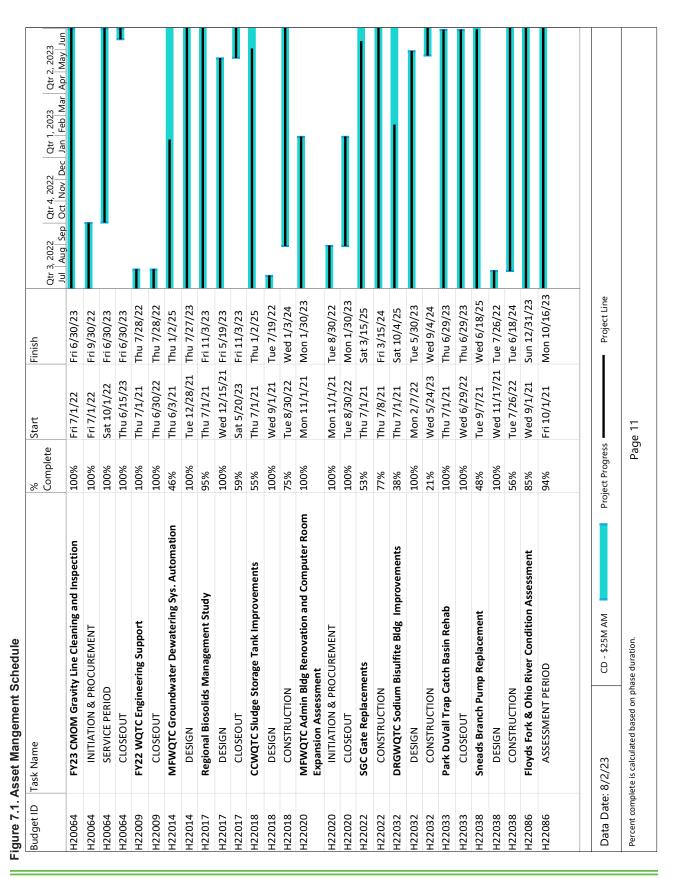


Figure 7.1. Asset Mangement Schedule

)	Task Name		%	Start		
			Complete			Otr 3, 2022 Otr 4, 2022 Otr 1, 2023 Otr 2, 2023
H19002	FY23 Plumbing M	FY23 Plumbing Modification Program	%62	Fri 7/1/22	Fri 6/30/23	ימו באל אינו ואינו באל אינו ואינו באל אינו באל אינו ואינו באל אינו באל אינו באל אינו באל אינו באל אינו באל אינו
H19002	INITIATION & PROCUREMENT	ROCUREMENT	100%	Fri 7/1/22	Fri 9/30/22	
H19002	SERVICE PERIOD	۵	100%	Sat 10/1/22	Wed 5/31/23	
H19002	CLOSEOUT		100%	Wed 5/31/23	Fri 6/30/23	
H19002	FY23 NMC Support	oort	1%	Fri 7/1/22	Fri 6/30/23	
H19005	FY23 NMC Support	t	100%	Fri 7/1/22	Fri 6/30/23	
H19005	INITIATION & PROCUREMENT	ROCUREMENT	100%	Fri 7/1/22	Fri 9/30/22	
H19005	SERVICE PERIOD	Q	100%	Sat 10/1/22	Wed 5/31/23	
H19005	CLOSEOUT		100%	Wed 5/31/23	Fri 6/30/23	
H19019	FY23 CMOM SCAP AAM FOG	AAM FOG	100%	Fri 7/1/22	Fri 6/30/23	
H19019	INITIATION & PROCUREMENT	ROCUREMENT	100%	Fri 7/1/22	Wed 7/6/22	
H19019	SERVICE PERIOD	Q	100%	Wed 7/6/22	Fri 6/30/23	
H19019	CLOSEOUT		100%	Wed 5/31/23	Fri 6/30/23	
H19116	<b>FY22 NMC RTC</b>		84%	Thu 7/1/21	Fri 6/30/23	
H19116	CLOSEOUT		100%	Tue 5/31/22	Thu 9/29/22	
H19116	FY23 NMC RTC		1%	Fri 7/1/22	Fri 6/30/23	
H19132	FY23 NMC RTC		100%	Fri 7/1/22	Fri 6/30/23	
H19132	INITIATION & PROCUREMENT	ROCUREMENT	100%	Fri 7/1/22	Fri 9/30/22	
H19132	SERVICE PERIOD	۵	100%	Sat 10/1/22	Fri 6/30/23	
H19132	CLOSEOUT		100%	Thu 6/15/23	Fri 6/30/23	
H20021	Admiral Rd Force Main	Main	20%	Fri 4/1/22	Sun 4/1/29	
H20021	INITIATION & PROCUREMENT	ROCUREMENT	100%	Fri 4/1/22	Sun 7/3/22	
H20021	DESIGN		35%	Sun 7/3/22	Tue 12/2/25	
H20050	FY23 NMC CSO In:	FY23 NMC CSO Inspection Cameras	73%	Fri 7/1/22	Wed 11/1/23	
H20050	INITIATION & PROCUREMENT	ROCUREMENT	100%	Fri 7/1/22	Thu 12/29/22	
H20058	FY23 CMOM I and	FY23 CMOM I and C Implementation	100%	Fri 7/1/22	Fri 6/30/23	
H20058	INITIATION & PROCUREMENT	ROCUREMENT	100%	Fri 7/1/22	Fri 9/30/22	
H20058	SERVICE PERIOD	۵	100%	Sat 10/1/22	Wed 5/31/23	
H20058	CLOSEOUT		100%	Wed 5/31/23	Fri 6/30/23	
H20063	FY22 CMOM Grav	FY22 CMOM Gravity Line Cleaning and Inspection	100%	Thu 7/1/21	Wed 8/31/22	
Н20063	CLOSEOUT		100%	Tue 5/31/22	Wed 8/31/22	
Data Date: 8/2/23	3: 8/2/23	CD - \$25M AM	Project Progress		Project Line	
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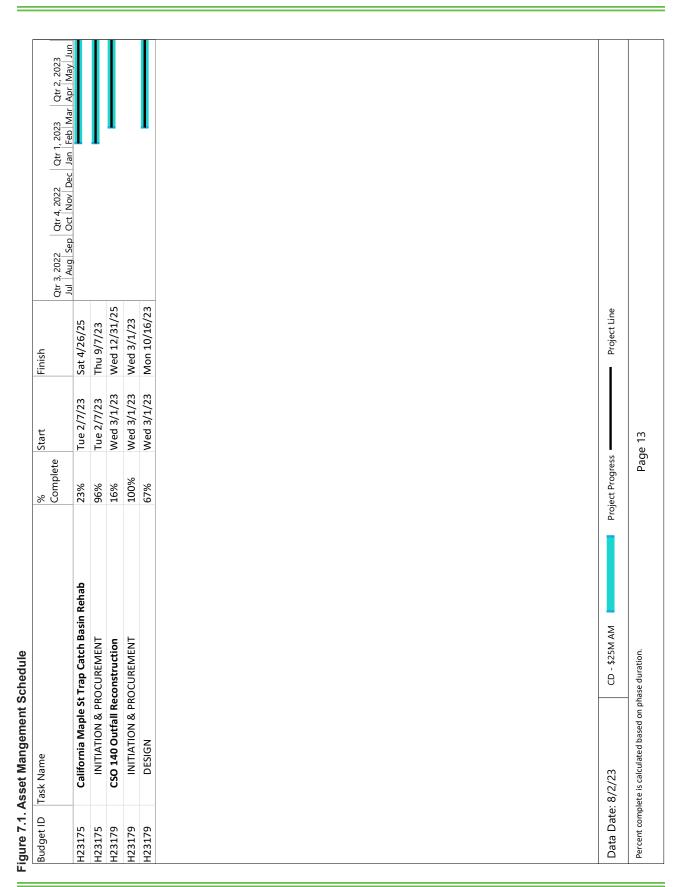


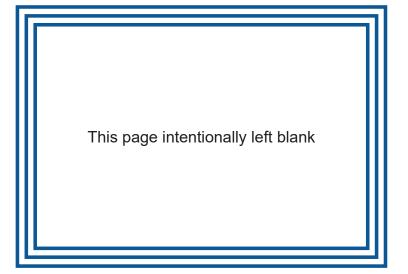




Apr May Jun Qtr 2, 2023 Jan Feb Mar Qtr 1, 2023 Otr 4, 2022 Oct Nov Dec Otr 3, 2022 Mon 11/13/23 Project Line Thu 11/28/24 Thu 11/17/22 Thu 10/30/25 Mon 2/20/23 Mon 9/26/22 Mon 6/16/25 Mon 10/3/22 Sun 10/15/23 Mon 9/26/22 Tue 10/31/23 Wed 5/17/28 Sat 10/30/27 Sat 10/28/23 Wed 10/2/30 Thu 8/31/23 Thu 10/1/26 Thu 9/22/22 Thu 9/22/22 Sat 10/1/22 Wed 9/6/23 Sat 6/28/25 Thu 8/26/27 Sat 8/26/23 ri 5/28/27 Tue 5/7/24 Fri 7/28/23 Fri 6/30/23 Fri 7/28/23 ri 5/30/25 Fri 9/30/22 Finish Mon 1/16/23 Mon 9/26/22 Mon 10/3/22 Mon 10/3/22 Mon 4/24/23 Wed 8/10/22 Wed 8/10/22 Mon 2/20/23 Thu 9/22/22 Thu 9/22/22 Thu 9/22/22 Thu 6/15/23 Thu 4/20/23 Wed 3/1/23 Thu 9/22/22 Fhu 9/22/22 Thu 9/22/22 Sat 10/1/22 Sat 10/1/22 Fri 7/1/22 Start Page 12 Project Progress Complete 100% 100% 100% 100% 100% 100% 100% 100% 100% 100% 100% 100% 34% 88% 22% 88% 41% 75% 41% 78% 80% 63% %66 41% 38% %89 15% California Neighborhood Trap Catch Basin Rehab **Beargrass Interceptor Relief Rehab** Middletown Station PS Elimination **EASEMENTS/LAND ACQUISITION EASEMENTS/LAND ACQUISITION EASEMENTS/LAND ACQUISITION** CD - \$25M AM FY23 WQTC Engineering Support INITIATION & PROCUREMENT Olde Copper Ct PS Elimination Cedar Creek Main Interceptor Figure 7.1. Asset Mangement Schedule **NQTC Regional Lab Upgrade** Percent complete is calculated based on phase duration **SWPS Screen Replacement** Parkwood PS Elimination CONSTRUCTION SERVICE PERIOD CLOSEOUT DESIGN DESIGN DESIGN DESIGN DESIGN Task Name Data Date: 8/2/23 Budget ID H23018 H23013 H23016 H23016 H23016 H23016 H23018 H23033 H23033 H23039 H23013 H23013 H23041 123048 123048 123050 H23018 H23033 H23039 H23041 H23041 H23033 123039 H23039 123041 123043 H23043 123043 123043



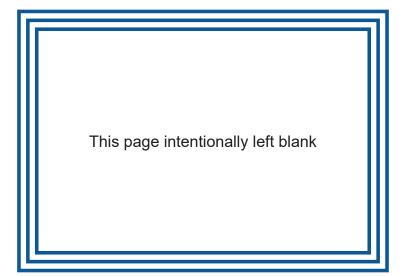






APPENDIX A

**AUTHORIZED DISCHARGES - WET WEATHER CSOS** 





7 OF																																				Ī
COUNT OF		_	_	1	1	1	_	1	_	_	1	_	_	_	_	1	16	_	-	_	_	_	-	_	1	1	_	-	_	-	-	1	-	-	_	  -
DISCHARGE VOLUME (GAL)	17,207,659	11,415,812	36,039,194	45,206,298	26,256,699	219,568,251	163,964,783	331,806,960	338,460,652	101,875,769	7,240,514	5,127,043	12,130,084	2,216,906	5,965,091	150,849,173	1,475,330,888	34,042	2,465,622	5,059,815	3,932,352	3,237,708	5,441,962	1,897,330	4,969,494	777,020	1,268,883	4,746,944	2,200,734	4,056,204	11,162,052	9,508,300	12,005,998	12,905,943	49,264,961	
COMMENT																																				
STANDARD	Atlas	Atlas	Atlas	Atlas	Atlas	Atlas	Cloudburst	Cloudburst	Cloudburst	Atlas		Atlas																								
PERIOD (HR)	-	9	8	12	1	12	12	12	24	-	9	7-	က	9	3	1		-	7-	ဇ	9	7-	ဇ	7-	1	1	7-	ဇ	7-	-	9	3	-	9	24	
FREQUENCY (YR)	0.64	0.47	09:0	0.79	0.85	0.77	1.32	2.71	1.74	0.59	0.39	0.62	0.24	0.47	0.41	96.0		0.31	0.58	09:0	0.40	3.89	0.55	0.41	0.73	0.88	0.88	0.81	0.70	0.31	0.21	0.31	0.32	0.22	0.50	
DISCHARGE PER RAIN (GALIIN)	17,037,286	12,972,514	34,753,321	26,176,200	21,312,256	124,401,275	71,289,036	119,742,678	110,861,661	125,308,449	10,070,256	5,363,015	34,073,270	2,574,803	8,104,743	66,570,685		94,560	3,261,405	5,259,683	5,243,136	1,989,987	5,722,358	2,983,223	3,678,382	522,191	852,744	3,929,589	2,598,269	9,303,220	25,659,889	19,645,247	20,807,623	27,814,531	37,983,779	
RAIN TOTAL (IN)	1.01	0.88	1.04	1.73	1.23	1.77	2.30	2.77	3.05	0.81	0.72	96:0	0.36	98.0	0.74	2.27		98.0	92.0	96:0	0.75	1.63	0.95	0.64	1.35	1.49	1.49	1.21	0.85	0.44	0.43	0.48	0.58	0.46	1.30	
DURATION (MIN)	480	315	375	510	06	2145	1785	1920	3570	066	120	135	210	45	165	480		45	180	405	315	195	405	165	810	255	195	240	225	285	435	420	465	009	1575	
END DATE	07/18/2022 10:45	07/26/2022 14:00	07/31/2022 12:00	08/10/2022 23:00	08/21/2022 17:00	01/04/2023 13:45	02/17/2023 12:45	03/04/2023 14:00	03/26/2023 21:30	04/01/2023 17:00	04/28/2023 00:30	05/07/2023 11:30	05/09/2023 07:15	05/16/2023 13:15	06/07/2023 14:45	06/26/2023 02:00		07/06/2022 17:45	07/08/2022 15:00	07/18/2022 09:00	07/26/2022 14:00	07/28/2022 23:30	07/31/2022 12:15	08/05/2022 06:45	08/11/2022 03:30	08/29/2022 21:00	08/30/2022 08:45	09/04/2022 01:00	09/06/2022 18:45	10/25/2022 23:45	10/30/2022 23:15	11/11/2022 15:30	12/07/2022 05:00	12/08/2022 19:30	12/15/2022 07:15	
START DATE	07/18/2022 02:45	07/26/2022 08:45	07/31/2022 05:45	08/10/2022 14:30	08/21/2022 15:30	01/03/2023 02:00	02/16/2023 07:00	03/03/2023 06:00	03/24/2023 10:00	04/01/2023 00:30	04/27/2023 22:30	05/07/2023 09:15	05/09/2023 03:45	05/16/2023 12:30	06/07/2023 12:00	06/25/2023 18:00		07/06/2022 17:00	07/08/2022 12:00	07/18/2022 02:15	07/26/2022 08:45	07/28/2022 20:15	07/31/2022 05:30	08/05/2022 04:00	08/10/2022 14:00	08/29/2022 16:45	08/30/2022 05:30	09/03/2022 21:00	09/06/2022 15:00	10/25/2022 19:00	10/30/2022 16:00	11/11/2022 08:30	12/06/2022 21:15	12/08/2022 09:30	12/14/2022 05:00	
cso	CSO015																CSO015 Total	CSO016																		f



																																			_	_
COUNT OF	7-	7	1	1	1	7	1	1	1	1	-	1	-	-	1	<b>F</b>	-	1	1	1	-	1	-	42	1	1	1	1	1	-	1	1	1	1	-	-
DISCHARGE VOLUME (GAL)	15,292,866	21,999,151	7,256,807	31,842,827	50,453,821	1,920,611	33,866,572	69,834,262	40,220,615	18,274,299	11,978,313	21,596,259	17,489,695	2,061,627	7,265,318	7,869,086	24,148,092	18,919,971	21,528,829	11,221,938	18,817,168	10,616	33,761,715	681,389,656	3,404,505	2,692	2,306,508	1,656,179	19,935,840	21,084	23,070,432	100,680,024	6,466,672	3,168,834	2,352,967	1,362,973
COMMENT																																				
STANDARD	Atlas	Atlas	Atlas	Atlas	Cloudburst	Atlas	Cloudburst	Cloudburst	Atlas		Atlas	Atlas	Atlas	Atlas	Atlas	Atlas	Cloudburst	Cloudburst	Atlas	Atlas	Atlas	Atlas														
PERIOD (HR)	-	9	9	12	12	9	12	24	12	1	12	9	-	٢	1	τ	9	9	3	1	12	12	٢		1	3	12	3	12	٢	12	24	1	1	9	8
FREQUENCY (YR)	0.57	0.36	0.17	0.27	1.27	60.0	2.76	1.70	0.23	0.35	0.27	0.39	0.62	0.15	0.28	0.34	0.56	0.27	0.42	90.0	0.37	0.11	1.06		0.71	0.46	0.75	0.54	0.95	0.02	1.88	1.26	0.40	0.50	0.62	0.47
DISCHARGE PER RAIN (GAL/IN)	17,844,651	31,028,421	21,857,852	50,146,184	22,187,256	11,101,796	12,116,841	23,047,611	81,915,713	37,524,227	20,616,718	29,624,497	18,685,571	10,572,446	19,904,980	19,672,716	23,674,600	32,961,621	28,628,762	151,647,816	20,907,964	43,687	14,521,168		2,837,087	3,840	1,355,175	1,796,290	9,566,142	780,894	8,856,212	36,879,130	10,850,121	4,845,313	2,064,006	1,742,932
RAIN TOTAL (IN)	98.0	0.71	0.33	0.64	2.27	0.17	2.79	3.03	0.49	0.49	0.58	0.73	0.94	0.20	98:0	0.40	1.02	0.57	0.75	0.07	06:0	0.24	2.33		1.20	0.70	1.70	0.92	2.08	0.03	2.60	2.73	09:0	0.65	1.14	0.78
DURATION (MIN)	540	069	420	1005	1305	225	1635	2295	1665	009	465	615	510	225	315	330	675	675	675	375	645	45	1410		105	15	135	09	3810	315	096	5415	495	450	510	375
END DATE	01/12/2023 17:00	01/19/2023 11:15	01/22/2023 19:15	01/25/2023 18:15	02/17/2023 02:30	02/23/2023 01:45	03/04/2023 08:00	03/25/2023 16:45	04/01/2023 13:30	04/06/2023 02:30	04/22/2023 05:45	04/28/2023 08:00	05/07/2023 17:15	05/08/2023 16:15	05/09/2023 10:30	05/14/2023 12:00	05/16/2023 19:45	05/20/2023 13:15	06/07/2023 22:15	06/12/2023 04:00	06/19/2023 23:15	06/21/2023 11:15	06/26/2023 08:30		08/29/2022 17:00	09/03/2022 22:15	01/03/2023 08:00	01/12/2023 09:15	02/18/2023 21:45	02/22/2023 09:00	03/03/2023 22:45	03/27/2023 22:30	04/01/2023 08:15	05/07/2023 15:45	05/16/2023 16:30	06/07/2023 17:30
START DATE	01/12/2023 08:00	01/18/2023 23:45	01/22/2023 12:15	01/25/2023 01:30	02/16/2023 04:45	02/22/2023 22:00	03/03/2023 04:45	03/24/2023 02:30	03/31/2023 09:45	04/05/2023 16:30	04/21/2023 22:00	04/27/2023 21:45	05/07/2023 08:45	05/08/2023 12:30	05/09/2023 05:15	05/14/2023 06:30	05/16/2023 08:30	05/20/2023 02:00	06/07/2023 11:00	06/11/2023 21:45	06/19/2023 12:30	06/21/2023 10:30	06/25/2023 09:00		08/29/2022 15:15	09/03/2022 22:00	01/03/2023 05:45	01/12/2023 08:15	02/16/2023 06:15	02/22/2023 03:45	03/03/2023 06:45	03/24/2023 04:15	04/01/2023 00:00	05/07/2023 08:15	05/16/2023 08:00	06/07/2023 11:15
oso																								CSO016 Total	CSO019											



0.77 0.44 0.45 0.62 0.67 0.95 1.82 1.11	0.77 0.45 0.45 0.62 0.67 0.95 1.11 1.11 0.47	1,018,634 0.71 2,928,577 0.44 497,386 0.45 1,306,151 0.62 624,083 0.31 1,084,782 0.67 816,516 0.95 858,349 1.82 932,859 1.11	0.71 0.44 0.45 0.62 0.67 0.95 1.82 1.11 0.47	1.12     1,018,634     0.71       1.02     2,928,577     0.44       0.76     497,386     0.45       0.87     1,306,151     0.62       0.56     624,083     0.31       1.04     1,064,782     0.67       2.07     816,516     0.95       2.71     932,859     1.11       0.64     1,196,350     0.47       0.90     3394,488     0.49	45 1.12 1.018,634 0.71  90 1.02 2,928,577 0.44  15 0.76 497,386 0.45  45 0.87 1,306,151 0.62  15 0.56 624,083 0.31  45 1.04 1,064,782 0.67  90 2.07 816,516 0.95  90 2.62 858,349 1.82  105 2.71 992,859 1.11  16 0.06 2047
0.71 0.44 0.45 0.62 0.31 0.67 0.95 1.182 1.11	0.71 0.44 0.45 0.62 0.31 0.67 0.95 1.18 1.11 0.47	1,018,634 0.71 2,928,577 0.44 497,386 0.45 1,306,151 0.62 624,083 0.31 1,064,782 0.67 816,516 0.95 858,349 1.82 932,859 1.11	1,018,634 0.71 2,928,577 0.44 497,386 1,306,151 0.62 624,083 0.31 1,064,782 0.67 816,516 0.95 858,349 1.82 932,859 1.11 1,196,350 0.47	1.12     1,018,634     0.71       1.02     2,928,577     0.44       0.76     497,386     0.45       0.87     1,306,151     0.62       0.56     624,083     0.31       1.04     1,084,782     0.67       2.07     816,516     0.95       2.62     858,349     1.82       2.71     932,859     1.11       0.64     1,196,350     0.47       0.90     394,488     0.49	45         1,12         1,018,634         0.71           90         1,02         2,928,577         0.44           15         0,76         497,386         0.45           45         0,87         1,306,151         0.62           45         1,04         1,064,782         0.31           90         2,07         816,516         0.95           90         2,62         858,349         1,182           105         2,71         932,859         1,11           45         1,196,350         0,47
0.44 0.45 0.62 0.67 0.95 1.82 1.11	0.44 0.45 0.62 0.31 0.95 1.11 1.11 0.47	2,928,577 0.44 497,386 0.45 1,306,151 0.62 624,083 0.31 1,064,782 0.67 816,516 0.95 858,349 1.82 932,859 1.11	2,928,577 0.44 497,386 0.45 1,306,151 0.62 624,083 0.31 1,064,782 0.67 816,516 0.95 858,349 1.82 932,859 1.11 1,196,350 0.47	1.02     2,928,577     0.44       0.76     497,386     0.45       0.87     1,306,151     0.62       0.56     624,083     0.31       1.04     1,064,782     0.67       2.07     816,516     0.95       2.62     858,349     1.182       2.71     932,859     1.11       0.64     1,196,350     0.47       0.90     394,488     0.49	90         1,02         2,928,577         0.44           15         0.76         497,386         0.45           45         0.87         1,306,151         0.62           45         0.56         624,083         0.31           90         2.07         816,516         0.67           90         2.07         816,516         0.95           105         2.71         932,859         1.11           30         0.64         1,196,350         0.47
0.62 1 0.62 1 0.31 6 0.67 1 1.82 12 12 1.11 24 1.11 24	0.45 1 0.62 1 0.31 6 0.35 12 1.82 12 1.11 24 1.11 24 0.47 1	497,386     0.45     1       1,306,151     0.62     1       624,083     0.31     6       1,084,782     0.67     1       816,516     0.95     12       858,349     1.82     12       932,859     1.11     24       1,196,350     0.47     1	497,386     0.45     1       1,306,151     0.62     1       624,083     0.31     6       1,064,782     0.67     1       816,516     0.95     12       858,349     1.82     12       932,859     1.11     24       1,196,350     0.47     1       394,488     0.49     6	0.76         497,386         0.45         1           0.87         1,306,151         0.62         1           0.56         624,083         0.31         6           1.04         1,064,782         0.67         1           2.07         816,516         0.95         12           2.62         858,349         1.82         12           2.71         932,859         1.11         24           0.64         1,196,350         0.47         1           0.90         334,488         0.49         6	15         0.76         497,386         0.45         1           45         0.87         1,306,151         0.62         1           15         0.56         624,083         0.31         6           45         1,04         1,064,782         0.67         1           90         2.07         816,516         0.95         12           90         2.62         858,349         1.82         12           105         2.71         932,859         1.11         24           16         0.06         1,196,350         0.47         1
0.62 1 0.31 6 0.67 1 1.82 12 1.11 24 0.47 1	0.62 1 0.31 6 0.67 1 1.82 12 1.11 24 0.47 1	1,306,151         0.62         1           624,083         0.31         6           1,064,782         0.67         1           816,516         0.95         12           858,349         1.82         12           932,859         1.11         24           1,196,350         0.47         1	1,306,151     0.62     1       624,083     0.31     6       1,064,782     0.67     1       816,516     0.95     12       858,349     1.82     12       932,859     1.11     24       1,196,350     0.47     1       394,488     0.49     6	0.87         1,306,151         0.62         1           0.56         624,083         0.31         6           1.04         1,064,782         0.67         1           2.07         816,516         0.95         12           2.62         858,349         1,82         12           2.71         932,859         1,11         24           0.64         1,196,350         0.47         1           0.90         334,488         0.49         6	45         0.87         1,306,151         0.62         1           15         0.56         624,083         0.31         6           45         1.04         1,064,782         0.67         1           90         2.07         816,516         0.95         12           90         2.62         858,349         1.82         12           105         2.71         932,859         1.11         24           16         0.64         1,196,350         0.47         1
0.31 6 0.67 1 0.95 12 1.82 12 1.11 24 0.47 1	0.31 6 0.67 1 1.82 12 1.11 24 0.47 1	624,083 0.31 6 6 1,064,782 0.67 1 1 1,064,782 0.67 1 1 1 1 2 1 1 2 1 1 1,196,350 0.47 1 1	624,083     0.31     6       1,064,782     0.67     1       816,516     0.95     12       856,349     1.82     12       932,859     1.11     24       1,196,350     0.47     1       394,488     0.49     6	0.56         624,083         0.31         6           1.04         1,064,782         0.67         1           2.07         816,516         0.95         12           2.62         888,349         1.82         12           2.71         932,859         1.11         24           0.64         1,196,350         0.47         1           0.90         334,488         0.49         6	15         0.56         624,083         0.31         6           45         1.04         1,064,782         0.67         1           90         2.07         816,516         0.95         12           90         2.62         858,349         1.82         12           105         2.71         932,859         1.11         24           30         0.64         1,196,350         0.47         1
0.95 12 Cic 1.82 12 Cic 1.11 24 Cic	0.95 12 1.82 12 1.11 24 0.47 1	1,064,782 0.67 1 816,516 0.95 12 858,349 1.82 12 932,859 1.11 24 1,196,350 0.47 1	1,064,782     0.67     1       816,516     0.95     12       858,349     1.82     12       932,859     1.11     24       1,196,350     0.47     1       394,488     0.49     6	1.04         1,064,782         0.67         1           2.07         816,516         0.95         12           2.62         858,349         1.82         12           2.71         932,859         1.11         24           0.64         1,196,350         0.47         1           0.90         334,488         0.49         6	45         1.04         1,064,782         0.67         1           90         2.07         816,516         0.95         12           90         2.62         858,349         1.82         12           105         2.71         932,859         1.11         24           30         0.64         1,196,350         0.47         1
0.95 12 1.82 12 1.11 24 0.47 1	0.95     12       1.82     12       1.11     24       0.47     1       0.49     6	858,349 1.82 12 932,859 1.11 24 1,196,350 0.47 1	816,516     0.95     12       858,349     1.82     12       932,859     1.11     24       1,196,350     0.47     1       394,488     0.49     6	2.62     858,349     1.82     12       2.62     858,349     1.82     12       2.71     932,859     1.11     24       0.64     1,196,350     0.47     1       0.90     384,488     0.49     6	90         2.07         816,516         0.95         12           90         2.62         858,349         1.82         12           105         2.71         932,859         1.11         24           30         0.64         1,196,350         0.47         1
1.82 12 1.11 24 0.47 1	1.82 12 1.11 24 0.47 1 0.49 6	858,349         1.82         12           932,859         1.11         24           1,196,350         0.47         1	858.349     1.82     12       932.859     1.11     24       1,196,350     0.47     1       394,488     0.49     6	2.62     858,349     1.82     12       2.71     932,859     1.11     24       0.64     1,196,350     0.47     1       0.90     384,488     0.49     6	90         2.62         858,349         1.82         12           106         2.71         932,859         1.11         24           30         0.64         1,196,350         0.47         1
1.11 24	1.11 24 0.47 1 0.49 6	932,859 1.11 24 1,196,350 0.47 1	932,859     1.11     24       1,196,350     0.47     1       394,488     0.49     6	2.71     932,859     1.11     24       0.64     1,196,350     0.47     1       0.90     384,488     0.49     6	105         2.71         932,859         1.11         24           30         0.64         1,196,350         0.47         1           45         0.00         204,400         6.47         1
0.47	0.47 1	1,196,350 0.47 1	1,196,350 0.47 1 394,488 0.49 6	0.64 1,196,350 0.47 1 0.90 394,488 0.49 6	30 0.64 1,196,350 0.47 1
	0.49 6		394,488 0.49 6	0.90 394.488 0.49 6	200 000 0000 0000
0.49 6		394,488 0.49 6		0.50	15 0.90 354,466 0.49 6
4 0.50 3 Atlas	0.50 3	888,304 0.50 3	0.50	888,304 0.50 3	0.82 888,304 0.50 3
43 0.76 6 Atlas	9	1,231,443 0.76 6	0.76	1,231,443 0.76 6	1.67 1,231,443 0.76 6
.8 1.82 12 Cloudburst	12	134,338 1.82 12	1.82	134,338 1.82 12	2.62 134,338 1.82 12
3 1.11 24 Cloudburst	24	37,113 1.11 24	1.11 24	37,113 1.11 24	2.71 37,113 1.11 24
0.50 3 Atlas	3	2,438 0.50 3	0.50 3	2,438 0.50 3	0.81 2,438 0.50 3
1.71 1 Atlas	1	3,658 1.71 1	1.71	3,658 1.71 1	1.39 3,658 1.71 1
0.63 3 Atlas	က	1,370 0.63 3	0.63	1,370 0.63 3	1.20 1,370 0.63 3
0.74	7 0	493 0.74 1			
_			1 1 7 1 7 1 607	0.97 4.93 0.74 1	15 0 97 493 0 74 1
			0.74	493 0.74 1	0.97 493 0.74 1
	+ ;;		493 0.74 1	0.97 493 0.74 1	15 0.97 493 0.74 1
	- +/:)		493 0.74 1	0.97 493 0.74 1	15 0.97 493 0.74 1
	- +/:)		493 0.74 1	0.97 493 0.74 1	15 0.97 493 0.74 1
	- -		493 0.74 1	0.97 493 0.74 1	15 0.97 493 0.74 1
	- +/:)		493 0.74 1	0.97 493 0.74 1	15 0.97 493 0.74 1
	- +/:)		493 0.74 1	0.97 493 0.74 1	15 0.97 493 0.74 1
	17.00		493 0.74	0.97 493 0.74	15 0.97 493 0.74
	40	-	493 0.74	0.97 493 0.74	15 0.97 493 0.74
0.63	0.63	1,370 0.63 493 0.74	1,370 0.63	1.20 1,370 0.63	15 1.20 1,370 0.63
		37,113 2,438 3,658 1,370 493	37,113 2,438 3,658 1,370	2.71 37.113 0.81 2,438 1.39 3,658 1.20 1,370	15 2.71 37,113 15 0.81 2,438 15 1.20 1,370
		888,304 1,231,443 134,338 37,113 2,438 3,658 1,370 493	888,304 1,231,443 134,338 37,113 2,438 3,658 1,370	0.82 888,304 1.67 1,231,443 2.62 134,338 2.71 37,113 0.81 2,438 1.39 3,658 1.20 1,370	30 0.82 888,304 210 1.67 1,231,443 45 2.62 134,338 15 2.71 37,113 15 0.81 2,438 15 1.20 1,370
4 8 8 8	1,231,443 1,231,443 134,338 37,113 2,438 3,658 1,370			0.82 1.67 2.62 2.71 2.71 0.81 1.39	30 0.82 210 1.67 45 2.62 15 2.71 15 0.81 15 1.39
立   5   4     1   1   1   1   2   1   2   4   1   2   4   1   2   4   4   4   4   4   4   4   4   4	8888, 8888, 888, 888, 888, 888, 888, 8			2.62 2.62 2.71 2.71 0.81 1.39	15 0.30 30 0.82 210 1.67 45 2.62 15 2.71 15 0.81 15 1.20
15 30 210 45 45 15 15	06/25/2023 12:16 06/25/2023 22:00 03/03/2023 08:15 03/25/2023 01:15 07/18/2022 02:15 07/28/2022 20:30 08/10/2022 21:30	05/16/2023 12:45 06/07/2023 12:15 06/25/2023 22:00 03/03/2023 08:15 03/25/2023 01:15 07/18/2022 02:15 07/28/2022 20:30 08/10/2022 21:30		06/25/2023 18:30 06/25/2023 18:30 06/25/2023 18:30 03/03/2023 07:30 03/25/2023 07:00 07/18/2022 02:05 08/10/2022 20:15	3.0.0.



COUNT OF CSO	-	-	1	1	1	-	1	1	1	6	-	1	1	-	1	1	1	1	8	-	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	_
DISCHARGE VOLUME (GAL)	18,199	14,971	409,161	58,443	22,979	902	7,758	7,758	33,171	573,343	37	8	391	6	256	16	31	46	793	110,280	87,069	3,332	370,939	15,081	29,363	96,138	86,838	5,892	886	48,570	534	20,186	886	19,177	37,928	71,996
COMMENT																																				
STANDARD	Atlas	Atlas	Atlas	Atlas	Atlas	Atlas	Cloudburst	Atlas	Atlas		Atlas	Atlas	Atlas	Atlas	Atlas	Atlas	Cloudburst	Atlas		Atlas	Cloudburst	Cloudburst	Atlas	Atlas	Atlas											
PERIOD (HR)	3	3	1	3	1	-	12	1	9		-	3	3	3	1	1	12	9		3	3	9	1	3	1	3	1	1	12	1	12	12	24	1	1	7-
FREQUENCY (YR)	99.0	0.50	1.71	0.63	0.74	0.54	2.01	0.52	0.88		0.23	0.68	0.50	0.63	0.74	0.05	2.01	0.88		0.68	0.50	0.41	1.71	09:0	0.43	0.63	0.74	0.37	0.74	0.54	0.85	2.01	1.07	0.57	0.34	0.52
DISCHARGE PER RAIN (GAL/IN)	17,432	18,438	295,210	48,743	23,641	1,087	2,859	10,428	17,663		134	8	481	7	263	286	11	24		105,632	107,228	4,355	267,632	15,051	47,360	80,181	89,340	9,519	523	58,518	289	7,438	330	24,061	83,176	96,768
RAIN TOTAL (IN)	1.04	0.81	1.39	1.20	0.97	0.83	2.71	0.74	1.88		0.28	1.04	0.81	1.20	0.97	90.0	2.71	1.88		1.04	0.81	0.77	1.39	1.00	0.62	1.20	0.97	0.62	1.69	0.83	1.85	2.71	2.69	08.0	0.46	0.74
DURATION (MIN)	30	15	30	15	15	15	15	15	195		15	15	15	15	105	15	15	165		30	30	120	45	15	15	30	30	15	15	15	15	30	15	45	15	15
END DATE	07/08/2022 12:00	07/18/2022 02:00	07/28/2022 20:30	08/10/2022 21:15	09/03/2022 20:30	01/12/2023 08:30	03/03/2023 08:15	05/07/2023 08:30	06/25/2023 20:45		07/06/2022 15:30	07/08/2022 12:00	07/18/2022 02:15	08/10/2022 21:45	09/03/2022 22:15	09/19/2022 09:00	03/03/2023 08:30	06/25/2023 21:00		07/08/2022 12:00	07/18/2022 02:15	07/26/2022 10:15	07/28/2022 20:45	07/31/2022 05:45	08/05/2022 03:15	08/10/2022 21:30	09/03/2022 20:45	12/06/2022 23:30	01/03/2023 02:30	01/12/2023 08:30	02/16/2023 13:00	03/03/2023 08:30	03/24/2023 23:45	04/01/2023 00:15	04/05/2023 16:30	05/07/2023 08:30
START DATE	07/08/2022 11:30	07/18/2022 01:45	07/28/2022 20:00	08/10/2022 21:00	09/03/2022 20:15	01/12/2023 08:15	03/03/2023 08:00	05/07/2023 08:15	06/25/2023 17:30		07/06/2022 15:15	07/08/2022 11:45	07/18/2022 02:00	08/10/2022 21:30	09/03/2022 20:30	09/19/2022 08:45	03/03/2023 08:15	06/25/2023 18:15		07/08/2022 11:30	07/18/2022 01:45	07/26/2022 08:15	07/28/2022 20:00	07/31/2022 05:30	08/05/2022 03:00	08/10/2022 21:00	09/03/2022 20:15	12/06/2022 23:15	01/03/2023 02:15	01/12/2023 08:15	02/16/2023 12:45	03/03/2023 08:00	03/24/2023 23:30	03/31/2023 23:30	04/05/2023 16:15	05/07/2023 08:15
oso	CSO029									CSO029 Total	CSO031								CSO031 Total	CSO034																



P																																				
COUNT OF	-	-	-	-	-	+	23	-	-	+	+	+	+	-	-	+	-	-	#	-	-	+	+	+	1	1	1	1	1	-	1	1	-	+	+	_
DISCHARGE VOLUME (GAL)	10,298	21,918,751	11,907	9,169	21,908	143,972	23,121,098	27,935	18,204	1,054,978	3,561	10,376	9,949	17,057	18,410	13,646	2,623	6,972	1,183,710	1,359	45,450	8,500	7,212	28,837	45,264	37,974	45,624	8,941	4,755	15,787	2,519	61,747	698'6	30,513	51,314	21.190
COMMENT																																				
STANDARD	Atlas	Atlas	Atlas	Atlas	Atlas	Atlas		Atlas	Cloudburst	Atlas	Atlas		Atlas	Cloudburst	Atlas	Atlas	Atlas	Atlas																		
PERIOD (HR)	9	-	က	-	24	9		က	ဇ	_	3	<b>F</b>	<b>F</b>	~	က	12	<b>~</b>	9		က	က	3	9	3	1	1	1	1	12	3	12	12	24	1	7	<b>←</b>
FREQUENCY (YR)	0.50	0.00	0.57	0.36	0.38	0.88		99.0	0.46	1.85	0.62	0.42	0.50	0.71	0.50	2.01	0.63	0.83		0.17	99:0	0.46	0.41	0.62	0.42	0.50	0.71	0.35	0.73	0.50	0.82	2.01	0.98	0.63	0.40	0.48
DISCHARGE PER RAIN (GAL/IN)	11,230	10,959,375,501	12,914	20,151	22,333	76,663		27,632	24,500	741,376	3,461	17,264	9,530	19,143	23,452	5,026	3,001	3,941		4,426	44,955	11,440	9,317	28,024	75,314	36,374	51,206	14,802	2,827	20,111	1,416	22,743	3,595	34,912	96,637	31,440
RAIN TOTAL (IN)	0.92	0.00	0.92	0.46	96.0	1.88		1.01	0.74	1.42	1.03	09:0	1.04	0.89	0.79	2.71	0.87	1.77		0.31	1.01	0.74	0.77	1.03	09:0	1.04	0.89	09:0	1.68	0.79	1.78	2.71	2.61	0.87	0.53	0.67
DURATION (MIN)	15	1665	30	15	15	255		30	30	45	15	15	30	15	15	30	15	15		15	45	15	15	15	15	30	30	15	15	30	15	75	30	15	15	15
END DATE	05/16/2023 11:45	06/02/2023 00:00	06/07/2023 11:00	06/11/2023 21:15	06/19/2023 03:30	06/25/2023 21:45		07/08/2022 12:00	07/18/2022 02:15	07/28/2022 20:45	07/31/2022 05:45	08/05/2022 03:15	08/10/2022 21:30	09/03/2022 20:30	01/12/2023 08:30	03/03/2023 08:30	03/31/2023 23:45	06/25/2023 20:45		07/03/2022 02:45	07/08/2022 12:30	07/18/2022 02:30	07/26/2022 08:45	07/31/2022 06:00	08/05/2022 03:30	08/10/2022 21:45	09/03/2022 21:00	12/06/2022 23:45	01/03/2023 02:45	01/12/2023 08:45	02/16/2023 13:15	03/03/2023 08:45	03/25/2023 00:00	04/01/2023 00:00	04/05/2023 16:45	05/07/2023 08:45
START DATE	05/16/2023 11:30	05/31/2023 20:15	06/07/2023 10:30	06/11/2023 21:00	06/19/2023 03:15	06/25/2023 17:30		07/08/2022 11:30	07/18/2022 01:45	07/28/2022 20:00	07/31/2022 05:30	08/05/2022 03:00	08/10/2022 21:00	09/03/2022 20:15	01/12/2023 08:15	03/03/2023 08:00	03/31/2023 23:30	06/25/2023 20:30		07/03/2022 02:30	07/08/2022 11:45	07/18/2022 02:15	07/26/2022 08:30	07/31/2022 05:45	08/05/2022 03:15	08/10/2022 21:15	09/03/2022 20:30	12/06/2022 23:30	01/03/2023 02:30	01/12/2023 08:15	02/16/2023 13:00	03/03/2023 07:30	03/24/2023 23:30	03/31/2023 23:45	04/05/2023 16:30	05/07/2023 08:30
cso							CSO034 Total	CSO035											CSO035 Total	CSO036																



COUNT OF	-	_	_	_	-	22	_	_	-	+	+	5	_	_	_	_	-	-	-	-	1	-	-	_	1	13	_	1	-	-	-	-	1	1	_
05		L					L																										_	_	
DISCHARGE VOLUME (GAL)	27,256	16,814	12,411	54,404	112,510	649,750	1,205	6,892	2,914	73	5,807	16,891	309,945	268,153	606,543	12,863	17,641	538,993	10,867	262,607	3,602	1,108,239	652,285	81,760	330,326	4,203,825	8,011	17,975	26,050	31,166	19,883	39,527	27,820	10,560	8,652
COMMENT																																			
STANDARD	Atlas	Atlas	Atlas	Atlas	Atlas		Atlas	Atlas	Atlas	Cloudburst	Atlas		Atlas		Atlas																				
PERIOD (HR)	9	8	1	24	9		8	3	-	12	9		8	-	3	-	3	3	9	9	3	-	3	1	1		3	1	3	3	9	1	3	1	
FREQUENCY (YR)	0.46	0.56	0.32	0.37	0.83		0.68	0:50	0.74	2.01	0.88		0.50	0.32	0.71	0.12	0.46	0.46	0.21	0.35	90.0	2.10	0.52	0.16	0.41		0:50	0.32	0.71	0.46	0.35	2.10	0.52	0.16	0.41
DISCHARGE PER RAIN (GAL/IN)	32,332	18,724	29,551	56,968	63,601		1,154	8,488	2,998	27	3,092		409,439	736,683	541,557	49,855	16,865	515,290	28,825	400,926	38,320	760,109	735,384	253,914	490,098		10,583	49,383	23,259	29,796	30,355	27,111	31,364	32,794	12.837
RAIN TOTAL (IN)	0.84	06.0	0.42	0.95	1.77		1.04	0.81	0.97	2.71	1.88		92.0	98.0	1.12	0.26	1.05	1.05	0.38	99:0	0.09	1.46	0.89	0.32	0.67		0.76	0.36	1.12	1.05	99.0	1.46	0.89	0.32	29.0
DURATION (MIN)	15	15	15	15	255		15	15	15	15	15		120	45	195	300	285	150	105	300	15	135	255	345	585		105	15	150	06	285	06	120	45	30
END DATE	05/16/2023 12:00	06/07/2023 11:15	06/11/2023 21:30	06/19/2023 03:45	06/25/2023 22:00		07/08/2022 12:00	07/18/2022 02:15	09/03/2022 20:45	03/03/2023 08:30	06/25/2023 21:00		07/03/2022 03:00	07/06/2022 15:15	07/08/2022 13:45	07/09/2022 15:15	07/17/2022 13:00	07/18/2022 04:00	07/25/2022 02:15	07/26/2022 10:45	07/27/2022 09:15	07/28/2022 22:15	07/31/2022 08:30	08/05/2022 09:00	08/10/2022 23:15		07/03/2022 02:30	07/06/2022 14:30	07/08/2022 12:45	07/18/2022 03:15	07/26/2022 10:15	07/28/2022 21:15	07/31/2022 06:45	08/05/2022 03:45	08/10/2022 21:15
START DATE	05/16/2023 11:45	06/07/2023 11:00	06/11/2023 21:15	06/19/2023 03:30	06/25/2023 17:45		07/08/2022 11:45	07/18/2022 02:00	09/03/2022 20:30	03/03/2023 08:15	06/25/2023 20:45		07/03/2022 01:00	07/06/2022 14:30	07/08/2022 10:30	07/09/2022 10:15	07/17/2022 08:15	07/18/2022 01:30	07/25/2022 00:30	07/26/2022 05:45	07/27/2022 09:00	07/28/2022 20:00	07/31/2022 04:15	08/05/2022 03:15	08/10/2022 13:30		07/03/2022 00:45	07/06/2022 14:15	07/08/2022 10:15	07/18/2022 01:45	07/26/2022 05:30	07/28/2022 19:45	07/31/2022 04:45	08/05/2022 03:00	08/10/2022 20:45
cso						CSO036 Total	CSO038					CSO038 Total	CSO050													CSO050 Total	CSO051								



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COUNT OF	-	-	1	1	1	+	1	-	-	-	-	-	-	-	~	-	-	1	-	-	1	-	1	33	1	1	1	1	1	5	-	1	1	1	1	-
DISCHARGE VOLUME (GAL)	28,928	57,074	4,591	4,069	15,157	511	2,730	10,203	14,850	35	114,788	28,558	12,988	133,728	294,120	23,907	80,144	3,069	25,638	14,719	9,545	12,329	24,298	1,109,735	26,607	10,793	1,992	1,815	3,549	44,755	31,931	7,132	44,167	3,123	1,961	109,081
COMMENT																																				
STANDARD	Atlas	Cloudburst	Cloudburst	Cloudburst	Cloudburst	Atlas	Atlas	Atlas	Atlas	Atlas	Atlas		Atlas	Atlas	Atlas	Atlas	Atlas		Atlas	Atlas	Atlas	Atlas	Atlas	Atlas												
PERIOD (HR)	7-	3	1	1	1	9	1	9	24	24	12	-	9	12	12	24	24	12	3	-	3	-	9		1	1	1	6	24		3	1	3	12	3	3
FREQUENCY (YR)	0.98	0.58	0.19	0.19	0.31	0.21	0.12	0.27	0.47	0.47	69.0	69.0	0.33	1.33	1.94	1.26	1.26	0.25	0.35	0.35	0.41	0.47	0.53		4.08	0.61	0:30	0.28	0.46		0.50	0.28	0.72	0.11	0.46	0.46
DISCHARGE PER RAIN (GAL/IN)	18,724	63,065	20,866	15,650	35,415	1,178	19,924	18,550	12,133	29	71,832	26,942	19,649	58,067	110,780	8,603	28,839	5,663	49,304	30,728	12,795	19,601	24,972		15,894	12,154	4,788	3,212	2,950		42,015	22,357	38,406	12,957	1,895	105,392
RAIN TOTAL (IN)	1.54	0.91	0.22	0.26	0.43	0.43	0.14	0.55	1.22	1.22	1.60	1.06	99.0	2.30	2.65	2.78	2.78	0.54	0.52	0.48	0.75	0.63	0.97		1.67	0.89	0.42	0.57	1.20		0.76	0.32	1.15	0.24	1.03	1.03
DURATION (MIN)	09	135	15	15	30	15	15	210	45	15	420	120	09	645	765	929	195	15	06	15	135	15	285		30	15	15	15	15		120	30	120	15	15	105
END DATE	08/29/2022 16:00	09/03/2022 22:30	09/06/2022 15:00	09/11/2022 18:15	10/25/2022 18:15	10/30/2022 15:45	10/31/2022 19:00	12/06/2022 23:45	12/14/2022 08:00	12/14/2022 23:45	01/03/2023 09:15	01/12/2023 09:45	01/19/2023 03:00	02/16/2023 14:45	03/03/2023 17:30	03/24/2023 10:30	03/25/2023 02:15	03/31/2023 11:45	04/01/2023 01:00	04/05/2023 16:45	04/27/2023 23:15	05/07/2023 08:45	05/16/2023 12:30		07/28/2022 20:15	09/03/2022 20:30	10/25/2022 18:15	12/06/2022 23:15	12/14/2022 07:15		07/03/2022 03:00	07/06/2022 15:00	07/08/2022 12:30	07/09/2022 11:00	07/17/2022 13:00	07/18/2022 03:30
START DATE	08/29/2022 15:00	09/03/2022 20:15	09/06/2022 14:45	09/11/2022 18:00	10/25/2022 17:45	10/30/2022 15:30	10/31/2022 18:45	12/06/2022 20:15	12/14/2022 07:15	12/14/2022 23:30	01/03/2023 02:15	01/12/2023 07:45	01/19/2023 02:00	02/16/2023 04:00	03/03/2023 04:45	03/24/2023 01:00	03/24/2023 23:00	03/31/2023 11:30	03/31/2023 23:30	04/05/2023 16:30	04/27/2023 21:00	05/07/2023 08:30	05/16/2023 07:45		07/28/2022 19:45	09/03/2022 20:15	10/25/2022 18:00	12/06/2022 23:00	12/14/2022 07:00		07/03/2022 01:00	07/06/2022 14:30	07/08/2022 10:30	07/09/2022 10:45	07/17/2022 12:45	07/18/2022 01:45
oso																								CSO051 Total	CSO052					CSO052 Total	CS0053					



COUNT OF	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	<b>~</b>
DISCHARGE VOLUME (GAL)	224	36,479	222,600	79,010	5,881	9,983	11,805	20,864	10,090	101,103	3,398	14,146	5,673	3,575	16,687	2,731	24,084	4,522	5,855	13,119	975	35,390	12,181	3,116	147,457	23,188	26,375	8,925	138,707	181	215	443	216,437	203,443	19,616	12,352	17,534	17,400
COMMENT																																						
STANDARD	Atlas	Cloudburst	Atlas	Atlas	Atlas	Cloudburst	Cloudburst	Atlas	Atlas	Atlas	Atlas																											
PERIOD (HR)	9	9	1	3	1	1	3	1	1	1	1	1	1	1	9	1	3	12	9	9	6	24	24	9	12	1	6	12	12	3	6	1	12	24	12	3	1	12
FREQUENCY (YR)	0.21	0.34	4.08	0.55	0.22	0.41	0.15	0.89	0.89	0.61	0.05	0.15	0.17	0:30	0.23	0.12	0.28	0.12	0.15	0.28	0.23	0.46	0.46	0.13	69.0	0.69	0.32	0.24	1.00	0.04	0.08	60.0	1.84	1.22	0.25	0.34	0.38	0.28
DISCHARGE PER RAIN (GAL/IN)	595	57,357	132,975	85,694	16,200	15,622	50,233	14,310	6,921	113,854	54,810	79,470	20,556	8,593	35,887	18,455	54,121	14,779	20,189	23,219	1,982	29,418	10,125	12,266	92,740	21,691	42,066	15,283	64,157	2,921	1,413	3,031	82,547	73,738	36,259	23,985	34,449	27,750
RAIN TOTAL (IN)	0.38	0.64	1.67	0.92	0.36	0.64	0.23	1.46	1.46	0.89	90.0	0.18	0.28	0.42	0.46	0.15	0.45	0.31	0.29	0.57	0.49	1.20	1.20	0.25	1.59	1.07	0.63	0.58	2.16	90.0	0.15	0.15	2.62	2.76	0.54	0.52	0.51	0.63
DURATION (MIN)	15	300	75	165	345	495	15	60	45	120	15	45	15	09	315	15	135	15	15	150	15	255	135	15	480	120	225	90	615	15	15	15	069	1455	420	150	30	165
END DATE	07/25/2022 02:00	07/26/2022 10:45	07/28/2022 21:15	07/31/2022 07:00	08/05/2022 09:00	08/10/2022 21:45	08/21/2022 13:00	08/29/2022 16:15	08/30/2022 05:45	09/03/2022 22:30	09/05/2022 16:15	09/06/2022 15:45	09/11/2022 18:30	10/25/2022 19:00	10/30/2022 16:00	10/31/2022 19:15	11/11/2022 09:00	11/27/2022 03:45	11/30/2022 03:15	12/06/2022 23:15	12/08/2022 10:30	12/14/2022 08:15	12/15/2022 00:00	12/31/2022 03:15	01/03/2023 08:30	01/12/2023 09:00	01/19/2023 03:00	01/25/2023 02:00	02/16/2023 14:30	02/22/2023 04:45	02/22/2023 22:30	03/01/2023 20:00	03/03/2023 16:00	03/25/2023 01:30	03/31/2023 12:00	04/01/2023 02:15	04/05/2023 17:00	04/21/2023 23:15
START DATE	07/25/2022 01:45	07/26/2022 05:45	07/28/2022 20:00	07/31/2022 04:15	08/05/2022 03:15	08/10/2022 13:30	08/21/2022 12:45	08/29/2022 15:15	08/30/2022 05:00	09/03/2022 20:30	09/05/2022 16:00	09/06/2022 15:00	09/11/2022 18:15	10/25/2022 18:00	10/30/2022 10:45	10/31/2022 19:00	11/11/2022 06:45	11/27/2022 03:30	11/30/2022 03:00	12/06/2022 20:45	12/08/2022 10:15	12/14/2022 04:00	12/14/2022 21:45	12/31/2022 03:00	01/03/2023 00:30	01/12/2023 07:00	01/18/2023 23:15	01/25/2023 00:30	02/16/2023 04:15	02/22/2023 04:30	02/22/2023 22:15	03/01/2023 19:45	03/03/2023 04:30	03/24/2023 01:15	03/31/2023 05:00	03/31/2023 23:45	04/05/2023 16:30	04/21/2023 20:30
cso																																						



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COUNT OF	1	1	1	1	1	1	1	51	1	1	-	1	1	1	-	1	1	1	1	-	1	1	1	1	1	1	1	1	20	-	1	1	1	1	-	1	-
DISCHARGE VOLUME (GAL)	42,325	43,000	1,056	5,477	5,168	37,851	3,069	1,811,105	36,496	8,906	102,854	59,752	1,969	74,035	3,750	10,744	596,864	115,405	16,172	612,819	1,097,610	11,088	375,243	72,442	35,091	14,033	3,938	332,405	3,581,617	9,959	660'66	265,290	133,907	6,427	199,056	5	25,773
СОММЕНТ																																					
STANDARD	Atlas		Atlas	Cloudburst	Cloudburst	Cloudburst	Cloudburst	Atlas	Atlas	Atlas	Atlas	Atlas		Atlas																							
PERIOD (HR)	3	1	3	1	1	9	9		3	3	-	3	1	1	9	24	12	1	9	12	12	24	24	3	3	9	3	9		3	1	3	3	6	1	1	1
FREQUENCY (YR)	0.39	0.47	0.12	0.19	0.22	0.52	0.24		0.72	0.46	4.08	0.55	0.41	0.61	0.28	0.46	69:0	69.0	0.32	1.00	1.84	1.22	1.22	0.34	0.39	0.52	0.51	92.0		0.50	0.28	0.72	0.46	0.34	4.08	0.41	0.89
DISCHARGE PER RAIN (GAL/IN)	58,785	67,188	5,805	24,893	18,523	39,801	5,970		31,736	8,605	61,442	64,807	3,081	83,372	6,636	8,931	375,386	107,956	25,793	283,450	418,616	4,019	136,007	140,665	48,738	14,756	4,756	194,503		13,104	310,468	230,687	129,379	10,106	118,910	7	17,677
RAIN TOTAL (IN)	0.72	0.64	0.18	0.22	0.28	0.95	0.51		1.15	1.03	1.67	0.92	0.64	0.89	0.57	1.20	1.59	1.07	0.63	2.16	2.62	2.76	2.76	0.52	0.72	0.95	0.83	1.71		92.0	0.32	1.15	1.03	0.64	1.67	0.64	1.46
DURATION (MIN)	180	09	15	15	30	285	30		75	30	75	75	15	06	15	30	420	75	30	495	750	45	180	45	45	45	30	255		30	15	195	120	180	120	15	45
END DATE	04/28/2023 00:15	05/07/2023 09:30	05/08/2023 12:00	05/09/2023 05:15	05/14/2023 06:30	05/16/2023 12:15	05/20/2023 01:15		07/08/2022 13:00	07/18/2022 03:15	07/28/2022 21:30	07/31/2022 06:45	08/10/2022 22:15	09/03/2022 22:30	12/06/2022 23:45	12/14/2022 07:45	01/03/2023 09:15	01/12/2023 09:45	01/19/2023 03:00	02/16/2023 14:45	03/03/2023 17:45	03/24/2023 10:30	03/25/2023 02:15	04/01/2023 01:00	04/27/2023 23:15	05/16/2023 12:30	06/07/2023 12:15	06/25/2023 22:30		07/03/2022 01:30	07/06/2022 14:45	07/08/2022 13:45	07/18/2022 04:00	07/26/2022 08:45	07/28/2022 22:15	08/10/2022 22:15	08/29/2022 16:00
START DATE	04/27/2023 21:15	05/07/2023 08:30	05/08/2023 11:45	05/09/2023 05:00	05/14/2023 06:00	05/16/2023 07:30	05/20/2023 00:45		07/08/2022 11:45	07/18/2022 02:45	07/28/2022 20:15	07/31/2022 05:30	08/10/2022 22:00	09/03/2022 21:00	12/06/2022 23:30	12/14/2022 07:15	01/03/2023 02:15	01/12/2023 08:30	01/19/2023 02:30	02/16/2023 06:30	03/03/2023 05:15	03/24/2023 09:45	03/24/2023 23:15	04/01/2023 00:15	04/27/2023 22:30	05/16/2023 11:45	06/07/2023 11:45	06/25/2023 18:15		07/03/2022 01:00	07/06/2022 14:30	07/08/2022 10:30	07/18/2022 02:00	07/26/2022 05:45	07/28/2022 20:15	08/10/2022 22:00	08/29/2022 15:15
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COUNT OF CSO	-	1	1	1	1	1	1	1	1	1	1	1	1	-	-	7-	-	1	-	-	-	-	-		1	1	1	1	1	37	-	1	1	1	1	-	-
DISCHARGE VOLUME (GAL)	14	479	929	58	77,682	1,931	1,107	10,360	1,461	223	3,028	1,578	192,258	3,233	336,732	5,651	3,990	4,605	915	522	78,876	594	191,436	26,967	28,427	60,084	572	1,137	366,114	2,140,146	36	_	29	3	5	4	09
COMMENT																																					
STANDARD	Atlas	Cloudburst	Cloudburst	Cloudburst	Cloudburst	Cloudburst	Atlas		Atlas																												
PERIOD (HR)	1	1	1	3	9	24	24	12	1	9	12	12	12	24	24	12	3	3	-	-	9	9	3	1	12	12	9	9	9		3	9	1	3	1	3	1
FREQUENCY (YR)	0.17	0:30	0.12	0.28	0.28	0.46	0.46	69.0	0.69	0.32	1.00	1.84	1.84	1.22	1.22	0.25	0.34	0.39	0.47	0.22	0.52	0.24	0.51	0.20	0.36	0.36	0.16	0.76	0.76		0.71	0.20	4.35	0.58	0.52	0.15	0.71
DISCHARGE PER RAIN (GAL/IN)	49	1,151	4,434	130	137,491	1,605	921	6,516	1,366	355	1,401	602	73,325	1,172	122,048	10,445	7,748	962'9	1,429	1,871	82,940	1,156	231,202	91,105	35,938	75,959	1,777	999	214,227		31	4	39	3	9	18	64
RAIN TOTAL (IN)	0.28	0.42	0.15	0.45	0.57	1.20	1.20	1.59	1.07	0.63	2.16	2.62	2.62	2.76	2.76	0.54	0.52	0.72	0.64	0.28	0.95	0.51	0.83	0:30	0.79	0.79	0.32	1.71	1.71		1.13	0.38	1.71	0.97	0.85	0.25	0.93
DURATION (MIN)	15	09	15	15	225	285	90	930	255	15	009	15	675	089	195	195	09	225	15	15	330	30	135	30	15	90	15	90	345		15	15	15	09	15	15	15
END DATE	09/11/2022 18:30	10/25/2022 18:45	10/31/2022 19:15	11/11/2022 07:00	12/07/2022 00:15	12/14/2022 09:15	12/15/2022 00:30	01/03/2023 16:45	01/12/2023 11:15	01/19/2023 02:30	02/16/2023 15:45	03/03/2023 05:00	03/04/2023 01:15	03/24/2023 12:45	03/25/2023 01:45	03/31/2023 12:30	04/01/2023 02:30	04/28/2023 01:15	05/07/2023 09:45	05/14/2023 06:15	05/16/2023 13:45	05/20/2023 01:00	06/07/2023 13:00	06/11/2023 21:30	06/19/2023 03:45	06/19/2023 14:00	06/21/2023 09:00	06/25/2023 09:15	06/25/2023 23:15		07/08/2022 10:45	07/24/2022 23:45	07/28/2022 20:15	07/31/2022 05:45	08/10/2022 21:15	08/21/2022 12:45	09/03/2022 21:15
START DATE	09/11/2022 18:15	10/25/2022 17:45	10/31/2022 19:00	11/11/2022 06:45	12/06/2022 20:30	12/14/2022 04:30	12/14/2022 23:00	01/03/2023 01:15	01/12/2023 07:00	01/19/2023 02:15	02/16/2023 05:45	03/03/2023 04:45	03/03/2023 14:00	03/24/2023 02:15	03/24/2023 22:30	03/31/2023 09:15	04/01/2023 01:30	04/27/2023 21:30	05/07/2023 09:30	05/14/2023 06:00	05/16/2023 08:15	05/20/2023 00:30	06/07/2023 10:45	06/11/2023 21:00	06/19/2023 03:30	06/19/2023 12:30	06/21/2023 08:45	06/25/2023 08:15	06/25/2023 17:30		07/08/2022 10:30	07/24/2022 23:30	07/28/2022 20:00	07/31/2022 04:45	08/10/2022 21:00	08/21/2022 12:30	09/03/2022 21:00
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Atlas	Atlas	A 4100	Allas	Atlas	Atlas	Atlas		Atlas	Atlas Atlas	Attas Attas	Atlas Atlas Atlas	Atlas Atlas Atlas Atlas	Atlas Atlas Atlas Atlas Atlas Atlas	Atlas Atlas Atlas Atlas Atlas Atlas Atlas	Atlas Atlas Atlas Atlas Atlas Atlas Atlas Atlas	Atlas	Atlas	Atlas	Atlas	Atlas	Atlas	Atlas	Atlas	Atlas	Atlas Atlas Atlas Atlas Atlas Atlas Atlas Atlas Atlas Cloudburst Atlas Atlas Atlas Cloudburst Atlas	Atlas	Atlas	Atlas	Atlas	Atlas	Atlas	Atlas	Atlas Atlas Atlas Atlas Atlas Atlas Atlas Atlas Cloudburst Atlas	Atlas	Atlas	Atlas
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0.08	90.00	90.0	_	0.42	0.48	0.05	0.17	0.77	0.77	3.0	0.58	0.58	0.58	0.58 6.96 0.58	0.58 6.96 0.58 0.84	0.58 6.96 0.58 0.84 0.33	0.58 0.58 0.58 0.84 0.33 0.33	0.77 0.58 0.58 0.84 0.33 0.33 0.03 0.063	0.77 0.58 0.58 0.84 0.33 0.76 0.63 0.90	0.58 6.96 0.58 0.84 0.33 0.076 0.090 0.90	0.58 0.58 0.58 0.84 0.33 0.76 0.63 0.90 1.89	0.58 0.58 0.58 0.33 0.33 0.063 0.90 1.89 0.95 0.95	0.58 0.58 0.58 0.84 0.84 0.03 0.076 0.63 0.90 0.90 0.95 0.95	0.77 0.58 0.58 0.84 0.33 0.063 0.90 0.90 0.95 0.95 0.95	0.58 0.58 0.58 0.33 0.33 0.33 0.06 0.90 1.89 0.95 0.95 0.95 0.95 0.95 1.89	0.58 0.58 0.58 0.84 0.33 0.33 0.33 0.36 0.90 1.89 0.95 0.95 0.95 0.95 0.95 1.99 0.73	0.58 0.58 0.58 0.33 0.33 0.06 0.90 1.89 0.95 0.95 0.95 0.95 0.95 0.95 0.95 0.95 0.95 0.95 0.95 0.95 0.95 0.97 0.97 0.97 0.99	0.58 0.58 0.58 0.84 0.90 0.90 0.90 0.95 0.95 0.95 0.95 0.73 0.73 0.73	0.58 0.58 0.63 0.84 0.33 0.33 0.30 0.90 0.90 0.95 0.95 0.95 0.73 0.73 0.73	0.58 0.58 0.58 0.84 0.84 0.63 0.95 0.95 0.95 0.95 0.95 0.95 0.95 0.95 0.95 0.95 0.95	0.77 0.58 0.58 0.33 0.33 0.03 0.063 0.90 0.95 0.95 0.95 0.95 0.95 0.95 0.95 0.95 0.95 0.95 0.95 0.95 0.95 0.97	0.58 0.58 0.58 0.33 0.33 0.33 0.34 0.41 0.41 0.73 0.73 0.73 0.73 0.73 0.73 0.73 0.73 0.74 0.41 0.74 0.41 0.75 0.95	0.58 0.58 0.58 0.33 0.33 0.33 0.34 0.90 0.90 0.90 0.90 0.95	0.77 0.58 0.68 0.84 0.90 0.90 0.90 0.95	0.58 0.58 0.58 0.84 0.33 0.33 0.33 0.34 0.41 0.41 0.41 0.73 0.73 0.73 0.73 0.73 0.73 0.73 0.73 0.73 0.73 0.73 0.73 0.73 0.75	0.77 0.58 0.58 0.33 0.33 0.33 0.34 0.95 0.95 0.95 0.95 0.95 0.95 0.41 0.73 0.73 0.73 0.73 0.73 0.73 0.73 0.73 0.73 0.73 0.74 1.89 0.75 0.75 0.75 0.75 0.76 0.77
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	60.	1.92	0.11	0.78	0.88	90:0	0.38		1.69	1.69	1.69	0.95	0.95	0.95 0.95 0.96 0.96	0.95 0.96 0.96 1.43	1.69 0.95 1.89 0.96 1.43 0.61	1.69 0.95 1.89 0.96 1.43 0.61 1.74	0.95 0.96 0.96 1.43 0.61 1.74 0.96	0.95 0.96 1.89 0.96 1.74 0.061 1.96 2.67	0.95 0.96 1.89 0.96 1.43 0.61 1.74 0.96 1.96 2.67 2.67	0.95 1.89 0.96 1.43 0.61 1.74 0.96 1.96 2.67 2.56	0.95 0.96 0.96 1.89 0.61 1.74 0.96 1.96 2.56 2.56 0.61	0.95 1.89 0.96 1.43 0.61 1.74 0.96 1.96 1.96 2.67 2.56 0.61	0.95 0.96 1.89 0.96 1.74 0.96 1.96 2.56 2.56 2.56 1.57	0.95 0.96 1.89 0.96 1.74 0.96 1.96 2.67 2.67 2.56 0.61 1.83	1.69 0.95 1.89 0.96 1.74 0.01 1.96 2.67 2.56 0.61 1.96 1.96 1.96 1.57	1.69 0.95 1.89 0.96 1.74 0.96 1.96 2.67 2.67 2.56 0.61 1.83 1.83	1.69 0.95 1.89 0.96 1.74 0.61 1.96 2.67 2.56 0.61 1.96 1.83 1.83	1.69 0.95 1.89 0.96 1.43 0.61 1.74 0.96 0.61 1.57 1.56 1.56	1.69 0.95 1.89 0.96 1.43 0.61 1.74 0.96 1.96 0.61 1.57 1.57 1.56 0.92 0.92	1.69 0.95 1.89 0.96 1.43 0.06 1.96 1.96 1.96 1.96 1.96 1.57 2.56 0.61 1.57 1.57 1.56 0.92 0.92 0.92 0.93 0.95 0.96 0.96 1.43 0.96	1.69 0.95 1.89 0.96 1.74 0.061 1.96 2.67 2.67 2.72 2.72 1.83 1.83 1.56 0.69 0.69 0.80	1.69 0.95 1.89 0.96 1.74 0.61 1.96 2.67 2.56 0.61 1.83 1.83 1.83 1.56 0.69 0.80 0.80 0.80	1.69 0.95 1.89 0.96 1.143 0.61 1.96 0.61 1.56 0.62 0.69 0.80 0.80 0.80 1.58 1.58 1.58 1.56 0.69 0.69 0.69 0.69 0.69 0.69 0.69 0.6	1.69 0.95 1.89 0.96 1.43 0.61 1.74 0.96 1.96 2.67 2.67 2.72 2.72 2.72 2.72 2.72 2.7	1.69 0.95 1.89 0.96 1.43 0.61 1.74 0.96 1.96 1.96 1.96 0.061 1.57 1.57 1.56 0.09 0.09 0.09 0.08 0.08 0.08 0.08 1.74 1.77 1.57 1.57 1.56 0.09 1.77
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23:00	06/25/2023 17:45 07/08/2022 12:30 07/28/2022 22:00 07/31/2022 07:00 08/10/2022 22:30 12/07/2022 00:15 01/03/2023 16:00 03/16/2023 17:00 03/03/2023 17:30	06/25/2023 17:45 07/08/2022 12:30 07/28/2022 22:00 07/31/2022 07:00 08/10/2022 20:30 12/07/2022 00:15 01/03/2023 16:00 03/16/2023 17:00 03/03/2023 23:00 03/05/2023 23:00	06/25/2023 17:45 07/08/2022 12:30 07/28/2022 22:00 07/31/2022 07:00 08/10/2022 20:30 12/07/2022 00:15 01/03/2023 16:00 01/12/2023 16:00 03/25/2023 11:30 04/01/2023 03:00 06/25/2023 11:30	5/25/2023 17.45 7/08/2022 12.30 7/28/2022 22.00 7/31/2022 07.00 8/10/2022 22.30 2/07/2022 00.15 1/03/2023 16.00 1/12/2023 16.00 2/16/2023 17.00 3/03/2023 13.00 3/03/2023 23.00 3/03/2023 23.00 3/03/2023 23.00	06/25/2023 17:45 07/08/2022 12:30 07/28/2022 22:00 07/31/2022 07:00 08/10/2022 22:30 12/07/2022 00:15 01/03/2023 16:00 01/12/2023 16:00 02/16/2023 17:30 04/01/2023 23:00 06/25/2023 11:30 06/25/2023 14:15	06/25/2023 17:45 07/08/2022 12:30 07/28/2022 22:00 07/31/2022 07:00 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01/03/2023 05:30 01	+	$\dashv$	03/01/2023 19:30 03	04/27/2023 22:00 04	05/16/2023 07:15 05	06/11/2023 03:30 06	06/21/2023 08:30 06	ŀ	06/25/2023 17:30 06	_	+	+	++++	<del>                                     </del>	<del>                                     </del>	<del>                                     </del>	<del></del>	<del></del>	+ + + + + + + + + + + + + + + + + + + +	<del></del>	++++++++++	<del></del>	<del></del>	<del></del>	<del></del>	<del></del>	<del></del>	<del></del>	<del></del>	<del></del>	<del></del>	<del></del>	<del></del>	<del></del>	<del></del>	<del></del>
01/1	01/4	02/	03/	04/;	/90	/90	7/90	7/90		CSO057 Total	$\vdash$									<del></del>	<del></del>	<del></del>	<del></del>	<del></del>	<del></del>	<del> </del>	<del></del>	<del></del>	<del></del>	<del></del>	<del></del>	<del></del>	CSO067  Total CSO062  07/7  08/7  12/0  01/1	<del></del>	<del></del>	<del></del>



COUNT OF CSO	1	_	1	1	1	1	16	_	-	_	_	_	_	_	_	1	_	-	1	1		1	-	-	1	1	1	1	1	1	_	1	1	1	1	_	_
DISCHARGE VOLUME (GAL)	30,456	18,309	21,622	1,189	864	26,550	170,766	2,988	2,988	7	8	284	15	23	9,659	426	25	10	4	7	23	8	241	2	72	3	31	634	201	3	12	2	38	6	26	92	21
COMMENT																																					
STANDARD	Atlas	Atlas	Atlas	Atlas	Atlas	Atlas		Atlas		Atlas	Cloudburst	Atlas																									
PERIOD (HR)	1	1	1	6	24	9		1		12	3	1	9	1	1	1	1	1	12	3	9	3	12	1	12	24	24	1	1	12	9	1	6	3	1	24	24
FREQUENCY (YR)	0.76	0.44	0.39	0.39	0.35	0.76		3.04		0.11	0.52	0.08	0.45	0.04	0.94	0.65	0.67	0.34	0.28	0.32	0.12	0.29	0.82	0.10	1.52	0.95	0.95	0.81	0.38	0.26	0.50	0.25	0.36	0.57	0.31	0.41	0.41
DISCHARGE PER RAIN (GAL/IN)	29,569	31,298	39,967	1,649	952	16,358		1,419		31	10	2,294	18	470	8,263	503	19	21	7	13	101	15	136	13	28	1	13	572	386	5	13	5	29	10	223	72	19
RAIN TOTAL (IN)	1.03	0.59	0.54	0.72	0.91	1.62		2.11		0.23	08:0	0.12	0.84	0.05	1.17	0.85	1.31	0.48	0.62	0.52	0.22	0.57	1.78	0.13	2.56	2.49	2.49	1.11	0.52	0.61	0.93	0.32	0.65	0.91	0.43	1.06	1.06
DURATION (MIN)	09	15	15	15	15	45		15		15	105	225	75	150	30	15	45	15	15	15	15	45	009	15	105	15	120	15	15	105	06	15	15	30	15	15	15
END DATE	04/01/2023 00:45	04/05/2023 16:45	05/07/2023 08:45	05/16/2023 12:00	06/19/2023 13:00	06/25/2023 18:30		08/10/2022 22:30		07/03/2022 02:30	07/08/2022 12:00	07/09/2022 10:30	07/26/2022 11:00	07/27/2022 11:30	07/28/2022 20:45	08/05/2022 03:15	08/10/2022 22:00	10/25/2022 18:00	10/30/2022 10:30	11/11/2022 06:45	11/30/2022 03:00	12/06/2022 23:30	02/16/2023 14:00	02/22/2023 02:30	03/03/2023 08:45	03/24/2023 02:15	03/25/2023 01:15	03/31/2023 23:45	04/05/2023 16:30	04/21/2023 23:00	04/27/2023 22:15	05/09/2023 05:00	05/16/2023 11:45	06/07/2023 11:00	06/11/2023 21:15	06/19/2023 03:30	06/19/2023 16:15
START DATE	03/31/2023 23:45	04/05/2023 16:30	05/07/2023 08:30	05/16/2023 11:45	06/19/2023 12:45	06/25/2023 17:45		08/10/2022 22:15		07/03/2022 02:15	07/08/2022 10:15	07/09/2022 06:45	07/26/2022 09:45	07/27/2022 09:00	07/28/2022 20:15	08/05/2022 03:00	08/10/2022 21:15	10/25/2022 17:45	10/30/2022 10:15	11/11/2022 06:30	11/30/2022 02:45	12/06/2022 22:45	02/16/2023 04:00	02/22/2023 02:15	03/03/2023 07:00	03/24/2023 02:00	03/24/2023 23:15	03/31/2023 23:30	04/05/2023 16:15	04/21/2023 21:15	04/27/2023 20:45	05/09/2023 04:45	05/16/2023 11:30	06/07/2023 10:30	06/11/2023 21:00	06/19/2023 03:15	06/19/2023 16:00
oso							CSO083 Total	CSO088	CSO088 Total	CSO092																											



COUNT OF	-	59	+	+	-	-	4	-	+	-	+	-	+	-	-	-	+	10	-	-	-	-	-	1	1	1	1	1	1	11	1	1	1	1	-
DISCHARGE VOLUME (GAL)	911	12,854	42	89,707	718	1,861	92,329	80,205	1,479	13,782	282,228	211,261	129,057	1,158	85	7,185	30,692	757,131	704,845	79,604,032	806,204	2,441,110	13,314,603	10,606,063	596,726	2,326,292	81,492	1,614,307	54,356,353	166,452,026	284,337	73	190,922	377,417	10,445
COMMENT																																			
STANDARD	Atlas		Atlas	Atlas	Atlas	Atlas		Atlas	Atlas	Atlas	Cloudburst	Atlas	Atlas	Atlas	Atlas	Atlas	Atlas		Atlas	Atlas	Atlas	Cloudburst	Cloudburst	Cloudburst	Atlas	Atlas	Atlas	Atlas	Atlas		Atlas	Atlas	Atlas	Atlas	Atlas
PERIOD (HR)	9		3	1	-	-		12	3	12	12	24	1	9	3	3	9		က	-	-	12	12	24	3	1	1	9	1		1	3	1	12	12
FREQUENCY (YR)	0.81		0:30	4.64	0.68	06:0		0.87	0:30	0.83	1.57	06:0	0.71	0.54	0.56	0.39	0.84		0.40	6.17	1.23	1.54	2.18	1.58	0.39	0.55	0.32	0.54	1.00		0.41	0.87	0.85	0.93	0.84
DISCHARGE PER RAIN (GAL/IN)	540		91	51,203	824	1,201		40,062	2,818	7,648	109,561	90,244	81,373	1,165	94	7,422	17,886		746,658	44,224,462	498,580	1,020,531	4,945,989	3,638,444	821,936	3,077,105	215,019	1,638,890	23,715,686		514,172	51	175,158	177,524	5,708
RAIN TOTAL (IN)	1.69		0.47	1.75	0.87	1.55		2.00	0.53	1.80	2.58	2.34	1.59	66.0	06:0	26:0	1.72		0.94	1.80	1.62	2.39	2.69	2:92	0.73	0.76	0.38	86.0	2.29		0.55	1.43	1.09	2.13	1.83
DURATION (MIN)	45		15	30	15	09		435	30	435	465	165	06	30	30	30	270		45	069	30	09	225	150	45	75	30	270	570		45	15	30	360	18435
END DATE	06/25/2023 18:15		07/03/2022 01:15	07/28/2022 20:45	08/05/2022 03:15	08/10/2022 22:15		01/03/2023 08:15	01/12/2023 08:45	02/16/2023 14:00	03/03/2023 15:00	03/25/2023 01:45	04/01/2023 01:00	04/27/2023 22:00	06/07/2023 11:15	06/19/2023 12:45	06/25/2023 22:15		07/18/2022 03:00	07/29/2022 07:30	08/29/2022 15:45	02/16/2023 13:30	03/03/2023 11:30	03/25/2023 01:45	04/27/2023 22:45	05/07/2023 09:45	05/14/2023 06:45	05/16/2023 12:30	06/26/2023 03:15		07/28/2022 21:00	07/31/2022 09:30	08/10/2022 14:30	01/03/2023 13:15	03/01/2023 09:45
START DATE	06/25/2023 17:30		07/03/2022 01:00	07/28/2022 20:15	08/05/2022 03:00	08/10/2022 21:15		01/03/2023 01:00	01/12/2023 08:15	02/16/2023 06:45	03/03/2023 07:15	03/24/2023 23:00	03/31/2023 23:30	04/27/2023 21:30	06/07/2023 10:45	06/19/2023 12:15	06/25/2023 17:45		07/18/2022 02:15	07/28/2022 20:00	08/29/2022 15:15	02/16/2023 12:30	03/03/2023 07:45	03/24/2023 23:15	04/27/2023 22:00	05/07/2023 08:30	05/14/2023 06:15	05/16/2023 08:00	06/25/2023 17:45		07/28/2022 20:15	07/31/2022 09:15	08/10/2022 14:00	01/03/2023 07:15	02/16/2023 14:30
oso		CSO092 Total	CSO093				CSO093 Total	CSO097										CSO097 Total	CSO105											CSO105 Total	CSO108				



24,918 1 34,591 1 1,587,045 9 11,658 1 29,805 1 22,812 1 22,812 1 125,633 1	420,827																
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0.45 0.53 0.38 0.84 0.27	0.93	0.45 0.53 0.38 0.84 0.27 0.16 0.83	0.45 0.53 0.38 0.84 0.27 0.16 0.83 0.92	0.45 0.53 0.38 0.27 0.16 0.83 0.83 0.83 0.83	0.45 0.53 0.38 0.38 0.27 0.16 0.83 0.92 0.92 0.92 0.92	0.45 0.53 0.38 0.38 0.27 0.16 0.83 0.83 0.83 0.92 0.92 0.92 0.92	0.45 0.53 0.38 0.34 0.27 0.46 0.83 0.83 0.83 0.83 0.83 0.92 0.92 0.60 0.05 0.29	0.45 0.53 0.38 0.34 0.16 0.083 0.092 0.092 0.092 0.092 0.092 0.092 0.092 0.092 0.092 0.092 0.092	0.45 0.53 0.38 0.38 0.27 0.16 0.092 0.83 0.92 0.92 0.92 0.023 0.23 0.23 0.23 0.24 0.24 0.28	0.45 0.53 0.38 0.38 0.084 0.083 0.092 0.092 0.092 0.092 0.092 0.092 0.092 0.092 0.092 0.092 0.092 0.092 0.093 0.093 0.094 0.096	0.45 0.53 0.38 0.38 0.27 0.16 0.83 0.83 0.60 0.60 0.60 0.60 0.23 0.23 0.23 0.29 0.29 0.35 0.35 0.35 0.35 0.44	0.45 0.53 0.38 0.38 0.27 0.16 0.092 0.092 0.092 0.092 0.092 0.092 0.092 0.092 0.092 0.092 0.092 0.092 0.092 0.092 0.092 0.092 0.092 0.093 0.096 0	0.45 0.53 0.38 0.38 0.35 0.05 0.92 0.92 0.92 0.92 0.92 0.92 0.92 0.92 0.92 0.92 0.92 0.92 0.92 0.92 0.95 0.95 0.95 0.05 0.29 0.36 0.44 0.38	0.45 0.53 0.38 0.38 0.27 0.16 0.83 0.83 0.60 0.60 0.02 0.23 0.23 0.23 0.24 0.44 0.44 0.45 0.35 0.23 0.60 0.60 0.77	0.45 0.53 0.38 0.38 0.38 0.27 0.16 0.083 0.35 0.092 0.056 0.045 0.44 0.44 0.77 0.060	0.45 0.53 0.38 0.38 0.16 0.083 0.092 0.092 0.092 0.092 0.092 0.092 0.092 0.092 0.092 0.092 0.092 0.092 0.092 0.093 0.092 0.092 0.092 0.093 0.092 0.093 0.092 0.093 0.093 0.093 0.094 0.094 0.096	0.45 0.53 0.38 0.34 0.16 0.083 0.092 0.094
23,066 474,684 90,383 2,599	101,001 29,807 20,053	23,066 474,684 90,383 2,599 104,753 144,880	23,066 474,684 90,383 2,599 104,753 144,880 215,575 43,561 1,518	23,066 474,684 90,383 2,599 104,753 144,880 215,575 43,561 1,518 59,350 59,350	23,066 474,684 90,383 2,599 104,753 144,880 215,875 43,561 1,518 59,350 57,444 104,717 57,444	23,066 474,684 90,383 2,599 104,753 144,880 215,575 43,561 1,518 59,350 57,444 104,717 5,992 24,222	23,066 474,684 90,383 2,599 104,753 144,880 215,575 43,561 1,518 59,350 57,444 104,717 5,992 24,222 208,970 38,052	23,066 474,684 90,383 2,599 104,753 144,880 215,575 43,561 1,518 59,350 57,444 104,717 5,992 24,222 24,222 24,222 24,222 24,222 24,222 24,222 24,222 24,222 24,222 24,222 26,970 38,052	23,066 474,684 90,383 2,599 104,753 144,880 215,575 43,561 1,518 59,350 57,444 104,717 5,992 24,222 24,222 24,222 208,970 38,052 40,114 130,204	23,066 474,684 90,383 2,599 104,753 144,880 215,575 43,561 1,518 59,350 57,444 104,717 5,992 24,222 24,222 24,222 24,222 26,970 38,052 40,114 130,204 130,204	23,066 474,684 90,383 2,599 104,780 215,575 43,561 1,518 59,350 57,444 104,717 5,992 24,222 24,222 24,222 24,222 40,114 130,204 63,194 197,899	23,066 474,684 90,383 2,599 104,753 144,880 215,575 43,561 1,518 59,350 57,444 104,717 5,992 24,222 24,222 24,222 24,222 24,222 24,222 24,222 26,970 38,052 40,114 130,204 197,899 197,899	23,066 474,684 90,383 2,599 104,755 43,561 1,518 59,350 57,444 104,717 5,992 24,222 24,222 208,970 38,052 40,114 130,204 197,899 1,263,011 824,831 824,831 824,831	23,066 474,684 90,383 2,599 104,753 144,880 215,575 43,561 1,518 59,350 57,444 104,717 5,992 24,222 24,222 24,222 24,222 24,222 24,222 26,970 38,052 40,114 130,204 197,899 197,899 11,263,011 824,831 824,831	23,066 474,684 90,383 2,599 104,717 5,992 24,222 27,992 40,114 130,204 1,263,011 824,831 820,994 349,524	23,066 474,684 90,383 2,599 104,753 144,880 215,575 43,561 1,518 59,350 59,350 59,350 7,444 104,717 5,992 24,222 24,222 208,970 38,052 40,114 130,204 1,263,011 824,831 824,831 824,831 824,831 1,263,014 11,263,014 11,263,014 11,263,014	23,066 474,684 90,383 2,599 104,753 144,880 215,575 43,561 1,518 59,350 59,350 57,444 104,717 5,992 24,222 24,222 208,970 38,052 40,114 1130,204 11,283,011 824,831 820,994 349,524 115,983 115,983
0.52 1.39 0.39	0.84	0.52 1.39 0.39 0.21 1.18	0.52 1.39 0.39 0.21 1.18 0.43 2.12 1.80	0.52 1.39 0.39 0.21 1.18 0.43 2.12 2.12 2.58 2.58	0.52 1.39 0.39 0.21 1.18 0.43 2.12 1.80 2.58 2.58 2.39 1.49	0.52 1.39 0.39 0.21 1.18 0.43 2.12 1.80 2.58 2.58 2.39 1.49 0.33	0.52 1.39 0.39 0.21 1.18 0.43 2.12 2.12 2.58 2.39 1.49 0.33 0.54	0.52 1.39 0.39 0.21 1.18 0.43 2.12 1.80 2.58 2.39 1.49 0.33 1.04 0.54	0.52 1.39 0.39 0.39 0.43 2.12 2.12 1.80 1.49 0.54 0.53 1.00 1.80	0.52 1.39 0.39 0.39 0.43 2.12 2.12 1.80 1.49 0.33 0.54 0.54 0.54 0.54 0.59 0.69	0.52 1.39 0.39 0.21 1.18 0.43 2.12 1.80 1.49 0.54 0.53 1.00 1.00 1.80 0.33 1.04 0.54 0.53 0.69	0.52 1.39 0.39 0.39 0.43 2.12 1.18 2.12 1.49 0.54 0.54 0.54 0.54 0.69 0.99 0.99 0.96	0.52 1.39 0.39 0.39 0.43 1.18 1.49 1.49 0.54 0.53 1.00 1.00 1.80 0.53 0.53 0.53 0.54 0.53 0.53 0.54 0.53 0.53 0.54 0.53 0.53 0.54 0.53 0.54 0.54 0.59 0.59 0.59 0.69 0.71	0.52 1.39 0.39 0.39 0.43 2.12 1.18 2.12 1.49 0.54 0.54 0.54 0.69 0.69 0.86 0.99 0.86 0.99 0.99	0.52 1.39 0.39 0.21 1.18 0.43 2.12 1.80 2.58 2.39 1.04 0.54 0.53 1.04 0.53 1.00 1.80 0.33 1.04 0.54 0.53 0.33 1.06 0.33 1.06 0.53 0.33 1.07 1.26 0.99	0.52 1.39 0.39 0.21 1.18 0.43 2.12 1.80 1.49 0.54 0.53 1.00 1.00 1.80 0.54 0.53 0.53 0.54 0.54 0.53 0.54 0.54 0.54 0.53 0.54 0.54 0.53 1.00 0.54 0.59 0.99 0.99 0.71 1.26 0.99 0.71 1.26 0.99	0.52 1.39 0.39 0.39 0.43 2.12 1.18 0.43 2.12 1.49 0.54 0.53 1.00 1.80 1.00 0.54 0.54 0.54 0.59 0.99 0.86 0.99 0.99 0.91 0.56 0.99 0.99 0.91 0.56 0.99
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08/06/2022	03/25/2023 00:30 04/01/2023 00:15 06/25/2023 22:15 CSO108 07/18/2022 10:30 07/18/2022 02:15 07/26/2022 08:30	08/10/202/202/202/202/202/202/202/202/202/	08/10/2022 09/03/2022 01/03/2022 02/16/2022	08/10/2022 09/03/2022 01/03/2022 02/16/2022 03/03/2022	08/10/2022 09/03/2022 01/103/2022 02/16/202 03/24/2022 03/31/2022 04/05/2022	08/10/2022 09/03/2022 01/03/2022 02/16/2022 03/24/2022 03/31/2022 04/05/2022	08/10/2022 09/03/2022 01/03/2022 03/24/2022 03/31/2022 04/05/2022 05/07/2022	08/10/2022 09/03/2022 01/03/2022 03/03/2022 03/31/2022 04/05/2022 06/16/2022 06/19/2022 06/19/2022									08/10/2022 09/03/2022 01/03/2022 01/03/2022 03/03/2022 03/31/2022 03/31/2022 04/05/2022 04/19/2022 05/07/2022 05/07/2022 05/07/2022 05/07/2022 05/07/2022 05/07/2022 05/07/2022 05/07/2022 05/07/2022 05/07/2022 05/07/2022 05/07/2022 05/07/2022 06/05/2022 06/05/2022 06/05/2022 06/05/2022 06/05/2022 06/05/2022 06/05/2022 06/05/2022



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COUNT OF	1	1	1	1	1	_	1	1	1	_	-	_	_	-	_	26	-	-	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
DISCHARGE VOLUME (GAL)	29,626	2,510,285	52,640	1,207,189	3,394,241	1,634,195	1,064,873	575	250,577	169,751	58,750	161,841	14,558	55,156	1,452,727	15,599,207	249,285	183	249,468	19,168	36,759	367,258	342,442	237,339	493,403	297,209	284,399	69,578	96,754	214,163	140,935	98,766	144,467	224,735	198,604	81,511	1,209,468
COMMENT																																					
STANDARD	Atlas	Atlas	Atlas	Atlas	Cloudburst	Atlas		Atlas	Atlas		Atlas																										
PERIOD (HR)	3	12	3	12	12	24	1	1	9	1	9	3	1	24	9		8	12		3	-	8	8	9	-	3	1	12	24	-	-	9	3	9	24	24	12
FREQUENCY (YR)	0.28	0.82	0:30	0.82	1.49	0.92	0.76	0.34	0.51	0.43	0.33	0.59	0.32	0.39	0.85		0.59	0.55		0.15	0.18	0.59	0.41	0.43	3.04	99.0	0.59	0.55	0.28	0.55	0.20	0.28	0.31	0.32	0.46	0.46	0.75
DISCHARGE PER RAIN (GAL/IN)	56,538	1,321,898	104,653	675,540	1,338,423	681,767	649,709	1,248	263,488	281,511	96,154	169,823	32,136	54,502	834,901		272,443	152		69,449	170,974	401,374	496,293	296,304	311,295	275,704	366,966	57,645	132,358	315,410	589,687	160,335	286,073	378,980	166,057	68,153	697,502
RAIN TOTAL (IN)	0.52	1.90	0.50	1.79	2.54	2.40	1.64	0.46	0.95	09:0	0.61	0.95	0.45	1.01	1.74		0.92	1.21		0.28	0.21	0.92	69.0	08.0	1.58	1.08	0.78	1.21	0.73	89.0	0.24	0.62	0.51	0.59	1.20	1.20	1.73
DURATION (MIN)	75	450	45	480	585	165	105	30	90	45	255	09	30	30	300		30	15		15	30	165	105	300	120	105	06	30	45	75	75	45	75	210	210	45	510
END DATE	12/06/2022 23:45	01/03/2023 08:30	01/12/2023 08:45	02/16/2023 14:15	03/03/2023 14:30	03/25/2023 01:45	04/01/2023 01:00	04/05/2023 16:45	04/27/2023 22:45	05/07/2023 08:45	05/16/2023 12:00	06/07/2023 11:30	06/11/2023 21:15	06/19/2023 12:45	06/25/2023 22:15		07/08/2022 12:15	08/10/2022 21:45		07/03/2022 02:45	07/06/2022 15:00	07/08/2022 13:00	07/18/2022 03:30	07/26/2022 10:45	07/28/2022 22:00	07/31/2022 06:45	08/05/2022 04:00	08/10/2022 14:00	08/30/2022 05:45	09/03/2022 21:30	09/06/2022 15:30	10/30/2022 15:45	11/11/2022 08:45	12/07/2022 00:00	12/14/2022 07:45	12/14/2022 23:45	01/03/2023 09:00
START DATE	12/06/2022 22:30	01/03/2023 01:00	01/12/2023 08:00	02/16/2023 06:15	03/03/2023 04:45	03/24/2023 23:00	03/31/2023 23:15	04/05/2023 16:15	04/27/2023 21:15	05/07/2023 08:00	05/16/2023 07:45	06/07/2023 10:30	06/11/2023 20:45	06/19/2023 12:15	06/25/2023 17:15		07/08/2022 11:45	08/10/2022 21:30		07/03/2022 02:30	07/06/2022 14:30	07/08/2022 10:15	07/18/2022 01:45	07/26/2022 05:45	07/28/2022 20:00	07/31/2022 05:00	08/05/2022 02:30	08/10/2022 13:30	08/30/2022 05:00	09/03/2022 20:15	09/06/2022 14:15	10/30/2022 15:00	11/11/2022 07:30	12/06/2022 20:30	12/14/2022 04:15	12/14/2022 23:00	01/03/2023 00:30
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DISCHARGE VOLUME (GAL)	270,640	159,007	8,469	1,215,650	1,728,143	617,011	699,302	113,551	467,333	127,516	75,157	406,591	224,986	83,543	234,184	356,940	73,274	75,735	198,443	640,179	12,332,611	12,943	88	61,795	30,161	104,987	3,933	67	13	186	136	28	1,068,803	8,681	1,746	1,662
COMMENT																																				
STANDARD	Atlas	Atlas	Atlas	Atlas	Cloudburst	Atlas		Atlas	Atlas	Atlas	Atlas		Atlas	Atlas	Atlas	Atlas	Atlas	Atlas	Cloudburst	Atlas	Atlas	Atlas														
PERIOD (HR)	3	9	12	12	12	24	24	12	1	1	12	9	-	1	9	3	-	24	24	9		3	3	3	9		3	3	1	-	9	12	12	24	24	12
FREQUENCY (YR)	0.43	0.26	0.24	0.82	1.79	0.95	0.95	0.25	0.76	0.44	0.27	0.49	0.39	0.27	0.39	0.55	0.29	0.35	0.35	0.76		0.28	0.38	0.38	0.42		0.34	0.71	0.56	1.12	0.39	0.81	1.72	0.95	0.95	0.26
DISCHARGE PER RAIN (GAL/IN)	391,664	304,612	14,044	680,655	647,973	246,804	279,721	211,849	453,721	217,976	119,677	450,766	415,871	261,071	324,805	407,931	185,503	83,408	218,550	394,442		30,099	92	64,170	38,471		7,521	58	17	101	189	15	407,629	3,470	698	2,967
RAIN TOTAL (IN)	69:0	0.52	09:0	1.79	2.67	2.50	2.50	0.54	1.03	0.59	0.63	06:0	0.54	0.32	0.72	0.88	0.39	0.91	0.91	1.62		0.43	96.0	96.0	0.78		0.52	1.15	0.74	1.84	0.72	1.86	2.62	2.50	2.50	0.56
DURATION (MIN)	06	210	15	645	720	540	210	150	165	45	120	195	75	30	255	135	30	30	75	285		30	15	45	105		120	15	15	15	135	15	765	360	150	165
END DATE	01/12/2023 09:30	01/19/2023 03:00	01/25/2023 01:00	02/16/2023 14:45	03/03/2023 16:15	03/24/2023 11:00	03/25/2023 02:00	03/31/2023 11:45	04/01/2023 02:15	04/05/2023 17:00	04/21/2023 23:15	04/28/2023 00:15	05/07/2023 09:30	05/09/2023 05:15	05/16/2023 12:15	06/07/2023 12:45	06/11/2023 21:45	06/19/2023 03:45	06/19/2023 13:30	06/25/2023 22:15		07/03/2022 02:45	07/17/2022 12:45	07/18/2022 03:15	07/26/2022 10:15		07/03/2022 03:00	07/31/2022 05:15	08/05/2022 03:30	08/10/2022 21:45	12/14/2022 07:45	01/03/2023 01:15	03/03/2023 17:30	03/24/2023 10:30	03/25/2023 02:00	03/31/2023 12:15
START DATE	01/12/2023 08:00	01/18/2023 23:30	01/25/2023 00:45	02/16/2023 04:00	03/03/2023 04:15	03/24/2023 02:00	03/24/2023 22:30	03/31/2023 09:15	03/31/2023 23:30	04/05/2023 16:15	04/21/2023 21:15	04/27/2023 21:00	05/07/2023 08:15	05/09/2023 04:45	05/16/2023 08:00	06/07/2023 10:30	06/11/2023 21:15	06/19/2023 03:15	06/19/2023 12:15	06/25/2023 17:30		07/03/2022 02:15	07/17/2022 12:30	07/18/2022 02:30	07/26/2022 08:30		07/03/2022 01:00	07/31/2022 05:00	08/05/2022 03:15	08/10/2022 21:30	12/14/2022 05:30	01/03/2023 01:00	03/03/2023 04:45	03/24/2023 04:30	03/24/2023 23:30	03/31/2023 09:30
oso																					CSO119 Total	CSO120				CSO120 Total	CSO125									



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COUNT OF	-	-	12	-	-	-	-	-	1	-	1	-	_	-	-	-	-	-	1	1	1	18	~	1	1	1	1	1	1	1	1	1	1	1	-	-
DISCHARGE VOLUME (GAL)	1,020	1,056	1,087,331	15,179	1,588	42,759	4,933	39,285	4,255	160,955	16,335	169,054	94,194	158,933	1,509	233,026	54,013	2,667	270	1,285	43,141	1,043,383	48,335	16,335	69,576	24,138	852	41,060	73,611	41,443	25,592	102,510	82,854	111,541	155,669	15,197
COMMENT																																				
STANDARD	Atlas	Atlas		Atlas	Cloudburst	Cloudburst	Atlas		Atlas	Cloudburst	Atlas																									
PERIOD (HR)	-	1		3	1	3	-	1	1	12	3	12	12	12	24	24	-	-	3	3	9		τ-	1	3	3	9	3	1	1	1	12	1	12	12	24
FREQUENCY (YR)	92.0	0.40		0.52	3.69	0.71	0.56	1.12	0.39	0.81	0.40	0.83	1.72	1.72	0.95	0.95	0.76	0.40	0.47	0.52	0.70		0.41	0.23	0.57	0.36	0.41	0.59	3.04	0.38	0.33	0.76	0.61	0.88	1.96	0.93
DISCHARGE PER RAIN (GAL/IN)	982	1,941		17,754	965	37,085	6,639	21,385	6,536	86,675	24,638	92,887	35,925	60,615	603	93,136	51,986	4,903	310	1,551	29,209		78,086	61,410	74,572	26,208	1,125	41,898	34,953	79,089	43,156	58,178	89,090	58,004	57,105	6,081
RAIN TOTAL (IN)	1.04	0.54		0.85	1.65	1.15	0.74	1.84	0.65	1.86	99.0	1.82	2.62	2.62	2.50	2.50	1.04	0.54	0.87	0.83	1.48		0.62	0.27	0.93	0.92	0.76	0.98	2.11	0.52	0.59	1.76	0.93	1.92	2.73	2.50
DURATION (MIN)	30	15		30	15	09	15	75	15	096	30	929	105	255	15	929	06	15	15	45	135		30	15	120	15	15	15	06	30	15	360	30	360	09	15
END DATE	04/01/2023 00:45	04/05/2023 17:00		07/08/2022 12:30	07/28/2022 22:30	07/31/2022 06:45	08/05/2022 03:30	08/10/2022 22:45	12/06/2022 23:45	01/03/2023 17:15	01/12/2023 09:00	02/16/2023 16:30	03/03/2023 09:00	03/03/2023 22:00	03/24/2023 11:15	03/25/2023 08:45	04/01/2023 01:15	04/05/2023 16:45	04/27/2023 22:00	06/07/2023 12:00	06/25/2023 22:45		07/03/2022 01:45	07/06/2022 15:00	07/08/2022 12:30	07/18/2022 02:30	07/26/2022 08:45	07/31/2022 06:15	08/10/2022 22:45	10/25/2022 18:45	12/07/2022 00:00	01/03/2023 07:30	01/12/2023 09:00	02/16/2023 13:30	03/03/2023 09:15	03/24/2023 02:45
START DATE	04/01/2023 00:15	04/05/2023 16:45		07/08/2022 12:00	07/28/2022 22:15	07/31/2022 05:45	08/05/2022 03:15	08/10/2022 21:30	12/06/2022 23:30	01/03/2023 01:15	01/12/2023 08:30	02/16/2023 07:00	03/03/2023 07:15	03/03/2023 17:45	03/24/2023 11:00	03/24/2023 23:15	03/31/2023 23:45	04/05/2023 16:30	04/27/2023 21:45	06/07/2023 11:15	06/25/2023 20:30		07/03/2022 01:15	07/06/2022 14:45	07/08/2022 10:30	07/18/2022 02:15	07/26/2022 08:30	07/31/2022 06:00	08/10/2022 21:15	10/25/2022 18:15	12/06/2022 23:45	01/03/2023 01:30	01/12/2023 08:30	02/16/2023 07:30	03/03/2023 08:15	03/24/2023 02:30
oso			CSO125 Total	CSO126																		CSO126 Total	CSO131													





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COUNT OF	1	-	-	-	-	7	-	-	-	-	1	-	-	-	٢	-	_	1	٢	1	1	1	1	1	1	1	20	1	1	-	-	1	1	+
DISCHARGE VOLUME (GAL)	129,046	87,688	538,626	204,801	5,962	1,025,804	15,014	24,125	100	219,744	123	941	1,726	35,862	228	34	1,135	59	1,274	9	6,416	162	09	83	40	10,552	317,684	47,540	62,160	14,377	103,946	12,720	9,287	47,348
COMMENT																													Retained by Sneads Branch.	Retained by Sneads Branch.				
STANDARD	Atlas	Atlas	Cloudburst	Atlas	Atlas		Atlas	Cloudburst	Atlas		Atlas	Atlas	Atlas	Atlas	Atlas	Atlas	Atlas																	
PERIOD (HR)	12	12	12	24	-		က	3	9	1	3	٢	-	٢	٢	-	12	1	12	12	1	1	٢	9	12	9		3	8	9	-	3	1	1
FREQUENCY (YR)	0.76	0.84	1.83	0.92	0.67		09:0	0.38	0.42	4.93	0.62	0.55	69:0	0.58	0.23	0.35	0.76	0.53	1.92	0.24	09:0	0.48	0.41	0.41	0.32	0.73		0.53	0.44	0.44	0.87	0.68	0.52	0.57
DISCHARGE PER RAIN (GAL/IN)	73,910	47,605	201,280	83,422	6,466		15,431	25,052	127	123,175	121	1,289	1,420	48,396	692	55	652	72	468	12	7,703	258	105	109	54	6,747		58,764	83,773	17,364	97,510	11,357	12,916	38,307
RAIN TOTAL (IN)	1.75	1.84	2.68	2.46	0.92		0.97	96.0	0.78	1.78	1.02	0.73	1.22	0.74	0:30	0.61	1.74	0.83	2.72	0.53	0.83	0.63	0.57	0.76	0.73	1.56		0.81	0.74	0.83	1.07	1.12	0.72	1.24
DURATION (MIN)	630	405	480	06	180		30	30	15	30	15	75	555	09	15	30	345	30	450	15	06	30	30	15	15	210		105	30	120	45	45	15	495
END DATE	01/03/2023 13:45	02/16/2023 14:00	03/03/2023 15:45	03/25/2023 01:15	04/01/2023 04:45		07/08/2022 12:15	07/18/2022 02:30	07/26/2022 10:30	07/28/2022 20:45	07/31/2022 06:00	08/05/2022 04:30	08/10/2022 22:45	09/03/2022 21:30	09/06/2022 14:45	12/06/2022 23:45	01/03/2023 08:00	01/12/2023 08:45	03/03/2023 15:45	03/31/2023 09:30	04/01/2023 01:00	04/05/2023 17:00	05/07/2023 09:00	05/16/2023 12:00	06/19/2023 03:45	06/25/2023 21:15		07/08/2022 12:15	07/18/2022 02:30	07/26/2022 10:30	07/28/2022 21:00	07/31/2022 06:00	08/05/2022 03:30	08/10/2022 21:45
START DATE	01/03/2023 03:15	02/16/2023 07:15	03/03/2023 07:45	03/24/2023 23:45	04/01/2023 01:45		07/08/2022 11:45	07/18/2022 02:00	07/26/2022 10:15	07/28/2022 20:15	07/31/2022 05:45	08/05/2022 03:15	08/10/2022 13:30	09/03/2022 20:30	09/06/2022 14:30	12/06/2022 23:15	01/03/2023 02:15	01/12/2023 08:15	03/03/2023 08:15	03/31/2023 09:15	03/31/2023 23:30	04/05/2023 16:30	05/07/2023 08:30	05/16/2023 11:45	06/19/2023 03:30	06/25/2023 17:45		07/08/2022 10:30	07/18/2022 02:00	07/26/2022 08:30	07/28/2022 20:15	07/31/2022 05:15	08/05/2022 03:15	08/10/2022 13:30
oso						CSO140 Total	CSO141																				CSO141 Total	CSO142						



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COUNT OF	-	+	<b>-</b>	+	+	-	-	+	-	<b>-</b>	+	-	-	-	7	-	-	7	25	+	7	-	1	7	1	-
DISCHARGE VOLUME (GAL)	1,191	17,519	13,973	13,105	31,246	7,984	3,130	44,241	14,031	2,461	24,477	6,148	5,509	13,012	14,286	8,174	17,563	65,238	999'009	1,610	138,108	16,669	62	282	3,887	421
COMMENT	Retained by Sneads Branch.		Retained by Sneads Branch.				Retained by Sneads Branch.		Retained by Sneads Branch.	Retained by Sneads Branch.		Retained by Sneads Branch.	Retained by Sneads Branch.	Retained by Sneads Branch.		Retained by Sneads Branch.	Retained by Sneads Branch.									
STANDARD	Atlas	Atlas	Atlas	Atlas	Cloudburst	Atlas	Atlas	Atlas	Atlas	Atlas	Atlas	Atlas	Atlas	Atlas	Atlas	Atlas	Atlas	Atlas		Atlas	Atlas	Atlas	Atlas	Cloudburst	Atlas	Atlas
PERIOD (HR)	9	12	ε	12	12	24	12	1	1	9	1	1	9	ε	1	24	24	9		1	1	1	24	12	1	9
FREQUENCY (YR)	0.27	0.75	0.38	0.81	1.74	0.97	0.24	0.81	0.40	0.48	0.44	0.23	0.38	0.57	0.34	0.43	0.43	0.84		4.18	0.75	1.22	0.46	1.65	0.73	0.70
DISCHARGE PER RAIN (GAL/IN)	2,190	10,133	23,250	7,450	11,747	3,119	5,950	40,073	26,129	2,747	40,324	19,705	7,985	14,128	30,923	7,272	15,625	37,172		948	145,071	9,045	52	109	3,902	282
RAIN TOTAL (IN)	0.54	1.73	09.0	1.76	2.66	2.56	0.53	1.10	0.54	06.0	0.61	0.31	0.69	0.92	0.46	1.12	1.12	1.75		1.70	0.95	1.84	1.19	2.59	1.00	1.49
DURATION (MIN)	15	360	30	15	09	45	15	09	15	15	15	15	15	30	15	15	15	255		15	15	90	105	15	15	15
END DATE	12/06/2022 23:45	01/03/2023 07:15	01/12/2023 08:45	02/16/2023 13:15	03/03/2023 09:00	03/25/2023 00:15	03/31/2023 09:30	04/01/2023 00:45	04/05/2023 16:45	04/27/2023 22:30	05/07/2023 08:45	05/09/2023 05:00	05/16/2023 12:00	06/07/2023 11:15	06/11/2023 21:30	06/19/2023 03:45	06/19/2023 16:30	06/25/2023 22:00		07/28/2022 20:45	08/05/2022 03:15	08/10/2022 22:15	12/14/2022 12:00	03/03/2023 08:30	03/31/2023 23:45	06/25/2023 21:00
START DATE	12/06/2022 23:30	01/03/2023 01:15	01/12/2023 08:15	02/16/2023 13:00	03/03/2023 08:00	03/24/2023 23:30	03/31/2023 09:15	03/31/2023 23:45	04/05/2023 16:30	04/27/2023 22:15	05/07/2023 08:30	05/09/2023 04:45	05/16/2023 11:45	06/07/2023 10:45	06/11/2023 21:15	06/19/2023 03:30	06/19/2023 16:15	06/25/2023 17:45		07/28/2022 20:30	08/05/2022 03:00	08/10/2022 21:15	12/14/2022 10:15	03/03/2023 08:15	03/31/2023 23:30	06/25/2023 20:45
oso																			CSO142 Total	CSO144						



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COUNT OF CSO	2	-	1	-	-	-	-	1	1	1	1	1	1	-	1	-	-	-	-	1	1	-	-	-	1	1	1	1	1	1	-	1	1	1	-	τ-	-
DISCHARGE VOLUME (GAL)	161,038	131	62,631	15,807	38,928	234,198	606'26	152,671	40,677	71,566	1,638	5,108	16,207	932	7,073	17,673	1,253	917	814	414	19,161	3,906	264	95,135	22,968	4,033	54,918	164,983	521	81,347	13,008	67,396	8,023	612	20,821	15,755	7,452
COMMENT																																					
STANDARD		Atlas	Cloudburst	Atlas																																	
PERIOD (HR)		3	3	24	9	-	ю	1	1	1	1	3	1	-	1	-	12	-	3	12	3	9	9	12	3	9	12	12	24	24	1	1	1	12	9	1	3
FREQUENCY (YR)		0.10	0.47	0.39	0.47	0.57	0.82	0.64	0.33	0.76	0.32	0:30	0.43	0.15	0.17	0.35	0.28	0.18	0.33	0.15	0:30	0.37	0.23	0.87	0:30	0.24	0.83	1.57	06:0	0.90	0.71	0.71	0.31	0.28	0.54	0.40	0.20
DISCHARGE PER RAIN (GAL/IN)		618	87,596	15,497	44,388	314,783	73,285	183,059	95,486	55,650	3,819	7,360	30,465	5,326	32,002	36,290	1,969	3,711	1,488	1,123	35,222	5,777	599	47,520	43,749	8,562	30,476	64,046	223	34,749	8,202	42,494	18,968	945	20,947	27,984	24,352
RAIN TOTAL (IN)		0.21	0.72	1.02	0.88	0.74	1.34	0.83	0.43	1.29	0.43	69:0	0.53	0.17	0.22	0.49	0.64	0.25	0.55	0.37	0.54	89:0	0.44	2.00	0.53	0.47	1.80	2.58	2.34	2.34	1.59	1.59	0.42	0.65	0.99	0.56	0.31
DURATION (MIN)		405	30	30	285	45	135	09	30	510	15	165	30	15	15	45	255	30	45	15	195	195	285	465	45	195	009	270	465	180	15	75	15	105	105	15	15
END DATE		07/03/2022 09:15	07/08/2022 12:15	07/18/2022 02:30	07/26/2022 10:30	07/28/2022 21:00	07/31/2022 07:00	08/05/2022 03:30	08/06/2022 15:00	08/10/2022 22:00	08/21/2022 16:00	08/30/2022 05:30	09/03/2022 21:00	09/06/2022 15:30	09/11/2022 14:30	10/25/2022 18:45	10/30/2022 15:15	10/31/2022 19:30	11/11/2022 08:00	11/27/2022 03:30	12/06/2022 23:45	12/14/2022 07:30	12/14/2022 23:30	01/03/2023 08:15	01/12/2023 09:00	01/19/2023 02:45	02/16/2023 14:15	03/03/2023 14:00	03/24/2023 10:00	03/25/2023 01:30	03/31/2023 09:30	04/01/2023 01:00	04/05/2023 16:45	04/21/2023 23:00	04/27/2023 22:45	05/07/2023 08:45	05/09/2023 05:00
START DATE		07/03/2022 02:30	07/08/2022 11:45	07/18/2022 02:00	07/26/2022 05:45	07/28/2022 20:15	07/31/2022 04:45	08/05/2022 02:30	08/06/2022 14:30	08/10/2022 13:30	08/21/2022 15:45	08/30/2022 02:45	09/03/2022 20:30	09/06/2022 15:15	09/11/2022 14:15	10/25/2022 18:00	10/30/2022 11:00	10/31/2022 19:00	11/11/2022 07:15	11/27/2022 03:15	12/06/2022 20:30	12/14/2022 04:15	12/14/2022 18:45	01/03/2023 00:30	01/12/2023 08:15	01/18/2023 23:30	02/16/2023 04:15	03/03/2023 04:30	03/24/2023 02:15	03/24/2023 22:30	03/31/2023 09:15	03/31/2023 23:45	04/05/2023 16:30	04/21/2023 21:15	04/27/2023 21:00	05/07/2023 08:30	05/09/2023 04:45
oso	CSO144 Total	CSO148																																			



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COUNT OF CSO	1	1	1	1	1	٢	42	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
DISCHARGE VOLUME (GAL)	16,213	5,833	34,493	9,076	19,803	164,628	1,596,896	71,654	3,241	415,628	2,523	249,737	2,395	147,723	181,425	147	2,550	43,186	241,679	57,330	532	5,230	394	49,679	34,868	23,190	47,765	1,123	5,892	4,112	143,594	36,093	134,081	69,190	1,197,604	96,408	285,781
COMMENT																																					
STANDARD	Atlas	Atlas	Atlas	Atlas	Atlas	Atlas		Atlas																													
PERIOD (HR)	6	9	3	1	3	9		3	1	3	3	3	9	9	1	3	24	24	1	1	9	1	1	-	9	1	3	12	6	9	1	6	24	24	24	12	1
FREQUENCY (YR)	0.32	0.31	0.56	0.33	0.39	0.84		0.28	0.20	09:0	0.38	0.38	0.21	0.42	4.93	0.10	0.32	0.32	0.58	0.23	0.11	60:00	0.01	0.35	0.29	0.13	0:30	0.14	0.14	0.08	0.35	0.21	0.48	0.48	0.93	0.24	09:0
DISCHARGE PER RAIN (GAL/IN)	27,526	9,244	38,156	19,477	20,457	95,937		166,636	14,154	427,162	2,620	259,332	6,270	188,422	101,696	795	3,033	51,351	326,152	193,030	2,462	52,831	35,815	102,432	55,878	134,047	860'66	3,372	22,660	25,863	233,487	82,972	108,392	55,934	481,546	181,560	343,074
RAIN TOTAL (IN)	0.59	0.63	06'0	0.47	0.97	1.72		0.43	0.23	0.97	96:0	96:0	0.38	0.78	1.78	0.18	0.84	0.84	0.74	0:30	0.22	0.10	0.01	0.48	0.62	0.17	0.48	0.33	0.26	0.16	0.61	0.43	1.24	1.24	2.49	0.53	0.83
DURATION (MIN)	240	75	165	30	09	285		105	30	180	15	465	30	330	30	15	15	225	90	09	30	75	30	75	420	420	180	45	30	09	315	165	270	390	2565	480	615
END DATE	05/16/2023 12:00	05/20/2023 02:15	06/07/2023 12:15	06/11/2023 21:45	06/19/2023 13:00	06/25/2023 22:15		07/03/2022 03:00	07/06/2022 15:15	07/08/2022 13:30	07/17/2022 13:00	07/18/2022 09:45	07/25/2022 02:15	07/26/2022 11:15	07/28/2022 20:30	08/21/2022 13:00	08/29/2022 16:15	08/30/2022 05:45	09/03/2022 21:30	09/06/2022 15:30	09/11/2022 19:00	09/25/2022 11:00	10/06/2022 15:45	10/25/2022 19:15	10/30/2022 17:30	10/31/2022 20:30	11/11/2022 09:45	11/27/2022 04:15	11/30/2022 03:30	12/02/2022 23:15	12/07/2022 01:45	12/08/2022 12:15	12/14/2022 08:30	12/15/2022 01:15	03/25/2023 20:45	03/31/2023 12:45	04/01/2023 10:00
START DATE	05/16/2023 08:00	05/20/2023 01:00	06/07/2023 09:30	06/11/2023 21:15	06/19/2023 12:00	06/25/2023 17:30		07/03/2022 01:15	07/06/2022 14:45	07/08/2022 10:30	07/17/2022 12:45	07/18/2022 02:00	07/25/2022 01:45	07/26/2022 05:45	07/28/2022 20:00	08/21/2022 12:45	08/29/2022 16:00	08/30/2022 02:00	09/03/2022 20:30	09/06/2022 14:30	09/11/2022 18:30	09/25/2022 09:45	10/06/2022 15:15	10/25/2022 18:00	10/30/2022 10:30	10/31/2022 13:30	11/11/2022 06:45	11/27/2022 03:30	11/30/2022 03:00	12/02/2022 22:15	12/06/2022 20:30	12/08/2022 09:30	12/14/2022 04:00	12/14/2022 18:45	03/24/2023 02:00	03/31/2023 04:45	03/31/2023 23:45
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DISCHARGE VOLUME (GAL)	29,320	48,538	191,727	103,067	12,829	39,041	7,563	129,750	36,272	145,473	25,284	36,617	141,354	27,075	352,783	11,104	4,892,554	1,703,300	21,964	2,055	14,958	228	67,186	1,809,693	29,323	54,370	28	28,149	4,914	386	30,171	147,372	2,257	2,715	7,777	45 900
COMMENT																																				
STANDARD	Atlas		Atlas	Atlas	Atlas	Atlas	Cloudburst	Atlas		Atlas		Atlas	Atlas	Atlas	Δflac																					
PERIOD (HR)	-	12	9	-	3	-	-	9	9	3	-	-	12	12	9	-		3	-	12	12	12	24		3	1	3	1	<b>F</b>	12	9		ဗ	1	8	3
FREQUENCY (YR)	0.48	0.27	0.47	0.41	0.09	0.23	0.18	0.41	0.24	0.53	0.08	0.25	0.32	0.18	0.73	90.0		0.57	4.70	92.0	0.86	1.83	0.92		0.45	4.35	0.58	0.71	0.58	0.35	0.77		0:30	0.20	0.71	0.45
DISCHARGE PER RAIN (GAL/IN)	46,763	76,923	221,394	179,873	95,739	144,597	33,766	171,628	72,689	171,953	271,868	105,222	192,580	096'69	225,565	163,293		1,857,470	12,565	1,167	7,961	98	27,245		28,304	31,758	09	30,333	5,478	479	17,842		4,782	11,702	6,870	15 253
RAIN TOTAL (IN)	0.63	0.63	0.87	0.57	0.13	0.27	0.22	0.76	0.50	0.85	60.0	0.35	0.73	0.39	1.56	0.07		0.92	1.75	1.76	1.88	2.67	2.47		1.04	1.71	0.97	0.93	06:0	0.81	1.69		0.47	0.23	1.13	20,
DURATION (MIN)	09	180	210	06	165	09	09	330	345	135	09	405	615	30	1065	30		06	30	30	30	30	75		15	30	15	15	15	15	15		15	15	30	77
END DATE	04/05/2023 17:30	04/21/2023 23:15	04/28/2023 00:30	05/07/2023 09:45	05/08/2023 14:30	05/09/2023 05:45	05/14/2023 07:00	05/16/2023 13:00	05/20/2023 06:30	06/07/2023 12:45	06/11/2023 04:30	06/11/2023 21:30	06/19/2023 13:30	06/21/2023 20:15	06/26/2023 02:30	06/26/2023 19:30		07/08/2022 17:30	07/28/2022 20:30	01/03/2023 07:15	02/16/2023 13:15	03/03/2023 13:45	03/25/2023 01:30		07/18/2022 02:15	07/28/2022 20:45	07/31/2022 06:00	09/03/2022 20:45	01/12/2023 08:45	06/19/2023 03:45	06/25/2023 21:00		07/03/2022 02:30	07/06/2022 14:30	07/08/2022 12:00	00.20 2202/81/20
START DATE	04/05/2023 16:30	04/21/2023 20:15	04/27/2023 21:00	05/07/2023 08:15	05/08/2023 11:45	05/09/2023 04:45	05/14/2023 06:00	05/16/2023 07:30	05/20/2023 00:45	06/07/2023 10:30	06/11/2023 03:30	06/11/2023 14:45	06/19/2023 03:15	06/21/2023 19:45	06/25/2023 08:45	06/26/2023 19:00		07/08/2022 16:00	07/28/2022 20:00	01/03/2023 06:45	02/16/2023 12:45	03/03/2023 13:15	03/25/2023 00:15		07/18/2022 02:00	07/28/2022 20:15	07/31/2022 05:45	09/03/2022 20:30	01/12/2023 08:30	06/19/2023 03:30	06/25/2023 20:45		07/03/2022 02:15	07/06/2022 14:15	07/08/2022 11:30	07/18/2022 04:45
oso																	CSO153 Total	CSO154						CSO154 Total	CSO160							CSO160 Total	CSO161			



VOLUME (GAL) CSO	1 1	343   1	.2	7		_																															
	784	25,343	142	373	9	8,029	8,029	8,029 427 141	8,029 427 141 1,894	8,029 427 141 1,894 2,738	8,029 427 141 1,894 2,738 460	8,029 427 141 1,894 2,738 460 68,880	8,029 427 141 1,894 2,738 460 68,880 481,453	8,029 427 141 11,894 2,738 460 68,880 481,453 209,224	8,029 427 141 1,894 2,738 460 68,880 68,880 68,224 1,031,494	8,029 427 141 1,894 2,738 460 68,880 481,453 209,224 1,031,494 1,003,910	8,029 427 141 1,894 2,738 460 68,880 481,453 209,224 1,031,494 1,033,916	8,029 427 141 1,894 2,738 460 68,880 481,453 209,224 1,031,494 1,003,910 349,831 2,473,614	8,029 427 141 1,894 2,738 460 68,880 481,453 209,224 1,031,494 1,031,494 1,031,494 1,031,514 2,473,614 2,473,614	8,029 427 141 1,894 2,738 460 68,880 68,880 1,031,494 1,031,494 1,031,494 1,031,494 1,031,494 1,031,494 1,031,831,022 2,938 2,938	8,029 427 141 1,894 2,738 460 68,880 68,880 481,453 209,224 1,031,494 1,003,910 1,003,910 1,003,910 1,003,910 1,003,910 1,003,910 1,003,910 1,831,026 2,338 896,251	8,029 427 11,894 1,894 2,738 460 68,880 481,453 209,224 1,003,910 1,003,910 2,473,614 1,831,020 1,831,020 2,938 896,251 114,961	8,029 427 11,894 2,738 460 68,880 481,453 209,224 1,003,91C 1,003,91C 1,003,91C 1,003,91C 2,473,614 1,831,02C 2,938 896,251 114,961 114,961	8,029 427 141 1,1894 2,738 460 68,880 481,453 209,224 1,031,494 1,031,494 1,831,020 2,938 896,251 1,4961 1,4961 1,48631	8,029 427 141 1,894 2,738 481,453 209,224 1,031,494 1,031,494 1,031,614 1,831,022 2,938 896,251 114,961 118,006 188,006 3,017	8,029 427 141 1,894 2,738 460 68,880 68,880 481,453 2,03,224 1,031,494 1,031,494 1,033,910 2,473,614 1,831,020 2,938 896,251 114,961 118,006 188,006 3,017	8,029 427 141 1,1894 2,738 460 68,880 481,453 1,003,91C 1,003,91C 1,003,91C 1,003,91C 2,473,614 1,831,02C 2,938 896,251 114,961 118,006 3,017 164,551 164,551	8,028 427 141 1,894 2,738 460 68,880 68,880 481,453 2,0324 1,031,494 1,031,494 1,031,494 1,031,494 1,831,020 2,938 896,251 114,961 488,631 164,551 164,551 164,551 164,553	8,029 427 141 1,894 2,738 460 68,880 68,880 481,453 2,03,224 1,003,910 1,003,910 1,003,910 1,031,494 1,031,496 1,031,496 1,831,020 2,938 896,251 114,961 188,006 3,017 164,551 86,411 9,325,311	8,029 427 141 1,1894 2,738 460 68,880 481,453 209,224 1,031,494 1,031,494 1,033,916 1,831,026 2,938 896,251 114,961 188,006 3,017 164,551 19,325,311	8,029 427 141 1,1894 2,738 460 68,880 68,880 1,031,494 1,031,494 1,831,020 2,938 896,251 1,831,020 2,938 896,251 114,961 114,961 118,006 3,017 164,551 186,017 13,221 13,221	8,029 427 141 1,894 2,738 481,453 209,224 1,031,494 1,031,494 1,031,910 2,473,614 1,831,022 2,938 896,251 114,961 118,006 3,017 18,006 3,017 18,006 3,017 18,006 3,017 18,006 3,017 13,221 13,221 13,221 167 95	8,029 427 141 1,894 2,738 460 68,880 68,880 481,453 2,473,614 1,031,494 1,031,494 1,031,494 1,031,494 1,031,494 1,031,494 1,031,494 1,031,494 1,031,494 1,031,496 1,831,026 1,831,027 1,861,061 1,861	8,029 427 141 1,894 2,738 460 68,880 68,880 481,453 2,03,224 1,031,494 1,031,494 1,033,410 2,473,614 1,033,910 1,831,020 1,831,020 1,831,020 1,831,020 1,831,020 1,831,020 1,831,020 1,831,020 1,831,020 1,831,020 1,831,020 1,831,020 1,831,020 1,831,020 1,831,020 1,831,020 1,8325,311 1,3,227 1,67 95 573 6,309 6,309	8,029 427 141 1,1894 2,738 460 68,880 481,453 209,224 1,031,494 1,031,494 1,033,917 1,831,020 2,938 896,251 114,961 188,006 3,017 164,551 164,551 167 95 573 6,309 6,309	8,029 427 141 1,1894 2,738 460 68,880 68,880 1,031,494 1,031,494 1,031,020 2,938 896,251 1,831,020 2,938 896,251 114,961 114,961 114,961 114,961 118,006 3,017 164,551 86,411 9,325,311 13,221 13,221 14,261 14,863 18,006 3,017 18,006 3,017 18,006 3,017 18,006 3,017 14,961 114,961	8,022 427 1184 1,031,494 1,031,494 1,031,494 1,031,494 1,031,494 1,031,494 1,031,494 1,031,494 1,031,614 1,031,614 1,031,614 1,031,614 1,031,614 1,031,614 1,031,614 1,031,614 1,031,614 1,031,614 1,031,614 1,031,614 1,031,614 1,031,614 1,031,614 1,031,614 1,14,661 1,14,661 1,14,661 1,14,661 1,14,661 1,14,661 1,14,661 1,14,661 1,14,661 1,14,661 1,14,661 1,14,661 1,14,661 1,14,661 1,14,661 1,14,661 1,14,266 1,1,588
Atlas		Atlas	Atlas	Atlas	Atlas		Atlas	Atlas Atlas	Atlas Atlas Cloudburst	Atlas Atlas Cloudburst Cloudburst	Atlas Atlas Cloudburst Cloudburst Atlas	Atlas Cloudburst Cloudburst Atlas	Atlas Cloudburst Cloudburst Atlas Atlas	Atlas Atlas Cloudburst Cloudburst Atlas Atlas Atlas	Attas Attas Cloudburst Cloudburst Attas Attas Attas Attas	Attas Cloudburst Cloudburst Attas Attas Attas Attas Attas Attas Attas	Atlas Cloudburst Cloudburst Atlas Atlas Atlas Atlas Atlas Atlas Atlas Atlas	Atlas Cloudburst Cloudburst Atlas Atlas Atlas Atlas Atlas Atlas Atlas Atlas Atlas	Atlas Cloudburst Cloudburst Atlas	Atlas Cloudburst Cloudburst Atlas	Atlas Cloudburst Cloudburst Atlas	Atlas Cloudburst Cloudburst Atlas	Atlas Cloudburst Cloudburst Atlas	Atlas Cloudburst Cloudburst Atlas	Atlas Cloudburst Cloudburst Cloudburst Atlas	Atlas Cloudburst Cloudburst Atlas	Atlas Cloudburst Atlas	Atlas Cloudburst Cloudburst Cloudburst Atlas	Atlas Cloudburst Cloudburst Atlas	Atlas Cloudburst Cloudburst Atlas	Atlas Atlas Cloudburst Cloudburst Atlas	Atlas Cloudburst Cloudburst Cloudburst Atlas	Atlas Cloudburst Cloudburst Cloudburst Atlas	Atlas Cloudburst Cloudburst Cloudburst Atlas	Atlas Cloudburst Cloudburst Cloudburst Atlas	Atlas Cloudburst Cloudburst Cloudburst Atlas	Atlas Cloudburst Cloudburst Cloudburst Atlas
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0.39 4.35 0.52	4.35	0.52	-	0.50	0.71	0.35	0.74		1.93	1.93	1.93	1.06	1.06	1.93 1.06 0.47 0.19 0.16	1.93 1.06 0.47 0.19 0.16	1.93 1.06 0.47 0.19 0.16 0.53	1.93 1.06 0.47 0.19 0.16 0.53 0.36	1.93 1.06 0.47 0.19 0.16 0.36 0.38 1.83	1.93 1.06 0.47 0.19 0.16 0.53 0.36 0.36 0.43 1.83	1.93 1.06 0.47 0.19 0.16 0.53 0.36 0.43 1.83	1.93 1.06 0.47 0.19 0.16 0.53 0.36 0.36 0.43 1.83 0.75	1.93 1.06 0.47 0.19 0.16 0.36 0.36 0.75 0.75 0.068	1.93 1.06 0.47 0.16 0.53 0.36 0.36 0.45 0.75 0.75 0.75	1.93 1.06 0.47 0.16 0.53 0.36 0.43 1.83 0.75 0.45 0.68 0.68	1.93 1.06 0.47 0.16 0.16 0.53 0.36 0.43 1.83 0.45 0.45 0.45 0.45 0.45 0.45 0.45	1.93 1.06 0.47 0.19 0.16 0.53 0.36 0.43 1.83 0.75 0.05 0.05 0.045 0.045 0.045 0.045	1.93 1.06 1.06 0.47 0.19 0.16 0.36 0.34 0.45 0.045 0.045 0.045 0.045 0.045 0.045 0.045 0.045	1.93 1.06 1.06 0.47 0.16 0.16 0.53 0.36 0.43 1.83 0.45 0.045 0.045 0.045 0.045 0.045 0.045 0.05 0.0	1.93 1.06 1.06 0.47 0.19 0.16 0.36 0.34 0.45 0.01 0.01 0.01 0.01 0.029	1.93 1.06 1.06 0.47 0.19 0.16 0.36 0.36 0.75 0.75 0.075 0.045 0.045 0.01 0.01 0.01 0.01 0.029	1.93 1.06 1.06 0.47 0.16 0.16 0.43 0.45 0.45 0.45 0.04 0.01 0.01 0.01 0.03 0.03 0.04 0.04 0.04 0.04 0.04 0.04	1.93 1.06 1.06 0.47 0.16 0.16 0.45 0.45 0.45 0.45 0.045 0.01 0.01 0.29 0.29 0.29 0.35 0.37	1.93 1.06 1.06 0.47 0.16 0.16 0.053 0.045 0.045 0.045 0.045 0.07 0.07 0.07 0.07 0.29 0.29 0.29 0.37 0.37 0.37 0.37	1.93 1.06 1.06 0.47 0.19 0.16 0.45 0.045 0	1.93 1.06 1.06 0.47 0.19 0.16 0.36 0.34 0.045 0.046 0.045 0.	1.93 1.06 1.06 0.47 0.19 0.16 0.05 0.03 0.045 0.045 0.045 0.045 0.045 0.045 0.045 0.045 0.045 0.045 0.057 0.057 0.057	1.93 1.06 1.06 1.06 0.19 0.16 0.05 0.07 0.01 0.01 0.029 0.037 0.045 0.045 0.045 0.045 0.057 0.057 0.057 0.057 0.057
14,803	14,803	168		352	8,652	683	83	200	200	1,020	1,020	1,020	1,403,653	1,020 685 1,403,653 1,155,933	1,020 685 1,403,653 1,155,933 1,219,260	1,020 685 1,403,653 1,155,933 1,219,260 1,537,382	1,020 685 1,403,653 1,155,933 1,219,260 1,537,382 432,424	1,020 685 1,403,653 1,155,933 1,219,260 1,537,382 432,424 1,701,247	1,020 685 1,403,653 1,155,933 1,219,260 1,537,382 432,424 1,701,247 1,491,058	1,020 685 1,403,653 1,155,933 1,219,260 1,537,382 432,424 1,701,247 1,491,058	1,020 685 1,403,653 1,155,933 1,219,260 1,537,382 432,424 1,701,247 1,701,247 1,491,058 4,731 608,040	1,020 685 1,403,653 1,155,933 1,219,260 1,537,382 432,424 1,701,247 1,701,247 1,491,058 4,731 608,040	1,020 685 1,403,653 1,155,933 1,219,260 1,537,382 432,424 1,701,247 1,701,247 1,491,058 4,731 608,040 135,248 720,694	1,020 685 1,403,653 1,155,933 1,219,260 1,537,382 432,424 1,701,247 1,491,058 4,731 608,040 135,248 720,694	1,020 685 1,403,653 1,155,933 1,219,260 1,537,382 432,424 1,701,247 1,491,058 4,731 608,040 135,248 720,694 11,750,379 11,750,379	1,020 685 1,403,653 1,155,933 1,1219,260 1,537,382 432,424 1,701,247 1,491,058 4,731 608,040 135,248 720,694 11,924 321,388	1,020 685 1,403,653 1,155,933 1,155,933 1,219,260 1,537,382 432,424 1,701,247 1,491,058 4,731 608,040 135,248 720,694 11,750,379 11,924 321,388	1,020 685 1,403,653 1,155,933 1,1219,260 1,537,382 432,424 1,701,247 1,491,058 4,731 608,040 135,248 720,694 11,924 321,388 133,763	1,020 685 1,403,653 1,155,933 1,155,933 1,219,260 1,537,382 432,424 1,701,247 1,491,058 4,731 608,040 135,248 720,694 11,750,379 11,924 321,388 133,763	1,020 685 1,403,653 1,155,933 1,219,260 1,537,382 432,424 1,701,247 1,491,058 4,731 608,040 135,248 720,694 11,750,379 11,924 321,388 133,763	1,020 685 1,165,933 1,155,933 1,219,260 1,537,382 432,424 1,701,247 1,491,058 4,731 608,040 135,248 720,694 11,750,379 11,924 321,388 11,324 11,1924 321,388 11,924 321,388	1,020 685 1,403,653 1,155,933 1,219,260 1,537,382 432,424 1,701,247 1,491,058 4,731 608,040 135,248 720,694 11,750,379 11,924 321,388 133,763 133,763 104	1,020 685 1,403,653 1,155,933 1,219,260 1,537,382 432,424 1,701,247 1,491,058 4,731 608,040 135,248 720,694 11,750,379 11,924 321,388 133,763 104 729 102 103 103 103 103 103 103 103 103 103 103	1,020 685 1,403,653 1,155,933 1,155,933 1,219,260 1,537,382 432,424 1,701,247 1,491,058 4,731 608,040 135,248 720,694 11,750,379 11,924 321,388 1133,763 104 729 104	1,020 685 1,403,653 1,155,933 1,219,260 1,537,382 4,731 608,040 1,50,379 11,750,379 11,924 20,435 11,324 11,324 720,694 11,750,379 11,924 11,520,379 11,324 720,435 11,338 133,763 104 729 11,338 133,763	1,020 685 1,1020 1,155,933 1,155,933 1,219,260 1,537,382 432,424 1,701,247 1,491,058 4,731 608,040 135,248 720,694 11,750,379 11,924 321,388 133,763 11,324 729 11,328 6,179 12,220 9,080	1,020 685 1,403,653 1,155,933 1,219,260 1,537,382 432,424 1,701,247 1,491,058 4,731 608,040 135,248 720,694 11,750,379 11,924 321,388 1133,763 104 729 11,338 6,179 6,179 6,179 6,179 6,179 6,179 6,179 6,179 6,179 6,179
0.85	0.85	0.85	1 08	00:-	0.93	0.62	1.69	2.67	2.68		0.67	0.67	0.67	0.34	0.34	0.67	0.67 0.34 0.18 0.85 0.65	0.67 0.34 0.18 0.85 0.65 0.65	0.67 0.34 0.18 0.85 0.65 0.85 1.45	0.67 0.34 0.18 0.85 0.65 0.65 1.23	0.67 0.34 0.18 0.85 0.65 0.65 1.45 1.23	0.67 0.34 0.18 0.85 0.65 0.87 1.23 1.23 0.62 1.23	0.67 0.34 0.18 0.85 0.65 0.65 1.23 1.23 0.62 0.62	0.67 0.34 0.18 0.85 0.65 0.62 1.23 0.62 1.23 0.62 0.62	0.67 0.34 0.18 0.65 0.65 0.62 1.23 0.62 0.62 0.62 0.62 0.62	0.67 0.34 0.18 0.85 0.65 0.65 1.23 1.23 0.62 0.68 0.68 0.085	0.67 0.34 0.18 0.18 0.65 0.65 0.62 1.23 1.23 0.62 0.62 0.02 0.02 0.02 0.05	0.67 0.34 0.18 0.085 0.65 0.65 0.62 1.23 0.62 0.68 0.085 0.02 0.02 0.02 0.05 0.05 0.05	0.67 0.34 0.18 0.18 0.65 0.65 0.62 1.23 1.23 0.62 0.02 0.02 0.05 0.05 0.05 0.05	0.67 0.34 0.18 0.18 0.65 0.65 0.62 1.23 0.62 0.02 0.02 0.02 0.05 0.05 0.05 0.05 0.0	0.67 0.34 0.18 0.085 0.65 0.62 0.62 0.02 0.02 0.02 0.051 0.051 0.055 0.055 0.055 0.055 0.055 0.055	0.67 0.34 0.18 0.085 0.65 0.62 1.23 0.62 0.62 0.02 0.02 0.05 0.05 0.05 0.05 0.05 0.0	0.67 0.34 0.18 0.18 0.65 0.65 0.68 0.68 0.06 0.05 0.05 0.05 0.05 0.05 0.05 0.05	0.67 0.34 0.18 0.085 0.065 0.062 0.02 0.02 0.02 0.05 0.05 0.05 0.05 0.05 0.05 0.05 0.05 0.05 0.05 0.05 0.05 0.05 0.07 0.05 0.05 0.05 0.07 0.07 0.07 0.07 0.07 0.07 0.07 0.05 0.0	0.67 0.34 0.18 0.18 0.65 0.65 0.02 0.02 0.02 0.05 0.05 0.05 0.05 0.0	0.67 0.34 0.18 0.18 0.65 0.65 0.62 1.23 0.62 0.02 0.02 0.02 0.05 0.05 0.05 0.05 0.05 0.05 0.05 0.05 1.75 1.75 1.75	0.67 0.34 0.18 0.085 0.65 0.65 0.62 1.23 0.62 0.68 0.68 0.68 0.68 0.68 0.08 0.02 0.02 0.05
30	30		15	15	30	180	15	15	15		15	15	15	15 135 60	15 135 60 180	15 135 60 180 120	15 135 60 60 180 120 225	15 135 60 60 120 225 225	15 135 60 180 120 225 225 315	15 135 60 60 120 225 225 225 315 45	15 135 60 60 120 225 225 225 225 45 45	15 135 60 60 180 120 225 225 225 225 45 45	15 135 60 60 120 225 225 225 225 225 225 225 75 75	15 135 60 60 120 225 225 225 315 45 685 165 75	15 135 60 60 120 225 225 225 315 45 75 75	15 135 60 60 120 225 225 225 225 315 45 76 76 76	15 135 60 60 120 225 225 225 225 315 45 165 165 165 165 165 90	15 135 60 60 120 225 225 225 225 315 45 165 165 16 60 60 90	15 135 60 60 120 225 225 225 225 315 45 165 165 175 60 60	15 135 60 60 120 225 225 225 225 75 45 165 165 175 175 175 175 175 175 175 175 175 17	15 135 60 60 120 225 225 225 225 315 45 165 165 165 165 165 175 1335 11335	15 135 60 60 120 225 225 225 225 315 45 165 60 60 90 105 1175	15 135 60 60 120 225 225 225 225 315 45 165 165 175 105 105 105 105 105 105 105 105 105 10	15 135 60 60 120 225 225 225 225 315 45 165 165 175 90 90 90 900 1275 900	15 135 60 60 120 225 225 225 225 315 45 165 165 175 90 90 105 1135 1135 1135 106 106 106 1105 1105 1105 1105 1105 1	15 135 60 60 120 225 225 225 225 315 45 75 75 75 165 105 106 106 106 106 1175	15 135 60 60 120 225 225 225 225 315 45 60 60 60 60 90 105 105 105 105 105 105 105 105 105 10
07/26/2022 10:15	0.000	07/28/2022 20:30	08/10/2022 21:15	08/29/2022 15:45	09/03/2022 21:00	12/06/2022 23:30	01/03/2023 02:30	03/03/2023 08:30	03/24/2023 02:15		03/31/2023 23:45	03/31/2023 23:45	03/31/2023 23:45	03/31/2023 23:45 07/03/2022 03:00 07/06/2022 16:00	03/31/2023 23:45 07/03/2022 03:00 07/06/2022 16:00 07/08/2022 13:45	03/31/2023 23:45 07/03/2022 03:00 07/06/2022 16:00 07/08/2022 13:45 07/18/2022 04:15	03/31/2023 23:45 07/03/2022 03:00 07/06/2022 16:00 07/08/2022 13:45 07/18/2022 04:15	03/31/2023 23:45 07/03/2022 03:00 07/06/2022 16:00 07/08/2022 13:45 07/18/2022 04:15 07/26/2022 12:00	03/31/2023 23:45 07/03/2022 03:00 07/06/2022 16:00 07/08/2022 13:45 07/18/2022 04:15 07/26/2022 12:00 07/29/2022 10:00	03/31/2023 23:45 07/03/2022 03:00 07/06/2022 16:00 07/08/2022 13:45 07/18/2022 04:15 07/29/2022 12:00 07/29/2022 10:15 08/05/2022 03:15	03/31/2023 23:45 07/03/2022 03:00 07/08/2022 16:00 07/08/2022 13:45 07/18/2022 04:15 07/29/2022 12:00 07/29/2022 10:15 08/10/2022 23:30	03/31/2023 23:45 07/03/2022 03:00 07/08/2022 16:00 07/08/2022 13:45 07/18/2022 04:15 07/26/2022 12:00 07/29/2022 00:00 07/31/2022 10:15 08/05/2022 23:30 08/30/2022 20:00	03/31/2023 23:45 07/05/2022 03:00 07/06/2022 16:00 07/08/2022 13:45 07/18/2022 04:15 07/26/2022 12:00 07/29/2022 00:00 07/31/2022 10:15 08/05/2022 03:15 08/05/2022 03:15	03/31/2023 23:45  07/03/2022 03:00  07/06/2022 16:00  07/18/2022 12:00  07/29/2022 12:00  07/31/2022 10:15  08/05/2022 23:30  08/30/2022 23:30  08/30/2022 23:45	03/31/2023 23:45  07/03/2022 03:00  07/06/2022 16:00  07/08/2022 12:06  07/29/2022 12:00  07/29/2022 00:00  07/31/2022 03:15  08/10/2022 23:30  08/30/2022 21:45  09/03/2022 21:45	03/31/2023 23:45  07/03/2022 03:00  07/08/2022 16:00  07/08/2022 13:45  07/18/2022 04:15  07/29/2022 12:00  07/29/2022 10:15  08/30/2022 03:15  08/30/2022 23:30  09/03/2022 21:45  09/05/2022 13:45	03/31/2023 23:45  07/03/2022 03:00  07/08/2022 16:00  07/08/2022 16:00  07/28/2022 12:00  07/23/2022 10:15  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	07/26/2022 10:00	07/28/2022 20:00	08/10/2022 21:00	08/29/2022 15:30	09/03/2022 20:30	12/06/2022 20:30	01/03/2023 02:15	03/03/2023 08:15	03/24/2023 02:00	00.00 00001 10.00	03/31/2023 23:30	03/31/2023 23:30	03/31/2023 23:30	03/31/2023 23:30 07/03/2022 00:45 07/06/2022 15:00	03/31/2023 23:30 07/03/2022 00:45 07/06/2022 15:00 07/08/2022 10:45	03/31/2023 23:30 07/03/2022 00:45 07/06/2022 15:00 07/08/2022 10:45	03/31/2023 23:30 07/03/2022 00:45 07/08/2022 15:00 07/08/2022 10:45 07/18/2022 02:15	03/31/2023 23:30 07/03/2022 00:45 07/08/2022 15:00 07/18/2022 10:45 07/18/2022 02:15 07/28/2022 20:15	03/31/2023 23:30 07/03/2022 15:00 07/08/2022 16:00 07/18/2022 10:45 07/18/2022 02:15 07/26/2022 08:15 07/28/2022 20:15	03/31/2023 23:30 07/03/2022 15:00 07/08/2022 15:00 07/18/2022 02:15 07/28/2022 08:15 07/28/2022 08:15 07/31/2022 05:00 08/05/2022 02:30	03/31/2023 23:30 07/03/2022 00:45 07/08/2022 15:00 07/08/2022 10:45 07/18/2022 02:15 07/28/2022 08:15 07/31/2022 20:15 07/31/2022 20:30 08/10/2022 13:45	03/31/2023 23:30 07/03/2022 00:45 07/06/2022 15:00 07/08/2022 10:45 07/18/2022 02:15 07/28/2022 20:15 07/31/2022 05:00 08/05/2022 02:30 08/10/2022 13:45 08/30/2022 03:15	03/31/2023 23:30 07/03/2022 10:45 07/08/2022 10:45 07/18/2022 02:15 07/28/2022 02:15 07/31/2022 02:30 08/05/2022 02:30 08/30/2022 03:15 08/30/2022 03:30	03/31/2023 23:30 07/03/2022 10:45 07/08/2022 15:00 07/18/2022 02:15 07/26/2022 02:15 07/28/2022 02:15 07/31/2022 05:00 08/05/2022 02:30 08/10/2022 13:45 08/30/2022 03:15 09/03/2022 03:00	03/31/2023 23:30 07/03/2022 16:00 07/08/2022 16:00 07/18/2022 02:15 07/28/2022 08:15 07/28/2022 08:15 07/31/2022 06:00 08/05/2022 03:15 08/30/2022 03:15 09/03/2022 03:15 09/03/2022 03:15	03/31/2023 23:30 07/08/2022 10:45 07/08/2022 10:45 07/18/2022 02:15 07/28/2022 02:15 07/28/2022 20:15 07/31/2022 02:30 08/10/2022 13:45 09/03/2022 20:30 09/03/2022 20:30 09/03/2022 13:45 09/03/2022 13:45 09/03/2022 13:45 09/05/2022 13:45 09/05/2022 13:45 09/05/2022 13:45	03/31/2023 23:30 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02:00  07/28/2022 03:00  07/28/2022 20:00  07/28/2022 20:00  07/28/2022 20:00  07/28/2022 20:00  07/28/2022 20:00  07/28/2022 20:00  07/28/2022 20:00  08/10/2022 20:00  08/05/2022 20:00	07/03/2022 00:45  07/03/2022 00:45  07/08/2022 15:00  07/08/2022 10:45  07/18/2022 02:15  07/28/2022 02:15  07/28/2022 02:15  07/28/2022 02:15  07/31/2022 03:15  08/10/2022 13:45  08/10/2022 13:45  09/03/2022 03:15  09/03/2022 13:45  09/03/2022 13:45  09/03/2022 13:45  09/03/2022 13:45  09/03/2022 13:45  09/03/2022 13:45  09/03/2022 13:45  09/03/2022 13:45  09/03/2022 13:45  09/03/2022 03:15  07/08/2022 10:15  07/08/2022 16:15  07/28/2022 03:00  07/28/2022 03:00  07/38/2022 20:30  08/10/2022 21:00  08/10/2022 21:00
•												CSO161 Total	CSO161 Total CSO166	CSO161 Total CSO166	CSO161 Total CSO166	CSO161 Total CSO166	CSO161 Total CSO166	CSO161 Total CSO166	CSO161 Total CSO166	CSO161 Total CSO166	CSO161 Total CSO166	CSO161 Total CSO166	CSO161 Total CSO166	CSO161 Total CSO166	CSO161 Total CSO166	CSO161 Total CSO166	CSO161 Total CSO166	CSO161 Total CSO166 CSO166 CSO166 CSO166	CSO166 CSO166 CSO166 CSO166 CSO166 CSO166 CSO166 CSO167	CSO166 CSO166 CSO166 CSO166 CSO166 CSO166 CSO167	CSO166 CSO166 CSO166 CSO166 CSO166 CSO166 CSO167	CSO166 CSO166 CSO166 CSO166 Total CSO167	CSO166 CSO166 CSO166 CSO166 CSO166 CSO166 CSO167	CSO166 CSO166 CSO166 CSO166 CSO166 Total CSO167	CSO166 CSO166 CSO166 CSO166 Total CSO167	CSO161 Total CSO166 CSO166 CSO166 CSO167	CSO161 Total CSO166 CSO166 Total CSO166 CSO166 Total



COUNT OF	-	_	1	ı	ı	ı	1	1	1	_	1	1	1	1	24	1	1	1	_	1	1	1	1	1	1	1	1	1	-
DISCHARGE VOLUME (GAL)	5,158	193,077	13,495	399,961	2,074,766	115	724,548	428,716	6,499	85	2,918	230	117	28,931	3,937,010	389,653	406,361	298,576	1,662,158	803,992	1,128,621	484,054	447,539	290,016	374	380,676	155	41,555	90,444
COMMENT																	Retained by Sneads Branch.	Retained by Sneads Branch.							Retained by Sneads Branch.				
STANDARD	Atlas	Atlas	Atlas	Atlas	Cloudburst	Atlas		Atlas	Atlas	Atlas	Atlas	Atlas	Atlas	Atlas	Atlas	Atlas	Atlas	Atlas	Atlas	Atlas	Atlas								
PERIOD (HR)	-	12	1	12	12	24	24	1	1	ဇ	-	9	3	9		3	8	9	_	3	1	1	1	1	24	-	-	-	9
FREQUENCY (YR)	0.34	0.76	0.55	98.0	1.83	0.92	0.92	0.55	0.49	0.46	0.37	0.40	0.51	0.74		0.53	0.44	0.44	0.87	89.0	0.52	0.28	0.57	0.22	0.26	0.56	0.17	0.09	0.27
DISCHARGE PER RAIN (GAL/IN)	986'8	109,640	15,765	212,859	777,649	47	293,815	551,758	666'6	66	5,745	314	143	18,427		481,648	547,656	360,599	1,559,248	717,850	1,569,709	1,216,216	362,087	769,274	563	551,704	769	290,594	166,258
RAIN TOTAL (IN)	0.57	1.76	98:0	1.88	2.67	2.47	2.47	0.78	0.65	98.0	0.51	0.73	0.81	1.57		0.81	0.74	0.83	1.07	1.12	0.72	0.40	1.24	0.38	29.0	69.0	0.20	0.14	0.54
DURATION (MIN)	1440	2775	45	2535	10500	15	4215	2085	30	30	30	225	45	210		45	06	135	45	120	09	30	510	45	15	45	15	15	09
END DATE	12/07/2022 23:15	01/04/2023 23:15	01/12/2023 08:45	02/18/2023 01:00	03/10/2023 14:00	03/24/2023 02:15	03/27/2023 21:30	04/02/2023 10:00	04/05/2023 16:45	04/27/2023 22:00	05/07/2023 08:45	05/16/2023 11:45	06/07/2023 11:15	06/25/2023 21:00		07/08/2022 12:30	07/18/2022 03:30	07/26/2022 10:45	07/28/2022 21:15	07/31/2022 07:15	08/05/2022 03:45	08/06/2022 15:15	08/10/2022 22:15	08/21/2022 16:30	08/30/2022 05:45	09/03/2022 21:15	09/06/2022 15:45	09/11/2022 14:45	12/07/2022 00:00
START DATE	12/06/2022 23:15	01/03/2023 01:00	01/12/2023 08:00	02/16/2023 06:45	03/03/2023 07:00	03/24/2023 02:00	03/24/2023 23:15	03/31/2023 23:15	04/05/2023 16:15	04/27/2023 21:30	05/07/2023 08:15	05/16/2023 08:00	06/07/2023 10:30	06/25/2023 17:30		07/08/2022 11:45	07/18/2022 02:00	07/26/2022 08:30	07/28/2022 20:30	07/31/2022 05:15	08/05/2022 02:45	08/06/2022 14:45	08/10/2022 13:45	08/21/2022 15:45	08/30/2022 05:30	09/03/2022 20:30	09/06/2022 15:30	09/11/2022 14:30	12/06/2022 23:00
oso															CSO167 Total	CSO174													



COUNT OF	-	1	1	1	1	1	1	1	1	-	-	1	1	1	-	1	1	1	1	33	1	1	2	1	1
DISCHARGE VOLUME (GAL)	2,664	970,441	200,519	29,076	569,163	43,711	215,784	6,678	134,717	337,028	20,092	257,733	258,783	11,536	413,688	187,081	138,918	42,592	1,397,219	11,661,597	805,822	20,240	826,061	101,227	123,399
COMMENT	Retained by Sneads Branch.		Retained by Sneads Branch.	Retained by Sneads Branch.		Retained by Sneads Branch.		Retained by Sneads Branch.	Retained by Sneads Branch.		Retained by Sneads Branch.		Retained by Sneads Branch.	Retained by Sneads Branch.	Retained by Sneads Branch.		Retained by Sneads Branch.	Retained by Sneads Branch.							Retained by Sneads Branch.
STANDARD	Atlas	Atlas	Atlas	Atlas	Atlas	Atlas	Atlas	Atlas	Atlas	Atlas	Atlas	Atlas	Atlas	Atlas	Atlas	Atlas	Atlas	Atlas	Atlas		Atlas	Atlas		Atlas	Atlas
PERIOD (HR)	24	12	3	9	12	24	24	1	9	-	-	1	9	9	ε	1	24	24	9		1	3		3	3
FREQUENCY (YR)	0.45	0.75	0.38	0.25	0.81	76.0	0.97	0.40	0.48	0.44	0.23	0.26	0.38	0.25	0.57	0.34	0.43	0.43	0.84		1.71	0.63		0.53	0.44
DISCHARGE PER RAIN (GAL/IN)	2,280	561,273	333,643	57,691	323,572	17,075	84,290	12,436	150,354	555,236	64,397	839,520	375,048	22,226	449,173	404,937	123,593	37,893	796,136		581,401	16,880		125,126	166,306
RAIN TOTAL (IN)	1.17	1.73	0.60	0.50	1.76	2.56	2.56	0.54	06.0	0.61	0.31	0.31	0.69	0.52	0.92	0.46	1.12	1.12	1.75		1.39	1.20		0.81	0.74
DURATION (MIN)	150	435	30	30	009	15	135	30	06	45	105	30	240	15	06	30	15	45	285		45	15		120	09
END DATE	12/14/2022 07:45	01/03/2023 08:30	01/12/2023 09:00	01/19/2023 03:00	02/16/2023 14:15	03/24/2023 02:30	03/25/2023 01:30	04/05/2023 17:00	04/27/2023 22:45	05/07/2023 09:15	05/09/2023 05:15	05/14/2023 06:45	05/16/2023 12:15	05/20/2023 01:15	06/07/2023 12:15	06/11/2023 21:45	06/19/2023 03:45	06/19/2023 13:00	06/25/2023 22:15		07/28/2022 20:45	08/10/2022 21:30		07/08/2022 12:30	07/18/2022 03:00
START DATE	12/14/2022 05:15	01/03/2023 01:15	01/12/2023 08:30	01/19/2023 02:30	02/16/2023 04:15	03/24/2023 02:15	03/24/2023 23:15	04/05/2023 16:30	04/27/2023 21:15	05/07/2023 08:30	05/09/2023 03:30	05/14/2023 06:15	05/16/2023 08:15	05/20/2023 01:00	06/07/2023 10:45	06/11/2023 21:15	06/19/2023 03:30	06/19/2023 12:15	06/25/2023 17:30		07/28/2022 20:00	08/10/2022 21:15		07/08/2022 10:30	07/18/2022 02:00
cso																				CSO174 Total	CSO178		CSO178 Total	CSO180	



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COUNT OF	-	-	1	1	-	_	1	-	-	-	-	-	1	1	-	1	_	1	<del>-</del>	_	1	<del>-</del>	1	7-
DISCHARGE VOLUME (GAL)	50,450	360,458	237,299	129,644	28,309	3,893	63,173	12,968	2,345	11,980	2,737	120,691	60,192	6,613	107,908	243,053	23,438	164,386	5,614	253,569	455	42,595	32,510	19,438
COMMENT	Retained by Sneads Branch.						Retained by Sneads Branch.		Retained by Sneads Branch.	Retained by Sneads Branch.			Retained by Sneads Branch.		Retained by Sneads Branch.		Retained by Sneads Branch.	Retained by Sneads Branch.		Retained by Sneads Branch.				
STANDARD	Atlas	Atlas	Atlas	Atlas	Atlas	Atlas	Atlas	Atlas	Atlas	Atlas	Atlas	Atlas	Atlas	Atlas	Atlas	Cloudburst	Atlas	Atlas	Atlas	Atlas	Atlas	Atlas	Atlas	Atlas
PERIOD (HR)	9	-	3	1	-	1	1	<del>-</del>	9	9	24	12	8	9	12	12	24	24	12	1	1	9	1	-
FREQUENCY (YR)	0.44	0.87	0.68	0.52	0.28	0.22	0.56	0.32	0.27	0.27	0.45	0.75	0.38	0.25	0.81	1.74	0.97	0.97	0.24	0.81	0.40	0.48	0.44	0.23
DISCHARGE PER RAIN (GAL/IN)	60,930	338,141	211,874	180,311	71,128	10,326	91,555	28,945	3,995	22,022	2,343	69,804	100,153	13,121	61,346	91,373	9,155	64,213	10,672	229,682	848	47,539	53,558	62,302
RAIN TOTAL (IN)	0.83	1.07	1.12	0.72	0.40	0.38	69.0	0.45	0.59	0.54	1.17	1.73	09:0	0.50	1.76	2.66	2.56	2.56	0.53	1.10	0.54	06:0	0.61	0.31
DURATION (MIN)	135	09	120	45	30	15	30	45	15	195	150	360	30	15	009	099	240	135	15	75	15	06	30	15
END DATE	07/26/2022 10:45	07/28/2022 21:15	07/31/2022 07:00	08/05/2022 03:30	08/06/2022 15:00	08/21/2022 16:00	09/03/2022 21:00	10/25/2022 18:45	10/30/2022 10:45	12/06/2022 23:45	12/14/2022 07:30	01/03/2023 07:15	01/12/2023 08:45	01/19/2023 02:45	02/16/2023 14:00	03/03/2023 15:45	03/24/2023 06:00	03/25/2023 01:30	03/31/2023 09:30	04/01/2023 00:45	04/05/2023 16:45	04/27/2023 22:30	05/07/2023 08:45	05/09/2023 05:00
START DATE	07/26/2022 08:30	07/28/2022 20:15	07/31/2022 05:00	08/05/2022 02:45	08/06/2022 14:30	08/21/2022 15:45	09/03/2022 20:30	10/25/2022 18:00	10/30/2022 10:30	12/06/2022 20:30	12/14/2022 05:00	01/03/2023 01:15	01/12/2023 08:15	01/19/2023 02:30	02/16/2023 04:00	03/03/2023 04:45	03/24/2023 02:00	03/24/2023 23:15	03/31/2023 09:15	03/31/2023 23:30	04/05/2023 16:30	04/27/2023 21:00	05/07/2023 08:15	05/09/2023 04:45
oso																								



P.																										
COUNT OF		-	-	-	<del>-</del>	<del>-</del>	-	33	-	-	-	<del>-</del>	1	-	-	-	9	-	<del>-</del>	1	1	1	1	1	-	-
DISCHARGE VOLUME (GAL)	56,272	49,878	3,863	56,714	33,300	24,043	248,589	2,681,002	1,257,230	1,257,230	351,366	3,345	408,190	2,144,459	297,722	2,664	3,207,745	1,970	133	480	599	3,824	1,532	451	346	218
COMMENT	Retained by Sneads Branch.	Retained by Sneads Branch.	Retained by Sneads Branch.		Retained by Sneads Branch.	Retained by Sneads Branch.						Retained by Sneads Branch.			Retained by Sneads Branch.	Retained by Sneads Branch.			Retained by Sneads Branch.						Retained by Sneads Branch.	
STANDARD	Atlas	Atlas	Atlas	Atlas	Atlas	Atlas	Atlas		Atlas		Atlas	Atlas	Atlas	Cloudburst	Atlas	Atlas		Atlas	Atlas	Atlas	Atlas	Atlas	Atlas	Atlas	Atlas	Atlas
PERIOD (HR)	9	3	7-	1	24	24	9		-		-	7	12	12	3	12		1	8	-	3	1	1	12	-	12
FREQUENCY (YR)	0.38	0.57	0.10	0.34	0.43	0.43	0.84		1.85		0.48	0.00	0.81	1.53	0.07	0.08		0.36	0.38	0.32	0.77	0.71	0.33	0.56	0.43	0.85
DISCHARGE PER RAIN (GAL/IN)	81,554	54,156	33,016	122,758	29,627	21,391	141,646		883,506		591,525	3,344,917	229,707	834,095	2,890,508	14,719		3,759	136	1,113	472	4,063	3,774	372	675	112
RAIN TOTAL (IN)	0.69	0.92	0.12	0.46	1.12	1.12	1.75		1.42		0.59	0.00	1.78	2.57	0.10	0.18		0.52	0.98	0.43	1.27	0.94	0.41	1.21	0.51	1.95
DURATION (MIN)	225	75	15	30	15	225	270		45		15	75	720	1035	2475	45		15	15	15	15	45	15	15	15	90
END DATE	05/16/2023 11:45	06/07/2023 12:00	06/11/2023 03:45	06/11/2023 21:30	06/19/2023 03:30	06/19/2023 16:30	06/25/2023 22:00		07/28/2022 20:45		08/06/2022 14:30	01/30/2023 18:15	02/16/2023 16:00	03/03/2023 20:00	03/13/2023 20:15	03/17/2023 14:30		07/08/2022 12:00	07/18/2022 02:15	07/28/2022 20:45	07/31/2022 06:45	08/05/2022 03:15	08/06/2022 14:45	08/10/2022 21:45	09/03/2022 20:45	01/03/2023 02:45
START DATE	05/16/2023 08:00	06/07/2023 10:45	06/11/2023 03:30	06/11/2023 21:00	06/19/2023 03:15	06/19/2023 12:45	06/25/2023 17:30		07/28/2022 20:00		08/06/2022 14:15	01/30/2023 17:00	02/16/2023 04:00	03/03/2023 02:45	03/12/2023 03:00	03/17/2023 13:45		07/08/2022 11:45	07/18/2022 02:00	07/28/2022 20:30	07/31/2022 06:30	08/05/2022 02:30	08/06/2022 14:30	08/10/2022 21:30	09/03/2022 20:30	01/03/2023 01:15
oso								CSO180 Total	CSO181	CSO181 Total	CSO182						CSO182 Total	CSO183								



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COUNT OF CSO	1	-	+	1	1	_	1	1	1	-	19	-	1	-	7-	-	_	1	1	1	1	-	_	-	1	14	1	1
DISCHARGE VOLUME (GAL)	384	99	891	208	82	1,231	5,575	28	99	4,647	22,775	2,463	1,752	1,558	14,817	8,057	36,226	24	3,845	21,733	068'8	12,795	20,008	7,650	118,207	258,025	9,213	25,502
COMMENT	Retained by Sneads Branch.	Retained by Sneads Branch.		Retained by Sneads Branch.					Retained by Sneads Branch.				Retained by Sneads Branch.	Retained by Sneads Branch.							Retained by Sneads Branch.						Retained by Sneads Branch.	Retained by Sneads Branch.
STANDARD	Atlas	Atlas	Cloudburst	Atlas	Atlas	Atlas	Atlas	Atlas	Atlas	Atlas		Atlas	Atlas	Atlas	Atlas	Atlas	Atlas	Atlas	Atlas	Atlas	Atlas	Atlas	Cloudburst	Atlas	Atlas		Atlas	Atlas
PERIOD (HR)	3	9	12	12	24	1	1	1	8	9		-	8	9	-	8	٢	1	12	1	1	12	12	٢	9		1	3
FREQUENCY (YR)	0.29	0.23	1.54	0.05	0.95	0.70	0.41	0.47	0.60	06:0		0.36	0.38	0.49	0.32	0.77	0.71	0.33	0.56	0.58	0.43	0.85	1.54	0.70	06:0		0.36	0.38
DISCHARGE PER RAIN (GAL/IN)	806	143	350	1,842	31	781	9,154	156	22	2,467		4,700	1,782	1,699	34,379	6,354	38,497	58	3,170	29,093	17,330	6,568	7,856	4,854	62,743		17,581	25,943
RAIN TOTAL (IN)	0.48	0.46	2.55	0.11	2.47	1.58	0.61	0.56	26:0	1.88		0.52	86:0	0.92	0.43	1.27	0.94	0.41	1.21	0.75	0.51	1.95	2.55	1.58	1.88		0.52	0.98
DURATION (MIN)	15	15	09	15	105	09	15	15	15	390		15	15	15	15	09	30	15	15	15	15	15	09	09	270		15	30
END DATE	01/12/2023 08:45	01/19/2023 05:15	03/03/2023 09:00	03/22/2023 06:00	03/25/2023 01:15	04/01/2023 00:45	05/07/2023 08:45	05/14/2023 06:30	06/07/2023 08:45	06/25/2023 18:30		07/08/2022 12:00	07/18/2022 02:15	07/26/2022 08:45	07/28/2022 20:45	07/31/2022 06:45	08/05/2022 03:30	08/06/2022 14:45	08/10/2022 21:00	08/21/2022 16:00	09/03/2022 20:45	01/03/2023 02:45	03/03/2023 09:00	04/01/2023 00:45	06/25/2023 22:15		07/08/2022 12:15	07/18/2022 02:30
START DATE	01/12/2023 08:30	01/19/2023 05:00	03/03/2023 08:00	03/22/2023 05:45	03/24/2023 23:30	03/31/2023 23:45	05/07/2023 08:30	05/14/2023 06:15	06/07/2023 08:30	06/25/2023 12:00		07/08/2022 11:45	07/18/2022 02:00	07/26/2022 08:30	07/28/2022 20:30	07/31/2022 05:45	08/05/2022 03:00	08/06/2022 14:30	08/10/2022 20:45	08/21/2022 15:45	09/03/2022 20:30	01/03/2023 02:30	03/03/2023 08:00	03/31/2023 23:45	06/25/2023 17:45		07/08/2022 12:00	07/18/2022 02:00
oso											CSO183 Total	CSO184														CSO184 Total	CSO185	



COUNT OF	-	1	1	1	1	1	1	1	1	-	-	1	-	1	1	1	1	1	1	1	1	1	<del>-</del>	-	1
DISCHARGE VOLUME (GAL)	43,814	38,482	93,257	216,543	25,526	150,217	175,799	75,129	8,310	7,617	3,323	641	2	852	130,248	14,580	61	55,954	211,294	28,556	155,642	196,715	2,408	16,648	211,834
COMMENT	Retained by Sneads Branch.							Retained by Sneads Branch.		Retained by Sneads Branch.	Retained by Sneads Branch.			Retained by Sneads Branch.			Retained by Sneads Branch.	Retained by Sneads Branch.							
STANDARD	Atlas	Atlas	Atlas	Atlas	Atlas	Atlas	Atlas	Atlas	Atlas	Atlas	Atlas	Atlas	Atlas	Atlas	Atlas	Atlas	Atlas	Atlas	Cloudburst	Atlas	Atlas	Atlas	Atlas	Atlas	Atlas
PERIOD (HR)	6	1	3	1	1	12	1	1	1	<b>←</b>	<b>←</b>	8	<b>←</b>	1	12	3	9	12	12	24	24	1	<del>-</del>	9	1
FREQUENCY (YR)	0.49	0.32	0.77	0.71	0.33	0.56	0.58	0.43	0.16	0.23	0.29	0.32	0.01	00.00	0.85	0.29	0.23	0.81	1.54	0.95	0.95	0.70	0:30	0.51	0.41
DISCHARGE PER RAIN (GAL/IN)	47,779	89,285	73,547	230,120	62,872	123,839	235,341	146,451	40,536	28,005	7,837	1,122	230	426,224	66,863	30,566	134	31,846	82,958	11,566	63,039	124,819	5,733	17,711	347,839
RAIN TOTAL (IN)	0.92	0.43	1.27	0.94	0.41	1.21	0.75	0.51	0.20	0.27	0.42	25.0	0.01	00.00	1.95	0.48	0.46	1.76	2.55	2.47	2.47	1.58	0.42	0.94	0.61
DURATION (MIN)	135	30	120	45	15	90	30	06	465	15	30	15	30	840	390	30	15	009	570	15	135	90	15	75	30
END DATE	07/26/2022 10:45	07/28/2022 21:00	07/31/2022 07:00	08/05/2022 03:30	08/06/2022 15:00	08/10/2022 22:00	08/21/2022 16:15	09/03/2022 22:00	09/06/2022 23:00	09/11/2022 14:45	10/25/2022 18:45	12/06/2022 23:00	12/30/2022 03:00	12/31/2022 01:15	01/03/2023 07:45	01/12/2023 09:00	01/19/2023 03:00	02/16/2023 14:15	03/03/2023 14:15	03/24/2023 02:30	03/25/2023 01:45	04/01/2023 01:15	04/05/2023 16:45	04/27/2023 22:45	05/07/2023 09:00
START DATE	07/26/2022 08:30	07/28/2022 20:30	07/31/2022 05:00	08/05/2022 02:45	08/06/2022 14:45	08/10/2022 20:30	08/21/2022 15:45	09/03/2022 20:30	09/06/2022 15:15	09/11/2022 14:30	10/25/2022 18:15	12/06/2022 22:45	12/30/2022 02:30	12/30/2022 11:15	01/03/2023 01:15	01/12/2023 08:30	01/19/2023 02:45	02/16/2023 04:15	03/03/2023 04:45	03/24/2023 02:15	03/24/2023 23:30	03/31/2023 23:45	04/05/2023 16:30	04/27/2023 21:30	05/07/2023 08:30
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DISCHARGE VOLUME (GAL)	54	104,562	66,498	10,355	17,422	17,234		20,801	2															4			
	Retained by Sneads Branch.		Retained by Sneads Branch.	Retained by Sneads Branch.	Retained by Sneads Branch.			Retained by Sneads Branch.	Retained by Sneads Branch.	Retained by Sneads Branch.  Retained by Sneads Branch.	Retained by Sneads Branch.  Retained by Sneads Branch.	Retained by Sneads Branch.  Retained by Sneads Branch.  Retained by Sneads Branch.	Retained by Sneads Branch.  Retained by Sneads Branch.  Retained by Sneads Branch.	Retained by Sneads Branch.  Retained by Sneads Branch.  Retained by Sneads Branch.  Retained by Sneads Branch.	Retained by Sheads Branch.  Retained by Sheads Branch.  Retained by Sheads Branch.  Retained by Sheads Branch.	Retained by Sheads Branch.  Retained by Sheads Branch.  Retained by Sheads Branch.  Retained by Sheads Branch.	Retained by Sneads Branch.	Retained by Sneads Branch.	Retained by Sheads Branch.  Retained by Sheads Branch.  Retained by Sheads Branch.  Retained by Sheads Branch.	Retained by Sneads Branch.	Retained by Sheads Branch.  Retained by Sheads Branch.  Retained by Sheads Branch.  Retained by Sheads Branch.	Retained by Sheads Branch.	Retained by Sneads Branch.  Retained by Sneads Branch.  Retained by Sneads Branch.  Retained by Sneads Branch.	Retained by Sneads Branch.	Retained by Sneads Branch.	Retained by Sneads Branch.	Retained by Sneads Branch.  Retained by Sneads Branch.  Retained by Sneads Branch.  Retained by Sneads Branch.
	Atlas	Atlas	Atlas	Atlas	Atlas		Atlas	Atlas Atlas	Atlas Atlas	Atlas Atlas	Atlas Atlas Atlas Atlas	Atlas Atlas Atlas Atlas Atlas Atlas	Attas Attas Attas Attas Attas Attas	Attas Attas Attas Attas Attas Attas Attas	Attas Attas Attas Attas Attas Attas Attas	Atlas Atlas Atlas Atlas Atlas Atlas Atlas Atlas Atlas	Attas Attas Attas Attas Attas Attas Attas Attas	Attas	Attas	Attas	Attas	Attas	Attas	Attas	Attas	Attas	Attas
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Ŷ.	0.26	0.47	0.32	0.31	09:0		0.28	0.32	0.32	0.32	0.32	0.28	0.32	0.28	0.32	0.32 0.32 0.44 0.44 0.56 0.56 0.04	0.32 0.32 0.44 0.44 0.56 0.56 0.04 0.04	0.32 0.32 0.36 0.44 0.04	0.32 0.32 0.44 0.04	0.32 0.32 0.34 0.44 0.04 0.04 0.04 0.04 0.84 0.84	0.32 0.32 0.44 0.04 0.04 0.04 0.04 0.04 0.04 0.0	0.32 0.32 0.44 0.04 0.04 0.04 0.81 0.04 0.04 0.81	0.32 0.32 0.44 0.44 0.04 0.04 0.04 0.04 0.04 0.0	0.32 0.32 0.44 0.65 0.03 0.03 0.04 0.04 0.81 0.81 0.84	0.32 0.32 0.44 0.87 0.04 0.04 0.81 0.81 0.87 0.52	0.28 0.32 0.44 0.66 0.63 0.63 0.64 0.84 0.87 0.62 0.52	0.32 0.32 0.44 0.66 0.63 0.63 0.64 0.84 0.84 0.62 0.52 0.52 0.52 0.49
(GAL/IN)	141	187,388	114,062	16,488	17,924		41,931	41,931 25,213	41,931	41,931 25,213 63,150	41,931 25,213 63,150 59,887	41,931 25,213 63,150 69,887 59,887	41,931 25,213 63,150 59,887 573 45,546	41,931 25,213 63,150 59,887 573 45,546	41,931 25,213 63,150 59,887 573 45,546 2,067,691	41,931 25,213 63,150 59,887 573 45,546 2,067,691 1,629	41,931 25,213 63,150 59,887 573 45,546 2,067,691 1,629	41,931 25,213 25,213 59,887 573 45,546 2,067,691 1,629 5,556 5,556	41,931 25,213 59,887 573 45,546 2,087,691 1,629 5,556 2,005 2,005	41,931 25,213 25,213 59,887 573 45,546 2,067,691 1,629 5,556 2,005 2,194	41,931 25,213 25,213 59,887 573 45,546 2,087,691 1,629 5,556 5,556 2,194 128,793	41,931 25,213 25,213 59,887 573 45,546 2,067,691 1,629 5,556 2,005 2,005 2,005 2,194 128,793 3,631	41,931 25,213 25,213 59,887 573 45,546 2,067,691 1,629 5,556 2,005 2,005 2,194 128,793 3,631	41,931 25,213 25,213 59,887 573 45,546 2,067,691 1,629 5,556 2,005 2,005 2,005 2,194 128,793 3,631 3,631	41,931 25,213 25,213 59,887 59,887 573 45,546 2,067,691 1,629 5,556 2,005 2,005 2,194 2	41,931 25,213 25,213 59,887 59,887 573 45,546 2,067,691 1,629 5,556 2,005 2,194 2,194 2,194 2,194 2,194 2,194 2,194 2,194 2,194 2,194 2,194 2,194 1,28,793 3,631 3,631 544,103,157 59,718,613 1,797,605	41,931 25,213 25,213 59,887 573 45,546 2,067,691 1,629 5,556 2,005 2,005 2,194 1,28,793 3,631 3,631 544,103,157 59,718,613 1,797,605 41,867,645
(III)	0.38	0.56	0.58	0.63	26.0		0.41	0.82	0.82	0.82	0.82	0.82 0.82 0.74 0.74	0.82 0.82 0.74 0.74 0.69 0.69	0.82 0.82 1.07 1.07 1.07 1.76 0.08	0.82 0.74 0.74 0.69 0.08	0.82 0.74 0.69 0.08	0.82 0.74 1.07 0.69 0.08 0.08	0.82 0.82 0.89 0.69 0.08 0.08 0.08 0.08 1.10 0.74	0.82 0.74 0.74 1.07 0.69 0.08 0.08 0.08 1.10	0.82 0.82 0.69 0.08 0.08 0.74 0.74	0.82 0.74 0.74 1.76 0.08 0.08 0.08 1.10 1.10	0.82 0.74 0.74 1.07 0.69 0.08 0.08 0.08 1.10 1.10 1.75	0.82 0.82 0.69 0.08 0.08 0.08 1.10 1.10 1.75	0.82 0.74 1.07 0.69 0.08 0.08 0.08 1.10 1.10 1.75 1.75	0.82 0.74 1.07 1.07 0.09 0.08 0.74 0.74 1.10 1.10 1.75 1.75	0.82 0.82 0.69 0.08 0.08 1.76 1.10 1.75 1.07 0.74	0.82 0.82 0.74 1.07 0.09 0.08 0.08 0.08 1.10 1.10 1.75
	15	30	525	15	45		15	15	15 15	\$\tilde{c}\$         \$\tilde{c}\$           \$\tilde{c}\$         \$\tilde{c}\$	\$7         \$6         \$7         \$6<	\$\tau\$         \$\tau\$<	51         52         51         52         52         54         55<	51 51 51 51 51 51 51 51	15 15 15 15 17 15 17 15 17 17 17 17 17 17 17 17 17 17 17 17 17	51 51 51 51 51 51 51	15 15 15 15 15 15 15 15 15 15 15 15 15 1	51     51       51     51       51     51       51     51       51     51       51     51       51     51       51     51       51     51       51     51       51     51       51     51       51     51       51     51       52     51       53     52       54     52       55     52       56     52       57     52       57     52       58     52       59     52       50	15 15 15 15 15 15 15 15 15 15 15 15 15 1	15 15 15 15 15 15 15 15 15 15 15 15 15 1	15 15 15 15 15 15 15 15 15 15 15 15 15 1	15 15 15 15 15 15 15 15 15 15 15 15 15 1	15 15 15 15 15 15 15 15 15 15 15 15 15 1	15 15 15 15 15 15 15 16 16 17 18 18 18 18 19 18 19 19 10 10 10 10 10 10 10 10 10 10 10 10 10	15 15 15 15 120 120 15 15 15 15 15 15 15 15 15 15 15 15 15	15 15 15 15 15 15 16 195 4005 600	15 15 15 15 15 15 15 16 16 16 16 16 16 17 18 18 18 18 18 18 18 18 18 18 18 18 18
	05/09/2023 03:45	05/14/2023 06:45	05/16/2023 12:00	05/20/2023 01:15	06/07/2023 11:45		06/11/2023 21:30	06/11/2023 21:30	06/11/2023 21:30	06/11/2023 21:30 06/19/2023 03:45 07/18/2022 02:15	06/19/2023 21:30 06/19/2023 03:45 07/18/2022 02:15 07/28/2022 20:45	06/19/2023 21:30 06/19/2023 03:45 07/18/2022 02:15 07/28/2022 20:45	06/19/2023 21:30 06/19/2023 03:45 07/18/2022 02:15 07/28/2022 20:45 09/03/2022 20:45	06/19/2023 21:30 06/19/2022 03:45 07/18/2022 02:15 07/28/2022 20:45 09/03/2022 20:45 02/16/2023 14:15	06/19/2023 21:30 06/19/2023 03:45 07/18/2022 02:15 07/28/2022 20:45 09/03/2022 20:45 02/16/2023 14:15	06/19/2023 21:30 06/19/2022 02:15 07/18/2022 20:45 09/03/2022 20:45 02/16/2023 14:15 02/7/2023 12:30	06/19/2023 21:30 06/19/2023 03:45 07/18/2022 20:45 09/03/2022 20:45 02/16/2023 14:15 02/27/2023 12:30 07/08/2022 11:45	06/19/2023 21:30 06/19/2023 03:45 07/28/2022 20:45 09/03/2022 20:45 09/03/2022 20:45 02/16/2023 14:15 02/27/2023 12:30 07/08/2022 11:45 07/18/2022 02:00 04/01/2023 00:15	06/19/2023 21:30 06/19/2023 03:45 07/18/2022 20:45 09/03/2022 20:45 09/03/2022 20:45 02/16/2023 14:15 02/77/2023 12:30 07/18/2022 02:00 04/01/2023 00:15 06/25/2023 20:45	06/19/2023 21:30 06/19/2023 03:45 07/18/2022 20:45 09/03/2022 20:45 02/16/2023 14:15 02/27/2023 12:30 07/08/2022 11:45 07/18/2022 02:00 04/01/2023 00:15 06/25/2023 20:45	06/19/2023 21:30 06/19/2023 03:45 07/28/2022 20:45 09/03/2022 20:45 02/16/2023 14:15 02/27/2023 12:30 07/08/2022 21:45 07/18/2022 20:00 04/01/2023 00:15 06/25/2023 20:45	06/19/2023 21:30 06/19/2023 03:45 07/28/2022 02:15 07/28/2022 20:45 09/03/2022 20:45 02/76/2023 14:15 02/77/2023 12:30 07/08/2022 11:45 07/18/2022 02:00 04/01/2023 00:15 06/25/2023 20:45 07/28/2022 20:45	06/19/2023 21:30 06/19/2023 03:45 07/28/2022 20:45 09/03/2022 20:45 02/16/2023 14:15 02/27/2023 12:30 07/08/2022 11:45 07/18/2022 02:00 04/01/2023 00:15 06/25/2023 20:45 07/28/2022 20:45 08/05/2022 20:45	06/19/2023 21:30 06/19/2023 03:45 07/18/2022 02:15 07/28/2022 20:45 09/03/2022 20:45 02/71/2023 14:15 07/08/2022 11:30 07/18/2022 02:00 04/01/2023 00:15 06/25/2022 20:45 06/25/2022 20:45 06/05/2022 20:45	06/19/2023 21:30 06/19/2023 03:45 07/28/2022 20:45 09/03/2022 20:45 02/16/2022 20:45 02/27/2023 12:30 07/18/2022 02:00 04/01/2023 00:15 06/25/2023 20:45 07/18/2022 20:45 07/18/2022 20:45 07/18/2022 20:45 07/28/2022 20:45 07/28/2022 03:15 07/11/2022 08:45 07/29/2022 07:30	06/19/2023 21:30 06/19/2023 03:45 07/18/2022 02:15 07/28/2022 20:45 09/03/2022 20:45 02/16/2023 14:15 07/08/2022 11:45 07/108/2022 11:45 07/108/2022 11:45 07/108/2022 11:45 07/108/2022 11:45 07/108/2022 03:15 07/11/2022 06:45 07/11/2022 06:45 07/29/2022 07:30 07/31/2022 07:30	06/19/2023 21:30 06/19/2023 03:45 07/18/2022 02:15 07/28/2022 20:45 09/03/2022 20:45 02/16/2023 14:15 02/16/2023 12:30 07/08/2022 11:45 07/18/2022 02:00 04/01/2023 00:16 06/25/2023 20:45 07/29/2022 03:15 07/29/2022 07:30 07/31/2022 06:45 07/31/2022 07:30 07/31/2022 07:30
	05/09/2023 03:30	05/14/2023 06:15	05/16/2023 08:15	05/20/2023 01:00	06/07/2023 11:00	06/11/2023 21:15	100/11/2020	06/19/2023 03:30	06/19/2023 03:30	06/19/2023 03:30	06/19/2023 03:30 06/19/2023 03:30 07/18/2022 02:00 07/28/2022 20:30	06/19/2023 03:30 06/19/2023 03:30 07/18/2022 02:00 07/28/2022 20:30	06/19/2023 03:30 06/19/2023 03:30 07/18/2022 20:30 09/03/2022 20:30 09/03/2022 20:30	06/19/2023 03:30 06/19/2022 02:00 07/18/2022 20:30 09/03/2022 20:30 02/16/2023 14:00	06/19/2023 03:30 07/18/2022 02:00 07/28/2022 20:30 09/03/2022 20:30 02/16/2023 14:00	06/19/2023 03:30 06/19/2022 02:00 07/18/2022 20:30 09/03/2022 20:30 02/16/2023 14:00 02/27/2023 10:30	06/19/2023 03:30 07/18/2022 02:00 07/28/2022 20:30 09/03/2022 20:30 02/16/2023 14:00 02/27/2023 10:30 07/08/2022 11:30	06/19/2023 03:30 07/18/2022 02:00 07/28/2022 20:30 09/03/2022 20:30 02/16/2023 14:00 02/27/2023 10:30 07/08/2022 11:30 07/18/2022 01:45	06/19/2023 03:30 06/19/2023 03:30 07/18/2022 20:30 09/03/2022 20:30 02/16/2023 14:00 02/27/2023 10:30 07/18/2022 11:30 07/18/2022 01:45 04/01/2023 00:00 06/25/2023 17:30	06/19/2023 03:30 07/18/2022 02:00 07/28/2022 20:30 09/03/2022 20:30 02/16/2023 14:00 02/27/2023 10:30 07/18/2022 11:30 07/18/2022 01:45 04/01/2023 00:00 06/25/2023 17:30	06/19/2023 03:30 06/19/2023 03:30 07/18/2022 20:30 09/03/2022 20:30 02/16/2022 14:00 02/27/2023 14:00 07/08/2022 11:30 07/18/2022 11:30 07/18/2022 11:30 06/25/2023 17:30	06/19/2023 03:30 06/19/2023 03:30 07/18/2022 20:30 09/03/2022 20:30 02/16/2023 14:00 07/08/2022 11:30 07/18/2022 11:30 07/18/2022 11:30 07/18/2022 11:30 07/18/2022 20:15	06/19/2022 02:00 07/18/2022 20:30 07/18/2022 20:30 02/16/2022 11:30 07/18/2022 11:30 07/18/2022 11:30 07/18/2022 11:30 07/18/2022 11:30 07/18/2022 20:15 04/01/2023 00:00 06/25/2022 17:30 07/28/2022 20:15	06/19/2023 03:30 06/19/2023 03:30 07/18/2022 20:30 09/03/2022 20:30 02/16/2023 14:00 07/18/2022 11:30 07/18/2022 11:30 07/18/2022 11:30 07/18/2022 20:15 04/01/2023 00:00 06/25/2022 20:15 08/05/2022 20:15	06/19/2023 03:30 06/19/2023 03:30 07/18/2022 20:30 09/03/2022 20:30 02/16/2023 14:30 07/08/2022 11:30 07/18/2022 11:30 07/18/2022 20:45 04/01/2023 00:00 06/25/2022 20:15 08/05/2022 20:15 07/08/2022 20:15 07/08/2022 20:00	06/19/2023 03:30 06/19/2023 03:30 07/18/2022 20:30 09/03/2022 20:30 02/16/2023 14:00 02/27/2022 11:30 07/08/2022 11:30 07/18/2022 11:30 07/18/2022 11:30 07/18/2022 11:30 07/18/2022 11:30 07/28/2022 20:15 07/08/2022 12:00 07/28/2022 12:00 07/28/2022 06:15	06/19/2023 03:30 06/19/2023 03:30 07/18/2022 20:30 07/18/2022 20:30 07/18/2022 11:30 07/18/2022 11:30 07/18/2022 11:30 07/18/2022 11:30 07/18/2022 20:15 07/28/2022 20:15 07/28/2022 12:00 07/28/2022 12:00 07/28/2022 20:00 07/28/2022 12:00 07/28/2022 12:00 07/28/2022 12:00 07/28/2022 12:00
							_		CSO185 Total	CSO185 Total CSO186	CSO185 Total CSO186	CSO185 Total CSO186	CSO185 Total CSO186	CSO186 Total CSO186	CSO186 CSO186 CSO186 Total	CSO186 CSO186 CSO186 CSO186 Total CSO187	CSO186 CSO186 CSO186 CSO187	CSO185 CSO186 CSO186 CSO187	CSO186 CSO186 CSO186 CSO187	CSO186 CSO186 CSO186 Total CSO187 Total	CSO186 CSO186 CSO186 CSO187 CSO187 CSO187 CSO187 CSO188	CSO186 CSO186 CSO186 Total CSO187 CSO187 CSO187 CSO187	CSO186 CSO186 CSO186 Total CSO187 CSO187 CSO187 CSO188 CSO188 Total	CSO186 CSO186 CSO186 Total CSO187 CSO187 CSO187 CSO188 CSO188 Total CSO188 CSO188	CSO186 CSO186 Total CSO187 CSO187 CSO188 CSO187 CSO188 CSO188 CSO188 CSO188	CSO186 CSO186 CSO186 CSO187 CSO187 CSO188 CSO188 CSO188 CSO188 CSO188	CSO186 CSO186 CSO186 CSO187 CSO187 CSO188 CSO188 CSO188 CSO188



COUNT OF	~	1	1	1	1	~	~	12	<b>-</b>		-	1	1	-	_	_	_	_	1	11	-	1	1	1	1	1	1	1	1	1	1	1	1	1	7	15
DISCHARGE VOLUME (GAL)	10,373,433	44,353,531	163,441,910	220,763,539	125,458,359	750,589	34,377,218	1,278,390,601	656	40,295	17,103	29,551	4,340	107	78,849	315,945	33,083	959,357	564,276	2,043,562	773,176	512,936	2,031,213	1,179,768	9,865,658	7,367,279	14,908,777	15,207,741	4,577,490	325,331	230,369	545,030	99,610	268,024	6,778,946	64,671,348
COMMENT																																				
STANDARD	Atlas	Atlas	Cloudburst	Cloudburst	Cloudburst	Atlas	Atlas		Atlas	Cloudburst	Cloudburst		Atlas	Atlas	Atlas	Atlas	Atlas	Cloudburst	Cloudburst	Cloudburst	Atlas															
PERIOD (HR)	12	1	12	12	24	7-	7-		е	1	3	3	3	9	12	1	9	12	12		1	9	12	1	12	12	12	24	1	9	1	3	9	3	1	
FREQUENCY (YR)	08.0	0.49	1.54	2.18	1.58	0.37	1.00		0:00	0.32	0.71	0.46	0.58	0.27	69.0	69.0	0.33	1.33	1.94		0.64	0.47	0.79	0.85	0.77	1.32	2.71	1.74	0.59	0.39	0.62	0.24	0.47	0.41	96:0	
DISCHARGE PER RAIN (GAL/IN)	5,702,822	54,961,005	68,328,558	82,007,258	43,038,888	1,468,862	14,998,786		867	110,700	15,270	28,251	4,796	194	49,342	298,061	50,050	416,568	212,533		765,521	582,882	1,176,151	957,604	5,589,608	3,203,165	5,380,288	4,981,245	5,630,369	452,478	240,971	1,530,983	115,691	364,163	2,991,591	
RAIN TOTAL (IN)	1.82	0.81	2.39	2.69	2:92	0.51	2.29		0.76	0.36	1.12	1.05	0.91	0.55	1.60	1.06	99:0	2.30	2.65		1.01	0.88	1.73	1.23	1.77	2.30	2.77	3.05	0.81	0.72	96.0	0.36	98.0	0.74	2.27	
DURATION (MIN)	270	240	585	750	1575	45	210		15	30	15	15	15	15	345	75	30	615	555		480	315	510	06	2145	1785	1920	3570	066	120	135	210	45	165	480	
END DATE	01/03/2023 10:15	01/12/2023 12:15	02/16/2023 16:15	03/03/2023 19:45	03/25/2023 08:15	04/05/2023 17:15	06/25/2023 21:15		07/03/2022 01:00	07/06/2022 14:45	07/08/2022 12:00	07/18/2022 02:15	09/03/2022 21:00	12/06/2022 23:30	01/03/2023 07:45	01/12/2023 09:00	01/19/2023 02:45	02/16/2023 14:15	03/03/2023 14:00		07/18/2022 10:45	07/26/2022 14:00	08/10/2022 23:00	08/21/2022 17:00	01/04/2023 13:45	02/17/2023 12:45	03/04/2023 14:00	03/26/2023 21:30	04/01/2023 17:00	04/28/2023 00:30	05/07/2023 11:30	05/09/2023 07:15	05/16/2023 13:15	06/07/2023 14:45	06/26/2023 02:00	
START DATE	01/03/2023 05:45	01/12/2023 08:15	02/16/2023 06:30	03/03/2023 07:15	03/24/2023 06:00	04/05/2023 16:30	06/25/2023 17:45		07/03/2022 00:45	07/06/2022 14:15	07/08/2022 11:45	07/18/2022 02:00	09/03/2022 20:45	12/06/2022 23:15	01/03/2023 02:00	01/12/2023 07:45	01/19/2023 02:15	02/16/2023 04:00	03/03/2023 04:45		07/18/2022 02:45	07/26/2022 08:45	08/10/2022 14:30	08/21/2022 15:30	01/03/2023 02:00	02/16/2023 07:00	03/03/2023 06:00	03/24/2023 10:00	04/01/2023 00:30	04/27/2023 22:30	05/07/2023 09:15	05/09/2023 03:45	05/16/2023 12:30	06/07/2023 12:00	06/25/2023 18:00	
oso								CSO189 Total	CSO190											CSO190 Total	CSO191															CSO191 Total



		_																																			=
COUNT OF	1	7	1	1	1	1	1	1	1	-	1	1	1	1	1	-	1	11	-	-	1	1	1	1	1	1	8	1	1	1	1	1	1	1	1	-	-
DISCHARGE VOLUME (GAL)	1,943	3,421	3,445	107,477	14,396	8,828	2,062	441	2,852	1,298	91	283	3,592	3,372	1,401	1,538	10,648	167,089	31	4,779	323	857	293	2,708	21,399	321	30,710	26	1,201	39,697	2,800	51,261	3,064	44,910	43	68,545	92
СОММЕНТ																																					
STANDARD	Atlas	Cloudburst	Atlas	Atlas	Atlas	Atlas	Atlas	Atlas		Atlas		Atlas																									
PERIOD (HR)	3	3	9	1	3	1	3	9	12	-	12	1	1	9	1	24	9		ဗ	8	1	1	3	1	1	9		1	3	3	9	1	3	1	1	3	1
FREQUENCY (YR)	0.68	0.50	0.41	1.71	09:0	0.43	0.63	0.18	0.74	0.54	2.01	0.52	0.33	0.50	0.36	0.38	0.88		0.54	0.52	0.79	0.44	0.59	0.72	0.74	0.92		0.26	0.54	0.52	0.43	0.79	0.65	0.44	0.24	0.59	0.28
DISCHARGE PER RAIN (GAL/IN)	1,861	4,213	4,503	77,545	14,368	14,238	1,720	1,320	1,684	1,564	33	381	9,211	3,677	3,079	1,567	5,670		37	5,595	336	1,345	228	2,966	21,506	166		85	1,443	46,483	3,504	53,341	2,858	70,502	124	53,342	160
RAIN TOTAL (IN)	1.04	0.81	0.77	1.39	1.00	0.62	1.20	0.33	1.69	0.83	2.71	0.74	0.39	0.92	0.46	0.98	1.88		0.83	0.85	96.0	0.64	1.28	0.91	66:0	1.93		0.31	0.83	0.85	08:0	96.0	1.07	0.64	0.35	1.28	0.48
DURATION (MIN)	30	45	15	30	45	15	15	15	75	30	15	15	15	225	15	30	255		15	15	15	15	15	15	15	45		15	30	30	15	30	15	15	30	75	15
END DATE	07/08/2022 12:15	07/18/2022 02:45	07/26/2022 10:30	07/28/2022 20:45	07/31/2022 06:00	08/05/2022 03:15	08/10/2022 21:45	08/21/2022 15:45	01/03/2023 02:30	01/12/2023 08:45	03/03/2023 08:15	05/07/2023 08:45	05/14/2023 06:15	05/16/2023 11:45	06/11/2023 21:15	06/19/2023 13:00	06/25/2023 21:45		07/08/2022 11:45	07/18/2022 02:00	07/28/2022 20:45	08/05/2022 03:15	08/10/2022 21:45	09/03/2022 20:45	03/31/2023 23:45	06/25/2023 18:15		07/06/2022 15:30	07/08/2022 12:00	07/18/2022 02:15	07/26/2022 08:30	07/28/2022 20:45	07/31/2022 05:45	08/05/2022 03:15	08/06/2022 14:45	08/10/2022 21:30	08/21/2022 15:45
START DATE	07/08/2022 11:45	07/18/2022 02:00	07/26/2022 10:15	07/28/2022 20:15	07/31/2022 05:15	08/05/2022 03:00	08/10/2022 21:30	08/21/2022 15:30	01/03/2023 01:15	01/12/2023 08:15	03/03/2023 08:00	05/07/2023 08:30	05/14/2023 06:00	05/16/2023 08:00	06/11/2023 21:00	06/19/2023 12:30	06/25/2023 17:30		07/08/2022 11:30	07/18/2022 01:45	07/28/2022 20:30	08/05/2022 03:00	08/10/2022 21:30	09/03/2022 20:30	03/31/2023 23:30	06/25/2023 17:30		07/06/2022 15:15	07/08/2022 11:30	07/18/2022 01:45	07/26/2022 08:15	07/28/2022 20:15	07/31/2022 05:30	08/05/2022 03:00	08/06/2022 14:15	08/10/2022 20:15	08/21/2022 15:30
oso	CSO193																	CSO193 Total	CSO195								CSO195 Total	CSO196									



																																				_	_
COUNT OF CSO	1	_	1	1	1	1	1	1	1	1	1	1	1	1	_	_	1	1	1	1	1	1	32	_	1	1	1	1	1	_	-	_	_	1	1	-	-
DISCHARGE VOLUME (GAL)	303	_	7	4	28	2,006	4,471	11	10,449	478	978	39	37,134	15	59,305	28	1,968	1,029	5	34	35	124,571	454,522	6,312	7,760	4,933	263,911	2,697	2,236	2,697	1,543	2,236	2,697	7,981	5,731	4,525	1,378
COMMENT																																					
STANDARD	Atlas	Cloudburst	Cloudburst	Cloudburst	Atlas		Atlas	Cloudburst	Cloudburst	Atlas	Atlas																										
PERIOD (HR)	1	1	1	3	9	12	3	9	12	24	24	12	1	9	-	1	1	3	9	9	1	9		3	3	9	1	3	1	3	-	12	3	12	24	1	1
FREQUENCY (YR)	0.72	90:0	0.27	0.27	0.29	0.72	0.46	0.27	2.10	1.01	1.01	0.23	0.74	0.43	0.51	0.29	0.35	0.57	0.44	0.44	00.00	0.92		0.54	0.52	0.43	0.79	0.65	0.44	0.59	0.72	0.72	0.46	2.10	1.01	0.74	0.37
DISCHARGE PER RAIN (GAL/IN)	332	6	19	11	53	1,212	6,175	20	3,819	180	369	62	37,321	19	81,129	29	4,731	1,112	5	31	17,521	64,411		7,587	980'6	6,174	274,621	2,516	3,509	2,099	1,690	1,351	3,726	2,917	2,164	4,548	2,778
RAIN TOTAL (IN)	0.91	0.07	0.39	0.42	0.53	1.66	0.72	0.53	2.74	2.65	2.65	09.0	66'0	08'0	0.73	0.42	0.42	0.93	1.08	1.08	00.0	1.93		0.83	0.85	08.0	96.0	1.07	0.64	1.28	0.91	1.66	0.72	2.74	2.65	66.0	0:20
DURATION (MIN)	15	15	15	30	15	06	30	15	240	480	105	30	09	30	30	30	15	15	15	240	30	45		30	30	120	45	15	15	15	15	15	15	09	105	09	15
END DATE	09/03/2022 20:30	09/25/2022 09:45	10/25/2022 18:30	11/11/2022 09:15	12/06/2022 23:45	01/03/2023 02:45	01/12/2023 08:45	01/19/2023 02:45	03/03/2023 09:00	03/24/2023 10:15	03/25/2023 01:15	03/31/2023 09:45	04/01/2023 00:45	04/27/2023 22:45	05/07/2023 09:00	05/09/2023 05:15	05/14/2023 06:30	06/07/2023 11:15	06/19/2023 03:30	06/19/2023 16:15	06/20/2023 21:45	06/25/2023 18:30		07/08/2022 12:00	07/18/2022 02:15	07/26/2022 10:15	07/28/2022 20:45	07/31/2022 05:45	08/05/2022 03:15	08/10/2022 21:30	09/03/2022 20:30	01/03/2023 02:30	01/12/2023 08:30	03/03/2023 08:45	03/25/2023 01:00	04/01/2023 00:30	04/05/2023 16:30
START DATE	09/03/2022 20:15	09/25/2022 09:30	10/25/2022 18:15	11/11/2022 08:45	12/06/2022 23:30	01/03/2023 01:15	01/12/2023 08:15	01/19/2023 02:30	03/03/2023 05:00	03/24/2023 02:15	03/24/2023 23:30	03/31/2023 09:15	03/31/2023 23:45	04/27/2023 22:15	05/07/2023 08:30	05/09/2023 04:45	05/14/2023 06:15	06/07/2023 11:00	06/19/2023 03:15	06/19/2023 12:15	06/20/2023 21:15	06/25/2023 17:45		07/08/2022 11:30	07/18/2022 01:45	07/26/2022 08:15	07/28/2022 20:00	07/31/2022 05:30	08/05/2022 03:00	08/10/2022 21:15	09/03/2022 20:15	01/03/2023 02:15	01/12/2023 08:15	03/03/2023 07:45	03/24/2023 23:15	03/31/2023 23:30	04/05/2023 16:15
oso																							CSO196 Total	CSO197													



																																			=	_
COUNT OF	-	-	+	+	1	-	+	1	22	-	-	+	-	1	1	+	-	1	<b>—</b>	-	+	<b>~</b>	-	1	15	1	1	1	1	-	1	-	-	1	-	-
DISCHARGE VOLUME (GAL)	2,630	63,285	2,005	666	2,603	1,774	494	4,667	395,093	9,245	5,805	159,172	2,382	11,377	4,281	1,399	11,566	342	9,044	2,450	69	646	2,347	9,717	229,841	11,002	36,366	7,777	18,161	10,096	21,938	8	11,506	14	196	2
COMMENT																																				
STANDARD	Atlas		Atlas	Cloudburst	Cloudburst	Atlas	Atlas	Atlas	Atlas	Atlas	Atlas		Atlas																							
PERIOD (HR)	-	3	1	9	3	-	9	9		က	3	1	3	3	1	3	12	24	-	1	3	-	9	9		3	3	6	1	3	3	1	-	1	9	9
FREQUENCY (YR)	0.51	0.01	0.35	0.42	0.57	0.33	0.44	0.92		0.54	0.52	0.79	0.65	0.59	0.72	0.46	2.10	1.01	0.74	0.51	0.57	0.33	0.44	0.92		0.54	0.52	0.43	0.79	0.65	0.59	0.28	0.72	0.27	0.29	0.21
DISCHARGE PER RAIN (GAL/IN)	3,597	7,031,672	4,819	1,288	2,814	4,115	455	2,413		11,112	6,798	165,631	2,222	8,854	4,689	1,932	4,227	129	680'6	3,352	74	1,499	2,163	5,024		13,224	42,583	9,733	18,898	9,418	17,072	17	12,602	37	372	4
RAIN TOTAL (IN)	0.73	0.01	0.42	82.0	0.93	0.43	1.08	1.93		0.83	0.85	96.0	1.07	1.28	0.91	0.72	2.74	2.65	66.0	0.73	0.93	0.43	1.08	1.93		0.83	0.85	08.0	96'0	1.07	1.28	0.48	0.91	0.39	0.53	0.44
DURATION (MIN)	30	300	15	15	30	15	15	195		30	30	30	15	30	15	15	45	06	09	15	15	15	15	195		45	45	120	09	135	510	30	30	30	195	099
END DATE	05/07/2023 08:45	05/13/2023 01:15	05/14/2023 06:15	05/16/2023 11:45	06/07/2023 11:15	06/11/2023 21:15	06/19/2023 16:15	06/25/2023 20:45		07/08/2022 12:00	07/18/2022 02:15	07/28/2022 20:30	07/31/2022 05:45	08/10/2022 21:30	09/03/2022 20:30	01/12/2023 08:30	03/03/2023 08:30	03/25/2023 00:45	04/01/2023 00:30	05/07/2023 08:30	06/07/2023 11:00	06/11/2023 21:00	06/19/2023 16:15	06/25/2023 20:45		07/08/2022 12:30	07/18/2022 02:45	07/26/2022 10:30	07/28/2022 21:15	07/31/2022 06:15	08/10/2022 22:00	08/21/2022 16:00	09/03/2022 21:00	10/25/2022 18:45	12/06/2022 23:45	12/09/2022 12:45
START DATE	05/07/2023 08:15	05/12/2023 20:15	05/14/2023 06:00	05/16/2023 11:30	06/07/2023 10:45	06/11/2023 21:00	06/19/2023 16:00	06/25/2023 17:30		07/08/2022 11:30	07/18/2022 01:45	07/28/2022 20:00	07/31/2022 05:30	08/10/2022 21:00	09/03/2022 20:15	01/12/2023 08:15	03/03/2023 07:45	03/24/2023 23:15	03/31/2023 23:30	05/07/2023 08:15	06/07/2023 10:45	06/11/2023 20:45	06/19/2023 16:00	06/25/2023 17:30		07/08/2022 11:45	07/18/2022 02:00	07/26/2022 08:30	07/28/2022 20:15	07/31/2022 04:00	08/10/2022 13:30	08/21/2022 15:30	09/03/2022 20:30	10/25/2022 18:15	12/06/2022 20:30	12/09/2022 01:45
cso									CSO197 Total	CSO198															CSO198 Total	CSO199										



CSO	START DATE	END DATE	DURATION (MIN)	RAIN TOTAL (IN)	DISCHARGE PER RAIN (GAL/IN)	FREQUENCY (YR)	PERIOD (HR)	STANDARD	СОММЕНТ	DISCHARGE VOLUME (GAL)	COUNT OF
	12/14/2022 04:15	12/14/2022 04:30	15	1.24	0	0.48	24	Atlas		0	1
	12/14/2022 19:00	12/15/2022 00:00	300	1.24	3	0.48	24	Atlas		4	1
	01/03/2023 01:15	01/03/2023 07:15	360	1.66	1,388	0.72	12	Atlas		2,297	1
	01/12/2023 08:15	01/12/2023 08:45	30	0.72	2,984	0.46	3	Atlas		2,161	1
	02/16/2023 07:30	02/16/2023 13:15	345	1.75	174	08.0	12	Atlas		304	1
	03/03/2023 03:30	03/03/2023 16:00	750	2.74	5,585	2.10	12	Cloudburst		15,281	1
	03/24/2023 02:15	03/24/2023 04:30	135	2.65	44	1.01	24	Cloudburst		117	1
	03/24/2023 23:30	03/25/2023 01:45	135	2.65	3,079	1.01	24	Cloudburst		8,152	1
	03/31/2023 09:15	03/31/2023 09:30	15	0:20	1,078	0.23	12	Atlas		539	1
	03/31/2023 23:45	04/01/2023 01:00	75	0.99	38,634	0.74	1	Atlas		38,441	1
	04/05/2023 16:30	04/05/2023 16:45	15	0:20	961	0.37	1	Atlas		476	1
	06/07/2023 10:45	06/07/2023 12:00	75	0.93	2,633	0.57	3	Atlas		2,435	1
	06/11/2023 21:00	06/11/2023 21:45	45	0.43	24,696	0.33	1	Atlas		10,644	1
	06/21/2023 11:00	06/21/2023 16:15	315	0.35	2	0.16	12	Atlas		1	1
	06/29/2023 09:30	06/29/2023 09:45	15	0.21	1	0.09	12	Atlas		0	1
CSO199 Total										197,918	26
CSO200	06/25/2023 17:45	06/25/2023 18:00	15	1.93	9	0.92	9	Atlas		12	1
CSO200 Total										12	1
CSO201	07/08/2022 11:45	07/08/2022 12:15	30	1.04	19,438	0.68	3	Atlas		20,293	1
	07/18/2022 02:00	07/18/2022 02:15	15	0.81	14,377	0.50	3	Atlas		11,674	1
	07/28/2022 20:15	07/28/2022 21:00	45	1.39	36,101	1.71	1	Atlas		50,036	1
	08/05/2022 03:15	08/05/2022 03:30	15	0.62	55	0.43	1	Atlas		34	1
	08/10/2022 21:15	08/10/2022 21:45	30	1.20	17,917	0.63	3	Atlas		21,483	1
	09/03/2022 20:30	09/03/2022 20:45	15	0.97	13,919	0.74	1	Atlas		13,529	1
	01/12/2023 08:30	01/12/2023 08:45	15	0.83	10,483	0.54	_	Atlas		8,701	-
	03/03/2023 08:15	03/03/2023 08:30	15	2.71	1,628	2.01	12	Cloudburst		4,419	-
	03/31/2023 23:45	04/01/2023 00:00	15	0.80	10,192	0.57	_	Atlas		8,123	-
	04/05/2023 16:30	04/05/2023 16:45	15	0.46	17,756	0.34	_	Atlas		8,097	-
	05/07/2023 08:30	05/07/2023 08:45	15	0.74	33,723	0.52	1	Atlas		25,090	1
	06/25/2023 17:45	06/25/2023 21:00	195	1.88	8,038	0.88	9	Atlas		15,095	-
CSO201 Total										186,574	12
CSO202	07/06/2022 15:15	07/06/2022 15:30	15	0.31	1,853	0.26	1	Atlas		573	1
	07/08/2022 11:45	07/08/2022 12:15	30	0.83	2,149	0.54	3	Atlas		1,788	1
	07/18/2022 02:00	07/18/2022 02:15	15	0.85	2,552	0.52	3	Atlas		2,179	-
	07/26/2022 10:15	07/26/2022 10:30	15	0.80	1,921	0.43	9	Atlas		1,535	-
	07/28/2022 20:15	07/28/2022 21:00	45	96.0	87,703	0.79	_	Atlas		84,283	-



COUNT OF	+	-	1	1	1	-	1	-	+	1	-	-	-	-	-	-	1	1	23	-	-	-	-	-	1	1	1	1	1	1	-	12	-	_	-
DISCHARGE VOLUME (GAL)	1,365	4,845	168	23,672	2,799	2,178	2,532	909	39,871	3,726	314	1,337	1,516	829	6,422	941	3,858	15,868	203,205	7,554	13,872	448	76,653	1,306	10,607	1,458	6,972	2,706	4	15,792	15,263	152,634	-	105	09
COMMENT																																	Retained by Sneads Branch.		
STANDARD	Atlas	Atlas	Atlas	Atlas	Atlas	Atlas	Cloudburst	Cloudburst	Atlas		Atlas	Atlas	Atlas	Atlas	Atlas	Atlas	Cloudburst	Atlas	Atlas	Atlas	Atlas	Atlas		Atlas	Atlas	Atlas									
PERIOD (HR)	3	-	1	3	12	3	12	24	1	1	1	-	9	3	-	9	9	9		е	3	9	-	е	1	12	1	1	1	1	9		ю	-	ဇ
FREQUENCY (YR)	0.65	0.44	0.24	0.59	0.72	0.46	2.10	1.01	0.74	0.51	0.29	0.35	0.42	0.57	0.33	0.44	0.44	0.92		0.54	0.52	0.43	0.79	0.59	0.72	2.10	0.74	0.51	0.29	0.33	0.92		0.40	0.51	0.73
DISCHARGE PER RAIN (GAL/IN)	1,273	7,607	479	18,422	1,691	3,008	925	229	40,071	5,097	752	3,214	1,954	968	14,899	898	3,556	8,205		9,079	16,243	561	79,764	1,016	11,618	533	7,007	3,702	6	36,639	7,892		2	161	50
RAIN TOTAL (IN)	1.07	0.64	0.35	1.28	1.66	0.72	2.74	2.65	0.99	0.73	0.42	0.42	0.78	0.93	0.43	1.08	1.08	1.93		0.83	0.85	08.0	96.0	1.28	0.91	2.74	0.99	0.73	0.42	0.43	1.93		0.62	0.65	1.20
DURATION (MIN)	45	15	15	06	75	15	75	06	09	30	15	15	15	15	15	15	15	255		30	30	15	30	15	15	15	15	15	15	15	210		15	405	435
END DATE	07/31/2022 06:00	08/05/2022 03:15	08/06/2022 14:30	08/10/2022 21:45	01/03/2023 02:30	01/12/2023 08:30	03/03/2023 08:30	03/25/2023 01:00	04/01/2023 00:30	05/07/2023 08:45	05/09/2023 05:00	05/14/2023 06:15	05/16/2023 11:45	06/07/2023 11:00	06/11/2023 21:15	06/19/2023 03:30	06/19/2023 16:30	06/25/2023 21:45		07/08/2022 12:15	07/18/2022 02:30	07/26/2022 10:30	07/28/2022 20:45	08/10/2022 21:45	09/03/2022 20:45	03/03/2023 08:30	04/01/2023 00:30	05/07/2023 08:45	05/09/2023 05:00	06/11/2023 21:15	06/25/2023 21:00		07/08/2022 12:15	07/29/2022 03:45	07/31/2022 12:45
START DATE	07/31/2022 05:15	08/05/2022 03:00	08/06/2022 14:15	08/10/2022 20:15	01/03/2023 01:15	01/12/2023 08:15	03/03/2023 07:15	03/24/2023 23:30	03/31/2023 23:30	05/07/2023 08:15	05/09/2023 04:45	05/14/2023 06:00	05/16/2023 11:30	06/07/2023 10:45	06/11/2023 21:00	06/19/2023 03:15	06/19/2023 16:15	06/25/2023 17:30		07/08/2022 11:45	07/18/2022 02:00	07/26/2022 10:15	07/28/2022 20:15	08/10/2022 21:30	09/03/2022 20:30	03/03/2023 08:15	04/01/2023 00:15	05/07/2023 08:30	05/09/2023 04:45	06/11/2023 21:00	06/25/2023 17:30		07/08/2022 12:00	07/28/2022 21:00	07/31/2022 05:30
oso																			CSO202 Total	CSO203												CSO203 Total	CSO205		



COUNT OF CSO	-	-	-	-	-	-	-	-	<del>-</del>	_	-	-	-	_	1	_	<del>-</del>	-	<del>-</del>	1	-
DISCHARGE VOLUME (GAL)	9	7	92	2	8	1	573	105	ε	48	29	42	33	9	255	-	19	385	1,453	107	89
соммент	Retained by Sneads Branch.		Retained by Sneads Branch.	Retained by Sneads Branch.	Retained by Sneads Branch.			Retained by Sneads Branch.	Retained by Sneads Branch.	Retained by Sneads Branch.	Retained by Sneads Branch.		Retained by Sneads Branch.								
STANDARD	Atlas	Atlas	Atlas	Atlas	Atlas	Atlas	Cloudburst	Atlas	Atlas	Atlas	Atlas	Atlas	Atlas								
PERIOD (HR)	3	3	1	1	9	3	24	24	12	12	9	9	12	12	12	1	۲	12	9	1	3
FREQUENCY (YR)	0.26	0.26	0.15	0.31	0.27	0.28	0.43	0.43	0.12	62.0	0.24	0.22	0.23	0.81	1.53	08.0	0.35	0.26	0.50	0.45	0.24
DISCHARGE PER RAIN (GAL/IN)	6	11	390	4	5	2	509	633	12	27	61	103	56	3	66	-	36	639	1,581	171	193
RAIN TOTAL (IN)	0.62	0.62	0.20	0.43	09:0	0.52	1.13	1.13	0.27	1.82	0.48	0.41	0.58	1.78	2.57	1.11	0.48	09:0	0.92	0.63	0.35
DURATION (MIN)	06	15	45	15	30	15	210	30	15	855	45	435	45	270	585	15	15	30	195	45	135
END DATE	08/29/2022 18:00	08/30/2022 02:15	09/11/2022 18:15	10/25/2022 18:45	10/31/2022 00:30	12/06/2022 23:30	12/14/2022 07:45	12/14/2022 23:30	12/31/2022 03:15	01/03/2023 15:15	01/19/2023 03:00	01/22/2023 21:00	01/25/2023 01:00	02/16/2023 14:30	03/03/2023 15:00	04/01/2023 07:15	04/05/2023 16:45	04/21/2023 23:15	04/28/2023 00:15	05/07/2023 09:30	05/09/2023 05:15
START DATE	08/29/2022 16:30	08/30/2022 02:00	09/11/2022 17:30	10/25/2022 18:30	10/31/2022 00:00	12/06/2022 23:15	12/14/2022 04:15	12/14/2022 23:00	12/31/2022 03:00	01/03/2023 01:00	01/19/2023 02:15	01/22/2023 13:45	01/25/2023 00:15	02/16/2023 10:00	03/03/2023 05:15	04/01/2023 07:00	04/05/2023 16:30	04/21/2023 22:45	04/27/2023 21:00	05/07/2023 08:45	05/09/2023 03:00
oso																					



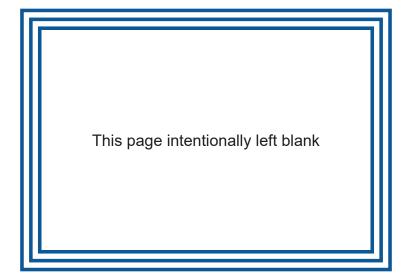
COUNT OF	-	+	26	-	+	1	-	4	-	-	-	٢	1	1	1	٢	٢	1	1	٢	1	1	1	1	1	1	1	1	1	1	1	1	1	1	-	-
DISCHARGE VOLUME (GAL)	35	85	3,510	56,678	16,227	13,601	2,502	600'68	154,027	105,998	121,297	292,183	183,119	14,091	222,591	6:036	1,049,704	338,148	2,507,329	3,175,475	358	66	6,148	59,278	109,298	366,348	591,657	169,372	260,549	92,319	286,774	866,721	16,539	860,952	1,475,609	437,614
соммент																																				
STANDARD	Atlas	Atlas		Atlas	Atlas	Atlas	Cloudburst		Atlas	Cloudburst	Atlas	Cloudburst	Cloudburst	Atlas																						
PERIOD (HR)	-	9		-	1	1	12		-	3	9	-	3	1	1	-	-	1	3	-	1	9	3	1	9	24	12	1	6	6	12	12	9	12	24	12
FREQUENCY (YR)	0.35	0.87		3.54	0.68	0.64	1.96		0.58	09.0	0.40	3.89	0.55	0.41	0.73	0.56	0.88	0.88	0.81	0.70	0.31	0.21	0.31	0.32	0.22	0.50	0.77	0.57	0.36	0.17	0.27	1.27	60:0	2.76	1.70	0.23
DISCHARGE PER RAIN (GAL/IN)	85	47		35,160	16,798	13,851	937		203,739	110,185	161,729	179,584	192,554	22,156	164,760	9,911	705,446	227,250	2,075,603	3,749,085	822	227	12,702	102,735	235,557	282,458	336,551	197,634	367,489	278,069	451,612	381,144	95,603	308,033	487,000	891,271
RAIN TOTAL (IN)	0.42	1.80		1.61	0.97	0.98	2.67		0.76	96.0	0.75	1.63	0.95	0.64	1.35	0.91	1.49	1.49	1.21	0.85	0.44	0.43	0.48	0.58	0.46	1.30	1.76	98.0	0.71	0.33	0.64	2.27	0.17	2.79	3.03	0.49
DURATION (MIN)	30	285		45	15	15	15		180	420	315	195	390	195	855	30	210	165	285	240	15	240	390	375	555	1560	1545	525	645	390	975	1320	165	1605	2325	1605
END DATE	05/14/2023 06:15	06/25/2023 22:15		07/28/2022 20:30	09/03/2022 20:30	01/12/2023 08:15	03/03/2023 08:15		07/08/2022 14:30	07/18/2022 08:30	07/26/2022 13:45	07/28/2022 23:00	07/31/2022 11:30	08/05/2022 06:30	08/11/2022 03:00	08/21/2022 15:45	08/29/2022 18:15	08/30/2022 08:30	09/04/2022 01:00	09/06/2022 18:30	10/25/2022 20:00	10/30/2022 23:00	11/11/2022 15:15	12/07/2022 04:45	12/08/2022 18:45	12/15/2022 07:00	01/04/2023 03:00	01/12/2023 16:15	01/19/2023 10:30	01/22/2023 18:45	01/25/2023 17:45	02/17/2023 02:00	02/23/2023 01:30	03/04/2023 07:30	03/25/2023 16:30	04/01/2023 12:45
START DATE	05/14/2023 05:45	06/25/2023 17:30		07/28/2022 19:45	09/03/2022 20:15	01/12/2023 08:00	03/03/2023 08:00		07/08/2022 11:30	07/18/2022 01:30	07/26/2022 08:30	07/28/2022 19:45	07/31/2022 05:00	08/05/2022 03:15	08/10/2022 12:45	08/21/2022 15:15	08/29/2022 14:45	08/30/2022 05:45	09/03/2022 20:15	09/06/2022 14:30	10/25/2022 19:45	10/30/2022 19:00	11/11/2022 08:45	12/06/2022 22:30	12/08/2022 09:30	12/14/2022 05:00	01/03/2023 01:15	01/12/2023 07:30	01/18/2023 23:45	01/22/2023 12:15	01/25/2023 01:30	02/16/2023 04:00	02/22/2023 22:45	03/03/2023 04:45	03/24/2023 01:45	03/31/2023 10:00
oso			CSO205 Total	CSO208				CSO208 Total	CSO210																											



COUNT OF	1	-	-	-	-	1	1	1	1	-	-	-	-	41	-	-	-	-	-	-	-	-	1	1	1	1	1	1	1	7	τ-	1	1	1	1	1
DISCHARGE VOLUME (GAL)	203,288	81,458	149,486	3,268,383	325,168	1,836,323	61,150	250,240	124,855	147,555	63,648	249,314	6,510,961	27,044,466	1,679,650	14,328,926	1,662,888	24,126,704	19,085,786	1,874,284	16,038,894	2,016,936	16,945,515	32,421	28,204	853,192	8,885,991	277,936	14,030,652	5,055,361	30,199,173	13,914,178	8,557,745	899,338	39,995,009	96,429,945
COMMENT																																				
STANDARD	Atlas		Atlas	Cloudburst	Cloudburst																															
PERIOD (HR)	1	12	9	-	-	1	1	9	9	3	-	12	-		-	8	9	٢	3	٢	٢	-	3	1	9	3	1	9	24	24	12	1	9	12	12	12
FREQUENCY (YR)	0.35	0.27	0.39	0.62	0.15	0.28	0.34	0.56	0.27	0.42	90.0	0.37	1.06		0.58	09:0	0.40	3.89	0.55	0.41	0.73	0.56	0.81	0.31	0.21	0.31	0.32	0.22	0.50	0.50	0.77	0.57	0.36	0.27	1.27	2.76
DISCHARGE PER RAIN (GAL/IN)	417,430	140,204	205,056	3,491,862	1,667,528	5,031,022	152,875	245,334	217,517	196,217	860,105	277,016	2,800,413		2,221,760	14,894,934	2,217,184	14,828,952	20,069,175	2,946,987	11,871,868	2,211,553	14,027,744	74,361	64,836	1,762,793	15,400,332	299,000	10,817,774	3,897,734	17,178,142	16,235,914	12,070,162	1,416,280	17,587,955	34,500,875
RAIN TOTAL (IN)	0.49	0.58	0.73	0.94	0.20	0.36	0.40	1.02	0.57	0.75	0.07	06.0	2.33		92.0	96.0	0.75	1.63	0.95	0.64	1.35	0.91	1.21	0.44	0.43	0.48	0.58	0.46	1.30	1.30	1.76	0.86	0.71	0.64	2.27	2.79
DURATION (MIN)	009	405	585	540	135	360	360	705	615	675	315	930	1410		105	135	225	120	165	105	225	135	210	30	45	150	180	06	345	195	1035	240	540	555	870	750
END DATE	04/06/2023 02:00	04/22/2023 04:45	04/28/2023 07:30	05/07/2023 17:00	05/08/2023 15:45	05/09/2023 10:15	05/14/2023 11:30	05/16/2023 19:15	05/20/2023 12:30	06/07/2023 22:00	06/12/2023 03:30	06/19/2023 23:00	06/26/2023 08:15		07/08/2022 14:15	07/18/2022 04:30	07/26/2022 12:45	07/28/2022 22:00	07/31/2022 08:30	08/05/2022 05:15	08/11/2022 00:30	08/21/2022 18:15	09/04/2022 00:15	10/25/2022 20:15	10/30/2022 18:30	11/11/2022 11:15	12/07/2022 02:00	12/08/2022 13:00	12/14/2022 11:15	12/15/2022 02:00	01/03/2023 18:45	01/12/2023 12:15	01/19/2023 10:45	01/25/2023 12:30	02/16/2023 20:30	03/03/2023 17:45
START DATE	04/05/2023 16:00	04/21/2023 22:00	04/27/2023 21:45	05/07/2023 08:00	05/08/2023 13:30	05/09/2023 04:15	05/14/2023 05:30	05/16/2023 07:30	05/20/2023 02:15	06/07/2023 10:45	06/11/2023 22:15	06/19/2023 12:30	06/25/2023 08:45		07/08/2022 12:30	07/18/2022 02:15	07/26/2022 09:00	07/28/2022 20:00	07/31/2022 05:45	08/05/2022 03:30	08/10/2022 20:45	08/21/2022 16:00	09/03/2022 20:45	10/25/2022 19:45	10/30/2022 17:45	11/11/2022 08:45	12/06/2022 23:00	12/08/2022 11:30	12/14/2022 05:30	12/14/2022 22:45	01/03/2023 01:30	01/12/2023 08:15	01/19/2023 01:45	01/25/2023 03:15	02/16/2023 06:00	03/03/2023 05:15
cso														CSO210 Total	CSO211																					

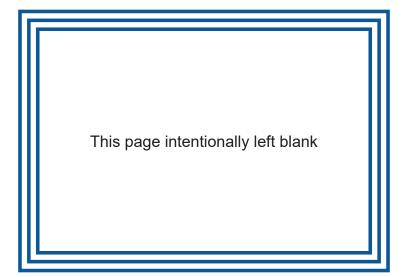


oso	START DATE	END DATE	DURATION (MIN)	RAIN TOTAL (IN)	DISCHARGE PER RAIN (GAL/IN)	FREQUENCY (YR)	PERIOD (HR)	STANDARD	COMMENT	DISCHARGE VOLUME (GAL)	COUNT OF
	03/24/2023 04:00	03/25/2023 07:15	1635	3.03	23,507,903	1.70	24	Cloudburst		71,228,945	1
	03/31/2023 11:45	03/31/2023 13:45	120	0.49	545,970	0.23	12	Atlas		268,072	1
	03/31/2023 23:45	04/01/2023 07:15	450	99.0	33,589,828	0.45	1	Atlas		22,135,697	1
	04/05/2023 17:00	04/05/2023 21:15	255	0.49	4,219,786	0.35	-	Atlas		2,055,036	-
	04/21/2023 23:15	04/22/2023 01:45	150	0.58	1,465,718	0.27	12	Atlas		851,582	1
	04/27/2023 22:00	04/28/2023 04:15	375	0.73	22,375,629	0.39	9	Atlas		16,311,834	1
	05/07/2023 08:45	05/07/2023 14:15	330	0.94	13,289,735	0.62	-	Atlas		12,439,192	-
	05/09/2023 05:45	05/09/2023 07:45	120	0.36	1,401,913	0.28	-	Atlas		511,698	-
	05/14/2023 07:00	05/14/2023 09:45	165	0.40	2,908,682	0.34	1	Atlas		1,163,473	1
	05/16/2023 09:00	05/16/2023 16:00	420	1.02	11,423,904	0.56	9	Atlas		11,652,382	1
	05/20/2023 03:30	05/20/2023 09:15	345	0.57	900,857	0.27	9	Atlas		517,092	1
	06/07/2023 11:15	06/07/2023 17:00	345	0.75	22,075,368	0.42	3	Atlas		16,600,677	-
	06/11/2023 22:15	06/12/2023 00:30	135	0.07	6,277,229	90:0	1	Atlas		464,515	1
	06/19/2023 13:00	06/19/2023 19:30	390	06.0	5,290,720	0.37	12	Atlas		4,761,648	1
	06/25/2023 17:45	06/26/2023 03:30	585	2.33	19,813,883	1.06	1	Atlas		46,067,278	1
CSO211 Total										523,947,849	37





#### APPENDIX B ANNUAL AVERAGE OVERFLOW VOLUME





TYPICAL YEAR MODELED TOTAL MODELED TOTAL MINUTES ACTIVATED HOURS ACTIVATED  1095 18
ľ
2
0
7
7
2
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2
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3
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	CONDITIONS			CONDITIONS2	2		CONDITIONS	
VOLUME (MG)	TYPICAL YEAR MODELED TOTAL MINUTES ACTIVATED	TYPICAL YEAR MODELED TOTAL HOURS ACTIVATED	VOLUME (MG)	TYPICAL YEAR MODELED TOTAL MINUTES ACTIVATED	TYPICAL YEAR MODELED TOTAL HOURS ACTIVATED	(MG)	TYPICAL YEAR MODELED TOTAL MINUTES ACTIVATED	TYPICAL YEAR MODELED TOTAL HOURS ACTIVATED
	285	5	0	360	9	18	12390	207
	CSO Reporting Merged with CSO105	h CSO105		CSO Reporting Merged with CSO105	th CSO 105	6	2955	49
ı	585	10	69	1380	23	260	9450	158
l	N/A - CSO Eliminated	pa		N/A - CSO Eliminated	pay	0	2040	34
l	210	4	2	315	5	52	7410	124
l	705	12	2	1005	17	-	1695	28
ĺ	240	4	0	300	5	20	9735	162
l	315	5	-	360	9	5	3675	61
	0	0	0	0	0	9	2475	41
35	2415	40	46	3180	53	98	13320	222
0	0	0	12	1395	23	118	10350	173
_	1185	20	2	1035	17	10	7830	131
0	0	0	1	929	11	7	6825	114
0	0	0	0	210	4	9	1890	32
0	0	0	2	315	5	24	5295	88
0	0	0	0	105	2	3	3225	54
	N/A - CSO Eliminated	pe		N/A - CSO Eliminated	pet	12	4170	0.2
0	0	0	0	0	0	2	0	0
0	75	1	0	120	2	2	135	2
0	0	0	0	0	0	83	0	0
	N/A - CSO Eliminated	pə		N/A - CSO Eliminated	pa	6	7950	133
0	0	0	0	0	0	3	3030	51
0	0	0	0	0	0	~	10215	021
	CSO Reporting Merged with CSO184	h CSO184		CSO Reporting Merged with CSO184	th CSO184	0	0	0
1	345	9	1	495	8	1	225	4
-	315	5	1	390	7	38	5910	66
0	0	0	0	0	0	1	1650	28
22	1920	32	25	2550	43	138	7590	127
	CSO Reporting Merged with CSO053	h CSO053		CSO Reporting Merged with CSO053	th CSO053	1	1575	56
0	06	2	0	165	3	86	35145	586
9	720	12	8	885	15	69	11715	195
0	0	0	3	2250	38	19	15345	256
0	C	•						



		MODELED ITPICAL TEAK ACTIVATION CONDITIONS1	IONS FOR POST-IOAP	MODELE	MODELED TYPICAL YEAR ACTIVATIONS FOR CURRENT CONDITIONS2	Z	MODELE	MODELED ITPICAL TEAK ACTIVATIONS FOR PRE-10AP CONDITIONS3	
IOAP APPROVED LEVEL OF CONTROL	VOLUME (MG)	TYPICAL YEAR MODELED TOTAL MINUTES ACTIVATED	TYPICAL YEAR MODELED TOTAL HOURS ACTIVATED	VOLUME (MG)	TYPICAL YEAR MODELED TOTAL MINUTES ACTIVATED	TYPICAL YEAR MODELED TOTAL HOURS ACTIVATED	VOLUME (MG)	TYPICAL YEAR MODELED TOTAL MINUTES ACTIVATED	TYPICAL YEAR MODELED TOTAL HOURS ACTIVATED
8	0	0	0	0	0	0	-	2130	36
0	0	0	0	0	0	0	0	465	8
N/A5	0	0	0	0	0	0	0	0	0
4	0	0	0	0	0	0	52	5595	93
N/A6		CSO Reporting Merged with CSO132	h CSO132		CSO Reporting Merged with CSO132	th CSO132	0	1890	32
N/A4		N/A - CSO Eliminated	pa		N/A - CSO Eliminated	pet	-	2265	88
N/A6		CSO Reporting Merged with CSO184	h CSO184		CSO Reporting Merged with CSO184	th CSO184	14	0999	111
8	0	75	-	0	105	2	20	11250	188
N/A6		CSO Reporting Merged with CSO149	h CSO149		CSO Reporting Merged with CSO149	th CSO149	0	0	0
N/A6		CSO Reporting Merged with CSO184	h CSO184		CSO Reporting Merged with CSO184	th CSO184	0	165	3
8	0	0	0	0	0	0	4	8835	147
N/A6		CSO Reporting Merged with CSO184	h CSO184		CSO Reporting Merged with CSO184	th CSO184	31	9249	98
N/A6		CSO Reporting Merged with CSO184	h CSO184		CSO Reporting Merged with CSO184	th CSO184	0	0	0
N/A6	5	645	11	5	645	11	0	840	14
N/A6		CSO Reporting Merged with CSO184	h CSO184		CSO Reporting Merged with CSO184	th CSO184	2	1755	29
N/A6		CSO Reporting Merged with CSO184	h CSO184		CSO Reporting Merged with CSO184	th CSO184	0	0	0
N/A6		CSO Reporting Merged with CSO184	h CSO184		CSO Reporting Merged with CSO184	th CSO184	0	0	0
N/A6		CSO Reporting Merged with CSO184	h CSO184		CSO Reporting Merged with CSO184	th CSO184	0	0	0
8	25	555	6	54	1500	25	240	11505	192
8	1	210	4	0	345	9	30	7380	123
N/A6		CSO Reporting Merged with CSO015	h CSO015		CSO Reporting Merged with CSO015	th CSO015	4	1095	18
8	0	180	3	0	300	5	0	315	5
8	0	0	0	0	135	2	3	10545	176
8	0	0	0	0	240	4	0	495	8
8	0	165	3	0	270	5	3	8385	140
N/A5	0	150	3	0	255	4	0	510	6
8	0	150	3	0	255	4	7	7605	127
8	0	0	0	0	0	0	2	12120	202
N/A5	0	240	4	0	465	8	7	1245	21
8	0	150	3	0	285	5	0	1695	28
N/A5	0	0	0	0	240	4	0	0	0
N/A6		CSO Reporting Merged with CSO184	h CSO184		CSO Reporting Merged with CSO184	th CSO184	0	150	3
N/A4		N/A - CSO Eliminated	ра		N/A - CSO Eliminated	ted	59	14805	247
N/A5	0	0	0	0	0	0	0	0	C

	TYPICAL YEAR MODELED TOTAL HOURS ACTIVATED	82	26	310	lity improvements) and The data reflects the amming is anticipated its data is provided for
CONDITIONS	TYPICAL YEAR MODELED TOTAL MINUTES ACTIVATED	4890	5835	18585	pical Year with the "baseline" projects implemented (Sanitary Sewer Discharge Plan and other existing Combined Sewer System facility improvements) and el reflects the updated projects included in the 2021 IOAP modification. Modeling results assume MFWQTC operating at full capacity. The data reflects the reflects based on projected optimization and projected version of the RTC. Additional revisions to RTC and programming is anticipated rate that the system, as currently designed and when operating at full capacity, will perform better than the approved plan. However, this data is provided for
	VOLUME (MG)	-	19	1090	other existing Co assume MFWQT( RTC. Additional
	TYPICAL YEAR MODELED TOTAL HOURS ACTIVATED	11	156	235	Sewer Discharge Plan and fication. Modeling results and projected revision of the at full capacity, will berform
CONDITIONS	TYPICAL YEAR MODELED TOTAL MINUTES ACTIVATED	099	9330	14100	cts implemented (Sanitary & ded in the 2021 IOAP modi nn projected optimization an when operating
	VOLUME (MG)	0	13	753	aseline" project projects include esults based o
	TYPICAL YEAR MODELED TOTAL HOURS ACTIVATED	9	9	12	301 Typical Year with the "b s model reflects the updated minor modifications to the nonstrate that the system, a
CONDITIONS	TYPICAL YEAR MODELED TOTAL MINUTES ACTIVATED	375	375	069	1Post-IOAP Condition results are based on model simulations of the 2001 Typical Year with the "baseline" projects implemented (Sanitary Sewer Discharge Plan and other existing Combined Sewer System facility improvements) and the most recently compiled Long Term Control Plan project model. This model reflects the updated projects included in the 2021 IOAP modification. Modeling results assume MFWQTC operating at full capacity. The data reflects the construction of the current approved suite of IOAP projects, with some minor modifications for the results based on projected optimization and projected revision of the RTC is obtinized. Broad and RTC is obtinized, Modeling results demonstrate that the system, as currently designed and when operating at full capacity, will perform better than the approved plan. However, this data is provided for
	VOLUME (MG)	0	2	8	are based on ong Term Conti proved suite of
	IOAP APPROVED LEVEL OF CONTROL	N/A5	8	8	AP Condition results recently compiled Lc on of the current apples are completed and
	cso	208	210	211	1Post-IO/ the most constructi

MODELED TYPICAL YEAR ACTIVATIONS FOR PRE-10AP

MODELED TYPICAL YEAR ACTIVATIONS FOR CURRENT

MODELED TYPICAL YEAR ACTIVATIONS FOR POST-10AP

international control of the control

2Current Condition results are based on model simulations of the 2001 Typical Year with current upstream SSDP conditions and the current average available treatment plant capacity at MFWWTC. The model reflects projects certified through June 30, 2023. Partial construction of projects was not included. 3Pre-JOAP results are based on model simulations of the 2001 Typical Year with no baseline projects or IOAP projects constructed. Model results reflect calibration modifications to the model that occurred after the onset of the IOAP.

4These CSOs have been eliminated via implementation of Long Term Control Plan projects.

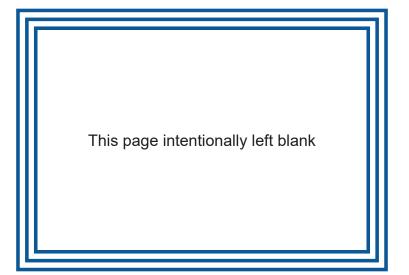
6These CSOs were mitigated in conjunction with other CSOs with a control structure (weir or gate) downstream of the original CSO. The new CSO location consolidates the overflow point, and overflows will be reported from a single location.

5These CSOs were originally modeled or had baseline modeling conditions causing them to activate less than or equal to 8 times per Typical Year and thus do not have an associated project in the approved IOAP. Some were revised later with updated model geometry and were mitigated with CMOM activities.



**APPENDIX C** 

**UNAUTHORIZED DISCHARGES - WET WEATHER SSOS** 





									Jare	e, ciear	i wate	IVVUYS
REPAIR EFFORTS	CONTRACTOR TO REAPIR FORCE MAIN BREAK.	LOCATION INCLUDED IN THE IOAP.	LOCATION INCLUDED IN THE IOAP.	LOCATION INCLUDED IN THE IOAP.	LOCATION INCLUDED IN THE IOAP.	LOCATION INCLUDED IN THE IOAP.	LOCATION INCLUDED IN THE IOAP.	LOCATION INCLUDED IN THE IOAP.	LOCATION INCLUDED IN THE IOAP.	LOCATION INCLUDED IN THE IOAP.	LOCATION INCLUDED IN THE IOAP.	LOCATION INCLUDED IN THE IOAP.
CLEANUP	CLEANUP NOT POSSIBLE DUE TO ELEVATED CREEK LEVEL.	NO CLEAN UP PERFORMED – PIPE DISCHARG- ING UNDERWA- TER, DIRECTLY INTO STREAM.	NO CLEAN UP PERFORMED – PIPE DISCHARG- ING UNDERWA- TER, DIRECTLY INTO STREAM.	NO CLEAN UP PERFORMED – PIPE DISCHARG- ING UNDERWA- TER, DIRECTLY INTO STREAM.	CLEAN UP NOT REQUIRED NO SOLID OR DE- BRIS OBSERVED.	WO#3545218.	WO#3545221.	WO#3545219.	WO#3545222.	WO#3545223.	WO#3545224.	WO#3545226.
# OM	3537429	3544554	3544787	3544788	3544791	3544794	3544798	3544797	3544799	3544800	3544801	3544802
DUETO	STRUC- TURAL FAILURE	LACK OF SYSTEM CAPACITY	LACK OF SYSTEM CAPACITY	LACK OF SYSTEM CAPACITY	LACK OF SYSTEM CAPACITY	LACK OF SYSTEM CAPACITY	LACK OF SYSTEM CAPACITY	LACK OF SYSTEM CAPACITY	LACK OF SYSTEM CAPACITY	LACK OF SYSTEM CAPACITY	LACK OF SYSTEM CAPACITY	LACK OF SYSTEM CAPACITY
CAUSE	MECHAN- ICAL FAILURE (FORCE MAIN BREAK).	LACK OF SYSTEM CAPACITY HEAVY RAIN.	LACK OF SYSTEM CAPACITY HEAVY RAIN.	LACK OF SYSTEM CAPACITY HEAVY RAIN.	LACK OF SYSTEM CAPACITY HEAVY RAIN.	LACK OF SYSTEM CAPACITY HEAVY RAIN.	LACK OF SYSTEM CAPACITY HEAVY RAIN.	LACK OF SYSTEM CAPACITY HEAVY RAIN.	LACK OF SYSTEM CAPACITY HEAVY RAIN.	LACK OF SYSTEM CAPACITY HEAVY RAIN.	LACK OF SYSTEM CAPACITY HEAVY RAIN.	LACK OF SYSTEM CAPACITY HEAVY RAIN.
RECEIVING	FLOYDS FORK	MIDDLE FORK BEARGRASS CREEK	MIDDLE FORK BEARGRASS CREEK	MIDDLE FORK BEARGRASS CREEK	MIDDLE FORK BEARGRASS CREEK	MIDDLE FORK BEARGRASS CREEK	CHENOWETH RUN	CHENOWETH RUN	CHENOWETH RUN	CHENOWETH RUN	CHENOWETH RUN	CHENOWETH
SOURCE ASSET DISCHARGES TO	STREAM	STREAM	STREAM	STREAM	STREAM	ртсн	рітсн	ртсн	GROUND	ртсн	рітсн	GROUND
SOURCE ASSET ID	80581B-AG	IS021A-SI	IS021A-SI	08935-SM	27012	45796	28452	28453	28451	28250	28249	28340
SOURCE ASSET TYPE	Sewer Main	Sewer Manhole	Sewer Manhole	Sewer Manhole	Sewer Manhole	Sewer Manhole	Sewer Manhole	Sewer Manhole	Sewer Manhole	Sewer Manhole	Sewer Manhole	Sewer Manhole
VOLUME (GAL)	1,000	000'09	1,944,444	299,375	30,000	120,000	62,150	30,750	30,750	30,750	30,625	61,150
STOP DATE & TIME	7/18/2022 11:30	7/29/2022 0:45	8/1/2022 0:15	7/31/2022 15:45	7/31/2022 19:45	7/31/2022 19:50	8/1/2022 6:43	8/1/2022 6:39	8/1/2022 6:45	8/1/2022 6:48	8/1/2022 6:50	8/1/2022 6:53
START DATE & TIME	7/18/2022 10:14	7/29/2022 23:30	7/31/2022 7:45	7/31/2022 8:15	7/31/2022 9:00	7/31/2022 9:15	7/31/2022	7/31/2022	7/31/2022 10:15	7/31/2022 10:20	7/31/2022 10:25	7/31/2022 10:30
OVERFLOW	611 WOOD- LAKE DR	1201 OLD CANNONS LN	1201 OLD CANNONS LN	1001 BRECKEN- RIDGE LN	2408 GRAY FOX RD	1011 ALTA CIR	3402 CHARLANE PKY	3402 CHARLANE PKY	3406 CHARLANE PKY	3506 CHARLANE PKY	3500 ST EDWARDS DR	3620 CHARLANE PKY
WQTC KPDES#	KY0102784	KY0022411	KY0022411	KY0022411	KY0022411	KY0022411	KY0022411	KY0022411	KY0022411	KY0022411	KY0022411	KY0022411
WQTC	FLOYDS FORK	MORRIS FORMAN	MORRIS FORMAN	MORRIS FORMAN	MORRIS FORMAN	MORRIS FORMAN	MORRIS FORMAN	MORRIS FORMAN	MORRIS FORMAN	MORRIS FORMAN	MORRIS FORMAN	MORRIS FORMAN



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REPAIR EFFORTS	LOCATION INCLUDED IN THE IOAP.	LOCATION INCLUDED IN THE IOAP.	LOCATION INCLUDED IN THE IOAP.	SYSTEM INCLUDED IN IOAP.	SYSTEM INCLUDED IN IOAP.	LOCATION INCLUDED IN IOAP.	LOCATION INCLUDED IN IOAP.	LOCATION INCLUDED IN IOAP.	SITE FOUND DURING RAIN EVENT RE- CON - WILL BE MONITORED AND EVAL- UATED FOR REPAIR.	LOCATION INCLUDED IN IOAP.	LOCATION INCLUDED IN IOAP.	LOCATION INCLUDED IN IOAP.
CLEANUP	WO#3545228.	WO#3545229.	WO#3545230.	DISCLN WO#3591000	DISCLN WO#3590999.	MAGNITUDE OF STORM RESULT. ED IN NO DEBRIS REMAINING.	NO CLEAN UP PERFORMED – PIPE DISCHARG- ING UNDERWA- TER, DIRECTLY INTO STREAM.	NO CLEAN UP PERFORMED – PIPE DISCHARG- ING UNDERWA- TER, DIRECTLY INTO STREAM.	CLEANUP NOT POSSIBLE DUE TO MAGNITUDE OF STORM.	WO#3600916.	WO#3600918.	WO#3600782.
# OM	3544803	3544805	3544806	3590838	3590840	3600357	3600348	3600334	3600288	3600368	3600370	3600408
DUE TO	LACK OF SYSTEM CAPACITY	LACK OF SYSTEM CAPACITY	LACK OF SYSTEM CAPACITY	LACK OF SYSTEM CAPACITY	LACK OF SYSTEM CAPACITY	LACK OF SYSTEM CAPACITY	LACK OF SYSTEM CAPACITY					
CAUSE	LACK OF SYSTEM CAPACITY HEAVY RAIN.	LACK OF SYSTEM CAPACITY HEAVY RAIN.	LACK OF SYSTEM CAPACITY HEAVY RAIN.	LACK OF SYSTEM CAPACITY.	LACK OF SYSTEM CAPACITY HEAVY RAIN.	LACK OF SYSTEM CAPACITY HEAVY RAIN.	LACK OF SYSTEM CAPACITY HEAVY RAIN.					
RECEIVING	CHENOWETH RUN	MIDDLE FORK BEARGRASS CREEK	MIDDLE FORK BEARGRASS CREEK	CHENOWETH RUN	CHENOWETH RUN	SOUTH FORK BEARGRASS CREEK	MIDDLE FORK BEARGRASS CREEK	MIDDLE FORK BEARGRASS CREEK	FISHPOOL CREEK	BUECHEL BRANCH	SOUTH FORK BEARGRASS CREEK	CHENOWETH
SOURCE ASSET DISCHARGES TO	рітсн	STREAM	STREAM	рітсн	рітсн	рітсн	STREAM	STREAM	ЫТСН	GROUND	GROUND	рітсн
SOURCE ASSET	28336	47583	47582	28453	28452	16649	IS021A-SI	08935-SM	60679	08429	08430	28453
SOURCE ASSET TYPE	Sewer Manhole	Sewer Manhole	Sewer Manhole	Sewer Manhole	Sewer Manhole	Sewer Manhole	Sewer Manhole	Sewer Manhole	Sewer Manhole	Sewer Manhole	Sewer Manhole	Sewer Manhole
VOLUME (GAL)	61,150	150,000	30,000	3,450	3,450	1,874	6,800,000	4,100,000	118,125	111,825	111,825	310,000
STOP DATE & TIME	8/1/2022 6:58	7/31/2022 22:00	7/31/2022 22:00	12/15/2022 9:15	12/15/2022 9:15	1/4/2023 14:36	1/4/2023 20:45	1/4/2023 4:45	1/3/2023 21:15	1/4/2023 8:16	1/4/2023 8:16	1/4/2023 4:43
START DATE & TIME	7/31/2022 10:35	7/31/2022 11:05	7/31/2022 11:20	12/14/2022 10:10	12/14/2022 10:19	1/3/2023 1:15	1/3/2023 3:00	1/3/2023 3:00	1/3/2023 5:30	1/3/2023 7:25	1/3/2023 7:25	1/3/2023 8:00
OVERFLOW	3620 CHARLANE PKY	202 OX- MOOR LN	201 BUL- LITT LN	3402 CHARLANE PKY	3402 CHARLANE PKY	1726 FRA- SER DR	1201 OLD CANNONS LN	1001 BRECKEN- RIDGE LN	914 CIN- DERELLA LN	4335 PRUITT CT	4341 PRUITT CT	3402 CHARLANE PKY
WQTC KPDES#	KY0022411	KY0022411	KY0022411	KY0022411	KY0022411	KY0022411	KY0022411	KY0022411	KY0078956	KY0022411	KY0022411	KY0022411
WQTC	MORRIS FORMAN	MORRIS FORMAN	MORRIS FORMAN	MORRIS FORMAN	MORRIS FORMAN	MORRIS FORMAN	MORRIS FORMAN	MORRIS FORMAN	DEREK R. GUTHRIE	MORRIS FORMAN	MORRIS FORMAN	MORRIS FORMAN



										Cicari	water	vvay3
REPAIR EFFORTS	LOCATION INCLUDED IN IOAP.	SITE FOUND DURING RAIN EVENT RE- CON - WILL BE MONITORED AND EVAL- UATED FOR REPAIR.	LOCATION INCLUDED IN IOAP.	LOCATION INCLUDED IN IOAP.	SITE FOUND DURING RAIN EVENT RE- CON - WILL BE MONITORED AND EVAL- UATED FOR REPAIR.							
CLEANUP	WO#3600783.	WO#3600784.	WO#3600784.	WO#3600785.	WO#3600786.	WO#3600788.	WO#3600790.	CLEAN UP NOT REQUIRED. MAGNITUDE OF STORM FLUSHED SOL- IDS AND DEBRIS FROM SITE.	CLEANUP NOT POSSIBLE DUE TO ELEVATED CREEK LEVEL.	WO#3600919.	WO#3600942.	CLEANUP NOT POSSIBLE DUE TO MAGNITUDE OF STORM.
# OM	3600410	3600412	3600415	3600427	3600428	3600429	3600431	3600485	3600312	3600375	3600482	3600335
DUE TO	LACK OF SYSTEM CAPACITY	LACK OF SYSTEM CAPACITY	LACK OF SYSTEM CAPACITY	LACK OF SYSTEM CAPACITY	LACK OF SYSTEM CAPACITY							
CAUSE	LACK OF SYSTEM CAPACITY HEAVY RAIN.	LACK OF SYSTEM CAPACITY.	LACK OF SYSTEM CAPACITY HEAVY RAIN.	LACK OF SYSTEM CAPACITY HEAVY RAIN.	LACK OF SYSTEM CAPACITY							
RECEIVING	CHENOWETH	CHENOWETH RUN	CHENOWETH RUN	CHENOWETH RUN	CHENOWETH RUN	CHENOWETH RUN	CHENOWETH	MIDDLE FORK BEARGRASS CREEK	FERN CREEK	BUECHEL	MIDDLE FORK BEARGRASS CREEK	FLOYDS FORK
SOURCE ASSET DISCHARGES TO	рітсн	GROUND	рітсн	рітсн	GROUND	рітсн	GROUND	STREAM	STREAM	GROUND	рітсн	STREAM
SOURCE ASSET	28452	28451	28250	28249	28340	28336	28415	27012	MSD1203-PS	85055	45796	108956
SOURCE ASSET TYPE	Sewer Manhole	Sewer Lift Station	Sewer Service Line	Sewer Manhole	Sewer Manhole							
VOLUME (GAL)	31,000	31,000	31,000	27,720	63,000	63,000	30,650	72,000	3,000	71,600	108,000	130,500
STOP DATE & TIME	1/4/2023 4:45	1/4/2023 4:48	1/4/2023 4:49	1/4/2023 5:05	1/4/2023 5:09	1/4/2023 5:10	1/4/2023 4:40	1/3/2023 15:00	1/3/2023	1/4/2023 8:15	1/3/2023 15:10	1/3/2023 23:00
START DATE & TIME	1/3/2023 8:02	1/3/2023 8:04	1/3/2023 8:06	1/3/2023 8:08	1/3/2023 8:10	1/3/2023 8:12	1/3/2023 8:14	1/3/2023 8:15	1/3/2023 8:17	1/3/2023 8:24	1/3/2023 8:25	1/3/2023 8:30
OVERFLOW	3402 CHARLANE PKY	3406 CHARLANE PKY	3506 CHARLANE PKY	3500 ST EDWARDS DR	3620 CHARLANE PKY	3620 CHARLANE PKY	3406 DELL RD	2408 GRAY FOX RD	4005 KIR- BY LN	4345 PRUITT CT	1011 ALTA CIR	7302 FLOYDS- BURG RD
WQTC KPDES#	KY0022411	KY0078956	KY0022411	KY0022411	KY0022420							
WQTC	MORRIS FORMAN	DEREK R. GUTHRIE	MORRIS FORMAN	MORRIS FORMAN	HITE CREEK							



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REPAIR EFFORTS	LOCATION INCLUDED IN IOAP.	LOCATION INCLUDED IN IOAP.	LOCATION INCLUDED IN IOAP.	ROOT CUT MAIN SEWER #3600437.	LOCATION INCLUDED IN IOAP.	LOCATION INCLUDED IN IOAP.	LOCATION IS INCLUDED IN THE IOAP.	LOCATION INCLUDED IN IOAP.	LOCATION INCLUDED IN THE IOAP.	LOCATION INCLUDED IN IOAP.	LOCATION INCLUDED IN THE IOAP.	LOCATION INCLUDED IN IOAP.	LOCATION INCLUDED IN THE IOAP.
CLEANUP	WO#3600941.	WO#3600945.	WO#3601004.	CUSTOMER TO CLEAN IMPACT- ED AREA.	WO#3601005.	WO#3601006.	MSD PERSON- NEL WILL CLEAN AND SANITIZE THE IMPACTED AREAS.	WO#3600947.	MSD PERSON- NEL WILL CLEAN AND SANITIZE THE IMPACTED AREA.	NO CLEANUP PERFORMED. ADDITIONAL RAIN WASHED AWAY DEBRIS BEFORE CLEAN UP COULD BE INTIATED.	MSD PERSON- NEL WILL CLEAN AND SANITIZE THE IMPACTED AREA.	WO#3600949.	MSD PERSON- NEL WILL CLEAN AND SANITIZE THE IMPACTED AREA.
# OM	3600489	3600491	3600379	3600452	3600382	3600385	3600608	3600511	3600661	3600513	3600659	3600517	3600658
DUE TO	LACK OF SYSTEM CAPACITY	LACK OF SYSTEM CAPACITY	LACK OF SYSTEM CAPACITY	ROOTS	LACK OF SYSTEM CAPACITY	LACK OF SYSTEM CAPACITY	LACK OF SYSTEM CAPACITY	LACK OF SYSTEM CAPACITY	LACK OF SYSTEM CAPACITY	LACK OF SYSTEM CAPACITY	LACK OF SYSTEM CAPACITY	LACK OF SYSTEM CAPACITY	LACK OF SYSTEM CAPACITY
CAUSE	LACK OF SYSTEM CAPACITY HEAVY RAIN.	LACK OF SYSTEM CAPACITY HEAVY RAIN.	LACK OF SYSTEM CAPACITY HEAVY RAIN.	ROOTS IN MAIN SEWER.	LACK OF SYSTEM CAPACITY HEAVY RAIN.	LACK OF SYSTEM CAPACITY HEAVY RAIN.	HEAVY RAIN.	LACK OF SYSTEM CAPACITY HEAVY RAIN.	LACK OF CAPACITY.	LACK OF SYSTEM CAPACITY HEAVY RAIN.	LACK OF CAPACITY.	LACK OF SYSTEM CAPACITY HEAVY RAIN.	LACK OF CAPACITY.
RECEIVING	MIDDLE FORK BEARGRASS CREEK	MIDDLE FORK BEARGRASS CREEK	SOUTH FORK BEARGRASS CREEK	MIDDLE FORK BEARGRASS CREEK	BROOKLAWN TRIBUTARY	SOUTH FORK BEARGRASS CREEK	NORTHERN DITCH	MIDDLE FORK BEARGRASS CREEK	LITTLE CEDAR CREEK	MIDDLE FORK BEARGRASS CREEK	CEDAR CREEK	MIDDLE FORK BEARGRASS CREEK	BIG RUN
SOURCE ASSET DISCHARGES TO	STREAM	GROUND	STREAM	GROUND	GROUND	GROUND	GROUND	STREAM	STREAM	STREAM	STREAM	STREAM	GROUND
SOURCE ASSET ID	40559	27008	23211	02298	51180	51160	19360	47583	67997	02935	98022	02933	97365
SOURCE ASSET TYPE	Sewer Manhole	Sewer Manhole	Sewer Manhole	Sewer Manhole	Sewer Manhole	Sewer Manhole	Sewer Manhole	Sewer Manhole	Sewer Manhole	Sewer Manhole	Sewer Manhole	Sewer Manhole	Sewer Manhole
VOLUME (GAL)	72,000	72,000	73,500	1,000	33,675	33,675	30,000	450,000	3,600	75,000	32,000	112,000	196,500
STOP DATE & TIME	1/3/2023 15:00	1/3/2023 15:00	1/3/2023 17:15	1/4/2023 13:20	1/3/2023 16:39	1/3/2023 16:49	1/3/2023 14:00	1/4/2023 11:00	1/3/2023 16:00	1/4/2023 11:10	1/4/2023 8:00	1/4/2023 11:15	1/4/2023 8:20
START DATE & TIME	1/3/2023 8:40	1/3/2023 8:45	1/3/2023 9:05	1/3/2023 9:10	1/3/2023 9:10	1/3/2023 9:15	1/3/2023 9:40	1/3/2023 9:50	1/3/2023 10:00	1/3/2023	1/3/2023 10:15	1/3/2023 10:15	1/3/2023
OVERFLOW	1012 ALTA CIR	1044 ALTA VISTA RD	3302 TROUT CREEK DR	8902 CROM- WELL HILL RD	2011 TER- RIL LN	3305 INDI- AN CREEK CT	5205 RON- WOOD DR	202 OX- MOOR LN	7906 GAINSBOR- OUGH CT	7900 SHEL- BYVILLE RD	8937 ELI DR	7900 SHEL- BYVILLE RD	10800 FAIR- MOUNT RD
WQTC KPDES#	KY0022411	KY0022411	KY0022411	KY0022411	KY0022411	KY0022411	KY0078956	KY0022411	KY0098540	KY0022411	KY0098540	KY0022411	KY0098540
WQTC	MORRIS FORMAN	MORRIS FORMAN	MORRIS FORMAN	MORRIS FORMAN	MORRIS FORMAN	MORRIS FORMAN	DEREK R. GUTHRIE	MORRIS FORMAN	CEDAR CREEK	MORRIS FORMAN	CEDAR CREEK	MORRIS FORMAN	CEDAR



										Sare, clean waterways					
REPAIR EFFORTS	LOCATION INCLUDED IN IOAP.	LOCATION INCLUDED IN IOAP.	THIS LO- CATION IS INCLUDED IN THE IOAP.	LOCATION INCLUDED IN IOAP.	LOCATION INCLUDED IN THE IOAP.	LOCATION INCLUDED IN THE IOAP.	LOCATION INCLUDED IN THE IOAP.	LOCATION INCLUDED IN IOAP.	LOCATION INCLUDED IN IOAP.	LOCATION INCLUDED IN THE IOAP.	LOCATION INCLUDED IN THE IOAP.	LOCATION INCLUDED IN IOAP.	LOCATION INCLUDED IN IOAP.		
CLEANUP EFFORTS	WO#3600951.	WO#3600954	MSD PERSON- NEL WILL CLEAN AND SANITIZE THE IMPACTED AREAS.	WO#3600952.	MSD PERSON- NEL WILL CLEAN AND SANITIZE THE IMPACTED AREA.	MSD PERSON- NEL WILL CLEAN AND SANITIZE THE IMPACTED AREA.	MSD PERSON- NEL WILL CLEAN AND SANITIZE THE IMPACTED AREA.	WO#3601002.	WO#3601001	MSD PERSON- NEL WILL CLEAN AND SANITIZE THE IMPACTED AREA.	MSD PERSON- NEL WILL CLEAN AND SANITIZE THE IMPACTED AREA.	WO#3600915.	WO#3600920		
# OM	3600518	3600519	3600618	3600520	3600657	3600655	3600651	3600527	3600523	3600649	3600648	3600677	3600678		
DUE TO	LACK OF SYSTEM CAPACITY	LACK OF SYSTEM CAPACITY	LACK OF SYSTEM CAPACITY	LACK OF SYSTEM CAPACITY	LACK OF SYSTEM CAPACITY	LACK OF SYSTEM CAPACITY	LACK OF SYSTEM CAPACITY	LACK OF SYSTEM CAPACITY	LACK OF SYSTEM CAPACITY	LACK OF SYSTEM CAPACITY	LACK OF SYSTEM CAPACITY	LACK OF SYSTEM CAPACITY	LACK OF SYSTEM CAPACITY		
CAUSE	LACK OF SYSTEM CAPACITY HEAVY RAIN.	LACK OF SYSTEM CAPACITY HEAVY RAIN.	LACK OF SYSTEM CAPACITY.	LACK OF SYSTEM CAPACITY HEAVY RAIN.	LACK OF CAPACITY.	LACK OF CAPACITY.	LACK OF CAPACITY.	LACK OF SYSTEM CAPACITY HEAVY RAIN.	LACK OF SYSTEM CAPACITY HEAVY RAIN.	LACK OF CAPACITY.	LACK OF CAPACITY.	LACK OF SYSTEM CAPACITY HEAVY RAIN.	LACK OF SYSTEM CAPACITY HEAVY RAIN.		
RECEIVING STREAM	MIDDLE FORK BEARGRASS CREEK	MIDDLE FORK BEARGRASS CREEK	PENNSYLVANIA RUN	MIDDLE FORK BEARGRASS CREEK	CEDAR CREEK	CEDAR CREEK	CEDAR CREEK	GOOSE CREEK	MUDDY FORK BEARGRASS CREEK	POPELICK	POPELICK	SOUTH FORK BEARGRASS CREEK	BUECHEL BRANCH		
SOURCE ASSET DISCHARGES TO	CATCH BASIN	GROUND	STREAM	GROUND	GROUND	GROUND	STREAM	GROUND	STREAM	GROUND	STREAM	GROUND	GROUND		
SOURCE ASSET	90700	47593	93705	84155	28984	28998	63095	105936	65623	65516	33003	08427	85075		
SOURCE ASSET TYPE	Sewer Manhole	Sewer Manhole	Sewer Manhole	Sewer Manhole	Sewer Manhole	Sewer Manhole	Sewer Manhole	Sewer Manhole	Sewer Manhole	Sewer Manhole	Sewer Manhole	Sewer Manhole	Sewer Service Line		
VOLUME (GAL)	18,000	36,000	75,000	144,000	5,000	2,000	5,600	18,000	9,000	1,200	1,200	56,300	4,375		
STOP DATE & TIME	1/3/2023 16:45	1/3/2023 16:50	1/3/2023 14:40	1/4/2023 11:28	1/3/2023 14:35	1/3/2023 14:38	1/3/2023 14:45	1/3/2023 17:25	1/3/2023 18:00	1/3/2023 14:00	1/3/2023 14:10	1/4/2023 8:15	1/4/2023 8:16		
START DATE & TIME	1/3/2023 10:30	1/3/2023 10:35	1/3/2023 10:40	1/3/2023 10:40	1/3/2023 10:50	1/3/2023 10:55	1/3/2023 11:03	1/3/2023 11:20	1/3/2023 11:45	1/3/2023 12:00	1/3/2023 12:10	1/3/2023 13:30	1/3/2023		
OVERFLOW	8021 CHRISTIAN CT	8021 CHRISTIAN CT	8800 AD- MIRAL DR	7913 SHEL- BYVILLE RD	5410 SPRIG- WOOD LN	5600 HOFELICH CT	9516 PLUM- WOOD RD	7713 WESTPORT RD	1804 ROUND RIDGE RD	12400 BRIERLY HILL PL	815 TUCKER STATION RD	4313 PRUITT CT	4317 PRUITT CT		
WQTC KPDES#	KY0022411	KY0022411	KY0078956	KY0022411	KY0098540	KY0098540	KY0098540	KY0022411	KY0022411	KY0102784	KY0102784	KY0022411	KY0022411		
WQTC	MORRIS FORMAN	MORRIS FORMAN	DEREK R. GUTHRIE	MORRIS FORMAN	CEDAR	CEDAR	CEDAR	MORRIS FORMAN	MORRIS FORMAN	FLOYDS FORK	FLOYDS FORK	MORRIS FORMAN	MORRIS FORMAN		



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REPAIR EFFORTS	LOCATION INCLUDED IN IOAP.	LOCATION INCLUDED IN IOAP.	WO#3609011.	WO#3609011.	LOCATION INCLUDED IN IOAP.	LOCATION INCLUDED IN IOAP.	LOCATION INCLUDED IN IOAP.	LOCATION INCLUDED IN IOAP.	LOCATION INCLUDED IN IOAP.	LOCATION INCLUDED IN IOAP.	SITE FOUND DURING RAIN EVENT RE- CON - WILL BE MONITORED AND EVAL- UATED FOR REPAIR.
CLEANUP	WO#3600921.	WO#3600922.	MSD PERSON- NEL CLEANED AND SANITIZED THE IMPACTED AREA.	MSD PERSON- NEL CLEANED AND SANITIZED THE IMPACTED AREA.	NO CLEAN UP PERFORMED – PIPE DISCHARG- ING UNDERWA- TER, DIRECTLY INTO STREAM.	NO CLEAN UP PERFORMED – PIPE DISCHARG- ING UNDERWA- TER, DIRECTLY INTO STREAM.	NO CLEAN UP PERFORMED – PIPE DISCHARG- ING UNDERWA- TER, DIRECTLY INTO STREAM.	WO#3612388.	WO#3612387.	MAGNITUDE OF STORM FLUSHED SOL- IDS AND DEBRIS FROM SITE.	CLEANUP NOT POSSIBLE DUE TO MAGNITUDE OF STORM.
# OM	3600679	3600685	3609050	3609052	3611854	3611849	3611850	3611820	3611819	3611817	3611761
DUE TO	LACK OF SYSTEM CAPACITY	LACK OF SYSTEM CAPACITY	MECHAN- ICAL FAILURE	MECHAN- ICAL FAILURE	LACK OF SYSTEM CAPACITY	LACK OF SYSTEM CAPACITY	LACK OF SYSTEM CAPACITY	LACK OF SYSTEM CAPACITY	LACK OF SYSTEM CAPACITY	LACK OF SYSTEM CAPACITY	LACK OF SYSTEM CAPACITY
CAUSE	LACK OF SYSTEM CAPACITY HEAVY RAIN.	LACK OF SYSTEM CAPACITY HEAVY RAIN.	PER WO3609011, MAIN BREAKER ADMI- RAL PS CONTROL PANEL TRIPPED.	PER WO3609011, MAIN BREAKER ADMI- RAL PS CONTROL PANEL TRIPPED	LACK OF SYSTEM CAPACITY HEAVY RAIN.	LACK OF SYSTEM CAPACITY HEAVY RAIN.	LACK OF SYSTEM CAPACITY HEAVY RAIN.	LACK OF SYSTEM CAPACITY HEAVY RAIN.	LACK OF SYSTEM CAPACITY HEAVY RAIN.	LACK OF SYSTEM CAPACITY HEAVY RAIN.	LACK OF SYSTEM CAPACITY.
RECEIVING	BUECHEL BRANCH	SOUTH FORK BEARGRASS CREEK	PENNSYLVANIA RUN	PENNSYLVANIA RUN	SOUTH FORK BEARGRASS CREEK	MIDDLE FORK BEARGRASS CREEK	MIDDLE FORK BEARGRASS CREEK	MIDDLE FORK BEARGRASS CREEK	MIDDLE FORK BEARGRASS CREEK	MIDDLE FORK BEARGRASS CREEK	FLOYDS FORK
SOURCE ASSET DISCHARGES TO	GROUND	GROUND	GROUND	STREAM	ЫТСН	STREAM	STREAM	рітсн	GROUND	STREAM	рітсн
SOURCE ASSET ID	85076	085100290046A	64054	93705	16649	IS021A-SI	08935-SM	45796	27008	27012	MSD1086-PS
SOURCE ASSET TYPE	Sewer Service Line	Sewer Service Line	Sewer Manhole	Sewer Manhole	Sewer Manhole	Sewer Manhole	Sewer Manhole	Sewer Manhole	Sewer Manhole	Sewer Manhole	Sewer Lift Station
VOLUME (GAL)	4,375	21,500	950	950	100,000	2,400,000	2,300,000	352,000	16,500	110,000	8,925
STOP DATE & TIME	1/4/2023 8:16	1/4/2023 8:18	1/25/2023 10:58	1/25/2023 10:58	2/17/2023 19:45	2/17/2023 23:00	2/17/2023 20:23	2/17/2023 7:55	2/17/2023 7:50	2/17/2023 7:50	2/16/2023 20:00
START DATE & TIME	1/3/2023 17:40	1/3/2023 17:55	1/25/2023 10:20	1/25/2023 10:20	2/16/2023 7:00	2/16/2023 8:15	2/16/2023 9:30	2/16/2023 9:45	2/16/2023 9:45	2/16/2023 9:45	2/16/2023 10:05
OVERFLOW	4319 PRUITT CT	4332 PRUITT CT	7014 JOHN PAUL LN	8800 AD- MIRAL DR	1726 FRA- SER DR	1201 OLD CANNONS LN	1001 BRECKEN- RIDGE LN	1011 ALTA CIR	1044 ALTA VISTA RD	2408 GRAY FOX RD	7260 FLOYDS- BURG RD
WQTC KPDES#	KY0022411	KY0022411	KY0078956	KY0078956	KY0022411	KY0022411	KY0022411	KY0022411	KY0022411	KY0022411	KY0022420
WQTC	MORRIS FORMAN	MORRIS FORMAN	DEREK R. GUTHRIE	DEREK R. GUTHRIE	MORRIS FORMAN	MORRIS FORMAN	MORRIS FORMAN	MORRIS FORMAN	MORRIS FORMAN	MORRIS FORMAN	HITE



									Sare, clean waterways				
REPAIR EFFORTS	LOCATION INCLUDED IN IOAP.	SITE FOUND DURING RAIN EVENT RE- CON - WILL BE MONITORED AND EVAL- UATED FOR REPAIR.	SITE FOUND DURING RAIN EVENT RE- CON - WILL BE MONITORED AND EVAL- UATED FOR REPAIR.	LOCATION INCLUDED IN IOAP.	LOCATION INCLUDED IN IOAP.	LOCATION INCLUDED IN IOAP.	LOCATION INCLUDED IN IOAP.						
CLEANUP	WO#3612309	WO#3612311.	WO#3612312.	WO#3612314.	WO#3612315.	WO#3612317.	CLEANED AND SANITIZED THE IMPACTED AREA.	CLEANED AND SANITIZED THE IMPACTED AREA.	WO#3612391.	WO#3612392	WO#3612393.	WO#3612395.	
# OM	3611829	3611830	3611831	3611833	3611835	3611836	3611806	3611808	3611823	3611824	3611826	3611828	
DUE TO	LACK OF SYSTEM CAPACITY	LACK OF SYSTEM CAPACITY	LACK OF SYSTEM CAPACITY	LACK OF SYSTEM CAPACITY	LACK OF SYSTEM CAPACITY	LACK OF SYSTEM CAPACITY							
CAUSE	LACK OF SYSTEM CAPACITY HEAVY RAIN.	LACK OF SYSTEM CAPACITY.	LACK OF SYSTEM CAPACITY.	LACK OF SYSTEM CAPACITY HEAVY RAIN.	LACK OF SYSTEM CAPACITY HEAVY RAIN.	LACK OF SYSTEM CAPACITY HEAVY RAIN.	LACK OF SYSTEM CAPACITY HEAVY RAIN.						
RECEIVING STREAM	CHENOWETH	CHENOWETH	CHENOWETH	CHENOWETH	CHENOWETH	CHENOWETH RUN	FISHPOOL CREEK	FISHPOOL CREEK	MIDDLE FORK BEARGRASS CREEK	MIDDLE FORK BEARGRASS CREEK	MIDDLE FORK BEARGRASS CREEK	MIDDLE FORK BEARGRASS CREEK	
SOURCE ASSET DISCHARGES TO	ЫТСН	ЫТСН	GROUND	рітсн	GROUND	рітсн	GROUND	ОІТСН	STREAM	STREAM	STREAM	GROUND	
SOURCE ASSET	28453	28452	28451	28249	28340	28336	102339	60679	47583	47582	02933	84155	
SOURCE ASSET TYPE	Sewer Manhole	Sewer Manhole	Sewer Manhole	Sewer Manhole	Sewer Manhole	Sewer Manhole							
VOLUME (GAL)	220,000	27,625	27,500	55,000	110,000	137,500	14,500	14,500	320,000	180,000	100,000	80,000	
STOP DATE & TIME	2/17/2023 5:00	2/17/2023 5:05	2/17/2023 5:10	2/17/2023 5:20	2/17/2023 5:25	2/17/2023 5:30	2/16/2023 21:00	2/16/2023 21:00	2/17/2023 8:20	2/17/2023 8:20	2/17/2023 8:20	2/17/2023 8:35	
START DATE & TIME	2/16/2023 10:40	2/16/2023 10:45	2/16/2023 10:50	2/16/2023 11:00	2/16/2023 11:05	2/16/2023 11:10	2/16/2023 11:39	2/16/2023 11:40	2/16/2023 11:50	2/16/2023 11:50	2/16/2023 12:00	2/16/2023 12:10	
OVERFLOW	3402 CHARLANE PKY	3402 CHARLANE PKY	3406 CHARLANE PKY	3500 ST EDWARDS DR	3620 CHARLANE PKY	3620 CHARLANE PKY	9114 CIN- DERELLA LN	9114 CIN- DERELLA LN	202 OX- MOOR LN	201 BUL- LITT LN	7900 SHEL- BYVILLE RD	7913 SHEL- BYVILLE RD	
WQTC KPDES#	KY0022411	KY0022411	KY0022411	KY0022411	KY0022411	KY0022411	KY0078956	KY0078956	KY0022411	KY0022411	KY0022411	KY0022411	
WQTC	MORRIS FORMAN	MORRIS FORMAN	MORRIS FORMAN	MORRIS FORMAN	MORRIS FORMAN	MORRIS FORMAN	DEREK R. GUTHRIE	DEREK R. GUTHRIE	MORRIS FORMAN	MORRIS FORMAN	MORRIS FORMAN	MORRIS FORMAN	



REPAIR EFFORTS	LOCATION INCLUDED IN IOAP.	LOCATION INCLUDED IN IOAP.	LOCATION INCLUDED IN IOAP.	LOCATION INCLUDED IN IOAP.	LOCATION INCLUDED IN IOAP.	LOCATION INCLUDED IN IOAP.	LOCATION INCLUDED IN IOAP.	LOCATION INCLUDED IN IOAP.	LOCATION INCLUDED IN IOAP.	LOCATION INCLUDED IN IOAP.	LOCATION INCLUDED IN IOAP.	LOCATION INCLUDED IN IOAP.	LOCATION INCLUDED IN IOAP.
CLEANUP	WO#3612318.	WO#3612397.	WO#3612396.	CLEAN UP NOT PERFORMED DUE TO INABIL- ITY TO ACCESS DISCHARGE SITE.	NO CLEAN UP PERFORMED – PIPE DISCHARG. ING UNDERWA- TER, DIRECTLY INTO STREAM.	NO CLEAN UP PERFORMED – PIPE DISCHARG- ING UNDERWA- TER, DIRECTLY INTO STREAM.	WO#3622925.	WO#3622926.	WO#3622927.	WO#3622927.	WO#3622929.	WO#3622930.	WO#3622931.
# OM	3611957	3611990	3611989	3612301	3622420	3622417	3622393	3622394	3622396	3622398	3622400	3622404	3622406
DUE TO	LACK OF SYSTEM CAPACITY	LACK OF SYSTEM CAPACITY	LACK OF SYSTEM CAPACITY	LACK OF SYSTEM CAPACITY	LACK OF SYSTEM CAPACITY	LACK OF SYSTEM CAPACITY	LACK OF SYSTEM CAPACITY	LACK OF SYSTEM CAPACITY	LACK OF SYSTEM CAPACITY	LACK OF SYSTEM CAPACITY	LACK OF SYSTEM CAPACITY	LACK OF SYSTEM CAPACITY	LACK OF SYSTEM CAPACITY
CAUSE	LACK OF SYSTEM CAPACITY HEAVY RAIN.	LACK OF SYSTEM CAPACITY HEAVY RAIN.	LACK OF SYSTEM CAPACITY HEAVY RAIN.	LACK OF SYSTEM CAPACITY HEAVY RAIN.	LACK OF SYSTEM CAPACITY HEAVY RAIN.	LACK OF SYSTEM CAPACITY HEAVY RAIN.	LACK OF SYSTEM CAPACITY HEAVY RAIN.	LACK OF SYSTEM CAPACITY HEAVY RAIN.	LACK OF SYSTEM CAPACITY HEAVY RAIN.	LACK OF SYSTEM CAPACITY HEAVY RAIN.	LACK OF SYSTEM CAPACITY HEAVY RAIN.	LACK OF SYSTEM CAPACITY HEAVY RAIN.	LACK OF SYSTEM CAPACITY HEAVY RAIN.
RECEIVING	CHENOWETH RUN	MIDDLE FORK BEARGRASS CREEK	MIDDLE FORK BEARGRASS CREEK	MUDDY FORK BEARGRASS CREEK	MIDDLE FORK BEARGRASS CREEK	SOUTH FORK BEARGRASS CREEK	CHENOWETH	CHENOWETH RUN	CHENOWETH RUN	CHENOWETH RUN	CHENOWETH RUN	CHENOWETH	CHENOWETH
SOURCE ASSET DISCHARGES TO	рітсн	GROUND	CATCH BASIN	STREAM	STREAM	рітсн	рітсн	рітсн	GROUND	рітсн	рітсн	GROUND	рітсн
SOURCE ASSET ID	28250	47593	90700	65623	IS021A-SI	16649	28453	28452	28451	28250	28249	28340	28336
SOURCE ASSET TYPE	Sewer Manhole	Sewer Manhole	Sewer Manhole	Sewer Manhole	Sewer Manhole	Sewer Manhole	Sewer Manhole	Sewer Manhole	Sewer Manhole	Sewer Manhole	Sewer Manhole	Sewer Manhole	Sewer Manhole
VOLUME (GAL)	20,875	30,000	22,500	270,000	3,400,000	200,000	307,000	38,375	38,375	38,375	76,750	229,500	76,500
STOP DATE & TIME	2/17/2023 5:15	2/17/2023 8:30	2/17/2023 8:25	2/17/2023 9:00	3/5/2023 5:15	3/5/2023 3:00	3/4/2023 9:54	3/4/2023 9:55	3/4/2023 9:56	3/4/2023 9:57	3/4/2023 9:58	3/23/2023 9:59	3/4/2023 10:00
START DATE & TIME	2/16/2023 15:20	2/16/2023 17:05	2/16/2023 17:05	2/17/2023 6:05	3/3/2023 5:30	3/3/2023 5:30	3/3/2023 8:20	3/3/2023 8:22	3/3/2023 8:23	3/3/2023 8:25	3/3/2023 8:27	3/3/2023 8:29	3/3/2023 8:32
OVERFLOW	3506 CHARLANE PKY	8021 CHRISTIAN CT	8021 CHRISTIAN CT	1804 ROUND RIDGE RD	1201 OLD CANNONS LN	1726 FRA- SER DR	3402 CHARLANE PKY	3402 CHARLANE PKY	3406 CHARLANE PKY	3506 CHARLANE PKY	3500 ST EDWARDS DR	3620 CHARLANE PKY	3620 CHARLANE PKY
WQTC KPDES#	KY0022411	KY0022411	KY0022411	KY0022411	KY0022411	KY0022411	KY0022411	KY0022411	KY0022411	KY0022411	KY0022411	KY0022411	KY0022411
WQTC	MORRIS FORMAN	MORRIS FORMAN	MORRIS FORMAN	MORRIS FORMAN	MORRIS FORMAN	MORRIS FORMAN	MORRIS FORMAN	MORRIS FORMAN	MORRIS FORMAN	MORRIS FORMAN	MORRIS FORMAN	MORRIS FORMAN	MORRIS FORMAN



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REPAIR EFFORTS	LOCATION INCLUDED IN IOAP.	LOCATION INCLUDED IN IOAP.	LOCATION INCLUDED IN IOAP.	LOCATION INCLUDED IN IOAP.	LOCATION INCLUDED IN IOAP.	LOCATION INCLUDED IN IOAP.	SITE FOUND DURING RAIN EVENT RE- CON - WILL BE MONITORED AND EVAL- UATED FOR REPAIR.	LOCATION INCLUDED IN IOAP.				
CLEANUP	NO CLEAN UP PERFORMED – PIPE DISCHARG- ING UNDERWA- TER, DIRECTLY INTO STREAM.	WO#3622916.	WO#3622913.	WO#3622918.	WO#3622917.	WO#3622919.	CLEANUP NOT POSSIBLE DUE TO MAGNITUDE OF STORM.	WO#3622919.	WO#3622920.	WO#3622921.	WO#3622922.	WO#3622948.
# OM	3622464	3622521	3622525	3622523	3622522	3622526	3622425	3622527	3622528	3622529	3622530	3622569
DUE TO	LACK OF SYSTEM CAPACITY	LACK OF SYSTEM CAPACITY	LACK OF SYSTEM CAPACITY	LACK OF SYSTEM CAPACITY	LACK OF SYSTEM CAPACITY	LACK OF SYSTEM CAPACITY	LACK OF SYSTEM CAPACITY	LACK OF SYSTEM CAPACITY	LACK OF SYSTEM CAPACITY	LACK OF SYSTEM CAPACITY	LACK OF SYSTEM CAPACITY	LACK OF SYSTEM CAPACITY
CAUSE	LACK OF SYSTEM CAPACITY HEAVY RAIN.	LACK OF SYSTEM CAPACITY HEAVY RAIN.	LACK OF SYSTEM CAPACITY HEAVY RAIN.	LACK OF SYSTEM CAPACITY HEAVY RAIN.	LACK OF SYSTEM CAPACITY HEAVY RAIN.	LACK OF SYSTEM CAPACITY HEAVY RAIN.	LACK OF SYSTEM CAPACITY.	LACK OF SYSTEM CAPACITY HEAVY RAIN.				
RECEIVING	MIDDLE FORK BEARGRASS CREEK	SOUTH FORK BEARGRASS CREEK	BUECHEL BRANCH	SOUTH FORK BEARGRASS CREEK	BUECHEL BRANCH	SOUTH FORK BEARGRASS CREEK	MILL CREEK	SOUTH FORK BEARGRASS CREEK	SOUTH FORK BEARGRASS CREEK	BROOKLAWN TRIBUTARY	SOUTH FORK BEARGRASS CREEK	MIDDLE FORK BEARGRASS CREEK
SOURCE ASSET DISCHARGES TO	STREAM	GROUND	GROUND	GROUND	GROUND	GROUND	CATCH BASIN	STREAM	GROUND	GROUND	GROUND	STREAM
SOURCE ASSET ID	08935-SM	08427	85076	08430	08429	085100290046A	90380	23211	23212	51180	51160	47583
SOURCE ASSET TYPE	Sewer Manhole	Sewer Manhole	Sewer Service Line	Sewer Manhole	Sewer Manhole	Sewer Service Line	Sewer Manhole	Sewer Manhole	Sewer Manhole	Sewer Manhole	Sewer Manhole	Sewer Manhole
VOLUME (GAL)	5,400,000	13,140	19,725	32,800	19,680	19,650	49,500	33,750	20,750	4,150	10,500	000'099
STOP DATE & TIME	3/4/2023 18:30	3/4/2023 7:29	3/4/2023 7:30	3/4/2023 7:30	3/4/2023 7:30	3/4/2023 7:30	3/4/2023 7:00	3/3/2023 17:50	3/3/2023 10:23	3/3/2023 17:20	3/3/2023 17:30	3/4/2023 9:30
START DATE & TIME	3/3/2023 9:00	3/3/2023 9:35	3/3/2023 9:35	3/3/2023 9:38	3/3/2023 9:38	3/3/2023 9:40	3/3/2023 10:00	3/3/2023 10:20	3/3/2023 10:20	3/3/2023 10:25	3/3/2023 10:30	3/3/2023 11:30
OVERFLOW	1001 BRECKEN- RIDGE LN	4313 PRUITT CT	4319 PRUITT CT	4341 PRUITT CT	4335 PRUITT CT	4332 PRUITT CT	4739 DIXIE HWY	3302 TROUT CREEK DR	2001 TER- RIL LN	2011 TER- RIL LN	3305 INDI- AN CREEK CT	202 OX- MOOR LN
WQTC KPDES#	KY0022411	KY0022411	KY0022411	KY0022411	KY0022411	KY0022411	KY0078956	KY0022411	KY0022411	KY0022411	KY0022411	KY0022411
WQTC	MORRIS FORMAN	MORRIS FORMAN	MORRIS FORMAN	MORRIS FORMAN	MORRIS FORMAN	MORRIS FORMAN	DEREK R. GUTHRIE	MORRIS FORMAN	MORRIS FORMAN	MORRIS FORMAN	MORRIS FORMAN	MORRIS FORMAN



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REPAIR EFFORTS	LOCATION INCLUDED IN IOAP.	LOCATION INCLUDED IN IOAP.	LOCATION INCLUDED IN IOAP.	LOCATION INCLUDED IN IOAP.	SITE FOUND DURING RAIN EVENT RE- CON - WILL BE MONITORED AND EVAL- UATED FOR REPAIR.	SITE FOUND DURING RAIN EVENT RE- CON - WILL BE MONITORED AND EVAL- UATED FOR REPAIR.	LOCATION INCLUDED IN IOAP.	LG&E RESTORED POWER.	POWER RESTORED, TRYING TO PUMP DOWN TO SAFE LEVEL.	LOCATION INCLUDED IN IOAP.	LOCATION INCLUDED IN IOAP.
CLEANUP	WO#3622944.	WO#3622943.	WO#3622945.	WO#3622946.	CLEANUP NOT POSSIBLE DUE TO MAGNITUDE OF STORM.	CLEANUP NOT POSSIBLE DUE TO MAGNITUDE OF STORM.	WO#3622949.	CLEANUP NOT POSSIBLE DUE TO MAGNITUDE OF STORM.	MAGNITUDE OF STORM RESULT. ED IN NO DEBRIS REMAINING.	WO#36223023.	WO#3622947.
# OM	3622567	3622565	3622555	3622552	3622596	3622582	3622659	3622710	3622642	3623024	3622711
DUE TO	LACK OF SYSTEM CAPACITY	LACK OF SYSTEM CAPACITY	LACK OF SYSTEM CAPACITY	POWER OUTAGE (LG&E)	PUMPED OVER- FLOW	LACK OF SYSTEM CAPACITY	LACK OF SYSTEM CAPACITY				
CAUSE	LACK OF SYSTEM CAPACITY HEAVY RAIN.	LACK OF SYSTEM CAPACITY HEAVY RAIN.	LACK OF SYSTEM CAPACITY HEAVY RAIN.	LACK OF SYSTEM CAPACITY HEAVY RAIN.	LACK OF SYSTEM CAPACITY.	LACK OF SYSTEM CAPACITY.	LACK OF SYSTEM CAPACITY HEAVY RAIN.	POWER FAILURE.	PUMPS SET TO ALEVIATE PROPERTY DAMAGE AND FLOODING PURING A SIGNIFI- CANT RAIN EVENT.	LACK OF SYSTEM CAPACITY HEAVY RAIN.	LACK OF SYSTEM CAPACITY HEAVY RAIN.
RECEIVING	MIDDLE FORK BEARGRASS CREEK	MIDDLE FORK BEARGRASS CREEK	MIDDLE FORK BEARGRASS CREEK	MIDDLE FORK BEARGRASS CREEK	FISHPOOL CREEK	FLOYDS FORK	GOOSE CREEK	NORTHERN DITCH	NORTHERN DITCH	MIDDLE FORK BEARGRASS CREEK	MIDDLE FORK BEARGRASS CREEK
SOURCE ASSET DISCHARGES TO	STREAM	STREAM	CATCH BASIN	GROUND	ЫТСН	ОІТСН	GROUND	GROUND	STREAM	STREAM	GROUND
SOURCE ASSET ID	47582	02935	90700	84155	MSD1013-PS	MSD1086-PS	105936	98066	84926	02933	47593
SOURCE ASSET TYPE	Sewer Manhole	Sewer Manhole	Sewer Manhole	Sewer Manhole	Sewer Lift Station	Sewer Lift Station	Sewer Manhole	Sewer Manhole	Sewer	Sewer Manhole	Sewer Manhole
VOLUME (GAL)	330,000	132,000	32,000	259,000	81,000	32,960	206,000	3,000	222,000	185,000	461,500
STOP DATE & TIME	3/4/2023 9:30	3/4/2023 9:30	3/4/2023 9:45	3/4/2023 10:00	3/4/2023	3/4/2023 18:00	3/4/2023 10:25	3/3/2023 17:00	3/3/2023 21:10	3/4/2023 9:35	3/4/2023 9:45
START DATE & TIME	3/3/2023 11:30	3/3/2023 11:30	3/3/2023 12:25	3/3/2023 12:30	3/3/2023 14:00	3/3/2023 14:22	3/3/2023 16:30	3/3/2023 16:40	3/3/2023 16:50	3/3/2023 18:10	3/3/2023 18:22
OVERFLOW	201 BUL- LITT LN	7900 SHEL- BYVILLE RD	8021 CHRISTIAN CT	7913 SHEL- BYVILLE RD	9114 CIN- DERELLA LN	7260 FLOYDS- BURG RD	7713 WESTPORT RD	5009 LEA ANN WAY	5007 LEA ANN WAY	7900 SHEL- BYVILLE RD	8021 CHRISTIAN CT
WQTC KPDES#	KY0022411	KY0022411	KY0022411	KY0022411	KY0078956	KY0022420	KY0022411	KY0078956	KY0078956	KY0022411	KY0022411
WQTC	MORRIS FORMAN	MORRIS FORMAN	MORRIS FORMAN	MORRIS FORMAN	DEREK R. GUTHRIE	HITE	MORRIS FORMAN	DEREK R. GUTHRIE	DEREK R. GUTHRIE	MORRIS FORMAN	MORRIS FORMAN



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REPAIR EFFORTS	SITE FOUND DURING RAIN EVENT RE- CON - WILL BE MONITORED AND EVAL- UATED FOR REPAIR.	GENERATOR UTILIZED UNTIL POWER RESTORED.	REPAIRED THE OVERLOADS.	PORTABLE GENERATOR UTILIZED UNTIL POWER RESTORED.	GENERATOR UTILIZED UNTIL POWER RESTORED.	GENERATOR UTILIZED UNTIL POWER RESTORED.	ACTIVELY WORKING TO REPAIR GENERATOR.	GENERATOR UTILIZED UNTIL POWER RESTORED.	LOCATED INCLUDED IN IOAP.	LOCATION INCLUDED IN IOAP.	LOCATION INCLUDED IN IOAP.	LOCATION INCLUDED IN IOAP.	LOCATION INCLUDED IN IOAP.
CLEANUP	NONE POSSI- BLE DUE TO MAGNITUDE OF STORM.	CLEANUP NOT POSSIBLE DUE TO MAGNITUDE OF STORM.	CLEANUP NOT POSSIBLE DUE TO MAGNITUDE OF STORM.	CLEANED AND SANITIZED THE IMPACTED AREA.	AREA DISIN- FECTED WITH LIME.	CLEANUP NOT POSSIBLE DUE TO MAGNITUDE OF STORM.	AREA DISIN- FECTED WITH LIME.	AREA DISIN- FECTED WITH LIME.	DISCLN WO #3623086.	WO#3632692.	WO#3632693.	WO#3632694.	WO#3632695.
# OM	3622747	3622751	3622783	3622892	3622962	3622956	3622932	3622958	3623085	3632416	3632417	3632418	3632419
DUE TO	LACK OF SYSTEM CAPACITY	POWER OUTAGE (LG&E)	ELEC- TRICAL PROB- LEMS AT MSD	MECHAN- ICAL FAILURE	POWER OUTAGE (LG&E)	POWER OUTAGE (LG&E)	MECHAN- ICAL FAILURE	POWER OUTAGE (LG&E)	LACK OF SYSTEM CAPACITY	LACK OF SYSTEM CAPACITY	LACK OF SYSTEM CAPACITY	LACK OF SYSTEM CAPACITY	LACK OF SYSTEM CAPACITY
CAUSE	LACK OF SYSTEM CAPACITY - HEAVY RAIN.	POWER OUTAGE (LG&E).	ELEC- TRICAL PROBLEM WITH MSD EQUIPMENT.	MECHAN- ICAL FAILURE (GEN- ERATOR FAILED).	POWER OUTAGE (LG&E).	POWER OUTAGE (LG&E).	MECHAN- ICAL FAILURE OF GENERA- TOR.	POWER OUTAGE (LG&E).	LACK OF SYSTEM CAPACITY AND HEAVY RAIN.	LACK OF SYSTEM CAPACITY HEAVY RAIN.	LACK OF SYSTEM CAPACITY HEAVY RAIN.	LACK OF SYSTEM CAPACITY HEAVY RAIN.	LACK OF SYSTEM CAPACITY HEAVY RAIN.
RECEIVING STREAM	LITTLE GOOSE CREEK	FERN CREEK	WOLF PEN BRANCH	GOOSE CREEK	FERN CREEK	LITTLE GOOSE CREEK	FLOYDS FORK	FERN CREEK	PENNSYLVANIA RUN	CHENOWETH RUN	CHENOWETH RUN	CHENOWETH RUN	CHENOWETH RUN
SOURCE ASSET DISCHARGES TO	STREAM	STREAM	GROUND	GROUND	рітсн	STREAM	GROUND	GROUND	STREAM	рітсн	рітсн	GROUND	рітсн
SOURCE ASSET ID	MSD0134-PS	MSD1203-PS	MSD1152-PS	43206A	MSD1200-PS	MSD0125-PS	MSD1018-PS	61324	93705	28453	28452	28451	28250
SOURCE ASSET TYPE	Sewer Lift Station	Sewer Lift Station	Sewer Lift Station	Sewer Manhole	Sewer Lift Station	Sewer Lift Station	Sewer Lift Station	Sewer Manhole	Sewer Manhole	Sewer Manhole	Sewer Manhole	Sewer Manhole	Sewer Manhole
VOLUME (GAL)	375	26,400	300	3,750	1,000	300	6,000	2,250	200	68,325	68,325	65,750	65,750
STOP DATE & TIME	3/3/2023 21:45	3/4/2023 19:00	3/4/2023 10:15	3/4/2023 21:38	3/5/2023 5:35	3/5/2023 13:00	3/5/2023 12:10	3/5/2023 16:15	3/6/2023 10:04	3/26/2023 6:25	3/26/2023 6:28	3/26/2023 6:33	3/26/2023 6:37
START DATE & TIME	3/3/2023 21:30	3/3/2023 22:00	3/4/2023 9:45	3/4/2023 19:08	3/5/2023 3:55	3/5/2023 10:30	3/5/2023 11:30	3/5/2023 15:30	3/6/2023 10:03	3/24/2023 8:52	3/24/2023 8:54	3/24/2023 10:43	3/24/2023 10:48
OVERFLOW	2835 AVENUE OF THE WOODS	4005 KIR- BY LN	7812 FARM SPRING DR	2835 AVENUE OF THE WOODS	9201 S PIROGUE CT	3602 TRAIL RIDGE RD	3700 CYPRESS SPRINGS PL	3701 MODESTO RD	8800 AD- MIRAL DR	3402 CHARLANE PKY	3402 CHARLANE PKY	3406 CHARLANE PKY	3506 CHARLANE PKY
WQTC KPDES#	KY0022411	KY0078956	KY0022411	KY0022411	KY0078956	KY0022411	KY0022420	KY0078956	KY0078956	KY0022411	KY0022411	KY0022411	KY0022411
WQTC	MORRIS FORMAN	DEREK R. GUTHRIE	MORRIS FORMAN	MORRIS FORMAN	DEREK R. GUTHRIE	MORRIS FORMAN	HITE	DEREK R. GUTHRIE	DEREK R. GUTHRIE	MORRIS FORMAN	MORRIS FORMAN	MORRIS FORMAN	MORRIS FORMAN



REPAIR EFFORTS	LOCATION INCLUDED IN IOAP.	LOCATION INCLUDED IN IOAP.	LOCATION INCLUDED IN IOAP.	LOCATION INCLUDED IN IOAP.	LOCATION INCLUDED IN IOAP.	LOCATION INCLUDED IN IOAP.	LOCATION INCLUDED IN IOAP.	SITE FOUND DURING RAIN EVENT RE- CON - WILL BE MONI CORED AND EVAL- UATED FOR REPAIR.	SITE FOUND DURING RAIN EVENT RE- CON - WILL BE MONITORED AND EVAL- UATED FOR REPAIR.	LOCATION INCLUDED IN IOAP.	LOCATION INCLUDED IN IOAP.	LOCATION INCLUDED IN IOAP.
CLEANUP	NO CLEAN UP PERFORMED – PIPE DISCHARG- ING UNDERWA- TER, DIRECTLY INTO STREAM.	NO CLEAN UP PERFORMED – PIPE DISCHARG- ING UNDERWA- TER, DIRECTLY INTO STREAM.	WO#3632696.	WO#3632697.	WO#3632698.	WO#3632718.	NO CLEAN UP PERFORMED – PIPE DISCHARG- ING UNDERWA- TER, DIRECTLY INTO STREAM.	CLEANUP NOT POSSIBLE DUE TO MAGNITUDE OF STORM.	CLEANUP NOT POSSIBLE DUE TO MAGNITUDE OF STORM.	WO#3632663.	WO#3632664.	WO#3632667.
# OM	3632438	3632437	3632495	3632497	3632499	3632494	3632619	3632572	3632575	3632593	3632594	3632592
DUE TO	LACK OF SYSTEM CAPACITY	LACK OF SYSTEM CAPACITY	LACK OF SYSTEM CAPACITY	LACK OF SYSTEM CAPACITY	LACK OF SYSTEM CAPACITY	LACK OF SYSTEM CAPACITY	LACK OF SYSTEM CAPACITY	LACK OF SYSTEM CAPACITY	LACK OF SYSTEM CAPACITY	LACK OF SYSTEM CAPACITY	LACK OF SYSTEM CAPACITY	LACK OF SYSTEM CAPACITY
CAUSE	LACK OF SYSTEM CAPACITY HEAVY RAIN.	LACK OF SYSTEM CAPACITY HEAVY RAIN.	LACK OF SYSTEM CAPACITY HEAVY RAIN.	LACK OF SYSTEM CAPACITY HEAVY RAIN.	LACK OF SYSTEM CAPACITY HEAVY RAIN.	LACK OF SYSTEM CAPACITY HEAVY RAIN.	LACK OF SYSTEM CAPACITY HEAVY RAIN.	LACK OF SYSTEM CAPACITY.	LACK OF SYSTEM CAPACITY.	LACK OF SYSTEM CAPACITY HEAVY RAIN.	LACK OF SYSTEM CAPACITY HEAVY RAIN.	LACK OF SYSTEM CAPACITY HEAVY RAIN.
RECEIVING	SOUTH FORK BEARGRASS CREEK	MIDDLE FORK BEARGRASS CREEK	CHENOWETH RUN	CHENOWETH	CHENOWETH	MIDDLE FORK BEARGRASS CREEK	MIDDLE FORK BEARGRASS CREEK	CEDAR CREEK	FLOYDS FORK	BUECHEL BRANCH	BUECHEL BRANCH	SOUTH FORK BEARGRASS CREEK
SOURCE ASSET DISCHARGES TO	рітсн	STREAM	рітсн	GROUND	рітсн	рітсн	STREAM	ЫТСН	STREAM	GROUND	GROUND	GROUND
SOURCE ASSET ID	16649	IS021A-SI	28249	28340	28336	45796	08935-SM	93704	108956	85075	85076	08427
SOURCE ASSET TYPE	Sewer Manhole	Sewer Manhole	Sewer Manhole	Sewer Manhole	Sewer Manhole	Sewer Manhole	Sewer Manhole	Sewer Manhole	Sewer Manhole	Sewer Service Line	Sewer Service Line	Sewer Manhole
VOLUME (GAL)	100,000	4,200,000	63,300	63,500	63,500	804,000	3,500,000	75,000	15,000	8,400	1,400	14,000
STOP DATE & TIME	3/26/2023 16:00	3/26/2023 20:15	3/26/2023 6:39	3/26/2023 6:52	3/26/2023 6:58	3/26/2023 9:30	3/26/2023 1:30	3/25/2023 7:15	3/25/2023 12:25	3/25/2023 13:15	3/25/2023 13:15	3/25/2023 13:15
START DATE & TIME	3/24/2023 11:40	3/24/2023 11:42	3/24/2023 12:27	3/24/2023 12:32	3/24/2023 12:38	3/24/2023 12:50	3/25/2023 1:15	3/25/2023 2:15	3/25/2023 2:25	3/25/2023 3:55	3/25/2023 3:55	3/25/2023 3:55
OVERFLOW	1726 FRA- SER DR	1201 OLD CANNONS LN	3500 ST EDWARDS DR	3620 CHARLANE PKY	3620 CHARLANE PKY	1011 ALTA CIR	1001 BRECKEN- RIDGE LN	8800 AD- MIRAL DR	7302 FLOYDS- BURG RD	4317 PRUITT CT	4319 PRUITT CT	4313 PRUITT CT
WQTC KPDES#	KY0022411	KY0022411	KY0022411	KY0022411	KY0022411	KY0022411	KY0022411	KY0078956	KY0022420	KY0022411	KY0022411	KY0022411
WQTC	MORRIS FORMAN	MORRIS FORMAN	MORRIS FORMAN	MORRIS FORMAN	MORRIS FORMAN	MORRIS FORMAN	MORRIS FORMAN	DEREK R. GUTHRIE	HITE CREEK	MORRIS FORMAN	MORRIS FORMAN	MORRIS FORMAN



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REPAIR EFFORTS	LOCATION INCLUDED IN IOAP.	LOCATION INCLUDED IN IOAP.	LOCATION INCLUDED IN IOAP.	LOCATION INCLUDED IN IOAP.	LOCATION INCLUDED IN IOAP.	LOCATION INCLUDED IN IOAP.	LOCATION INCLUDED IN IOAP.	LOCATION INCLUDED IN IOAP.	LOCATION INCLUDED IN IOAP.				
CLEANUP	WO#3632668.	WO#3632669.	WO#3632665.	WO#3632666.	MSD PERSON- NEL CLEANED AND SANITIZED THE IMPACTED AREA; WORK ORDER 3632670.	WO#3632671.	WO#3632672.	WO#3632782.	WO#3632714.	WO#3632715.	WO#3632713.	WO#3632712.	WO#3632717.
# OM	3632596	3632597	3632595	3632660	3632599	3632600	3632601	3632607	3632608	3632609	3632606	3632605	3632603
DUE TO	LACK OF SYSTEM CAPACITY	LACK OF SYSTEM CAPACITY	LACK OF SYSTEM CAPACITY	LACK OF SYSTEM CAPACITY	LACK OF SYSTEM CAPACITY	LACK OF SYSTEM CAPACITY	LACK OF SYSTEM CAPACITY	LACK OF SYSTEM CAPACITY	LACK OF SYSTEM CAPACITY				
CAUSE	LACK OF SYSTEM CAPACITY HEAVY RAIN.	LACK OF SYSTEM CAPACITY HEAVY RAIN.	LACK OF SYSTEM CAPACITY HEAVY RAIN.	LACK OF SYSTEM CAPACITY HEAVY RAIN.	LACK OF SYSTEM CAPACITY - HEAVY RAIN.	LACK OF SYSTEM CAPACITY HEAVY RAIN.							
RECEIVING STREAM	BUECHEL BRANCH	SOUTH FORK BEARGRASS CREEK	SOUTH FORK BEARGRASS CREEK	SOUTH FORK BEARGRASS CREEK	SOUTH FORK BEARGRASS CREEK	BROOKLAWN TRIBUTARY	SOUTH FORK BEARGRASS CREEK	MIDDLE FORK BEARGRASS CREEK	MIDDLE FORK BEARGRASS CREEK	MIDDLE FORK BEARGRASS CREEK	MIDDLE FORK BEARGRASS CREEK	MIDDLE FORK BEARGRASS CREEK	MIDDLE FORK BEARGRASS CREEK
SOURCE ASSET DISCHARGES TO	GROUND	GROUND	GROUND	GROUND	STREAM	GROUND	GROUND	STREAM	STREAM	STREAM	STREAM	STREAM	CATCH BASIN
SOURCE ASSET	08429	08430	085100290046A	085100050045A	23211	51180	51160	40559	47582	47583	02935	02933	90700
SOURCE ASSET TYPE	Sewer Manhole	Sewer Manhole	Sewer Service Line	Sewer Service Line	Sewer Manhole	Sewer Manhole	Sewer Manhole	Sewer Manhole	Sewer Manhole	Sewer Manhole	Sewer Manhole	Sewer Manhole	Sewer Manhole
VOLUME (GAL)	28,000	42,000	28,000	8,400	11,250	3,375	5,625	33,600	43,500	52,200	23,200	43,500	28,000
STOP DATE & TIME	3/25/2023 13:17	3/25/2023 13:17	3/25/2023 13:18	3/25/2023 13:18	3/25/2023 9:00	3/25/2023 9:02	3/25/2023 9:05	3/26/2023 9:50	3/26/2023 11:45	3/26/2023 11:45	3/26/2023 11:45	3/26/2023 11:40	3/26/2023 11:50
START DATE & TIME	3/25/2023 3:58	3/25/2023 3:58	3/25/2023 4:00	3/25/2023 4:05	3/25/2023 5:15	3/25/2023 5:18	3/25/2023 5:25	3/25/2023 6:00	3/25/2023 6:30	3/25/2023 6:35	3/25/2023 6:40	3/25/2023 6:50	3/25/2023 6:52
OVERFLOW	4335 PRUITT CT	4341 PRUITT CT	4332 PRUITT CT	4344 PRUITT CT	3302 TROUT CREEK DR	2011 TER- RIL LN	3305 INDI- AN CREEK CT	1012 ALTA CIR	201 BUL- LITT LN	202 OX- MOOR LN	7900 SHEL- BYVILLE RD	7900 SHEL- BYVILLE RD	8021 CHRISTIAN CT
WQTC KPDES#	KY0022411	KY0022411	KY0022411	KY0022411	KY0022411	KY0022411	KY0022411	KY0022411	KY0022411	KY0022411	KY0022411	KY0022411	KY0022411
WQTC	MORRIS FORMAN	MORRIS FORMAN	MORRIS FORMAN	MORRIS FORMAN	MORRIS FORMAN	MORRIS FORMAN	MORRIS FORMAN	MORRIS FORMAN	MORRIS FORMAN	MORRIS FORMAN	MORRIS FORMAN	MORRIS FORMAN	MORRIS FORMAN



REPAIR EFFORTS	LOCATION INCLUDED IN IOAP.	LOCATION INCLUDED IN IOAP.	LOCATION INCLUDED IN IOAP.	LOCATION INCLUDED IN IOAP.	LOCATION INCLUDED IN IOAP.	LOCATION INCLUDED IN IOAP.	LOCATION INCLUDED IN IOAP.	LOCATION INCLUDED IN IOAP.	LOCATION INCLUDED IN IOAP.	LOCATION INCLUDED IN IOAP.	LOCATION INCLUDED IN IOAP.	LOCATION INCLUDED IN IOAP.	PLACED TEMPO- RARY SIGNS AROUND THE IMPACTED AREA.
CLEANUP	WO#3632721.	WO#3632716.	WO#3632704	NO CLEAN UP PERFORMED – PIPE DISCHARG- ING UNDERWA- TER, DIRECTLY INTO STREAM.	NO CLEAN UP PERFORMED – PIPE DISCHARG- ING UNDERWA- TER, DIRECTLY INTO STREAM.	NO CLEAN UP PERFORMED – PIPE DISCHARG- ING UNDERWA- TER, DIRECTLY INTO STREAM.	WO#3633952.	WO#3633953.	MAGNITUDE OF STORM RESULT- ED IN NO DEBRIS REMAINING.	WO#3633954.	WO#3633956.	WO#3633955.	CLEANUP NOT POSSIBLE DUE TO ELEVATED CREEK LEVEL.
# OM	3632610	3632602	3632604	3633848	3633849	3633850	3633851	3633852	3633853	3633854	3633856	3633855	3665889
DUE TO	LACK OF SYSTEM CAPACITY	LACK OF SYSTEM CAPACITY	LACK OF SYSTEM CAPACITY	LACK OF SYSTEM CAPACITY	LACK OF SYSTEM CAPACITY	LACK OF SYSTEM CAPACITY	LACK OF SYSTEM CAPACITY	LACK OF SYSTEM CAPACITY	LACK OF SYSTEM CAPACITY	LACK OF SYSTEM CAPACITY	LACK OF SYSTEM CAPACITY	LACK OF SYSTEM CAPACITY	LACK OF SYSTEM CAPACITY
CAUSE	LACK OF SYSTEM CAPACITY HEAVY RAIN.	LACK OF SYSTEM CAPACITY HEAVY RAIN.	LACK OF SYSTEM CAPACITY HEAVY RAIN.	LACK OF SYSTEM CAPACITY HEAVY RAIN.	LACK OF SYSTEM CAPACITY HEAVY RAIN.	LACK OF SYSTEM CAPACITY HEAVY RAIN.	LACK OF SYSTEM CAPACITY HEAVY RAIN.	LACK OF SYSTEM CAPACITY HEAVY RAIN.	LACK OF SYSTEM CAPACITY HEAVY RAIN.	LACK OF SYSTEM CAPACITY HEAVY RAIN.	LACK OF SYSTEM CAPACITY HEAVY RAIN.	LACK OF SYSTEM CAPACITY HEAVY RAIN.	LACK OF SYSTEM CAPACITY.
RECEIVING	MIDDLE FORK BEARGRASS CREEK	MIDDLE FORK BEARGRASS CREEK	MUDDY FORK BEARGRASS CREEK	SOUTH FORK BEARGRASS CREEK	MIDDLE FORK BEARGRASS CREEK	MIDDLE FORK BEARGRASS CREEK	MIDDLE FORK BEARGRASS CREEK	MIDDLE FORK BEARGRASS CREEK	MIDDLE FORK BEARGRASS CREEK	MIDDLE FORK BEARGRASS CREEK	MIDDLE FORK BEARGRASS CREEK	MIDDLE FORK BEARGRASS CREEK	PENNSYLVANIA RUN
SOURCE ASSET DISCHARGES TO	GROUND	GROUND	STREAM	ртсн	STREAM	STREAM	STREAM	GROUND	БІТСН	STREAM	STREAM	STREAM	STREAM
SOURCE ASSET ID	47593	84155	46623	16649	IS021A-SI	08935-SM	27012	27008	45796	40559	47582	47583	MSD1051-PS
SOURCE ASSET TYPE	Sewer Manhole	Sewer Manhole	Sewer Manhole	Sewer Manhole	Sewer Manhole	Sewer Manhole	Sewer Manhole	Sewer Manhole	Sewer Manhole	Sewer Manhole	Sewer Manhole	Sewer Manhole	Sewer Lift Station
VOLUME (GAL)	33,600	33,600	1,530	19,000	1,400,000	400,000	105,000	26,000	000'96	72,000	72,000	160,000	36,000
STOP DATE & TIME	3/26/2023 12:05	3/26/2023 12:00	3/26/2023 12:35	4/1/2023 19:30	4/2/2023 0:45	4/1/2023 15:45	4/1/2023 18:00	4/1/2023 11:30	4/1/2023 11:35	4/1/2023 11:45	4/1/2023 12:00	4/1/2023 12:15	6/20/2023
START DATE & TIME	3/25/2023 7:00	3/25/2023 7:18	3/25/2023 8:15	4/1/2023 1:15	4/1/2023 1:30	4/1/2023 2:45	4/1/2023 2:55	4/1/2023 2:55	4/1/2023 3:00	4/1/2023 3:05	4/1/2023 3:25	4/1/2023 3:25	6/19/2023 20:05
OVERFLOW	8021 CHRISTIAN CT	7913 SHEL- BYVILLE RD	4801 CAS- SIA CT	1726 FRA- SER DR	1201 OLD CANNONS LN	1001 BRECKEN- RIDGE LN	2408 GRAY FOX RD	1044 ALTA VISTA RD	1011 ALTA CIR	1012 ALTA CIR	201 BUL- LITT LN	202 OX- MOOR LN	8800 AD- MIRAL DR
WQTC KPDES#	KY0022411	KY0022411	KY0022411	KY0022411	KY0022411	KY0022411	KY0022411	KY0022411	KY0022411	KY0022411	KY0022411	KY0022411	KY0078956
WQTC	MORRIS FORMAN	MORRIS FORMAN	MORRIS FORMAN	MORRIS FORMAN	MORRIS FORMAN	MORRIS FORMAN	MORRIS FORMAN	MORRIS FORMAN	MORRIS FORMAN	MORRIS FORMAN	MORRIS FORMAN	MORRIS FORMAN	DEREK R. GUTHRIE



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REPAIR EFFORTS	LOCATION INCLUDED IN IOAP.	LOCATION INCLUDED IN IOAP.	LOCATION INCLUDED IN IOAP.	LOCATION INCLUDED IN IOAP.	PLACED TEMPO- RARY SIGNS AROUND THE IMPACTED AREA.	PUMP. AROUND RESET	REPAIRED THE ELECTRI- CAL CIRCUIT.	A SOLUTION FOR THIS LOCATION IS INCLUD- ED IN THE INTEGRATED OVER THE OVER THE PLAN	LOCATION INCLUDED IN IOAP.
CLEANUP	WO#3665921.	WO#3665922.	WO#3665923.	WO#3665924.	WILL CLEANUP AFTER ACTIVITY HAS STOPPED.	MSD CONTRAC- TOR CLEANED AND SANTIZED THE IMPACTED AREA	AREA DISIN- FECTED WITH LIME.	MSD PERSON- NEL CLEANED AND SANITIZED THE MPACTED AREA	NO CLEAN UP PERFORMED – PIPE DISCHARG- ING UNDERWA- TER, DIRECTLY INTO STREAM.
# OM	3665917	3665918	3665919	3665920	3665906	3670039	3669820	3669775	3669800
DUE TO	LACK OF SYSTEM CAPACITY	LACK OF SYSTEM CAPACITY	MECHAN- IGAL FAILURE	ROOTS	LACK OF SYSTEM CAPACITY				
CAUSE	LACK OF SYSTEM CAPACITY HEAVY RAIN.	LACK OF SYSTEM CAPACITY HEAVY RAIN.	LACK OF SYSTEM CAPACITY HEAVY RAIN.	LACK OF SYSTEM CAPACITY HEAVY RAIN.	LACK OF SYSTEM CAPACITY.	LACK OF SYSTEM CAPACITY. PUMP AROUND IN PLACE FOR DOWN- STREAM REPAIR REPAIR REPAIR REPAIR REPAIR REPAIR SEWER IN SEWER IN STREME STORM EVENT	ELEC- TRICAL PROBLEM WITH MSD EQUIPMENT (WATER INTRRO PANEL CAUSING CIRCUIT FAILURE).	CAUSE OF DISCHARGE IS IN MAIN SEWER. ROOTS IN MAIN SEWER	LACK OF SYSTEM CAPACITY HEAVY RAIN.
RECEIVING	CHENOWETH RUN	CHENOWETH RUN	CHENOWETH RUN	CHENOWETH RUN	FISHPOOL CREEK	SOUTH FORK BEARGRASS CREEK	MUDDY FORK BEARGRASS GREEK	PENNSYLVANIA RUN	SOUTH FORK BEARGRASS CREEK
SOURCE ASSET DISCHARGES TO	рітсн	рітсн	рітсн	GROUND	рітсн	GROUND	STREAM	GROUND	рітсн
SOURCE ASSET ID	28453	28452	28250	28340	MSD1013-PS	50314	MSD0193-PS	PC09604049	16649
SOURCE ASSET TYPE	Sewer Manhole	Sewer Manhole	Sewer Manhole	Sewer Manhole	Sewer Lift Station	Sewer Manhole	Sewer Lift Station	Sewer Service Line	Sewer Manhole
VOLUME (GAL)	21,000	21,000	21,000	21,000	18,000	250,000	100	100	2,450
STOP DATE & TIME	6/20/2023	6/20/2023 4:05	6/20/2023 4:10	6/20/2023 4:15	6/20/2023 2:08	7/5/2023 8:36	6/26/2023 0:10	6/27/2023 11:00	6/26/2023 0:45
START DATE & TIME	6/19/2023 21:00	6/19/2023 21:05	6/19/2023 21:10	6/19/2023 21:15	6/19/2023 22:04	6/25/2023	6/25/2023	6/25/2023 21:10	6/25/2023 22:15
OVERFLOW	3402 CHARLANE PKY	3402 CHARLANE PKY	3506 CHARLANE PKY	3620 CHARLANE PKY	9114 CIN- DERELLA LN	1222 ROY. AL AVE	6001 RODES CT	8304 CLO- VERPORT DR	1726 FRA- SER DR
WQTC KPDES#	KY0022411	KY0022411	KY0022411	KY0022411	KY0078956	KY0022411	KY0022411	KY0078956	KY0022411
WQTC	MORRIS FORMAN	MORRIS FORMAN	MORRIS FORMAN	MORRIS FORMAN	DEREK R. GUTHRIE	MORRIS FORMAN	MORRIS FORMAN	DEREK R. GUTHRIE	MORRIS FORMAN

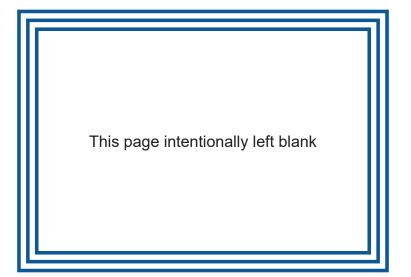


			- Wat	- Way						
REPAIR EFFORTS	LOCATION INCLUDED IN IOAP.	LOCATION INCLUDED IN IOAP.	LOCATION INCLUDED IN IOAP.	LOCATION INCLUDED IN IOAP.	LOCATION INCLUDED IN IOAP.	LOCATION INCLUDED IN IOAP.	LOCATION INCLUDED IN IOAP.	LOCATION INCLUDED IN IOAP.	LOCATION INCLUDED IN IOAP.	LOCATION INCLUDED IN IOAP.
CLEANUP	NO CLEAN UP PERFORMED – PIPE DISCHARG- ING UNDERWA- TER, DIRECTLY INTO STREAM.	NO CLEAN UP PERFORMED – PIPE DISCHARG- ING UNDERWA- TER, DIRECTLY INTO STREAM.	WO#3670026.	WO#3670027.	WO#3670028.	WO#3670029.	WO#3670030.	WO#3670031.	WO#3670032.	CLEAN UP NOT REQUIRED. MAGNITUDE OF STORM FLUSHED SOL- IDS AND DEBRIS FROM SITE.
#OM	3669799	3669797	3669785	3669786	3669787	3669788	3669789	3669790	3669791	3669792
DUETO	LACK OF SYSTEM CAPACITY	LACK OF SYSTEM CAPACITY	LACK OF SYSTEM CAPACITY	LACK OF SYSTEM CAPACITY	LACK OF SYSTEM CAPACITY	LACK OF SYSTEM CAPACITY	LACK OF SYSTEM CAPACITY	LACK OF SYSTEM CAPACITY	LACK OF SYSTEM CAPACITY	LACK OF SYSTEM CAPACITY
CAUSE	LACK OF SYSTEM CAPACITY HEAVY RAIN.	LACK OF SYSTEM CAPACITY HEAVY RAIN.	LACK OF SYSTEM CAPACITY HEAVY RAIN.	LACK OF SYSTEM CAPACITY HEAVY RAIN.	LACK OF SYSTEM CAPACITY HEAVY RAIN.	LACK OF SYSTEM CAPACITY HEAVY RAIN.	LACK OF SYSTEM CAPACITY HEAVY RAIN.	LACK OF SYSTEM CAPACITY HEAVY RAIN.	LACK OF SYSTEM CAPACITY HEAVY RAIN.	LACK OF SYSTEM CAPACITY HEAVY RAIN.
RECEIVING	MIDDLE FORK BEARGRASS CREEK	MIDDLE FORK BEARGRASS CREEK	CHENOWETH RUN	CHENOWETH RUN	CHENOWETH RUN	CHENOWETH RUN	CHENOWETH	CHENOWETH	CHENOWETH	MIDDLE FORK BEARGRASS CREEK
SOURCE ASSET DISCHARGES TO	STREAM	STREAM	рітсн	рітсн	GROUND	рітсн	рітсн	GROUND	рітсн	ОІТСН
SOURCE ASSET ID	IS021A-SI	08935-SM	28453	28452	28451	28250	28249	28340	28336	45796
SOURCE ASSET TYPE	Sewer Manhole	Sewer Manhole	Sewer Manhole	Sewer Manhole	Sewer Manhole	Sewer Manhole	Sewer Manhole	Sewer Manhole	Sewer Manhole	Sewer Manhole
VOLUME (GAL)	104,460	270	33,000	8,250	7,125	7,000	6,875	13,500	13,500	114,000
STOP DATE & TIME	6/26/2023 4:00	6/26/2023 0:30	6/26/2023 5:58	6/26/2023 6:00	6/26/2023 5:25	6/26/2023 5:24	6/26/2023 5:23	6/26/2023 5:21	6/26/2023 5:20	6/26/2023 7:10
START DATE & TIME	6/25/2023 22:45	6/25/2023 23:00	6/26/2023 0:30	6/26/2023 0:35	6/26/2023 0:40	6/26/2023 0:45	6/26/2023 0:50	6/26/2023 0:55	6/26/2023 1:00	6/26/2023 1:15
OVERFLOW LOCATION	1201 OLD CANNONS LN	1001 BRECKEN- RIDGE LN	3402 CHARLANE PKY	3402 CHARLANE PKY	3406 CHARLANE PKY	3506 CHARLANE PKY	3500 ST EDWARDS DR	3620 CHARLANE PKY	3620 CHARLANE PKY	1011 ALTA CIR
WQTC KPDES#	KY0022411	KY0022411	KY0022411	KY0022411	KY0022411	KY0022411	KY0022411	KY0022411	KY0022411	KY0022411
WQTC	MORRIS FORMAN	MORRIS FORMAN	MORRIS FORMAN	MORRIS FORMAN	MORRIS FORMAN	MORRIS FORMAN	MORRIS FORMAN	MORRIS FORMAN	MORRIS FORMAN	MORRIS FORMAN



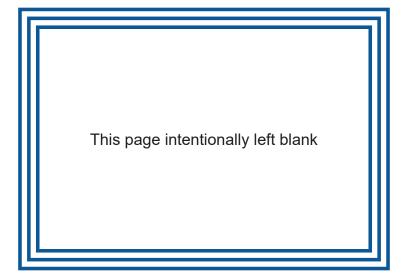
**APPENDIX D** 

**UNAUTHORIZED DISCHARGES - DRY WEATHER CSOS** 





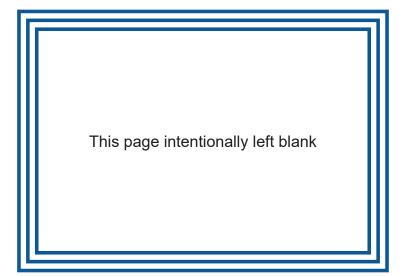
REPAIR	EFFORTS			
CLEANUP	EFFORTS			
# OM				
DUE TO				
CAUSE				G PERIOD
RECEIVING	STREAM			THIS REPORTIN
SOURCE	ASSET	DISCHARGES	то	NO DRY WEATHER CSOS WERE RECORDED DURING THIS REPORTING PERIOD
SOURCE	ASSET ID			WERE REC
VOLUME SOURCE SOURCE	ASSET	TYPE		THER CSOS
VOLUME	(GAL)			NO DRY WEA
STOP	DATE &	TIME		
START	DATE &	TIME		
OVERFLOW	LOCATION			
WQTC	KPDES#			
WQTC NAME				





**APPENDIX E** 

**UNAUTHORIZED DISCHARGES - DRY WEATHER SSOS** 





							Sale, C	lean water	ways
REPAIR EFFORTS	FLUSHED MAIN SEWER TO REMOVE BLOCKAGE #3547126	FLUSH #3556802	FLUSHED THE MAIN TO REMOVE OBSTRUCTION; #3576070.	CONTRACTOR CALLED TO PERFORM REPAIRS.	REPAIRED THE MAIN SEWER; MSR WORK ORDER 3586883	RC#3590287.	FLUSH #3601018	FLUSHED AND ROOT CUT MAIN TO MH, WORK ORDER 3806102 AND 3809054. REPAIRED THE MAIN SEWER; WORK ORDER 3809121.	FLUSHED THE MAIN TO REMOVE OBSTRUCTION #3806438.
CLEANUP	MSD PERSONNEL WILL CLEAN IMPACTED AREA	MSD PERSONNEL CLEANED AND SANTIZED THE IMPACTED AREA	REFERRED TO AREA SUPERVISOR FOR DISCLN.	AREA DISINFECTED WITH LIME.	MSD PERSONNEL CLEANED AND SANTIZED THE IMPACTED AREA	MSD CLEANED AND SANTIZED IMPACTED AREA.	MSD PERSONNEL CLEANED AND SANTIZED THE IMPACTED AREA.	MSD PERSONNEL CLEANED AND SANITIZED THE IMPACTED AREA.	MSD PERSONNEL CLEANED THE IMPACTED AREA.
# OM	3547129	3556800	3576058	3579931	358685	3590230	3601014	3606076	3606442
DUE TO	GREASE BLOCKAGE	GREASE BLOCKAGE	OBSTRUCTION- NOT GREASE / ROOTS	STRUCTURAL FAILURE	UTILITY DAMAGED MSD ASSET	ROOTS	OBSTRUCTION- NOT GREASE / ROOTS	ROOTS	OBSTRUCTION- NOT GREASE / ROOTS
CAUSE	GREASE BLOCKAGE IN THE MAIN SEWER	GREASE IN MAIN SEWER.	UNKNOWN OBSTRUCTION IN THE MAIN SEWER.	STRUCTURAL FAILURE, FORCEMAIN BREAK.	UTILITY DAMAGED MSD ASSET	ROOTS IN MAIN SEWER.	OBSTRUCTION IN MAIN SEWER.	CAUSE OF DISCHARGE IS IN MAIN SEWER. ROOTS IN MAIN SEWER.	UNKNOWN OBSTRUCTION IN THE MAIN SEWER.
RECEIVING	POND CREEK	FLOYDS FORK	SOUTH FORK BEARGRASS CREEK	LONG RUN	MUDDY FORK BEARGRASS CREEK	MIDDLE FORK BEARGRASS CREEK	MIDDLE FORK BEARGRASS CREEK	FERN CREEK	NORTHERN
SOURCE ASSET DISCHARGES	GROUND	GROUND	GROUND	STREAM	GROUND	GROUND	GROUND	GROUND	GROUND
SOURCE ASSET ID	79819D	117636	48681	96911-V	151384	72592	01967	T168A8933	79588
SOURCE ASSET TYPE	Sewer Manhole	Sewer	Sewer	Sewer Main	Sewer Service Line	Sewer Manhole	Sewer	Sewer Service Line	Sewer Manhole
VOLUME (GAL)	25	1,250	-	1,000	ıo	720	90	1,600	5
STOP DATE &	8/5/2022 0:35	8/29/2022 12:21	10/22/2022 20:00	11/10/2022	12/8/2022 16:45	12/12/2022	1/4/2023	1/19/2023	1/20/2023 20:00
START DATE &	8/5/2022	8/29/2022	10/22/2022	11/10/2022	12/2/2022 16:40	12/12/2022 10:28	1/4/2023	1/19/2023	1/20/2023
OVERFLOW	9513 LAMBORNE BLVD	303 N ENGLISH STATION RD	4545 TAYLORSVILLE RD	911 EASTWOOD FISHERVILLE RD	701 WATERFORD RD	1130 ROSTREVOR GIR	9909 ROUNDSTONE TRCE	8933 LA COSTA RD	425 MAC BRAERD
WQTC KPDES#	KY0078956	KY0102784	KY0022411	KY0102784	KY0022411	KY0022411	KY0022411	KY0078956	KY0022411
WQTC	DEREK R. GUTHRIE	FLOYDS FORK	MORRIS FORMAN	FLOYDS FORK	MORRIS FORMAN	MORRIS FORMAN	MORRIS FORMAN	DEREK R. GUTHRIE	MORRIS FORMAN

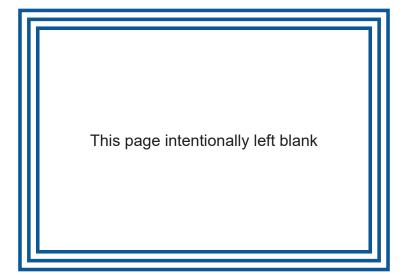


	<del>- Jarc,</del>	Cicaii W	icei wa	<del>y                                    </del>				
REPAIR EFFORTS	FLUSHED THE MAIN TO REMOVE OBSTRUCTION / #3606438.	FLUSHED THE MAIN TO REMOVE OBSTRUCTION#3606438.	HAULED STATION WHILE REPAIRS MADE.	REPAIRED THE GENERATOR.	REPAIR COMPLETED BY CONTRACTOR.	FLUSHED THE MAIN SEWER, FLUSH WORK ORDER 3649020. REPAIRED THE MAIN SEWER, MSR WORK ORDER 3649026	CLOSED VALVE.	FLUSHED THE GREASE FROM THE SEWER; WORK ORDER 3669419. INDICATED THAT ADDITIONAL REPAIRS WERE NOT REQUIRED BY MSD
CLEANUP	MSD PERSONNEL CLEANED THE IMPACTED AREA.	MSD PERSONNEL CLEANED THE IMPACTED AREA.	CLEANED AND SANITIZED THE IMPACTED AREA.	CLEANED AND SANITIZED THE IMPACTED AREA.	N/A.	MSD PERSONNEL CLEANED AND SANTIZED THE IMPACTED AREA; DISCLN WORK ORDER 3649032	PIPE DISCHARGE SUBMERGED- NO CLEANUP.	WATER HAS NOT RECEDED - CUSTOMER ADVISED TO CONTACT CUSTOMER RELATIONS WHEN WATER RECEDES
# OM	3606443	3606441	3609578	3623159	3642834	3649027	3657576	3669475
DUE TO	OBSTRUCTION- NOT GREASE / ROOTS	OBSTRUCTION- NOT GREASE / ROOTS	UTILITY DAMAGED MSD ASSET	MECHANICAL FAILURE	MECHANICAL FAILURE	STRUCTURAL FAILURE	MECHANICAL FAILURE	GREASE BLOCKAGE
CAUSE	UNKNOWN OBSTRUCTION IN THE MAIN SEWER.	UNKNOWN OBSTRUCTION IN THE MAIN SEWER.	CONTRACTOR DAMAGED FORCE MAIN.	MECHANICAL FAILURE OF GENERATOR.	PROCESS WATER- MECHANIC FAILURE ON CONTRACTOR- CONSTRUCTION PROJECT FOR PRIMARY	CAUSE OF DISCHARGE IS IN MAIN SEWER. STRUCTURAL FAILURE OF MAIN SEWER. POSSIBLY UTILITY DAMAGE	PARSHALL FLUME MUD VALVE OPEN.	CAUSE OF DISCHARGE IS IN MAIN SEWER. GREASE IN MAIN
RECEIVING STREAM	NORTHERN	DUCK SPRING BRANCH	FLOYDS FORK	FERN CREEK	OHIO RIVER	FLOYD FORK	OHIO RIVER	FLOYDS FORK
SOURCE ASSET DISCHARGES TO	GROUND	GROUND	рпсн	GROUND	STREAM	GROUND	STREAM	рпсн
SOURCE ASSET ID	64309	09958	107136B-V	29040	MSD0278	107 166	MSD0278	139375
SOURCE ASSET TYPE	Sewer Service Line	Sewer	Sewer Main	Sewer	Sewer Treatment Plant	Sewer	Sewer Treatment Plant	Sewer Service Line
VOLUME (GAL)	10	10	325	12,000	150	800	3,000	009
STOP DATE & TIME	1/20/2023 20:00	1/20/2023 20:00	1/30/2023	3/6/2023	4/26/2023 8:05	5/11/2023	5/23/2023 17:20	6/22/2023 17:50
START DATE &	1/20/2023 18:50	1/20/2023	1/30/2023	3/6/2023	4/26/2023 11:06	5/10/2023	5/25/2023 17:10	6/22/2023
OVERFLOW	424 MAC BRAE RD	425 MAC BRAE RD	13820 OLD HENRY RD	9401 ELK HILL CT	4522 ALGONQUIN PKY	2400 ARNOLD PALMER BLVD	4522 ALGONQUIN PKY	14510 LANDIS LAKES DR
WQTC KPDES#	KY0022411	KY0022411	KY0102784	KY0098540	KY0022411	KY0102784	KY0022411	KY0102784
WQTC	MORRIS FORMAN	MORRIS FORMAN	FLOYDS FORK	CEDAR	MORRIS FORMAN	FLOYDS FORK	MORRIS FORMAN	FLOYDS FORK



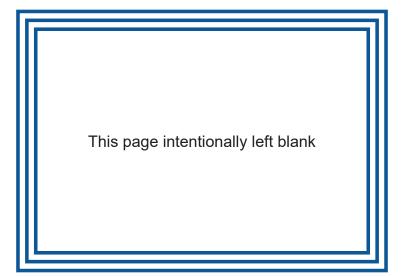
APPENDIX F

**BYPASSES AT WATER QUALITY TREATMENT CENTERS** 



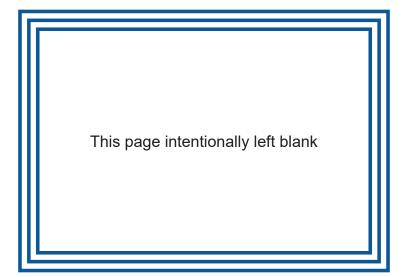


RESULT	UNAUTHO- RIZED DIS- CHARGE-WA- TERS	UNAUTHO- RIZED DIS- CHARGE-WA- TERS
REPAIR EFFORTS	RE- PARED THE TANK LEVEL MONI- TOR, GET GENCY GELIV- CHEM- ICAL, I	VALVE FAILURE FIXED.
CLEANUP	NA	NA- DIS- CHARGED TO RIVER.
# OM	3589685	3643700
WEATHER	WET WEATHER	DRY WEATHER
CAUSE	BYPASSAT WASTEWA- TER TREAT- MENT PLANT INCORRECT TANK READINGS ON HYPO AT BELLS LANE- RAN OUT OF CHEMICAL.	BYPASS AT TREATMENT PLANT HYPO VALVE NOT OPENED CORRECTLY. NO DISIN- FECTION OCCURRED FOR 45 MG.
RECEIVING STREAM	OHIO	OHIO
SOURCE ASSET DISCHARGES TO	STREAM	STREAM
SOURCE ASSET ID	MSD0278	MSD0278
VOLUME (GAL)	900,000	45,000,000
STOP DATE & TIME	12/7/2022 6:45	5/1/2023 22:30
START DATE & TIME	12772022 5:21	5/1/2023 9:16
OVERFLOW	4522 AL- GONQUIN PKY	4522 AL- GONQUIN PKY
WQTC KPDES#	KY0022411	KY0022411
WQTC	MORRIS FORMAN	MORRIS FORMAN





APPENDIX G OVERFLOWS TO THE INTERIOR





REPAIR EFFORTS	REPAIRED THE MAIN SEWER; RC WORK ORDER 3534667	FLUSHED/VACTORED THE OBSTRUCTION / DEBRIS FROM THE SEWER; FLUSH WORK ORDER 3534867	RC #3535868	FLUSH #35435585	FLUSH #3543601	ADVISED CUSTOMER TO CALL BACK IF BACKUP HASNT RE- CEDED IN 24 HOURS	ADVISED CUSTOMER TO CALL BACK IF BACKUP HASNT RE- CEDED IN 24 HOURS	ADVISED CUSTOMER TO CALL BACK IF BACKUP HASNT RE- CEDED IN 24 HOURS	ADVISED CUSTOM- ER TO CONTACT A PLUMBER	ADVISED CUSTOMER TO CALL BACK IN 24 HOURS IF BACKUP HASNT RECEDED	ADVISED CUSTOMER TO CALL BACK IN 24 HOURS IF BACKUP HASNT RECEDED	ADVISED CUSTOMER TO CALL BACK IN 24 HOURS IF BACKUP HAS NOT RECEDED	FLUSH #3544781	ADVISED CUSTOMER TO CALL BACK IN 24 HOURS IF BACKUP HAS NOT RECEDED	ROOT CUT #3552705
CLEANUP EFFORTS	CUSTOMER CLEANED THE IMPACTED AREA	CUSTOMER CLEANED THE IMPACTED AREA	CUSTOMER CLEANED IM- PACTED AREA	CUSTOMER CLEANED IM- PACTED AREA	CUSTOMER CLEANED THE IMPACTED AREA	CUSTOMER CLEANED IM- PACTED AREA	CUSTOMER CLEANED IM- PACTED AREA	CUSTOMER CLEANED IM- PACTED AREA	CUSTOMER CLEANED IM- PACTED AREA	CUSTOMER CLEANED IM- PACTED AREA	CUSTOMER CLEANED IM- PACTED AREA	CUSTOMER CLEANED IM- PACTED AREA	CUSTOMER CLEANED IM- PACTED AREA	CUSTOMER CLEANED IM- PACTED AREA	CUSTOMER CLEANED THE IMPACTED AREA
# OM	3534669	3534866	3535874	3543559	3543604	3544540	3544541	3544542	3544602	3544719	3544721	3544738	3544784	3547996	3552707
WEATHER	DRY WEATHER	DRY WEATHER	DRY WEATHER	DRY WEATHER	DRY WEATHER	WET WEATHER	WET WEATHER	WET WEATHER	WET WEATHER	WET WEATHER	WET WEATHER	WET WEATHER	WET	WET	DRY WEATHER
DUETO	ROOTS	OBSTRUC- TION-NOT GREASE / ROOTS	ROOTS	GREASE BLOCKAGE	ROOTS	LACK OF SYS- TEM CAPACITY	LACK OF SYS- TEM CAPACITY	LACK OF SYS- TEM CAPACITY	LACK OF SYS- TEM CAPACITY	LACK OF SYS- TEM CAPACITY	LACK OF SYS- TEM CAPACITY	LACK OF SYS- TEM CAPACITY	OBSTRUC- TION-NOT GREASE / ROOTS	LACK OF SYS- TEM CAPACITY	ROOTS
CAUSE	CAUSE OF DISCHARGE IS IN MAIN SEWER. ROOTS IN MAIN SEWER	CAUSE OF DISCHARGE IS IN MAIN SEWER. OBSTRUCTION IN MAIN SEWER.	ROOTS IN THE MAIN SEWER	GREASE IN MAIN SEWER	ROOTES IN MAIN SEWER	LACK OF SYSYEM CAPACITY	LACK OF SYSTEM CAPACITY	LACK OF SYSTEM CAPACITY	LACK OF SYSTEM CAPACITY	LACK OF SYSTEM CAPACITY	LACK OF SYSTEM CAPACITY	LACK OF SYSTEM CAPACITY	OBSTRUCTION IN THE MAIN SEWER	LACK OF SYSTEM CAPACITY	ROOT BLOCKAGE IN THE MAIN SEWER
SOURCE ASSET ID	111855	BE08003459	PC11550019	DC36491019	057100350000A	10006	9148	23374	78537	J06514029	K12553029	19807	146948	BE08955629	KK13729019
VOLUME (GAL)	-	-	-	1	-	_	_	_	5	_	-	_	-	-	~
STOP DATE	7/3/2022 19:10	7/5/2022 17:05	7/13/2022 18:50	7/23/2022 18:00	7/24/2022 23:22	7/28/2022 22:10	7/28/2022 22:20	7/28/2022 23:00	7/29/2022 10:14	7/29/2022 18:30	7/29/2022 19:00	7/30/2022 0:30	7/31/2022 9:40	8/11/2022 19:20	8/18/2022 20:30
START DATE & TIME	7/3/2022 19:00	7/5/2022 17:02	7/13/2022 17:00	7/23/2022 16:45	7/24/2022 22:26	7/28/2022 21:55	7/28/2022 22:10	7/28/2022 22:45	7/29/2022 9:40	7/29/2022 18:15	7/29/2022 18:45	7/30/2022 0:15	7/31/2022 9:00	8/11/2022 19:10	8/18/2022 19:15
OVERFLOW	4005 WIM- POLE RD	10100 WESTWEGO PL	8517 EULA RD	10304 DIXIE HWY	3716 HILLS- BORO RD	1428 E BRECKIN- RIDGE ST	1434 E BRECKIN- RIDGE ST	2305 DATE ST	418 OREAD RD	1533 GOD- DARD AVE	1233 ROYAL AVE	1521 CHRIS- TY AVE	3922 WAR- NER AVE	5104 VOL- NEY CT	1228 BEL- MAR DR
WQTC KPDES#	KY0022411	KY0098540	KY0078956	KY0078956	KY0022411	KY0022411	KY0022411	KY0022411	KY0022411	KY0022411	KY0022411	KY0022411	KY0022411	KY0078956	KY0022411
WQTC	MORRIS FORMAN	CEDAR CREEK	DEREK R. GUTHRIE	DEREK R. GUTHRIE	MORRIS FORMAN	MORRIS FORMAN	MORRIS FORMAN	MORRIS FORMAN	MORRIS FORMAN	MORRIS FORMAN	MORRIS FORMAN	MORRIS FORMAN	MORRIS FORMAN	DEREK R. GUTHRIE	MORRIS FORMAN



REPAIR EFFORTS	RC #3565926	REPAIRED THE PROPERTY SERVICE CONNECTION; WORK ORDER 3566964	RC #3569478	FLUSH #3568770	RC #3571627	FLUSHED THE MAIN TO REMOVE OB- STRUCTION #5442141	ROOT CUT TO MAIN TO REMOVE OB- STRUCTION #3576535	PSCR #3576728	FLUSHED THE MAIN TO REMOVE OB- STRUCTION #3585389	РЛ #3590963	FLUSHED THE MAIN TO REMOVE OB- STRUCTION #3592061	FLUSHED THE MAIN TO REMOVE OB- STRUCTION / FLUSH #3597040	PERFORMED FLUSH, WORK ORDER 3600120, ROOT CUT THE MAIN SEWER TO REMOVE ROOTS, WORK ORDERS 3600121 AND 3600153.	FLUSHED ROOTS FROM THE SEWER, WORK ORDER 3600163. PERFORMED ROOT CUT, WORK ORDER 3600167.
CLEANUP	CUSTOMER CLEANED IM- PACTED AREA	CUSTOMER CLEANED IM- PACTED AREA	CUSTOMER CLEANED IM- PACTED AREA	CUSTOMER CLEANED IM- PACTED AREA	CUSTOMER CLEANED IM- PACTED AREA	CUSTOMER CLEANED IM- PACTED AREA	CUSTOMER CLEANED IM- PACTED AREA	CUSTOMER CLEANED IM- PACTED AREA	CUSTOMER CLEANED IM- PACTED AREA	CUSTOMER ADVISED MSD PERSONNEL THAT THEY WILL CLEAN THE IMPACTED AREA	CUSTOMER CLEANED IM- PACTED AREA	CUSTOMER CLEANED IM- PACTED AREA	CUSTOMER CLEANED THE IMPACTED AREA.	CUSTOMER CLEANED THE IMPACTED AREA.
# OM	3564568	3566942	3568579	3568772	3571469	3575429	3576537	3576721	3585388	3590961	3592063	3597042	3600122	3600168
WEATHER	DRY WEATHER	DRY WEATHER	DRY WEATHER	DRY WEATHER	DRY WEATHER	DRY WEATHER	DRY WEATHER	DRY WEATHER	DRY WEATHER	WET	DRY WEATHER	WET WEATHER	DRY WEATHER	WET
DUETO	ROOTS	ROOTS	ROOTS	OBSTRUC- TION-NOT GREASE / ROOTS	ROOTS	OBSTRUC- TION-NOT GREASE / ROOTS	ROOTS	ROOTS	OBSTRUC- TION-NOT GREASE / ROOTS	ROOTS	GREASE BLOCKAGE	ROOTS	ROOTS	ROOTS
CAUSE	ROOTS IN THE MAIN SEWER	ROOTS IN THE MAIN SEWER	ROOTS IN MAIN SEWER	OBSTRUCTION IN THE MAIN SEWER	ROOTS IN THE MAIN SEWER	UNKNOWN OBSTRUCTION IN THE MAIN SEWER	ROOTS IN THE MAIN SEWER	ROOTS IN THE SHARED JOINT OF THE PROPERTY SERVICE CONNECTION	UNKNOWN OBSTRUCTION IN THE MAIN SEWER	OBSTRUCTION IN MAIN SEWER	GREASE BLOCKAGE IN THE MAIN SEWER	OBSTRUCTION IN THE MAIN SEWER	CAUSE OF DISCHARGE IS IN MAIN SEWER. ROOTS IN MAIN SEWER.	CAUSE OF DISCHARGE IS IN MAIN SEWER. IN MAIN SEWER.
SOURCE ASSET ID	175143	PD24688039	74248	HU22748019	RR14246019	182701310000A	111717031	79400	224800540000A	091N01330000A	13LE110613321	HU16848039	RR14391029	PA06189049
VOLUME (GAL)	-	-	<b>-</b>	<b>←</b>	<b>-</b>	-	<b>←</b>	<b>←</b>	-	50	1	1	-	-
STOP DATE	9/18/2022 20:45	9/23/2022 22:10	10/6/2022 23:30	10/8/2022 21:49	10/14/2022 21:10	10/19/2022 21:25	10/26/2022 23:15	10/28/2022 23:30	11/19/2022 18:15	12/15/2022 3:40	12/17/2022 21:50	12/22/2022 19:45	12/30/2022 21:15	12/31/2022 14:15
START DATE & TIME	9/18/2022 20:00	9/23/2022 21:30	10/6/2022 22:50	10/8/2022 21:00	10/14/2022 20:10	10/19/2022	10/26/2022 22:30	10/28/2022 23:00	11/19/2022	12/15/2022 2:40	12/17/2022 20:20	12/22/2022 18:40	12/30/2022 20:30	12/31/2022 13:00
OVERFLOW	4117 SIRATE LN	5600 CLE- ARRIDGE PL	4316 NANEEN DR	909 EX- MOOR AVE	1900 FARN- SLEY RD	9703 GATE- WAY DR	7031 CUL- VER LN	8003 OS- BORNE DR	8700 STOCKPORT RD	3109 MCMA- HAN BLVD	13321 SHEL- BYVILLE RD	9506 WES- SEX PL	3411 FERN- HEATHER DR	3300 CHIN- QUAPIN LN
WQTC KPDES#	KY0078956	KY0078956	KY0022411	KY0022411	KY0078956	KY0022411	KY0078956	KY0022411	KY0022411	KY0022411	KY0102784	KY0022411	KY0078956	KY0022411
WQTC	DEREK R. GUTHRIE	DEREK R. GUTHRIE	MORRIS FORMAN	MORRIS FORMAN	DEREK R. GUTHRIE	MORRIS FORMAN	DEREK R. GUTHRIE	MORRIS FORMAN	MORRIS FORMAN	MORRIS FORMAN	FLOYDS FORK	MORRIS FORMAN	DEREK R. GUTHRIE	MORRIS FORMAN



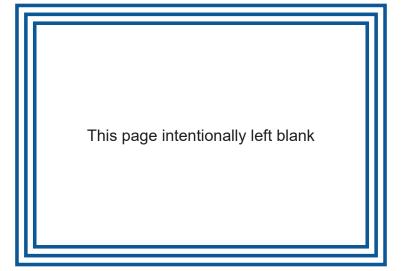
REPAIR EFFORTS	ADVISED CUSTOM- ER TO CALL BACK AFTER RAIN STOPS IF ISSUES HAS NOT RECEDED	ADVISED CUSTOM- ER TO CALL BACK AFTER RAIN STOPS IF ISSUES HAS NOT RECEDED	ROOT CUT#3600640	INVESTIGATION INDICATED THAT ADDITIONAL REPAIRS WERE NOT REQUIRED BY MSD	ADVISED CUSTOM- ER TO CONTACT A PLUMBER.	CAPACITY ISSUE	MAIN FLOWING AT CAPACITY	SYSTEM CAPACITY	ADVISED CUSTOMER TO CALL BACK IN 24 HOURS IF BACKUP HASNT RECEDED	FLUSHED MAIN SEWER TO RESTORE FLOW #3602451	FLUSHED THE MAIN SEWER TO REMOVE OBSTRUCTION #3609523	FLUSH #3610309	RC #3610369	FLUSH #3611048	MSD PERSONNEL FLUSHED GREASE OUT OF MAIN SEWER #3611300
CLEANUP	UNKNOWN AT THIS TIME	UNKNOWN AT THIS TIME	CUSTOMER CLEANED EF- FECTED AREA	CUSTOMER CLEANED EF- FECTED AREA	CUSTOMER CLEANED THE IMPACTED AREA.	CUSTOMER CLEANED EF- FECTED AREA	CUSTOMER CLEANED EF- FECTED AREA	CUSTOMER CLEANED EF- FECTED AREA	CUSTOMER CLEANED IM- PACTED AREA	CUSTOMER CLEANED IM- PACTED AREA	CUSTOMER CLEANED IM- PACTED AREA	CUSTOMER CLEANED IM- PACTED AREA	CUSTOMER CLEANED IM- PACTED AREA	CUSTOMER CLEANED IM- PACTED AREA	CUSTOMER CLEANED IM- PACTED AREA
# OM	3600536	3600555	3600638	3600662	3600683	3600687	3600703	3600728	3600981	3602454	3609521	3610311	3610370	3611051	3611265
WEATHER	WET WEATHER	WET WEATHER	WET WEATHER	WET WEATHER	WET WEATHER	WET WEATHER	WET WEATHER	WET WEATHER	WET WEATHER	WET WEATHER	WET WEATHER	DRY WEATHER	DRY WEATHER	DRY WEATHER	DRY WEATHER
DUETO	LACK OF SYS- TEM CAPACITY	LACK OF SYS- TEM CAPACITY	GREASE BLOCKAGE	LACK OF SYS- TEM CAPACITY	LACK OF SYS- TEM CAPACITY	LACK OF SYS- TEM CAPACITY	LACK OF SYS- TEM CAPACITY	LACK OF SYS- TEM CAPACITY	LACK OF SYS- TEM CAPACITY	OBSTRUC- TION-NOT GREASE / ROOTS	OBSTRUC- TION-NOT GREASE/ ROOTS	OBSTRUC- TION-NOT GREASE / ROOTS	ROOTS	OBSTRUC- TION-NOT GREASE / ROOTS	GREASE BLOCKAGE
CAUSE	LACK OF SYSTEM CAPACITY	LACK OF SYSTEM CAPACITY	GREASE IN MAIN SEWER	LACK OF SYSTEM CAPACITY	LACK OF SYSTEM CAPACITY.	LACK OF SYSTEM CAPACITY	LACK OF SYSTEM CAPACITY	LACK OF SYSTEM CAPACITY	LACK OF SYSTEM CAPACITY	OBSTRUCTION IN THE MAIN SEWER	OBSTRUCTION IN THE MAIN SEWER	OBSTRUCTION IN MAIN SEWER	ROOTS IN SANITARY MAIN	UNKNOWN OBSTRUCTION IN THE MAIN SEWER	HEAVY GREASE IN THE MAIN
SOURCE ASSET ID	P5223	066001790000A	089G00260000A	BJ14678049	10968120	253201160000B	HP09927019	32126	374	102010	PC07844029	42024	113271906	146918141	109300250000A
VOLUME (GAL)	7-	7-	1	7-	7	1	1	-	-	-	1	-	2	-	-
STOP DATE 8. TIME	1/3/2023 13:00	1/3/2023 13:35	1/3/2023 16:27	1/3/2023 17:10	1/3/2023 17:52	1/3/2023 18:09	1/3/2023 19:12	1/3/2023 21:59	1/4/2023 18:15	1/13/2023 14:45	1/30/2023 2:05	2/5/2023 20:45	2/6/2023 10:54	2/9/2023 18:05	2/12/2023 23:45
START DATE & TIME	1/3/2023 12:55	1/3/2023 13:30	1/3/2023 15:45	1/3/2023 16:45	1/3/2023 17:40	1/3/2023 18:06	1/3/2023 19:00	1/3/2023 21:58	1/4/2023 18:00	1/13/2023 13:34	1/30/2023 1:20	2/5/2023 17:00	2/6/2023 10:52	2/9/2023 17:40	2/12/2023 22:00
OVERFLOW	5422 MONA- CO DR	1087 SPRINGVIEW DR	4402 MOUNT VER- NON RD	4234 ST THOMASAVE	1108 BLACK- THORN RD	1100 BLACK- THORN RD	2803 CREEKSIDE DR	906 ELLI- SON AVE	545 E BAR- BEE AVE	2220 TAL- BOTT AVE	1002 CHES- LEY DR	427 HEY- WOOD AVE	1906 WAT- TERSON TRL	8141 BARD- STOWN RD	2003 SAN JOSE AVE
WQTC KPDES#	KY0078956	KY0078956	KY0022411	KY0022411	KY0102784	KY0102784	KY0022411	KY0022411	KY0022411	KY0022411	KY0078956	KY0022411	KY0022411	KY0098540	KY0078956
WQTC	DEREK R. GUTHRIE	DEREK R. GUTHRIE	MORRIS FORMAN	MORRIS FORMAN	FLOYDS FORK	FLOYDS FORK	MORRIS FORMAN	MORRIS FORMAN	MORRIS FORMAN	MORRIS FORMAN	DEREK R. GUTHRIE	MORRIS FORMAN	MORRIS FORMAN	CEDAR	DEREK R. GUTHRIE



REPAIR EFFORTS	FLUSH #3611612	ROOT CUT MAIN SEWER TO RE- MOVE BLOCKAGE WO#3611834	ROOT CUT WO#3618368	ROOT CUT WO#3618368	ADVISED CUSTOMER TO CALL BACK IN 24 HOURS IF BACKUP HAS NOT RECEDED	FLUSHED / ROOT CUT THE MAIN SEWER TO REMOVE OBSTRUC- TION; REFERSED TO TV CREW FOR INSPECTION	FLUSHED / ROOT CUT THE MAIN TO REMOVE OBSTRUCTION; RE- FERRED TO TV CREW FOR INSPECTION	ADVISED CUSTOMER TO CONTACT MSD IN 24 TO 48 HOURS	INVESTIGATION INDICATED THAT ADDITIONAL REPAIRS WERE NOT REQUIRED BY MSD	INVESTIGATION INDICATED THAT ADDITIONAL REPAIRS WERE NOT REQUIRED BY MSD	ADVISED CUSTOMER TO CALL BACK IN 24 HOURS IF BACKUP HAS NOT RECEDED	ADVISED CUSTOMER TO CALL BACK IN 24 HOURS IF BACKUP HAS NOT RECEDED	ADVISED CUSTOMER TO CALL BACK IN 24 HOURS IF BACKUP HAS NOT RECEDED	MSD PERSONNEL ADVISED CUSTOMER TO CALL BACK AFTER 24 HOURS	ROOT CUT THE MAIN #3633511
CLEANUP	CUSTOMER TO CLEAN IMPACT- ED AREA	CUSTOMER CLEANED EF- FECTED AREA	UNKOWN	CUSTOMER CLEANED IM- PACTED AREA	CUSTOMER CLEANED IM- PACTED AREA	CUSTOMER CLEANED IM- PACTED AREA	CUSTOMER CLEANED IM- PACTED AREA	CUSTOMER CLEANED IM- PACTED AREA	CUSTOMWR CLEANED EF- FECTED AREA	ADVISED CUS- TOMER THAT THEY ARE RESPONSIBLE TO CLEAN IM- PACTED AREA	CUSTOMER CLEANED IM- PACTED AREA	CUSTOMER CLEANED IM- PACTED AREA	CUSTOMER CLEANED IM- PACTED AREA	CUSTOMER CLEANED THE IMPACTED AREA	CUSTOMER CLEANED IM- PACTED AREA
# OM	3611568	3611875	3611998	3612000	3612002	3615007	3615065	3622518	3622697	3622721	3622765	3622768	3622766	3632545	3633514
WEATHER	DRY WEATHER	WET WEATHER	WET WEATHER	WET WEATHER	WET WEATHER	DRY WEATHER	DRY WEATHER	WET WEATHER	WET WEATHER	WET WEATHER	WET WEATHER	WET WEATHER	WET WEATHER	WET WEATHER	DRY WEATHER
DUE TO	GREASE BLOCKAGE	ROOTS	ROOTS	ROOTS	LACK OF SYS- TEM CAPACITY	ROOTS	ROOTS	LACK OF SYS- TEM CAPACITY	LACK OF SYS- TEM CAPACITY	LACK OF SYS- TEM CAPACITY	LACK OF SYS- TEM CAPACITY	LACK OF SYS- TEM CAPACITY	LACK OF SYS- TEM CAPACITY	LACK OF SYS- TEM CAPACITY	ROOTS
CAUSE	HEAVY GREASE IN THE MAIN SEWERT.BROWN 2/15/23	ROOTS IN MAIN SEWER	ROOTS IN MAIN SEWER	ROOTS IN MAIN SEWR	LACK OF SYSTEM CAPACITY	ROOT BLOCKAGE IN THE MAIN SEWER	BLOCKAGE IN THE MAIN SEWER	LACK OF SYSTEM CAPACITY	LACK OF SYSTEM CAPACITY	LACK OF SYSTEM CAPACITY	LACK OF SYSTEM CAPACITY	LACK OF SYSTEM CAPACITY	LACK OF SYSTEM CAPACITY	CAPACITY ISSUE IN MAIN	ROOTS IN MAIN SEWER
SOURCE ASSET ID	161497	102000090000A	114053	114046	174351	19845	174754	Y10796049	DE22868019	PC07470039	37739	173155	P4660	104045	004412099
VOLUME (GAL)	1	7-	-	<del>-</del>	-	7-	7-	5	7-	5	7-	1	1	<del>-</del>	-
STOP DATE	2/14/2023 19:15	2/16/2023 13:10	2/16/2023 14:20	2/16/2023 14:20	2/16/2023 21:35	2/18/2023 0:10	2/18/2023 20:45	3/3/2023 12:46	3/3/2023 19:10	3/3/2023 20:45	3/3/2023 21:20	3/3/2023 20:05	3/3/2023 23:00	3/24/2023 19:30	3/30/2023 18:45
START DATE & TIME	2/14/2023 19:10	2/16/2023 11:55	2/16/2023 12:32	2/16/2023 12:32	2/16/2023 21:20	2/17/2023 23:40	2/18/2023 20:00	3/3/2023 12:45	3/3/2023 18:45	3/3/2023 19:30	3/3/2023 21:00	3/3/2023 21:45	3/3/2023 22:45	3/24/2023 18:00	3/30/2023 17:00
OVERFLOW	300 MID- DLETOWN PARK PL	4632 DOHN RD	3904 WOOD- GATE LN	3902 WOOD- GATE LN	3910 WOOD- GATE LN	313 CLOVER LN	2847 ELAM DR	209 INVER- NESS AVE	2510 PEN- NACOOK RD	4100 TULIP CIR	509 E GRAY ST	8200 CAM- BERLEY DR	5036 MUD LN	5413 TRACY WAY	2316 WIL- SON AVE
WQTC KPDES#	KY0022411	KY0078956	KY0022411	KY0022411	KY0022411	KY0022411	KY0022411	KY0022411	KY0078956	KY0078956	KY0022411	KY0022411	KY0078956	KY0022411	KY0022411
WQTC	MORRIS FORMAN	DEREK R. GUTHRIE	MORRIS FORMAN	MORRIS FORMAN	MORRIS FORMAN	MORRIS FORMAN	MORRIS FORMAN	MORRIS FORMAN	DEREK R. GUTHRIE	DEREK R. GUTHRIE	MORRIS FORMAN	MORRIS FORMAN	DEREK R. GUTHRIE	MORRIS FORMAN	MORRIS FORMAN



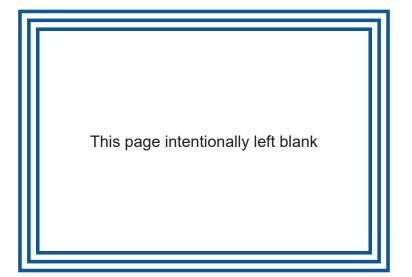
REPAIR EFFORTS	FLUSHED THE MAIN AND CONNECTION TO REMOVE OBSTRUC- TION #3633838	ROOT CUT THE MAIN SEWER TO REMOVE OBSTUCTION #3633912	FLUSHED THE MAIN TO REMOVE OB- STRUCTION; #3633917	ADVISED CUSTOM- ER TO CONTACT A PLUMBER	FLUSHED THE OBSTRUCTION FROM THE SEWER; FLUSH WORK ORDER 3849202	REPAIRED THE MAIN SEWER; RC WORK ORDER 3661951	REPAIRED THE MAIN SEWER; FLUSH WORK ORDER 3669222 AND RC WORK ORDER 3674296
CLEANUP EFFORTS	CUSTOMER CLEANED IM- PACTED AREA	CUSTOMER CLEANED IM- PACTED AREA	CUSTOMER CLEANED IM- PACTED AREA	CUSTOMER CLEANED IM- PACTED AREA	CUSTOMER CLEANED THE IMPACTED AREA	CUSTOMER CLEANED THE IMPACTED AREA	CUSTOMER CLEANED THE IMPACTED AREA
# OM	3633839	3633914	3633916	3646360	3649201	3661954	3669221
WEATHER	WET WEATHER	DRY WEATHER	DRY WEATHER	WET WEATHER	DRY WEATHER	DRY WEATHER	WEATHER
DUE TO	OBSTRUC- TION-NOT GREASE / ROOTS	ROOTS	ROOTS	LACK OF SYS- TEM CAPACITY	OBSTRUC- TION-NOT GREASE / ROOTS	ROOTS	ROOTS
CAUSE	OBSTRUCTION IN THE MAIN SEWER AND ON PRIVATE PROPERTY	ROOT BLOCKAGE IN THE MAIN SEWER	ROOT BLOCKAGE IN THE MAIN SEWER	PRIVATE PROPERTY ISSUE	CAUSE OF DISCHARGE IS IN MAIN SEWER. OBSTRUCTION IN MAIN SEWER	OBSTRUCTION IN MAIN SEWER. ROOTS IN MAIN SEWER	CAUSE OF DISCHARGE IS IN MAIN SEWER. ROOTS IN MAIN SEWER
SOURCE ASSET ID	003803900000A	7176	PD07194019	118173D	BE09115469	19000100000A	63558
VOLUME (GAL)	1	1	1	1	1	1	-
STOP DATE	3/31/2023 18:55	4/1/2023 22:15	4/2/2023 0:30	5/6/2023 23:35	5/11/2023 19:25	6/14/2023 21:00	6/21/2023 19:30
START DATE & TIME	3/31/2023 18:00	4/1/2023 21:15	4/2/2023 0:10	5/6/2023 23:20	5/11/2023 19:00	6/14/2023 18:30	6/21/2023 17:00
OVERFLOW LOCATION	9120 HURST- BOURNE LN	2013 BASHFORD MANOR LN	4010 SLACK AVE	4914 S 3RD ST	9700 FAIR- WOOD CT	7704 TEMP- SCLAIR RD	1904 LYNN LEARD
WQTC KPDES#	KY0022411	KY0022411	KY0078956	KY0022411	KY0098540	KY0022411	KY0078956
WQTC	MORRIS FORMAN	MORRIS FORMAN	DEREK R. GUTHRIE	MORRIS FORMAN	CEDAR	MORRIS FORMAN	DEREK R. GUTHRIE





APPENDIX H

**OVERFLOWS TO THE EXTERIOR** 





REPAIR EFFORTS	FLUSH #3535779	MSR #3543706	MAINTE- NANCE REPAIRED #3 RECIR- CULATION PUMP	FLUSH #3557821	HAULOP #3558271 SREPR #3558273	CON- TRACTOR REPAIRED FORCE MAIN	FLUSH #3558891	OPENED REXA TO 100%, OP- ERATIONAL ADJUST- MENT	FLUSH #3568502	ROOT CUTAND FLUSHED MAIN SEWER TO RESTORE FLOW.	PUMP STATION SHUT DOWN WHILE CON- TRACTOR TEPAIRED FORCE MAIN
CLEANUP	MSD PER- SONNEL SANITIZED AREA	CUSTOMER CLEANED IMPACTED AREA	OPERATOR CLEANED CONTAIN- MENT AREA	MSD PER- SONNEL CLEANED THE IMPACTED AREA	CUSTOMER TO CLEAN IMPACTED AREA	MSD CON- TRACTOR CLEANED AND SANI- TIZED THE IMPACTED AREA	CUSTOMER CLEANED IMPACTED AREA	MSD CLEANED AND SANITIZED THE CON- TAINMENT DITCH	MSD PER- SONNEL CLEANED IMPACTED AREA	MSD PER- SONNEL CLEANED AND DIS- INFECTED IMPACTED AREA	DIS- CHARGE CON- TAINED TO EXCAVAT- ED AREA
# OM	3535780	3543701	3557359	3557822	3558245	3558266	3558892	3564571	3568500	3575426	3575512
WEATHER	DRY WEATHER	DRY WEATHER	DRY WEATHER	DRY WEATHER	DRY WEATHER	DRY WEATHER	DRY WEATHER	DRY WEATHER	DRY WEATHER	DRY WEATHER	DRY WEATHER
DUE TO	GREASE BLOCKAGE	UTILITY DAMAGED MSD ASSET	MECHAN- ICAL FAILURE	OBSTRUC- TION-NOT GREASE / ROOTS	STRUC- TURAL FAILURE	STRUC- TURAL FAILURE	GREASE BLOCKAGE	MECHAN- ICAL FAILURE	GREASE BLOCKAGE	ROOTS	UTILITY DAMAGED MSD ASSET
CAUSE	GREASE BLOCKAGE IN THE MAIN SEWER	UTILITY DAMAGED MSD ASSET	#3 DIGESTER PLUGGED- REDUCED CAPACITY DISCHARGE CONFINED TO CONTAINMENT DITCH	UNKNOWN OBSTRUCTION IN THE MAIN SEWER	STRUCTURAL FAILURE IN MSD'S PORTION OF THE PROPERTY SERVICE CONNECTION	STRUCTURAL FAILURE FORCE MAIN BREAK	GREASE IN MAIN SEWER	DIGESTER "BURP", DI- GESTER UPSET	GREASE BLOCKAGE IN MAIN SEWER	ROOTS AND GREASE IN THE MAIN SEWER	STRUCTURAL DAMAGE UTILITY CONTRACTOR HIT FORCE MAIN
SOURCE ASSET ID	34091743	U09384029	MSD0278	64309	RR10041029	06940C-AG	103166600	MSD0278	89350	182701680000A	93703-T
SOURCE ASSET TYPE	Sewer Service Line	Sewer Service Line	Sewer Treatment Plant	Sewer Service Line	Sewer Service Line	Sewer Main	Sewer Service Line	Sewer Treatment Plant	Sewer Main	Sewer Service Line	Sewer Main
VOLUME (GAL)	1	1	2000	1	1	40	1	100	1	-	<del>-</del>
STOP DATE	7/13/2022 11:46	7/25/2022 14:13	8/31/2022 2:30	9/4/2022 22:30	9/7/2022 15:14	9/7/2022 16:00	9/13/2022 12:09	9/19/2022 3:30	10/6/2022 13:30	10/19/2022 21:25	10/20/2022 15:56
START DATE & TIME	7/13/2022 11:00	7/25/2022 13:30	8/31/2022 0:20	9/4/2022 21:00	9/7/2022 14:30	9/7/2022 15:25	9/13/2022 11:00	9/19/2022 2:50	10/6/2022 12:00	10/19/2022 19:45	10/20/2022
OVERFLOW	1743 BEL- MAR DR	1113 BEECHER ST	4522 AL- GONQUIN PKY	424 MAC BRAE RD	3715 DIX- IE HWY	3713 DIX- IE HWY	6600 OUTER LOOP	4522 AL- GONQUIN PKY	9339 PONDER LN	9610 GATEWAY DR	8800 AD- MIRAL DR
WQTC KPDES#	KY0022411	KY0022411	KY0022411	KY0022411	KY0022411	KY0078956	KY0078956	KY0022411	KY0078956	KY0022411	KY0078956
WQTC NAME	MORRIS FORMAN	MORRIS FORMAN	MORRIS FORMAN	MORRIS FORMAN	MORRIS FORMAN	DEREK R. GUTHRIE	DEREK R. GUTHRIE	MORRIS FORMAN	DEREK R. GUTHRIE	MORRIS FORMAN	DEREK R. GUTHRIE



REPAIR EFFORTS	DIVERTED FLOW FROM PLANT	ELECTRI- CIANS RE- SET PUMP	REPAIRED THE MAIN SEWER: ROOT CUT WORK ORDER #3585610.	RC #3586147	FLUSH #3599577	SITE FOUND DURING RAIN EVENT RECON- WILL BE MONITORED AND EVAL- UATED FOR REPAIR	STE FOUND DURING RAIN EVENT RECON- WILL BE MONITORED AND EVAL- UATED FOR REPAIR	SITE FOUND DURING RAIN EVENT RECON- WILL BE MONITORED AND EVAL- UATED FOR REPAIR	FLUSH #3604530	REPAIRED THE PUMP -WORK OR- DER XXXX
CLEANUP	MOST WENT BACK INTO PLANT DRAINS. MSD CLEANED	EIC	MSD PER- SONNEL CLEANED AND SANI- TIZED THE IMPACTED AREA.	CUSTOMER CLEANED SOME OF THE IMPACTED AREA.	MSD PER- SONNEL CLEANED IMPACTED AREA	CLEANUP NOT POS- SIBLE DUE TO MAGNI- TUDE OF STORM	CLEANUP NOT POS- SIBLE DUE TO MAGNI- TUDE OF STORM	CLEANUP NOT POS- SIBLE DUE TO MAGNI- TUDE OF STORM	CUSTOMER CLEANED IMPACTED AREA	AREADIS- INFECTED WITH LIME BY MSD PERSON- NEL
# OM	3576491	3580503	3585611	3586144	3599579	3600326	3600336	3600421	3604531	3606667
WEATHER	WET	DRY WEATHER	DRY WEATHER	DRY WEATHER	DRY WEATHER	WET WEATHER	WET WEATHER	WET WEATHER	DRY WEATHER	DRY WEATHER
DUE TO	LACK OF SYSTEM CAPACITY	MECHAN- ICAL FAILURE	ROOTS	ROOTS	OBSTRUC- TION-NOT GREASE / ROOTS	LACK OF SYSTEM CAPACITY	LACK OF SYSTEM CAPACITY	LACK OF SYSTEM CAPACITY	GREASE BLOCKAGE	MECHAN- ICAL FAILURE
CAUSE	WEST HEADWORKS OUT OF SERVICE	OVERFLOWED WAS THICKENED SLUDGE WELL DUE TO PUMP FAILURE	CAUSE OF DISCHARGE IS IN MAIN SEWER. ROOTS IN MAIN SEWER.	ROOT CUT TO CLEAR OBSTRUCTIONS IN SANI- TARY MAIN AND RESTORE PROPER FLOW.	UNKNOWN BLOCKAGE ON MAIN SEWER	LACK OF SYSTEM CAPACITY	LACK OF SYSTEM CAPAGITY	LACK OF SYSTEM CAPACITY	GREASE BLOCKAGE IN THE MAIN SEWER	MECHANICAL FAILURE - DOUBLE PUMP FAILURE
SOURCE ASSET ID	MSD0278	MSD0278	55484	90403801	36685	MSD0101-PS	MSD1024-PS	MSD1198-PS	25650	116490
SOURCE ASSET TYPE	Sewer Treatment Plant	Sewer Treatment Plant	Sewer	Sewer Service Line	Sewer	Sewer Lift Station	Sewer Lift Station	Sewer Lift Station	Sewer Main	Sewer Manhole
VOLUME (GAL)	20000	2000	10	10	-	42000	19875	1000	<b>←</b>	1375
STOP DATE	10/25/2022 20:45	11/16/2022	11/22/2022	11/29/2022 11:52	12/28/2022 11:57	1/3/2023 15:50	1/3/2023 22:30	1/3/2023	1/18/2023 11:53	1/23/2023
START DATE & TIME	10/25/2022 20:30	11/16/2022	11/22/2022	11/29/2022 11:46	12/28/2022 11:00	1/3/2023 8:47	1/3/2023 9:10	1/3/2023	1/18/2023 9:45	1/23/2023 17:10
OVERFLOW	4522 AL- GONQUIN PKY	4522 AL- GONQUIN PKY	9206 TRENTALN	3801 BLANTON LN	4623 PRESTON HWY	9317 LAN- TANA DR	8410 SAU- REL DR	1051 N BECKLEY STATION RD	901 W JEFFER- SON ST	9810 U S HIGHWAY 42
WQTC KPDES#	KY0022411	KY0022411	KY0078956	KY0078956	KY0022411	KY0078956	KY0022411	KY0102784	KY0022411	KY0022420
WQTC NAME	MORRIS FORMAN	MORRIS FORMAN	DEREK R. GUTHRIE	DEREK R. GUTHRIE	MORRIS FORMAN	DEREK R. GUTHRIE	MORRIS FORMAN	FLOYDS FORK	MORRIS FORMAN	HITE CREEK



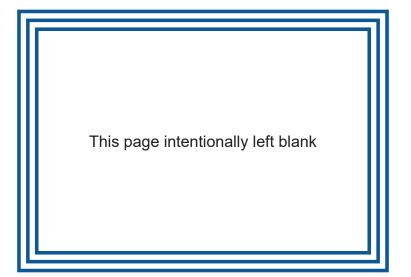
REPAIR EFFORTS	MSD PERSON- NEL ROOT CUT MAIN SEWER TO OPEN MAIN AND LINE RECEDED #3608661	FLUSHED MAIN SEW- ER AND RE- TURN FLOW TO MAIN SEWER #3611383	MAIN SEWER IS SURCHARG- ING NEED 24 TO 48 HOURS TO GO DOWN	MSD PER- SONNEL ADVISED TO CALL BACK AFTER 48 HOURS	MAIN SEW- ER IS SUR- CHARGING NEED 24 TO 48 HOUR TO GO DOWN	MSD PER- SONNEL ADVISED CUSTOMER TO CALL BACK AFTER 24 HOURS	STATION WAS IN PRO- CESS OF COMING OFF LINE. CON- TRACTOR DIVERTED FLOW TO NEW GRAVI- TY LINE	ADVISED CUSTOMER TO ALLOW 24 HOURS FOR WATER TO RECEDE AND TO CALL US BACK IF ISSUE CONTINUE
CLEANUP	CUSTOMER CLEANED IMPACTED AREA	MSD PER- SONNEL CLEANED AND SANI- TIZED THE IMPACTED AREA	MAGNI- TUDE OF STORM RE- SULTED IN NO DEBRIS REMAINING	CUSTOMER CLEANED IMPACTED AREA	MAGNI- TUDE OF STORM RE- SULTED IN NO DEBRIS REMAINING	CUSTOMER CLEANED IMPACTED AREA	CON- TRACTOR CLEANED SEWAGE FROM DITCH AND MSD CREW SANITIZED IMPACTED AREA	WATER HAS NOT RECEDED - CUSTOMER ADVISED TO CONTACT CUSTOMER REATIONS WHEN WATER RECEDES
# OM	3608864	3611379	3622643	3622635	3622653	3622741	3631624	3632582
WEATHER	DRY WEATHER	DRY WEATHER	WET	WET	WET WEATHER	WET WEATHER	DRY WEATHER	WET
DUE TO	ROOTS	GREASE BLOCKAGE	LACK OF SYSTEM CAPACITY	LACK OF SYSTEM CAPACITY	LACK OF SYSTEM CAPACITY	LACK OF SYSTEM CAPACITY	STRUG- TURAL FAILURE	LACK OF SYSTEM CAPACITY
CAUSE	GREASE AND ROOTS IN THE MAIN SEWER	GREASE IN MAIN SEWER	LACK OF SYSTEM CAPACITY	MAIN SEWER CAPACITY ISSUE	LACK OF SYSTEM CAPACITY	CAPACITY ISSUE	STRUCTURAL FAILURE (FORCE MAIN BREAK)	LACK OF SYSTEM CAPACI- TY - HEAVY RAIN
SOURCE ASSET ID	Y11208079	118330	21424	90380	95360	G11966069	MSD0042-PS	30141
SOURCE ASSET TYPE	Sewer Service Line	Sewer Manhole	Sewer Main	Sewer	Sewer Service Line	Sewer Service Line	Sewer Lift Station	Sewer Manhole
VOLUME (GAL)	7-	7-	1	7-	7-	1	80	7
STOP DATE & TIME	1/24/2023 12:44	2/13/2023 16:35	3/3/2023 16:50	3/3/2023 16:55	3/3/2023 17:00	3/3/2023 23:18	3/21/2023 18:50	3/25/2023 4:26
START DATE & TIME	1/24/2023 11:45	2/13/2023 15:41	3/3/2023 15:20	3/3/2023 16:20	3/3/2023 16:20	3/3/2023 21:00	3/21/2023 18:10	3/25/2023 4:00
OVERFLOW	325 ALG- ER AVE	2909 BLANKEN- BAKER RD	4601 BEA- VER RD	4739 DIX- IE HWY	300 SHORT RD	220 IDLEWYL- DE DR	1701 SONNE AVE	8414 PEGGY DR
WQTC KPDES#	KY0022411	KY0098540	KY0022411	KY0078956	KY0022411	KY0022411	KY0022411	KY0078956
WQTC NAME	MORRIS FORMAN	CEDAR CREEK	MORRIS FORMAN	DEREK R. GUTHRIE	MORRIS FORMAN	MORRIS FORMAN	MORRIS FORMAN	DEREK R. GUTHRIE



REPAIR EFFORTS	FLUSH #3633962	OPENED GATE	REPAIRED THE AIR LOCKED CHECK VALVES; SREPR WORK OR-	REFERRED TO CON- TRACTOR TO MAKE NEEDED REPAIRS	REFER TO LASA FOR TVI P/T #3661173	REPAIRED THE FIT- TING AND SWITCHED HYPO LINES	REPAIRED THE MAIN SEWER; RC WORK ORDER 3661613	REPAIRED THE MAIN SEWER: RC WORK ORDER 3670547	REPAIRED VALUE AND TRANS- FERRED DIGESTER SLUDGE TO ANOTHER DIGESTER TANK	REPAIRED VALVE. UNPLUGGED DIGESTER.
CLEANUP	MSD CLEANED IMPACTED AREA	NA	CLEANED AND SANI- TIZED THE IMPACTED AREA	MSD CON- TRACTOR TO CLEAN AND SANI- TIZED THE IMPACTED AREA	MSD PER- SONNEL CLEANED IMPACTED AREA	CLEANED AND SANI- TIZED THE IMPACTED AREA. HYPO DILUTED	CUSTOMER CLEANED THE IMPACTED AREA	MSD PER- SONNEL CLEANED AND SANI- TIZED THE IMPACTED AREA: DISCLN 3670057	MSD PER- SONNEL CLEANED AND SANI- TIZED THE IMPACTED AREA AND DOWN TO HEAD- WORKS	CLEANED AND SANI- TIZED THE IMPACTED AREA
# OM	3633961	3646410	3657897	3658050	3661166	3661322	3661616	3670058	3670303	3670792
WEATHER	DRY WEATHER	WET WEATHER	DRY	DRY WEATHER	DRY WEATHER	DRY WEATHER	DRY WEATHER	DRY WEATHER	DRY WEATHER	WET WEATHER
DUETO	OBSTRUC- TION-NOT GREASE / ROOTS	MECHAN- ICAL FAILURE	MECHAN- ICAL FAILURE	STRUC- TURAL FAILURE	ROOTS	MECHAN- ICAL FAILURE	ROOTS	ROOTS	MECHAN- ICAL FAILURE	MECHAN- ICAL FAILURE
CAUSE	OBSTRUCTION IN MAIN SEWER	MECHANICAL FAILURE (GATE NOT OPEN)	MECHANICAL FAILURE (CHECK VALVES)	STRUCTURAL FAILURE ON PRINATE PROPERTY	ROOTS ON MSD PORTION OF THE PIPE	MECHANICAL FAILURE (LEAKING HYPO LINE SEAM/FITTING)	CAUSE OF DISCHARGE IS IN MAIN SEWER. ROOTS IN MAIN SEWER	OBSTRUCTION IN MAIN SEWER. ROOTS IN MAIN SEWER	MECHANICAL FAILURE (DIGESTER VALUE)	MECHANICAL FAILURE (PLUGGED DIGESTER)
SOURCE ASSET ID	85053	MSD0278	MSD1064-PS	96911A-V	L14851029	MSD0278	MT11726069	29239	MSD0278	MSD0278
SOURCE ASSET TYPE	Sewer Main	Sewer Treatment Plant	Sewer Lift Station	Sewer	Sewer Service Line	Sewer Treatment Plant	Sewer Service Line	Sewer	Sewer Treatment Plant	Sewer Treatment Plant
VOLUME (GAL)	1	2000	100	1000	1	20	7-	14400	10000	300
STOP DATE 8. TIME	4/2/2023 15:38	5/7/2023 9:35	5/26/2023	5/29/2023 23:27	6/8/2023 14:47	6/9/2023 12:25	6/12/2023 17:32	6/26/2023 20:47	6/28/2023 1:30	6/30/2023 11:15
START DATE & TIME	4/2/2023 15:05	5/7/2023 9:30	5/26/2023 13:30	5/29/2023 22:22	6/8/2023 13:00	6/9/2023 7:45	6/12/2023 13:50	6/26/2023 19:58	6/27/2023 23:15	6/30/2023 10:28
OVERFLOW	14102 OVER- LANDER CT	4522 AL- GONQUIN PKY	8619 WESTO- VER DR	912 EAST. WOOD FISHER. VILLE RD	1703 S PRESTON ST	4522 AL- GONQUIN PKY	11918 BERRY HILL RD	8304 CLOVER- PORT DR	4522 AL- GONQUIN PKY	4522 AL- GONQUIN PKY
WQTC KPDES#	KY0102784	KY0022411	KY0022420	KY0102784	KY0022411	KY0022411	KY0102784	KY0078956	KY0022411	KY0022411
WQTC NAME	FLOYDS FORK	MORRIS FORMAN	HITE CREEK	FLOYDS FORK	MORRIS FORMAN	MORRIS FORMAN	FLOYDS FORK	DEREK R. GUTHRIE	MORRIS FORMAN	MORRIS FORMAN



APPENDIX I IOAP CROSSWALK





	LTCP-DWO   MSD0306FP     LTCP-DWO   MSD0306FP     LTCP-DWO   MSD0308FP     SSDP-SSO   MSD046FP     SSDP-SSO   MSD0	L_OR_MF_019_S_03_AA L_OR_MF_019_S_03_AA L_OR_MF_019_S_03_AB L_OR_MF_019_S_03_AB L_OR_MF_022_M_03_AA L_OR_MF_022_M_03_AA L_OR_MF_022_M_03_AA L_OR_MF_022_M_03_AA L_OR_MF_022_M_03_AA L_OR_MF_022_M_03_AA L_OR_MF_022_M_03_AA L_OR_MF_NB06_M_01_AA-1 S_MI_MF_NB06_M_01_AA-1 S_FF_FF_NB03_M_01_C_A
LTCP-DWO LTC		L_OR_MF_190_S_03_AA L_OR_MF_019_S_03_AB L_OR_MF_019_S_03_AB L_OR_MF_022_M_03_A_A L_OR_MF_022_M_03_A_A L_OR_MF_172_S_098_B_A_0 AMADMIRALWAYPS AMADMIRALWAYPS S_MI_MF_NB06_M_01_A_A-1
LTCP-DWO AM AM AM AM ASDP-SSO SSDP-SSO SSDP-SSO SSDP-SSO LSSDP-SSO SSDP-SSO SSDP-SSO SSDP-SSO SSDP-SSO ISSDP-SSO ISSD		L_OR_MF_019_S_03_A L_OR_MF_022_M_03_A_A L_OR_MF_022_M_03_A_A L_OR_MF_022_M_03_A_A L_OR_MF_172_S_09B_B_A_0 AMADMIRALWAYPS S_MI_MF_NB06_M_01_A_A-1
LTCP-DWO AM		L_OR_MF_022_M_03_A_A L_OR_MF_022_M_03_A_A L_OR_MF_022_M_03_A_A L_OR_MF_172_S_08B_B_A_0 AMADMIRALWAYPS AMADMIRALWAYPS S_MI_MF_NB06_M_01_A_A-1
LTCP-DWO LTCP-DWO LTCP-DWO LTCP-DWO LTCP-DWO LTCP-DWO LTCP-DWO LTCP-DWO LTCP-DWO AM		L_OR_MF_022_M_03_A_A L_OR_MF_022_M_03_A_A L_OR_MF_172_S_08B_B_A_0 AMADIMIRALWAYPS S_MA_MF_NB06_M_01_A_A-1 S_MI_MF_NB06_M_01_A_A-1
LTCP-DWO LTCP-CSO LTCP-CSO AM AM AM SSDP-SSO		L_OR_MF_022_M_03_A_A  L_OR_MF_172_S_098_B_A_0  AMADMIRALWAYPS  AMADMIRALWAYPS  S_MI_MF_NB06_M_01_A_A-1  S_FF_FF_NB03_M_01_C_A  S_FF_FF_NB03_M_01_C_A  S_FC_CC_MSD1025_S_03_B  S_CC_CC_MSD1025_S_03_B
AM  AM  AM  SSDP-SSO ISSDP		L_OR_MF_172_\$_08B_B_A_0  AMADMIRALWAYPS  AMADMIRALWAYPS  S_MI_MF_NB06_M_01_A_A-1  S_FF_FF_NB03_M_01_C_A  S_FF_FF_NB03_M_01_C_A  S_FF_FF_NB03_M_01_C_A  S_FC_CC_MSD1025_S_03_B  S_CC_CC_MSD1025_S_03_B
AM  ASSIDSSO SSDP-SSO ISSDP		AMADMIRALWAYPS  S_MI_MF_NB06_M_01_A_A-2  S_MI_MF_NB06_M_01_A_A-1
AM SSDP-SSO		AMADMIRALWAYPS  S_ML_MF_NB06_M_01_A_A-2  S_ML_MF_NB06_M_01_A_A-1  S_ML_MF_NB03_M_01_C_A  S_FF_FF_NB03_M_01_C_A  S_FF_FF_NB03_M_01_C_A  S_FF_FF_NB03_M_01_C_A  S_FC_CC_MSD1025_S_03_B
OSSP-GSS OSSP-SSO SSDP-SSO SSD		S_MI_MF_NB06_M_01_A_A-2  S_MI_MF_NB06_M_01_A_A-1  S_MI_MF_NB06_M_01_A_A-1  S_MI_MF_NB06_M_01_A_A-1  S_MI_MF_NB06_M_01_A_A-1  S_MI_MF_NB06_M_01_A_A-1  S_MI_MF_NB06_M_01_A_A-1  S_MI_MF_NB06_M_01_A_A-1  S_FF_FF_NB03_M_01_C_A
OSS-PGSS OSS-PGSS OSS-PGSS OSS-PGSS OSS-PGSS OSS-PGSS OSS-PGSS OSS-SSO OSS-PGSS OSS-SSO OSS-PGSS OSS-P		S_MI_MF_NB06_M_01_A_A-1 S_MI_MF_NB06_M_01_A_A-1 S_MI_MF_NB06_M_01_A_A-1 S_MI_MF_NB06_M_01_A_A-1 S_MI_MF_NB06_M_01_A_A-1 S_MI_MF_NB06_M_01_A_A-1 S_MI_MF_NB06_M_01_A_A-1 S_FF_FF_NB03_M_01_C_A
SSP-SSO SSP-SS		S_MI_MF_NB06_M_01_A_A-1 S_MI_MF_NB06_M_01_A_A-1 S_MI_MF_NB06_M_01_A_A-1 S_MI_MF_NB06_M_01_A_A-1 S_MI_MF_NB06_M_01_A_A-1 S_FF_FF_NB03_M_01_A_A-1 S_FF_FF_NB03_M_01_C_A S_FF_FF_NB03_M_01_C_A S_FF_FF_NB03_M_01_C_A S_FF_FF_NB03_M_01_C_A S_FF_FF_NB03_M_01_C_A S_FF_FF_NB03_M_01_C_A S_FF_FF_NB03_M_01_C_A S_CC_CC_MSD1025_S_03_B
OSS-PGSS OSS-PGSS OSS-PGSS OSS-PGSS OSS-PGSS OSS-PGSS OSS-PCSS OSS		S_MI_MF_NB06_M_01_A_A-1 S_MI_MF_NB06_M_01_A_A-1 S_MI_MF_NB06_M_01_A_A-1 S_MI_MF_NB06_M_01_A_A-1 S_FF_FF_NB03_M_01_C_A S_FF_FF_NB03_M_01_C_A S_FF_FF_NB03_M_01_C_A S_FO_WC_PC07_M_01_A S_CC_CO_MSD1025_S_03_B S_CC_CC_MSD1025_S_03_B
OSSP-SSS OSSP-SSS OSSP-SSO		S_MI_MF_NB06_M_01_A_A-1  S_MI_MF_NB06_M_01_A_A-1  S_MI_MF_NB06_M_01_A_A-1  S_FF_FF_NB03_M_01_C_A  S_FF_FF_NB03_M_01_C_A  S_FF_FF_NB03_M_01_C_A  S_FF_FF_NB03_M_01_A  S_CC_CC_MSD1025_S_03_B
#2 PUMP STATION ELIMINATION SSDP-SSO		S_MI_MF_NB06_M_01_A_A-1  S_MI_MF_NB06_M_01_A_A-1  S_FF_FF_NB03_M_01_C_A  S_FF_FF_NB03_M_01_C_A  S_FF_FF_NB03_M_01_C_A  S_FO_WC_PC07_M_01_A  S_CC_CC_MSD1025_S_03_B
STATES #1 AND #2 PUMP STATION ELIMINATION       SSDP-SSO         SSDP-SSO       SSDP-SSO         SSDP-SSO       SSDP-SSO         SSDP-SSO       SSDP-SSO         ISSDP       ISSDP         ISSDP       ISSDP		S_MI_MF_NB06_M_01_A_A-1  S_FF_FF_NB03_M_01_C_A  S_FF_FF_NB03_M_01_C_A  S_PO_WC_PC07_M_01_A  S_CC_CC_MSD1025_S_03_B  S_CC_CC_MSD1025_S_03_B
OSS-dGSS		S_FF_FF_NB03_M_01_C_A S_FF_FF_NB03_M_01_C_A S_PO_WC_PC07_M_01_A S_CC_CC_MSD1025_S_03_B S_CC_CC_MSD1025_S_03_B
OSS-dGSS		S_FF_FF_NB03_M_01_C_A S_PO_WC_PC07_M_01_A S_CC_CC_MSD1025_S_03_B
CSS-GSS		S_DO_WC_PC07_M_01_A S_CC_CC_MSD1025_S_03_B
SSDP-SSO		S_CC_CC_MSD1025_S_03_B
SSDP-SSO  ISSDP  SSDP  SSDP  SSDP  SSDP  SSDP  SSDP  SSDP  SSDP		C S SD ME NB06 S 13 C
40SSI 40SSI		>->
dossi dossi		BEECHWOOD VILLAGE SEWER REPL
dossi dossi		BEECHWOOD VILLAGE SEWER REPL
dasi	_	BEECHWOOD VILLAGE SEWER REPL
	ISSDP 21101	BEECHWOOD VILLAGE SEWER REPL
BEECHWOOD VILLAGE SEWER REPL 21	ISSDP 21153	BEECHWOOD VILLAGE SEWER REPL
BEECHWOOD VILLAGE SEWER REPL 21	ISSDP 21156	BEECHWOOD VILLAGE SEWER REPL
BELLS LANE (FORMERLY PADDY8#39;S RUN) WET WEATHER TREATMENT FACILITY CS	LTCP-CSO CSO015	L_OR_MF_015_M_13_B_B_8
BELLS LANE (FORMERLY PADDY8#39;S RUN) WET WEATHER TREATMENT FACILITY CSO	LTCP-CSO CSO191-M	L_OR_MF_015_M_13_B_B_8
BUECHEL TRUNK SEWER REHABILITATION 08	AEAP-CR 08426	C_SF_MF_B
BUECHEL TRUNK SEWER REHABILITATION 08	AEAP-CR 08427	C_SF_MF_B
BUECHEL TRUNK SEWER REHABILITATION 08	AEAP-CR 08429	C_SF_MF_B
BUECHEL TRUNK SEWER REHABILITATION 08	AEAP-CR 08430	C_SF_MF_B
BUECHEL TRUNK SEWER REHABILITATION 08	AEAP-CR 08431	C_SF_MF_B
BUECHEL TRUNK SEWER REHABILITATION AEAP-CR 085100	AEAP-CR 085100290046A	C_SF_MF_B
BUECHEL TRUNK SEWER REHABILITATION AEAP-GR 18	AEAP-CR 18654	C_SF_MF_B
BUECHEL TRUNK SEWER REHABILITATION 499	AEAP-CR 49647	C_SF_MF_B
BUECHEL TRUNK SEWER REHABILITATION 85	AEAP-CR 85055	C_SF_MF_B
BUECHEL TRUNK SEWER REHABILITATION 85	AEAP-CR 85075	C_SF_MF_B



PROJECT NAME	PROGRAM	ASSET ID	PROJECT ID
BUECHEL TRUNK SEWER REHABILITATION	AEAP-CR	85097	C_SF_MF_B
CAMP TAYLOR SYSTEM IMPROVEMENT PHASE 1 - SSES	SSDP-SSO	08717	S_SF_MF_30917_M_09_A
CAMP TAYLOR SYSTEM IMPROVEMENT PHASE 1 - SSES	SSDP-SSO	104223	S_SF_MF_30917_M_09_A
CAMP TAYLOR SYSTEM IMPROVEMENT PHASE 1 - SSES	SSDP-SSO	104224	S_SF_MF_30917_M_09_A
CAMP TAYLOR SYSTEM IMPROVEMENT PHASE 1 - SSES	SSDP-SSO	104231	8_8_AP_1806_3M_3S_2
CAMP TAYLOR SYSTEM IMPROVEMENT PHASE 1 - SSES	SSDP-SSO	13931	8_8_AP_1806_3M_3S_2
CAMP TAYLOR SYSTEM IMPROVEMENT PHASE 1 - SSES	SSDP-SSO	13943	S_SF_MF_30917_M_09_A
CAMP TAYLOR SYSTEM IMPROVEMENT PHASE 1 - SSES	SSDP-SSO	13946	S_SF_MF_30917_M_09_A
CAMP TAYLOR SYSTEM IMPROVEMENT PHASE 1 - SSES	SSDP-SSO	34093542	S_SF_MF_30917_M_09_A
CAMP TAYLOR SYSTEM IMPROVEMENT PHASE 1 - SSES	SSDP-SSO	36763	8_8_AP_1806_3M_3S_2
CAMP TAYLOR SYSTEM IMPROVEMENT PHASE 1 - SSES	SSDP-SSO	44396	8_8_AP_1806_3M_3S_2
CAMP TAYLOR SYSTEM IMPROVEMENT PHASE 1 - SSES	SSDP-SSO	44397	8_8_AP_1806_3M_3S_2
CAMP TAYLOR SYSTEM IMPROVEMENT PHASE 1 - SSES	SSDP-SSO	51301	S_SF_MF_30917_M_09_A
CAMP TAYLOR SYSTEM IMPROVEMENT PHASE 1 - SSES	SSDP-SSO	66349	S_SF_MF_30917_M_09_A
CAMP TAYLOR SYSTEM IMPROVEMENT PHASE 1 - SSES	SSDP-SSO	99259	S_SF_MF_30917_M_09_A
CAMP TAYLOR SYSTEM IMPROVEMENT PHASE 1 - SSES	SSDP-SSO	KK14815019	S_SF_MF_30917_M_09_A
CAMP TAYLOR SYSTEM IMPROVEMENT PHASE 1 - SSES	SSDP-SSO	KK14855239	S_SF_MF_30917_M_09_A
CAVEN AVENUE PS ELIMINATION	SSDP-SSO	17724	ɔ¯860¯W¯60ɔd¯ɔM¯od¯S
CAVEN AVENUE PS ELIMINATION	SSDP-SSO	27116	S_PO_WC_PC09_M_09B_C
CAVEN AVENUE PS ELIMINATION	SSDP-SSO	61667	ɔ¯860¯W¯60ɔd¯ɔM¯od¯S
CAVEN AVENUE PS ELIMINATION	SSDP-SSO	61687	o_aeo_m_eooy_ov_s
CAVEN AVENUE PS ELIMINATION	SSDP-SSO	70212	2_80_M_602_W_04_8
CAVEN AVENUE PS ELIMINATION	SSDP-SSO	MSD0133-PS	S_PO_WC_PC09_M_09B_C
CENTRAL RELIEF DRAIN CSO IN-LINE STORAGE, GREEN INFRASTRUCTURE, AND DISTRIBUTED STORAGE	LTCP-CSO	CSO028	L_OR_MF_155_M_09B_B_B_4-1
CENTRAL RELIEF DRAIN CSO IN-LINE STORAGE, GREEN INFRASTRUCTURE, AND DISTRIBUTED STORAGE	LTCP-CSO	CSO029	L_OR_MF_155_M_09B_B_B_4-1
CENTRAL RELIEF DRAIN CSO IN-LINE STORAGE, GREEN INFRASTRUCTURE, AND DISTRIBUTED STORAGE	LTCP-CSO	CSO034	L_OR_MF_155_M_09B_B_B_4-1
CENTRAL RELIEF DRAIN CSO IN-LINE STORAGE, GREEN INFRASTRUCTURE, AND DISTRIBUTED STORAGE	LTCP-CSO	CSO036	L_OR_MF_155_M_09B_B_B_4-1
CENTRAL RELIEF DRAIN CSO IN-LINE STORAGE, GREEN INFRASTRUCTURE, AND DISTRIBUTED STORAGE	LTCP-CSO	CSO178	L_OR_MF_155_M_09B_B_B_4-1
CENTRAL RELIEF DRAIN CSO IN-LINE STORAGE, GREEN INFRASTRUCTURE, AND DISTRIBUTED STORAGE	LTCP-CSO	CSO181	L_OR_MF_155_M_09B_B_B_4-1
CENTRAL RELIEF DRAIN CSO IN-LINE STORAGE, GREEN INFRASTRUCTURE, AND DISTRIBUTED STORAGE	LTCP-CSO	CSO193	L_OR_MF_155_M_09B_B_B_4-1
CENTRAL RELIEF DRAIN CSO IN-LINE STORAGE, GREEN INFRASTRUCTURE, AND DISTRIBUTED STORAGE	LTCP-CSO	CSO195	L_OR_MF_155_M_09B_B_B_4-1
CENTRAL RELIEF DRAIN CSO IN-LINE STORAGE, GREEN INFRASTRUCTURE, AND DISTRIBUTED STORAGE	LTCP-CSO	CSO196	L_OR_MF_155_M_09B_B_B_4-1
CENTRAL RELIEF DRAIN CSO IN-LINE STORAGE, GREEN INFRASTRUCTURE, AND DISTRIBUTED STORAGE	LTCP-CSO	CSO197	L_OR_MF_155_M_09B_B_B_4-1
CENTRAL RELIEF DRAIN CSO IN-LINE STORAGE, GREEN INFRASTRUCTURE, AND DISTRIBUTED STORAGE	LTCP-CSO	CSO199	L_OR_MF_155_M_09B_B_B_4-1
CENTRAL RELIEF DRAIN CSO IN-LINE STORAGE, GREEN INFRASTRUCTURE, AND DISTRIBUTED STORAGE	LTCP-CSO	CSO200-X	L_OR_MF_155_M_09B_B_B_4-1
CENTRAL RELIEF DRAIN CSO IN-LINE STORAGE, GREEN INFRASTRUCTURE, AND DISTRIBUTED STORAGE	LTCP-CSO	CSO202	L_OR_MF_155_M_09B_B_B_4-1
CHARLESWOOD INTERCEPTOR EXTENSION	SSDP-SSO	25477	S_PO_WC_PC03_M_01_C
CHARLESWOOD INTERCEPTOR EXTENSION	SSDP-SSO	25479	S_PO_WC_PC03_M_01_C



PROJECT NAME	PROGRAM	ASSET ID	PROJECTID
CHARLESWOOD INTERCEPTOR EXTENSION	SSDP-SSO	25480	S_PO_WC_PC03_M_01_C
CHARLESWOOD INTERCEPTOR EXTENSION	SSDP-SSO	MSD0130-PS	S_PO_WC_PC03_M_01_C
CINDERELLA PS ELIMINATION	SSDP-SSO	102339	S_PO_WC_PC04_M_01_C
CINDERELLA PS ELIMINATION	SSDP-SSO	35309	S_PO_WC_PC04_M_01_C
CINDERELLA PS ELIMINATION	SSDP-SSO	62909	S_PO_WC_PC04_M_01_C
CINDERELLA PS ELIMINATION	SSDP-SSO	MSD1013-PS	S_PO_WC_PC04_M_01_C
CLIFTON HEIGHTS STORAGE BASIN	LTCP-CSO	CSO083	L_MU_MF_154_M_09B_B_A_8
CLIFTON HEIGHTS STORAGE BASIN	LTCP-CSO	CSO088	L_MU_MF_154_M_09B_B_A_8
CLIFTON HEIGHTS STORAGE BASIN	LTCP-CSO	CSO131	L_MU_MF_154_M_09B_B_A_8
CLIFTON HEIGHTS STORAGE BASIN	LTCP-CSO	CSO132	L_MU_MF_154_M_09B_B_A_8
CLIFTON HEIGHTS STORAGE BASIN	LTCP-CSO	CSO154	L_MU_MF_154_M_09B_B_A_8
CLIFTON HEIGHTS STORAGE BASIN	LTCP-CSO	CSO167	L_MU_MF_154_M_09B_B_A_8
CSO058 IN-LINE STORAGE & GREEN INFRASTRUCTURE	LTCP-CSO	CSO058	L_OR_MF_058_S_08_A_A_0
CSO093 STRUCTURAL MODIFICATIONS & GREEN INFRASTRUCTURE	LTCP-CSO	CSO093	L_SO_MF_093_S_08_A_A_0
CSO108 DAM MODIFICATION	LTCP-CSO	CSO108	L_SO_MF_108_S_09A_B_A_4
CSO140 IN-LINE STORAGE & GREEN INFRASTRUCTURE	LTCP-CSO	CSO140	L_MI_MF_140_S_08_A_A_0
CSO160 SEWER SEPARATION	LTCP-CSO	CSO160	L_OR_MF_160_S_08_A_A_0
CSO190 GREEN INFRASTRUCTURE (FORMERLY18TH & NORTHWESTERN PKWY STORAGE BASIN)	LTCP-CSO	CSO190	L_OR_MF_190_S_09B_B_A_8
CSO206 SEWER SEPARATION	LTCP-CSO	CSO206	L_MI_MF_206_S_08_A_A_0
DELL RD/CHARLANE PKWY INTERCEPTOR IMPROVEMENTS	SSDP-SSO	104289	S_JT_JT_NB02_M_01_C
DELL RD/CHARLANE PKWY INTERCEPTOR IMPROVEMENTS	SSDP-SSO	28249	S_JT_JT_NB02_M_01_C
DELL RD/CHARLANE PKWY INTERCEPTOR IMPROVEMENTS	SSDP-SSO	28250	S_JT_JT_NB02_M_01_C
DELL RD/CHARLANE PKWY INTERCEPTOR IMPROVEMENTS	SSDP-SSO	28336	S_JT_JT_NB02_M_01_C
DELL RD/CHARLANE PKWY INTERCEPTOR IMPROVEMENTS	SSDP-SSO	28340	S_JT_JT_NB02_M_01_C
DELL RD/CHARLANE PKWY INTERCEPTOR IMPROVEMENTS	SSDP-SSO	28413	S_JT_JT_NB02_M_01_C
DELL RD/CHARLANE PKWY INTERCEPTOR IMPROVEMENTS	SSDP-SSO	28414	S_JT_JT_NB02_M_01_C
DELL RD/CHARLANE PKWY INTERCEPTOR IMPROVEMENTS	SSDP-SSO	28415	S_JT_JT_NB02_M_01_C
DELL RD/CHARLANE PKWY INTERCEPTOR IMPROVEMENTS	SSDP-SSO	28416	S_JT_JT_NB02_M_01_C
DELL RD/CHARLANE PKWY INTERCEPTOR IMPROVEMENTS	SSDP-SSO	28417	S_JT_JT_NB02_M_01_C
DELL RD/CHARLANE PKWY INTERCEPTOR IMPROVEMENTS	SSDP-SSO	28451	S_JT_JT_NB02_M_01_C
DELL RD/CHARLANE PKWY INTERCEPTOR IMPROVEMENTS	SSDP-SSO	28452	S_JT_JT_NB02_M_01_C
DELL RD/CHARLANE PKWY INTERCEPTOR IMPROVEMENTS	SSDP-SSO	28453	S_JT_JT_NB02_M_01_C
DELL RD/CHARLANE PKWY INTERCEPTOR IMPROVEMENTS	SSDP-SSO	28711	S_JT_JT_NB02_M_01_C
DEREK R GUTHRIE WQTC UPGRADES	OTHER	1256312700A	DEREK R GUTHRIE WQTC UPGRADES
DEREK R GUTHRIE WQTC UPGRADES	ОТНЕК	22307	DEREK R GUTHRIE WQTC UPGRADES
DEREK R GUTHRIE WQTC UPGRADES	ОТНЕК	22370	DEREK R GUTHRIE WQTC UPGRADES
DEREK R GUTHRIE WQTC UPGRADES	OTHER	22385	DEREK R GUTHRIE WQTC UPGRADES
DEREK R GUTHRIE WQTC UPGRADES	ОТНЕК	32682	DEREK R GUTHRIE WQTC UPGRADES



OTHER   37889   OTHER   S9169   OTHER   OTHE	THE A PUBLICAGE	MAGSOGG	ASSET ID	GI TOBI OGG
GRADUES         OTHERS         500 NB           GRADUES         OTHERS         600 NB           GRADUES         OTHER         ARBORAT           GRADUE         OTHER         ARBORAT           MICHARON & REMABILITATION         SERPASSO         2016-440           ATION         SERPASHILATION         SERPASSO         2016-52           ARTICAL         ARTICAL SANCE         CHARONA         SERPASSO         2016-52           ARTICAL SANCE         ARTICAL SANCE         SERPASSO         60009         2016-52           ARTICAL SANCE         ARTICAL SANCE         ARTICAL SANCE         ARTICAL SANCE         ARTICAL SANCE           HHILLS WOTC, CHENOWETH RIAN PUMP STATION, AND CHIPPEWA PUMP STATION         SERPASSO         60009         40000           HHILLS WOTC, CHENOWETH RIAN PUMP STATION, AND CHIPPEWA PUMP STATION         SERPASSO         110000         40000           MEMIS         SERPASSO         110000         40000         40000         40000         40000           MEMIS         SERPASSO         110000         40000         40000         40000         40000           MEMIS         SERPASSO         110000         40000         40000         400000         40000           MEMIS         SERPASSO		OTHER	32688	DEREK R GUTHRIE WQTC UPGRADES
CRANDES         OTHER         MSD0277           TIGATION & REHABILITATION         SEDF-SSO         20164W           TIGATION & REHABILITATION         SEDF-SSO         20164W           TIGATION & REHABILITATION         SEDF-SSO         MSD1064PS           GATTON         SEDF-SSO         MSD1064PS           CANTON         SEDF-SSO         MSD1064PS           AS REHABILITATION         SEDF-SSO         MSD1064PS           AS REHABI	DEREK R GUTHRIE WOTC UPGRADES	OTHER	59169	DEREK R GUTHRIE WQTC UPGRADES
TIGATION & REPABILITATION   SIDD-SSO   201644   TIGATION & REPABILITATION   SIDD-SSO   201656   TIGATION & REPABILITATION   SIDD-SSO   AUDIODS-PS   CARDINA   TIGATION & REPABILITATION   SIDD-SSO   AUDIODS-PS   CARDINA   SIDD-SSO   CAR	DEREK R GUTHRIE WQTC UPGRADES	OTHER	MSD0277	DEREK R GUTHRIE WQTC UPGRADES
TIGATION A REHABILITATION   SISPIN-SSO   S	DERINGTON CT PS I&I INVESTIGATION & REHABILITATION	SSDP-SSO	20154-W	S_OR_MF_NB03_S_07_C
INCOMING NOTE	DERINGTON CT PS I&I INVESTIGATION & REHABILITATION	SSDP-SSO	20155	S_OR_MF_NB03_S_07_C
ATTON         SSEDP-SSO         OMBENN           GATTON         SSEDP-SSO         OMBENN           GATTON         SSEDP-SSO         RESPONSED           GATTON         SSEDP-SSO         RESPONSED           AS EHABELITATION         SSEDP-SSO         RESPONSED           AS EHABELITATION         SSEDP-SSO         G40000           AS EHABELITATION         SSEDP-SSO         G40000           AS EHABELITATION         SSEDP-SSO         G40000           AS EHABELITATION         AND CHAPEWA PUMP STATION AND CHAPEWA PUMP STATION         SSED-SSO         G40000           AHHILS WOTC, CHENOWETH RUN PUMP STATION, AND CHAPEWA PUMP STATION         SSED-SSO         MSD002SSO         HHILS WOTC, CHENOWETH RUN PUMP STATION, AND CHAPEWA PUMP STATION         SSED-SSO         MSD002SSO           HHILS WOTC, CHENOWETH RUN PUMP STATION, AND CHAPEWA PUMP STATION         SSED-SSO         MSD002SSO         HHILS WOTC, CHENOWETH RUN PUMP STATION, AND CHAPEWA PUMP STATION         SSED-SSO         HISTOR           MENTS         MENTS         SSED-SSO         MSD102SSO         HISTOR           MENTS         MSD102SSO         HISTOR         HISTOR           MENTS         SSED-SSO         HISTOR           MENTS         SSED-SSO         HISTOR           MENTS         MSSD10SSO </td <td>DERINGTON CT PS I&amp;I INVESTIGATION &amp; REHABILITATION</td> <td>SSDP-SSO</td> <td>MSD0095-PS</td> <td>S_OR_MF_NB03_S_07_C</td>	DERINGTON CT PS I&I INVESTIGATION & REHABILITATION	SSDP-SSO	MSD0095-PS	S_OR_MF_NB03_S_07_C
GATION         SERP-SEO         MEDITOR-RES           1.8 REHABILITATION         SERP-SEO         92099           1.8 REHABILITATION         SERP-SEO         92090           1.8 REHABILITATION         SERP-SEO         96090           1.8 HHLS WOTC, CHEKOWETH RUN PUMP STATION, AND CHIPPEWA PUMP STATION         SERP-SEO         18508-SEO           1. HHLS WOTC, CHEKOWETH RUN PUMP STATION, AND CHIPPEWA PUMP STATION         SERP-SEO         16100           MENTS         SERP-SEO         16100	EAST ROCKFORD PS RELOCATION	SSDP-SSO	04699-W	S_MC_WC_NB02_S_03_C
REPARBILITATION         SSIDP-SSO         R00980           AS REHABILITATION         SSIDP-SSO         800980           AS REHABILITATION         SSIDP-SSO         800980           AS REHABILITATION         SSIDP-SSO         800980           HHILLS WOTC, CHENOWETH RUN PUMP STATION, AND CHIPPEWA PUMP STATION         SSIDP-SSO         800880           HHILLS WOTC, CHENOWETH RUN PUMP STATION, AND CHIPPEWA PUMP STATION         SSIDP-SSO         800800           HHILLS WOTC, CHENOWETH RUN PUMP STATION, AND CHIPPEWA PUMP STATION         SSIDP-SSO         N8DIDISPRA           HHILLS WOTC, CHENOWETH RUN PUMP STATION, AND CHIPPEWA PUMP STATION         SSIDP-SSO         N8DIDISPRA           MENTS         SSIDP-SSO         116100           MENTS         SSIDP-SSO         1	EDEN CARE PS SSO INVESTIGATION	SSDP-SSO	MSD1105-PS	S_FF_FF_NB02_S_13_C
4.8 REHABILITATION         SSDP-SSD         9,009           1.8 REHABILITATION         SSDP-SSD         9,009           1.8 REHABILITATION         MSD 0428         9,009           1.4 HILLS WOTC, CHENOWETH RUN PUMP STATION AND CHIPPEWA PUMP STATION         SSDP-SSD         6,0028           1. HILLS WOTC, CHENOWETH RUN PUMP STATION AND CHIPPEWA PUMP STATION         SSDP-SSD         9,0048           1. HILLS WOTC, CHENOWETH RUN PUMP STATION AND CHIPPEWA PUMP STATION         SSDP-SSD         MSD0068-8           1. HILLS WOTC, CHENOWETH RUN PUMP STATION AND CHIPPEWA PUMP STATION         SSDP-SSD         MSD0068-8           1. HILLS WOTC, CHENOWETH RUN PUMP STATION AND CHIPPEWA PUMP STATION         SSDP-SSD         MSD0068-8           1. HILLS WOTC, CHENOWETH RUN PUMP STATION AND CHIPPEWA PUMP STATION         SSDP-SSD         11086-8           MMENTS         SSDP-SSD         11086-8         11086-8           MENTS         SSDP-SSD         11086-8	EDSEL PS I&I INVESTIGATION & REHABILITATION	SSDP-SSO	92098	S_PO_WC_PC11_M_07_C
14 REHABILITATION         SSDP_SSO         94009           14 REHABILITATION         SSDP_SSO         MKDD1048-PS           14 HILLS WOTC, CHENOWETH RUN PUMP STATION AND CHIPPEWA PUMP STATION         STATION         STATION           14 HILLS WOTC, CHENOWETH RUN PUMP STATION AND CHIPPEWA PUMP STATION         SSDP_SSO         RKD01068-PS           14 HILLS WOTC, CHENOWETH RUN PUMP STATION AND CHIPPEWA PUMP STATION         SSDP_SSO         MKD01068-PS           14 HILLS WOTC, CHENOWETH RUN PUMP STATION AND CHIPPEWA PUMP STATION         SSDP_SSO         MKD00068-PS           14 HILLS WOTC, CHENOWETH RUN PUMP STATION AND CHIPPEWA PUMP STATION         SSDP_SSO         MKD00068-PS           MENTS         SSDP_SSO         RKD1068-PS         MKD00068-PS           MENTS         SSDP_SSO         STATION         MKD00068-PS           MENTS         SSDP_SSO         RKD1068-PS         MKD1068-PS           MENTS         SSDP_SSO         RKD1068-PS         RKD1068-PS           MENTS         SSDP_SS	EDSEL PS I&I INVESTIGATION & REHABILITATION	SSDP-SSO	92099	S_PO_WC_PC11_M_07_C
HHLLS WOTC, CHENOWETH RUN PLIMP STATION, AND CHIPPEWA PUMP STATION         SSDP-SSO         MSD 10.46 PG           H HILLS WOTC, CHENOWETH RUN PLIMP STATION, AND CHIPPEWA PUMP STATION         SSDP-SSO         86022         86022           H HILLS WOTC, CHENOWETH RUN PLIMP STATION, AND CHIPPEWA PUMP STATION         SSDP-SSO         MSD 10.66 PG         MSD 10.66 PG           H HILLS WOTC, CHENOWETH RUN PLIMP STATION, AND CHIPPEWA PUMP STATION         SSDP-SSO         MSD 10.64 PS         MSD 10.64 PS           H HILLS WOTC, CHENOWETH RUN PLIMP STATION, AND CHIPPEWA PLIMP STATION         SSDP-SSO         MSD 10.64 PS         MSD 10.64 PS           H HILLS WOTC, CHENOWETH RUN PLIMP STATION, AND CHIPPEWA PLIMP STATION         SSD 50         11.610 G         MSD 10.64 PS           MENTS         SSD 50         SSD 50         87.05 G         87.05 G         87.05 G           MENTS         SSD 50         SSD 50         87.05 G         87.05 G         87.05 G           MENTS         SSD 50         87.05 G         87.05 G         87.05 G         87.05 G           MENTS         SSD 50         87.05 G         87.05 G         87.05 G         87.05 G           MENTS         SSD 50         87.05 G         87.05 G         87.05 G         87.05 G           MENTS         SSD 50         87.05 G         87.05 G         87	EDSEL PS I&I INVESTIGATION & REHABILITATION	SSDP-SSO	94009	S_PO_WC_PC11_M_07_C
HHILLS WOTC, CHENOWETH RUN PUMP STATION, AND CHIPPEWA PUMP STATION         SSDP-SSO         64068           HHILLS WOTC, CHENOWETH RUN PUMP STATION, AND CHIPPEWA PUMP STATION         SSDP-SSO         80922           HHILLS WOTC, CHENOWETH RUN PUMP STATION, AND CHIPPEWA PUMP STATION         SSDP-SSO         MISD0268-8           HHILLS WOTC, CHENOWETH RUN PUMP STATION, AND CHIPPEWA PUMP STATION         SSDP-SSO         MISD0268-8           HHILLS WOTC, CHENOWETH RUN PUMP STATION, AND CHIPPEWA PUMP STATION         SSDP-SSO         H16108           MENTS         SSD         97362           MENTS         SSO         97362           MENTS         SSD         97365           MENTS         SSDP-SSO         108865           MENTS         SSDP-SSO         97365           MENTS         SSDP-SSO         108866	EDSEL PS I&I INVESTIGATION & REHABILITATION	SSDP-SSO	MSD1048-PS	S_PO_WC_PC11_M_07_C
HHILLS WOTC, CHENOWETH RUN PUMP STATION, AND CHIPPEWA PUMP STATION HHILLS WOTC, CHENOWETH RUN PUMP STATION, AND CHIPPEWA PUMP STATION HHILLS WOTC, CHENOWETH RUN PUMP STATION, AND CHIPPEWA PUMP STATION HHILLS WOTC, CHENOWETH RUN PUMP STATION, AND CHIPPEWA PUMP STATION HHILLS WOTC, CHENOWETH RUN PUMP STATION, AND CHIPPEWA PUMP STATION HHILLS WOTC, CHENOWETH RUN PUMP STATION, AND CHIPPEWA PUMP STATION HHILLS WOTC, CHENOWETH RUN PUMP STATION, AND CHIPPEWA PUMP STATION HHILLS WOTC, CHENOWETH RUN PUMP STATION, AND CHIPPEWA PUMP STATION HHILLS WOTC, CHENOWETH RUN PUMP STATION, AND CHIPPEWA PUMP STATION HHILLS WOTC, CHENOWETH RUN PUMP STATION, AND CHIPPEWA PUMP STATION HHILLS WOTC, CHENOWETH RUN PUMP STATION, AND CHIPPEWA PUMP STATION HHILLS WOTC, CHENOWETH RUN PUMP STATION, AND CHIPPEWA PUMP STATION SSD MENTS ME	ELIMINATION OF CHENOWETH HILLS WQTC, CHENOWETH RUN PUMP STATION, AND CHIPPEWA PUMP STATION	SSDP-SSO	64096	S_JT_JT_NB01A_M_03_C
HHLLS WOTC, CHENOWETH RUN PUMP STATION AND CHIPPEWA PUMP STATION         SSDP-SSO         ANSDOTGS-PS           HHLLS WOTC, CHENOWETH RUN PUMP STATION, AND CHIPPEWA PUMP STATION         SSDP-SSO         MSD0263-AFS           HHLLS WOTC, CHENOWETH RUN PUMP STATION, AND CHIPPEWA PUMP STATION         SSDP-SSO         MSD0263-AFS           HHLLS WOTC, CHENOWETH RUN PUMP STATION, AND CHIPPEWA PUMP STATION         SSDP-SSO         MSD1063-BS           MENTS         SSD         116100         116100           MENTS         SSD         8786         8786           MENTS         SSD         8786         8786           MENTS         SSD-SSO         108869         108869           MENTS         SSD-SSO	ELIMINATION OF CHENOWETH HILLS WQTC, CHENOWETH RUN PUMP STATION, AND CHIPPEWA PUMP STATION	SSDP-SSO	86052	S_JT_JT_NB01A_M_03_C
HHLLS WOTC, CHENOWETH RUN PUMP STATION, AND CHIPPEWA PUMP STATION         SSDP-SSO         MISDD263           HHLLS WOTC, CHENOWETH RUN PUMP STATION, AND CHIPPEWA PUMP STATION         SSDP-SSO         MISDD263A-PS           HHLLS WOTC, CHENOWETH RUN PUMP STATION, AND CHIPPEWA PUMP STATION         SSD-SSO         116166           MENTS         SSD         116666-PS           MENTS         SSD-SSO         116666-PS           MENTS <td>ELIMINATION OF CHENOWETH HILLS WQTC, CHENOWETH RUN PUMP STATION, AND CHIPPEWA PUMP STATION</td> <td>SSDP-SSO</td> <td>92061</td> <td>S_JT_JT_NB01A_M_03_C</td>	ELIMINATION OF CHENOWETH HILLS WQTC, CHENOWETH RUN PUMP STATION, AND CHIPPEWA PUMP STATION	SSDP-SSO	92061	S_JT_JT_NB01A_M_03_C
HHILLS WORD, CHENOWETH RUN PUMP STATION, AND CHIPPEWA PUMP STATION         STATION         SEDP-SSO         MISDDEAB           HHILLS WORD, CHENOWETH RUN PUMP STATION, AND CHIPPEWA PUMP STATION         SSDP-SSO         MISDDEAB         116106           MENTS         SSDP-SSO         116106         SSD-SSO         116106           MENTS         SSDP-SSO         118106         SSD-SSO         118106           MENTS         SSD         97362         STATION           MENTS         SSD         97362         SSD-SSO           MENTS         SSD-SSO         97362         SSD-SSO           MENTS         SSD-SSO         100867         SSD-SSO           MENTS         SSD-SSO         100867         SSD-SSO         SSD-SSO           MENTS         SSD-SSO         100867         SSD-SSO         SSD-SSO         SSD-SSO           MENTS         SSD-SSO         NSD-SSO         NSD-SSO         SSD-SSO         MSD-SSO         MSD-SSO         MSD-SSO         SSD-SSO         SSD-SSO         SSD-SSO         SSD-SSO         SSD-SSO         SSD-SSO <td< td=""><td>ELIMINATION OF CHENOWETH HILLS WQTC, CHENOWETH RUN PUMP STATION, AND CHIPPEWA PUMP STATION</td><td>SSDP-SSO</td><td>MSD0196-PS</td><td>S_JT_JT_NB01A_M_03_C</td></td<>	ELIMINATION OF CHENOWETH HILLS WQTC, CHENOWETH RUN PUMP STATION, AND CHIPPEWA PUMP STATION	SSDP-SSO	MSD0196-PS	S_JT_JT_NB01A_M_03_C
HHILLS WQTC, CHENOWETH RUNP PIATION, AND CHIPPEWA PUMP STATION         SSDP-SSO         MSD043-PS           MENTS         SSD         116106         116106           MENTS         SSO         116106         116106           MENTS         SSO         81316         116106           MENTS         SSO         97382         116106           MENTS         SSD         97382         116106           MENTS         SSO         97383         116106           MENTS         SSD         97383         116106           MENTS         SSDP-SSO         116865         116865           MENTS AND WET WEATHER STORAGE 1 - DEVONDALE WET WEATHER STORAGE         SSDP-SSO         117721           MENTS AND WET WEATHER STORAGE 1 - DEVONDALE WET WEATHER STORAGE         SSDP-SSO         117721           MENTS AND WET WEATHER STORAGE 1 - DEVONDALE WET WEATHER STORAGE         SSDP-SSO	ELIMINATION OF CHENOWETH HILLS WQTC, CHENOWETH RUN PUMP STATION, AND CHIPPEWA PUMP STATION	SSDP-SSO	MSD0263	S_JT_JT_NB01A_M_03_C
HHILLS WOTC, CHENOWETH RUN PUMP STATION, AND CHIPPEWA PUMP STATION         SSD         116108           MENTS         \$SSO         \$1316           MENTS         \$SSO         \$17362           MENTS         \$SSO         \$17362           MENTS         \$SSO         \$17365           MENTS         \$SSO         \$17365           MENTS         \$SSO         \$17365           MENTS         \$SSO         \$17365           MENTS         \$SSD-SSO         \$108666           MENTS         \$SSD-SSO         \$107666           MENTS         \$10000         \$10000           MENTS         \$10000         \$10000           MENTS         \$10000         \$10000           MENTS         \$10000         \$10000	ELIMINATION OF CHENOWETH HILLS WQTC, CHENOWETH RUN PUMP STATION, AND CHIPPEWA PUMP STATION	SSDP-SSO	MSD0263A-PS	S_JT_JT_NB01A_M_03_C
MENTS         SSO         116106           MENTS         SSO         81316           MENTS         SSO         97362           MENTS         SSO         97362           MENTS         SSO         97363           MENTS         SSO         97365           MENTS         SSD-SSO         108667           SED-SSO         108667         108667           SSD-SSO         90776         108667           MENTS AND WET WEATHER STORAGE 1 - DEVONDALE WET WEATHER STORAGE         SSD-SSO         40776           SSD-SSO         117721         117721         117721           MENTS AND WET WEATHER STORAGE 1 - DEVONDALE WET WEATHER STORAGE         SSD-SSO         44891         44891           MENTS AND WET WEATHER STORAGE 1 - DEVONDALE WET WEATHER STORAGE         SSD-SSO         44891         44891           MENTS AND WET WEATHER STORAGE 1 - DEVONDALE WET WEATHER STORAGE         SSD-SSO         44891         44891	ELIMINATION OF CHENOWETH HILLS WQTC, CHENOWETH RUN PUMP STATION, AND CHIPPEWA PUMP STATION	SSDP-SSO	MSD1043-PS	S_JT_JT_NB01A_M_03_C
MENTS         SSO         81316           MENTS         SSO         97362           MENTS         SSO         97363           MENTS         SSD         97365           MENTS         SSD-SSO         97365           MENTS         SSD-SSO         108853         END           MENTS         SSD-SSO         108866         END           MENTS         SSD-SSO         108866         END           MENTS         AND WET WEATHER STORAGE 1 - DEVONDALE WET WEATHER STORAGE         SSD-SSO         1108568         END           MENTS AND WET WEATHER STORAGE 1 - DEVONDALE WET WEATHER STORAGE         SSD-SSO         43472         MENTS AND WET WEATHER STORAGE 1 - DEVONDALE WET WEATHER STORAGE         SSD-SSO         43472           MENTS AND WET WEATHER STORAGE 1 - DEVONDALE WET WEATHER STORAGE 2 - DEVONDALE WET WEATHER STORAGE 3 - DEVOND	FAIRMOUNT RD PS IMPROVEMENTS	oss	116106	S_FF_CC_81316_M_03_C_A
MENTS         SSO         97362           MENTS         SSO         97363           MENTS         SSO         97365           MENTS         SSDP-SSO         MSD1065-PS           MENTS         SSDP-SSO         MSD1066-PS           SSDP-SSO         MSD1066-PS         PSDP-SSO           MENTS         SSDP-SSO         108966           MENTS         SSDP-SSO         108966           MENTS         MSD1066-PS         PSDP-SSO           MENTS         AND PSSO         108966           MENTS         AND PSSO         109966-PS           MENTS         AND PSSO         109966-PS           MENTS         AND PSSO         10776           MENTS         AND PSSO         10776           MENTS         AND PSSO         107721           MENTS         AND PSSO         107721           MENTS         AND PSSO         43472           MENTS         AND PSSO         46891           MENTS         AND PSSO         46891           MENTS         AND PSSO         46891           MENTS         AND PSSO         46891	FAIRMOUNT RD PS IMPROVEMENTS	oss	81316	S_FF_CC_81316_M_03_C_A
MENTS         SSO         97363           MENTS         SSD         97365           MENTS         SSDP-SSO         MSD1066-PS           MENTS         SSDP-SSO         108963           SSDP-SSO         108967         108967           SSDP-SSO         108967         108967           MENTS AND WET WEATHER STORAGE 1 - DEVONDALE WET WEATHER STORAGE         SSDP-SSO         90776           MENTS AND WET WEATHER STORAGE 1 - DEVONDALE WET WEATHER STORAGE         SSDP-SSO         117721           MENTS AND WET WEATHER STORAGE 1 - DEVONDALE WET WEATHER STORAGE         SSDP-SSO         117721           MENTS AND WET WEATHER STORAGE 1 - DEVONDALE WET WEATHER STORAGE         SSDP-SSO         43472           MENTS AND WET WEATHER STORAGE 1 - DEVONDALE WET WEATHER STORAGE         SSDP-SSO         46891           MENTS AND WET WEATHER STORAGE 1 - DEVONDALE WET WEATHER STORAGE         SSDP-SSO         46891	FAIRMOUNT RD PS IMPROVEMENTS	sso	97362	S_FF_CC_81316_M_03_C_A
MENTS         SSO         97365           MENTS         SSDP-SSO         MSD1065-PS           MENTS         SSDP-SSO         108863           SSDP-SSO         108865         108865           SSDP-SSO         108867         108867           SSDP-SSO         108868         108868           MENTS AND WET WEATHER STORAGE 1 - DEVONDALE WET WEATHER STORAGE         SSDP-SSO         90778           MENTS AND WET WEATHER STORAGE 1 - DEVONDALE WET WEATHER STORAGE         SSDP-SSO         117721           MENTS AND WET WEATHER STORAGE 1 - DEVONDALE WET WEATHER STORAGE         SSDP-SSO         117721           MENTS AND WET WEATHER STORAGE 1 - DEVONDALE WET WEATHER STORAGE         SSDP-SSO         43472           MENTS AND WET WEATHER STORAGE 1 - DEVONDALE WET WEATHER STORAGE         SSDP-SSO         48891	FAIRMOUNT RD PS IMPROVEMENTS	oss	97363	S_FF_CC_81316_M_03_C_A
MENTS         MSD1066-PS         MSD1066-PS </td <td>FAIRMOUNT RD PS IMPROVEMENTS</td> <td>sso</td> <td>97365</td> <td>S_FF_CC_81316_M_03_C_A</td>	FAIRMOUNT RD PS IMPROVEMENTS	sso	97365	S_FF_CC_81316_M_03_C_A
GE         SSDP-SSO         108956           MENTS AND WET WEATHER STORAGE 1 - DEVONDALE WET WEATHER STORAGE         SSDP-SSO         108958           MENTS AND WET WEATHER STORAGE 1 - DEVONDALE WET WEATHER STORAGE         SSD         62769           MENTS AND WET WEATHER STORAGE 1 - DEVONDALE WET WEATHER STORAGE         SSDP-SSO         105936           MENTS AND WET WEATHER STORAGE 1 - DEVONDALE WET WEATHER STORAGE         SSDP-SSO         117721           MENTS AND WET WEATHER STORAGE 1 - DEVONDALE WET WEATHER STORAGE         SSDP-SSO         48891           MENTS AND WET WEATHER STORAGE 1 - DEVONDALE WET WEATHER STORAGE         SSDP-SSO         48891           MENTS AND WET WEATHER STORAGE 2 - DEVONDALE WET WEATHER STORAGE         SSDP-SSO         48891	FAIRWAY VIEW PS IMPROVEMENTS	SSDP-SSO	MSD1065-PS	S_HC_HS_NB01_S_03_C_A
SSDP-SSO   108966   SSDP-SSO   108967   SSDP-SSO   108967   SSDP-SSO   108967   SSDP-SSO   108968   SSDP-SSO   90776   POEVONDALE WET WEATHER STORAGE   SSDP-SSO   117721   POEVONDALE WET WEATHER STORAGE   SSDP-SSO   46891   POEVONDALE WET WEATHER STORAGE   SSDP-SSO   62418   POEVONDALE WET WEATHER STORAGE   SSDP-SSO   POEVONDALE WET WEATHER STORAGE   POEVONDALE WET WET WET WET WET WET WET WET WET WE	FLOYDSBURG RD I&I INVEST	SSDP-SSO	108953	S_HC_HC_MSD1086_M_07_C_A
SSDP-SSO   108967   SSDP-SSO   108968   SSDP-SSO   108968   SSDP-SSO   108968   SSDP-SSO   108968   SSDP-SSO   SSDP-SSO   SSDP-SSO   62769   SSDP-SSO   62769   SSDP-SSO   1-DEVONDALE WET WEATHER STORAGE   SSDP-SSO   117721   SSDP-SSO   147721   SSDP-SSO   43472   SSDP-SSO   62418   SSDP-SSO   62418   SSDP-SSO   62418   SSDP-SSO   CSDP-SSO   CSDP-SS	FLOYDSBURG RD I&I INVEST	SSDP-SSO	108956	S_HC_HC_MSD1086_M_07_C_A
SSDP-SSO   108968   SSDP-SSO   108968   SSDP-SSO   90776   SSDP-SSO   90776   SSDP-SSO   90776   SSDP-SSO   90776   SSDP-SSO   62769   SSDP-SSO   117721   SSDP-SSO   117721   SSDP-SSO   117721   SSDP-SSO   117721   SSDP-SSO   43472   SSDP-SSO   48891   SSDP-SSO   62418   SSDP-SSO   62418   SSDP-SSO   SSDP	FLOYDSBURG RD I&I INVEST	SSDP-SSO	108957	S_HC_HC_MSD1086_M_07_C_A
SSDP-SSO   90776	FLOYDSBURG RD I&I INVEST	SSDP-SSO	108958	S_HC_HC_MSD1086_M_07_C_A
SSDP-SSO   MSD1086-PS	FLOYDSBURG RD I&I INVEST	SSDP-SSO	90776	S_HC_HC_MSD1086_M_07_C_A
1- DEVONDALE WET WEATHER STORAGE   SSDP-SSO   105936   117721   SSDP-SSO   117721   SSDP-SSO   147721   SSDP-SSO   147721   SSDP-SSO   48991   1- DEVONDALE WET WEATHER STORAGE   SSDP-SSO   46891   SSDP	FLOYDSBURG RD I&I INVEST	SSDP-SSO	MSD1086-PS	S_HC_HC_MSD1086_M_07_C_A
1 - DEVONDALE WET WEATHER STORAGE         SSDP-SSO         105836           1 - DEVONDALE WET WEATHER STORAGE         SSDP-SSO         117721           1 - DEVONDALE WET WEATHER STORAGE         SSDP-SSO         43472           1 - DEVONDALE WET WEATHER STORAGE         SSDP-SSO         48891           1 - DEVONDALE WET WEATHER STORAGE         SSDP-SSO         62418	FOX HARBOR IN-LINE STORAGE	oss	62769	S_HC_HN_NB03_S_09A_A_A
1 - DEVONDALE WET WEATHER STORAGE         SSDP-SSO         117721           1 - DEVONDALE WET WEATHER STORAGE         SSDP-SSO         43472           1 - DEVONDALE WET WEATHER STORAGE         SSDP-SSO         46891           1 - DEVONDALE WET WEATHER STORAGE         SSDP-SSO         62418	~	SSDP-SSO	105936	S_MI_MF_NB04_M_03_B-1
1 - DEVONDALE WET WEATHER STORAGE SSDP-SSO 48891 1 - DEVONDALE WET WEATHER STORAGE SSDP-SSO 62418 1 - DEVONDALE WET WEATHER STORAGE SSDP-SSO 62418	~	SSDP-SSO	117721	S_MI_MF_NB04_M_03_B-1
1 - DEVONDALE WET WEATHER STORAGE SSDP-SSO 46891 1 - DEVONDALE WET WEATHER STORAGE SSDP-SSO 62418 2 - DEVONDALE WET WIGHT WICH THE STORAGE SSDP SSO 62418	~	SSDP-SSO	43472	S_MI_MF_NB04_M_03_B-1
1-DEVONDALE WET WEATHER STORAGE SSDP-SSO 62418	~	SSDP-SSO	46891	S_MI_MF_NB04_M_03_B-1
1 DEVONDALE WEATURE STODAGE	~	SSDP-SSO	62418	S_MI_MF_NB04_M_03_B-1
1 - DEVONDALE WET WEATHER STURAGE SSDP-SSO 02420	GOOSE CREEK PS IMPROVEMENTS AND WET WEATHER STORAGE 1 - DEVONDALE WET WEATHER STORAGE	SSDP-SSO	62420	S_MI_MF_NB04_M_03_B-1



PROJECT NAME	PROGRAM	ASSET ID	PROJECT ID
GOOSE CREEK PS IMPROVEMENTS AND WET WEATHER STORAGE 1 - DEVONDALE WET WEATHER STORAGE	SSDP-SSO	91629	S_MI_MF_NB04_M_03_B-1
GOOSE CREEK PS IMPROVEMENTS AND WET WEATHER STORAGE 1 - DEVONDALE WET WEATHER STORAGE	SSDP-SSO	91630	S_MI_MF_NB04_M_03_B-1
GOOSE CREEK PS IMPROVEMENTS AND WET WEATHER STORAGE 1 - DEVONDALE WET WEATHER STORAGE	SSDP-SSO	MSD0040-PS	S_MI_MF_NB04_M_03_B-1
GOOSE CREEK PS IMPROVEMENTS AND WET WEATHER STORAGE 1 - DEVONDALE WET WEATHER STORAGE	SSDP-SSO	MSD1024-PS	S_MI_MF_NB04_M_03_B-1
GOVERNMENT CENTER PS ELIMINATION	SSDP-SSO	94541	S_PO_WC_PC06_M_01_C
GOVERNMENT CENTER PS ELIMINATION	SSDP-SSO	94542	S_PO_WC_PC06_M_01_C
GOVERNMENT CENTER PS ELIMINATION	SSDP-SSO	MSD0180-PS	S_PO_WC_PC06_M_01_C
GUNPOWDER PS IN-LINE STORAGE	SSDP-SSO	MSD1055-LS	S_HC_HN_NB02_S_09A_C_B
HAZELWOOD PS I&I INVESTIGATION & REHABILITATION	SSDP-SSO	55665	S_MC_MF_55665_S_07_C
HAZELWOOD PS I&I INVESTIGATION & REHABILITATION	SSDP-SSO	55667	S_MC_MF_55665_S_07_C
HIKES LANE INTERCEPTOR & HIGHGATE SPRINGS PS	ISSDP	17571	HIKES LN INTER & HIGHGATE SPR
HIKES LANE INTERCEPTOR & HIGHGATE SPRINGS PS	ISSDP	18134	HIKES LN INTER & HIGHGATE SPR
HIKES LANE INTERCEPTOR & HIGHGATE SPRINGS PS	ISSDP	18297	HIKES LN INTER & HIGHGATE SPR
HIKES LANE INTERCEPTOR & HIGHGATE SPRINGS PS	ISSDP	18298	HIKES LN INTER & HIGHGATE SPR
HIKES LANE INTERCEPTOR & HIGHGATE SPRINGS PS	ISSDP	18299	HIKES LN INTER & HIGHGATE SPR
HIKES LANE INTERCEPTOR & HIGHGATE SPRINGS PS	ISSDP	18302	HIKES LN INTER & HIGHGATE SPR
HIKES LANE INTERCEPTOR & HIGHGATE SPRINGS PS	ISSDP	18318-W	HIKES LN INTER & HIGHGATE SPR
HIKES LANE INTERCEPTOR & HIGHGATE SPRINGS PS	ISSDP	18370	HIKES LN INTER & HIGHGATE SPR
HIKES LANE INTERCEPTOR & HIGHGATE SPRINGS PS	ISSDP	18434	HIKES LN INTER & HIGHGATE SPR
HIKES LANE INTERCEPTOR & HIGHGATE SPRINGS PS	ISSDP	18471	HIKES LN INTER & HIGHGATE SPR
HIKES LANE INTERCEPTOR & HIGHGATE SPRINGS PS	ISSDP	18483	HIKES LN INTER & HIGHGATE SPR
HIKES LANE INTERCEPTOR & HIGHGATE SPRINGS PS	ISSDP	18505	HIKES LN INTER & HIGHGATE SPR
HIKES LANE INTERCEPTOR & HIGHGATE SPRINGS PS	ISSDP	18595	HIKES LN INTER & HIGHGATE SPR
HIKES LANE INTERCEPTOR & HIGHGATE SPRINGS PS	ISSDP	47960A	HIKES LN INTER & HIGHGATE SPR
HIKES LANE INTERCEPTOR & HIGHGATE SPRINGS PS	ISSDP	48885	HIKES LN INTER & HIGHGATE SPR
HIKES LANE INTERCEPTOR & HIGHGATE SPRINGS PS	ISSDP	48886	HIKES LN INTER & HIGHGATE SPR
HIKES LANE INTERCEPTOR & HIGHGATE SPRINGS PS	ISSDP	48888	HIKES LN INTER & HIGHGATE SPR
HIKES LANE INTERCEPTOR & HIGHGATE SPRINGS PS	ISSDP	49224	HIKES LN INTER & HIGHGATE SPR
HIKES LANE INTERCEPTOR & HIGHGATE SPRINGS PS	ISSDP	49236	HIKES LN INTER & HIGHGATE SPR
HIKES LANE INTERCEPTOR & HIGHGATE SPRINGS PS	ISSDP	49672	HIKES LN INTER & HIGHGATE SPR
HIKES LANE INTERCEPTOR & HIGHGATE SPRINGS PS	ISSDP	49673	HIKES LN INTER & HIGHGATE SPR
HIKES LANE INTERCEPTOR & HIGHGATE SPRINGS PS	ISSDP	73111	HIKES LN INTER & HIGHGATE SPR
HIKES LANE INTERCEPTOR & HIGHGATE SPRINGS PS	ISSDP	MSD0012-PS	HIKES LN INTER & HIGHGATE SPR
HURSTBOURNE I/I INVESTIGATION & REHABILITATION	SSDP-SSO	01793	S_MI_MF_NB07_S_07_C
HURSTBOURNE I/I INVESTIGATION & REHABILITATION	SSDP-SSO	47650	S_MI_MF_NB07_S_07_C
HURSTBOURNE I/I INVESTIGATION & REHABILITATION	SSDP-SSO	47656	S_MI_MF_NB07_S_07_C
HURSTBOURNE I/I INVESTIGATION & REHABILITATION	SSDP-SSO	67535	S_MI_MF_NB07_S_07_C
IDLEWOOD IN-LINE STORAGE	SSDP-SSO	28984	S_CC_CC_70158_M_09A_C



PARTICULARY         CORD-SSOD         CRUM-SSD           SERD-SSOD         CRUM-SSD         CRUM-SSD           COLOR         SERD-SSOD         CRUM-SSD           COLOR         SERD-SSOD         CRUM-SSD           COLOR         SERD-SSOD         SERD-SSOD           CO			!	
NAME         SERDIN-SEGO         200006           NA         SERDIN-SEGO         600006           NA         SERDIN-SEGO         600006           NA         SERDIN-SEGO         600006           NA         SERDIN-SEGO         770758           NA         SERDIN-SEGO         770759           NA         SERDIN-SEGO         770750           NA         SERDIN-SEGO         770740           NA         SERDIN-SEGO         770740           NA         SERDIN-SEGO         770740           NA         SERDIN-SEGO         770740           <	PROJECT NAME	PROGRAM	ASSET ID	PROJECT ID
NAMEMABLITATION         SIGN-SSO         2,889           NA         SIGN-SSO         1,701,83           NA         SIGN-SSO         7,711,83           NA         SIGN-SSO         7,711,83           NA         SIGN-SSO         7,818,73           NA         SIGN-SSO         7,818,73           NA         SIGN-SSO         7,818,73           NA         SIGN-SSO         7,826,73           NA         SIGN-SSO         7,826,73           NA         SIGN-SSO         1,826,73           NA         SIGN-SSO         1,826,73           NA         SIGN-SSO         1,826,73           NA         SIGN-SSO         1,826,73           SIGN-SSO         1,826,73         1,826,73           SIGN-SSO         1,826,73         1,826,73           T         SIGN-SSO         1,826,73           T	IDLEWOOD IN-LINE STORAGE	SSDP-SSO	28985	S_CC_CC_70158_M_09A_C
NAME         SIGDP-SEGO         60004           NA         SIGDP-SEGO         60004           NA         SIGDP-SEGO         28173           NA         SIGDP-SEGO         28174           NA         SIGDP-SEGO         281744           NA         SIGDP-SEGO	IDLEWOOD IN-LINE STORAGE	SSDP-SSO	28998	S_CC_CC_70158_M_09A_C
NA         NOTO-800         60006           NA         NOTO-800         70168           NA         NOTO-800         2507-800         2507-800           NA         NOTO-800         2507-800         2507-800           NA         SSD-800         2508-90         2508-90           NA         SSD-800         2508-90         2508-90           NA         SSD-800         2508-90         2508-90           NA         SSD-800         2508-90         2508-90           <	IDLEWOOD IN-LINE STORAGE	SSDP-SSO	63094	S_CC_CC_70158_M_09A_C
NA         SSEPP-SSO         70168           NA         SSEPP-SSO         28173           NA         SSEPP-SSO         28173           NA         SSEPP-SSO         28010           NA         SSEPP-SSO         48010           NA         SSEPP-SSO         48010           NA         SSEPP-SSO         48010           SSEPP-SSO         48010           SSEPP-SSO         48010           SSEPP-SSO         48010           T         SSEPP-SSO         180010           T         SSEPP-SSO         180010           T         SSEPP-SSO         28010           T         SSEPP-SSO	IDLEWOOD IN-LINE STORAGE	SSDP-SSO	63095	S_CC_CC_70158_M_09A_C
NA         SSDP-550         2617-30           NA         SSDP-550         26810           T	IDLEWOOD IN-LINE STORAGE	SSDP-SSO	70158	S_CC_CC_70158_M_09A_C
NA         SSIPP-SSO         2889           NA         SSIPP-SSO         2880           NA         SSIPP-SSO         2880           NA         SSIPP-SSO         2880           NA         SSIPP-SSO         2880           NA         SSIPP-SSO         2860           NA         SSIPP-SSO         46456           NA         SSIPP-SSO         46456           NA         SSIPP-SSO         46456           NA         SSIPP-SSO         48640           NA         SSIPP-SSO         48640           SSIPP-SSO         48640         28640           T         SSIPP-SSO         48640           T         SSIPP-SSO         18640           T         SSIPP-SSO         18640           T         SSIPP-SSO         18640           T         SSIPP-SSO         18640	JEFFERSONTOWN WQTC ELIMINATION	SSDP-SSO	28173	S_JT_JT_NB01_M_01_C_A
MA         SSDP-SSO         280945 <td>JEFFERSONTOWN WQTC ELIMINATION</td> <td>SSDP-SSO</td> <td>28390</td> <td>S_JT_JT_NB01_M_01_C_A</td>	JEFFERSONTOWN WQTC ELIMINATION	SSDP-SSO	28390	S_JT_JT_NB01_M_01_C_A
NA         SSIPP-SSO         2559CB           NA         SSIPP-SSO         2826FS           NA         SSIPP-SSO         2826FS           NA         SSIPP-SSO         44505CS           NA         SSIPP-SSO         44505CS           NA         SSIPP-SSO         44505CS           NA         SSIPP-SSO         44507CS           NA         SSIPP-SSO         48507CS           SSIPP-SSO         48507CS         2867           NA         SSIPP-SSO         48671         2867           NA         SSIPP-SSO         48671         2867           NA         SSIPP-SSO         48671         2867           T         AM         25464         25464           T         AM         25464         25464           T         SSIPP-SSO         18960         25644           T         SSIPP-SSO         25644         25644 <t< td=""><td>JEFFERSONTOWN WQTC ELIMINATION</td><td>SSDP-SSO</td><td>28391</td><td>S_JT_JT_NB01_M_01_C_A</td></t<>	JEFFERSONTOWN WQTC ELIMINATION	SSDP-SSO	28391	S_JT_JT_NB01_M_01_C_A
NA         SSDP-SSO         2560-SSO         C2606-SSO         C2606-S	JEFFERSONTOWN WQTC ELIMINATION	SSDP-SSO	28392	S_JT_JT_NB01_M_01_C_A
NA         SDP-SSO         24551           NA         SDP-SSO         31733           NA         SSDP-SSO         18028-1           NA         SSDP-SSO         18028-1           NA         SSDP-SSO         18028-1           NA         SSDP-SSO         18028-1           SSDP-SSO         2804-1         2804-1           SSDP-SSO         2804-1         2804-1           NA         2804-1         2804-1           NA         2804-1         2804-1           NA         2804-1         2804-1           T	JEFFERSONTOWN WQTC ELIMINATION	SSDP-SSO	28395	S_JT_JT_NB01_M_01_C_A
NA         SSGPP-SSO         91733         NA           NA         SSGP-SSO         18026-SSO         18026	JEFFERSONTOWN WQTC ELIMINATION	SSDP-SSO	28551	S_JT_JT_NB01_M_01_C_A
NA         SSDP-SSO         646GE           NA         SSDP-SSO         18202-83           NA         SSDP-SSO         NASDUZSÉ           SSDP-SSO         NASDUZSÉ         26644           SSDP-SSO         25644         25644           SSDP-SSO         25641         25641           SSDP-SSO         25641         25641           SSDP-SSO         25641         25641           SSDP-SSO         26641         26641           SSDP-SSO         26641         26641           T         26642         26641           T         26644         26641           T         26644         26644           T         26645         26646           T         26645         26646           T         26646         26646           T         26	JEFFERSONTOWN WQTC ELIMINATION	SSDP-SSO	31733	S_JT_JT_NB01_M_01_C_A
NA         SEDP-SSO         MSD0265S           NA         SSDP-SSO         MSD1066-PS           NA         SSDP-SSO         MSD1066-PS           SSDP-SSO         ZS645         ZS645           SSDP-SSO         ZS661         ZS661           NA         SSDP-SSO         ZS661           SSDP-SSO         MSD1016-PS         ZS661           T         SSDP-SSO         MSD1016-PS           T         AM         ST618           T         SSDP-SSO         MSD1016-PS           T         SSDP-SSO         MSD1016-PS           T         SSDP-SSO         MSD1016-PS           T         SSDP-SSO         19260           T         SSDP-SSO         19260           T         SSDP-SSO         25043           T         SSDP-SSO         27044           T         SSDP-SSO         27044     <	JEFFERSONTOWN WQTC ELIMINATION	SSDP-SSO	64505	S_JT_JT_NB01_M_01_C_A
NA         SSDP-SSO         MSDDQSS           SSDP-SSO         MSDT068-PS         C0644           SSDP-SSO         26670         C0644           SSDP-SSO         26670         C0657           SSDP-SSO         26670         C0657           SSDP-SSO         26670         C0657           SSDP-SSO         26651         C0657           SSDP-SSO         26651         C0657           SSDP-SSO         46653         C0657           AM         26544         C0652           T         AM         26544           T         SSDP-SSO         16360           T         SSDP-SSO         16360           T         SSDP-SSO         26943           T         SSDP-SSO         26949	JEFFERSONTOWN WQTC ELIMINATION	SSDP-SSO	IS028-SI	S_JT_JT_NB01_M_01_C_A
SSDP-SSO         MSDF068-PS         MSDF068-P	JEFFERSONTOWN WQTC ELIMINATION	SSDP-SSO	MSD0255	S_JT_JT_NB01_M_01_C_A
SSDP-SSO         20644           SSDP-SSO         20678           SSDP-SSO         20678           SSDP-SSO         20678           SSDP-SSO         20651           SSDP-SSO         40613           SSDP-SSO         40613           SSDP-SSO         40613           SSDP-SSO         40613           SSDP-SSO         40613           SSDP-SSO         40614           SSDP-SSO         40614           SSDP-SSO         40614           SSDP-SSO         40616           SSDP-SSO         10806           SSDP-SSO         10806           SSDP-SSO         10806           SSDP-SSO         10806           SSDP-SSO         20848           SSDP-SSO         20848           SSDP-SSO         20848           SSDP-SSO         31074           SSDP-SSO         31074           SSDP-SSO         31074           SSDP-SSO         31074           SSDP-SSO         51044           SSDP-SSO         51074           SSDP-SSO         51074           SSDP-SSO         51074           SSDP-SSO         51074	KAVANAUGH RD PS IMPROVEMENTS	SSDP-SSO	MSD1085-PS	S_HC_HC_MSD1085_S_03_A
SSD SADE         2,667 B           SSD SADE         2,667 B           SSD SADE         2,667 B           SSD SADE         2,667 B           SSD SADE         4,661 B           PROVEMENT         8,500 SADE	KLONDIKE INTERCEPTOR	SSDP-SSO	20644	S_SD_MF_NB04_S_01_B_A
ESDIGATION         SDP-SSO         26651         CREDIT           ESTIGATION & REHABILITATION         SDP-SSO         46513         CREDIT           ESTIGATION & REHABILITATION         SDP-SSO         MSD11694.S         CREDIT           ESTIGATION & REHABILITATION         SDP-SSO         MSD11694.S         CREDIT           PROVEMENT         AM         SDF-SSO         MSD11694.S         CREDIT           PROVEMENT         AM         SDF-SSO         T6900         CREDIT           PROVEMENT         SDF-SSO         T6900         CREDIT         CREDIT           PROVEMENT         SDF-SSO         T6900	KLONDIKE INTERCEPTOR	SSDP-SSO	25676	S_SD_MF_NB04_S_01_B_A
SREHABILITATION         SSDP-SSO         49613         PREMABILITATION           REHABILITATION         SSDP-SSO         MADD101-PS         PREMABILITATION           REHABILITATION         SSDP-SSO         MADD101-PS         PREMABILITATION           AM         AM         25484         PREMABILITATION           AM         AM         93719         PREMABILITATION           AM         SSDP-SSO         31074         PREMABILITATION           AM         SSDP-SSO         31074         PREMABILITATION           AM         SSDP-SSO         31074         PREMABILITATION           AM         SSDP-SSO         31074         PREMABILITATION	KLONDIKE INTERCEPTOR	SSDP-SSO	26650	S_SD_MF_NB04_S_01_B_A
SRDP-SSO         66232         85DP-SSO         66232         66232         85DP-SSO         66232         85DP-SSO         66232         85DP-SSO         66232         85DP-SSO         66232         85DP-SSO         66232         85DP-SSO	KLONDIKE INTERCEPTOR	SSDP-SSO	26651	S_SD_MF_NB04_S_01_B_A
REHABILITATION         SSDP-SSO         MSD1169-LS           AM         SSDP-SSO         MSD0101-PS           AM         25484         PAM           AM         25484         PAM           AM         25484         PAM           AM         25484         PAM           AM         39719         PAM           AM         25484         PAM           SSDP-SSO         19369         PAM           SSDP-SSO         29949         PAM           SSDP-SSO         29949         PAM           SSDP-SSO         31074         PAM	KLONDIKE INTERCEPTOR	SSDP-SSO	49513	S_SD_MF_NB04_S_01_B_A
REHABILITATION         SSDP-SSO         MSD0101-PS           AM         25484         25484           AM         93719         25484           AM         93719         25484           AM         93719         25484           AM         93719         25484           AM         850P-SSO         19969           AM         95719         25943           AM         850P-SSO         29948           AM         850P-SSO         29949           AM         850P-SSO         31074           AM         850P-SSO         31084           AM         850P-SSO         31084           AM         850P-SSO         51084           AM         850P-SSO         51084           AM         850P-SSO         51084           AM         850P-SSO         51084	KLONDIKE INTERCEPTOR	SSDP-SSO	66232	S_SD_MF_NB04_S_01_B_A
& REHABILITATION         SSDP-SSO         MSD0101-PS         MSD0101-PS           AM         25484         (25484)         (254844)         (25484)         (25484)         (25484)         (25484)         (25484)         (25484)         (25484)         (25484)         (25484)         (25484)         (25484)         (254844)         (254844)         (254844)         (254844)         (254844)         (254844)         (254844)         (254844)         (254844)         (2548444)         (2548444)         (2548444)         (25484444)         (25484444)         (254844444)         (254844444)         (254844444)         (2548444444)         (2548444444)         (25484444444)         (25484444444)         (254844444444)         (25484444444444)         (25484444444444444444)         (25484444444444444444444)         (254844444444444444444444444444444444444	LAKE FOREST PS SSO INVESTIGATION	SSDP-SSO	MSD1169-LS	S_FF_LF_NB01_S_13_C_A
AM         25484         Page 14           SSDF-SSO         19360         19360           SSDF-SSO         19369         19369           SSDF-SSO         29343         19369           SSDF-SSO         29948         19369           SSDF-SSO         29948         19369           SSDF-SSO         29949         19369           SSDF-SSO         31073         19369           SSDF-SSO         31083         19364           SSDF-SSO         57874         19364	LANTANA#1 PS I/I INVESTESTIGATION & REHABILITATION	SSDP-SSO	MSD0101-PS	S_PO_WC_PC05_M_07_C
AM         93719           SSDP-SSO         19360           SSDP-SSO         19369           SSDP-SSO         29943           SSDP-SSO         29948           SSDP-SSO         29949           SSDP-SSO         29949           SSDP-SSO         31073           SSDP-SSO         31074           SSDP-SSO         31074           SSDP-SSO         31083           SSDP-SSO         31084           SSDP-SSO         57874           SSDP-SSO         57874	LANTANA PS ELIMINATION	AM	25484	AMLANTANAPS
SSDP-SSO         19360           SSDP-SSO         19369           SSDP-SSO         29943           SSDP-SSO         29948           SSDP-SSO         29949           SSDP-SSO         29949           SSDP-SSO         31073           SSDP-SSO         31074           SSDP-SSO         31084           SSDP-SSO         31084           SSDP-SSO         57874           SSDP-SSO         61266	LANTANA PS ELIMINATION	MA	93719	AMLANTANAPS
SSDP-SSO       19369         SSDP-SSO       29943         SSDP-SSO       29948         SSDP-SSO       29949         SSDP-SSO       31073         SSDP-SSO       31074         SSDP-SSO       31083         SSDP-SSO       31083         SSDP-SSO       31084         SSDP-SSO       57874         SSDP-SSO       57874         SSDP-SSO       57874	LEAANN WAY SYSTEM IMPROVEMENT	SSDP-SSO	19360	S_PO_WC_PC08_M_01_C
SSDP-SSO         29933         P. SPD-SSO         29943         P. SPD-SSO         29948         P. SPD-SSO         SSDP-SSO         29948         P. SPD-SSO         P.	LEAANN WAY SYSTEM IMPROVEMENT	SSDP-SSO	19369	S_PO_WC_PC08_M_01_C
SSDP-SSO       29948         SSDP-SSO       29948         SSDP-SSO       29949         SSDP-SSO       31073         SSDP-SSO       31074         SSDP-SSO       31083         SSDP-SSO       31083         SSDP-SSO       31084         SSDP-SSO       57874         SSDP-SSO       61266	LEA ANN WAY SYSTEM IMPROVEMENT	SSDP-SSO	29933	S_PO_WC_PC08_M_01_C
SSDP-SSO       29948         SSDP-SSO       29949         SSDP-SSO       31073         SSDP-SSO       31074         SSDP-SSO       31084         SSDP-SSO       31084         SSDP-SSO       57874         SSDP-SSO       61266	LEAANN WAY SYSTEM IMPROVEMENT	SSDP-SSO	29943	S_PO_WC_PC08_M_01_C
SSDP-SSO       31073         SSDP-SSO       31074         SSDP-SSO       31074         SSDP-SSO       31084         SSDP-SSO       31084         SSDP-SSO       57874         SSDP-SSO       61266	LEAANN WAY SYSTEM IMPROVEMENT	SSDP-SSO	29948	S_PO_WC_PC08_M_01_C
SSDP-SSO         31073           SSDP-SSO         31074           SSDP-SSO         31083           SSDP-SSO         31084           SSDP-SSO         57874           SSDP-SSO         61266	LEA ANN WAY SYSTEM IMPROVEMENT	SSDP-SSO	29949	S_PO_WC_PC08_M_01_C
SSDP-SSO         31074           SSDP-SSO         31083           SSDP-SSO         31084           SSDP-SSO         57874           SSDP-SSO         61266	LEA ANN WAY SYSTEM IMPROVEMENT	SSDP-SSO	31073	S_PO_WC_PC08_M_01_C
SSDP-SSO         31083           SSDP-SSO         31084           SSDP-SSO         57874           SSDP-SSO         61266	LEA ANN WAY SYSTEM IMPROVEMENT	SSDP-SSO	31074	S_PO_WC_PC08_M_01_C
SSDP-SSO         31084           SSDP-SSO         57874           SSDP-SSO         61266	LEAANN WAY SYSTEM IMPROVEMENT	SSDP-SSO	31083	S_PO_WC_PC08_M_01_C
SSDP-SSO         57874           SSDP-SSO         61266	LEAANN WAY SYSTEM IMPROVEMENT	SSDP-SSO	31084	S_PO_WC_PC08_M_01_C
SSDP-SSO 61266	LEAANN WAY SYSTEM IMPROVEMENT	SSDP-SSO	57874	S_PO_WC_PC08_M_01_C
	LEAANN WAY SYSTEM IMPROVEMENT	SSDP-SSO	61266	S_PO_WC_PC08_M_01_C



PROJECT NAME	PROGRAM	ASSET ID	PROJECT ID
LEAANN WAY SYSTEM IMPROVEMENT	SSDP-SSO	79076	S_PO_WC_PC08_M_01_C
LEAANN WAY SYSTEM IMPROVEMENT	SSDP-SSO	MSD1010-PS	S_PO_WC_PC08_M_01_C
LEAANN WAY SYSTEM IMPROVEMENT	SSDP-SSO	MSD1200-PS	S_PO_WC_PC08_M_01_C
LELAND RD SSO INVESTIGATION	SSDP-SSO	96020	S_OR_MF_NB02_S_13_C
LEVEN PS ELIMINATION	SSDP-SSO	36419	S_PO_WC_PC10_M_01_C
LEVEN PS ELIMINATION	SSDP-SSO	MSD1019-PS	S_PO_WC_PC10_M_01_C
LITTLE CEDAR CREEK INTERCEPTOR IMPROVEMENTS	SSDP-SSO	67997	S_CC_CC_67997_M_01_C
LITTLE CEDAR CREEK INTERCEPTOR IMPROVEMENTS	SSDP-SSO	62639	S_CC_CC_67997_M_01_C
LITTLE CEDAR CREEK INTERCEPTOR IMPROVEMENTS	SSDP-SSO	86423	S_CC_CC_67997_M_01_C
LITTLE CEDAR CREEK INTERCEPTOR IMPROVEMENTS	SSDP-SSO	86424	S_CC_CC_67997_M_01_C
LITTLE CEDAR CREEK INTERCEPTOR IMPROVEMENTS	SSDP-SSO	89196	S_CC_CC_67997_M_01_C
LITTLE CEDAR CREEK INTERCEPTOR IMPROVEMENTS	SSDP-SSO	89197	S_CC_CC_67997_M_01_C
LOGAN & BRECKINRIDGE ST STORAGE BASIN	LTCP-CSO	CS0091	L_SO_MF_092_M_09B_B_D_8
LOGAN & BRECKINRIDGE ST STORAGE BASIN	LTCP-CSO	CSO097	L_SO_MF_092_M_09B_B_D_8
LOGAN & BRECKINRIDGE ST STORAGE BASIN	LTCP-CSO	CSO106	L_SO_MF_092_M_09B_B_D_8
LOGAN & BRECKINRIDGE ST STORAGE BASIN	LTCP-CSO	CSO110	L_SO_MF_092_M_09B_B_D_8
LOGAN & BRECKINRIDGE ST STORAGE BASIN	LTCP-CSO	CSO111	L_SO_MF_092_M_09B_B_D_8
LOGAN & BRECKINRIDGE ST STORAGE BASIN	LTCP-CSO	CSO113	L_SO_MF_092_M_09B_B_D_8
LOGAN & BRECKINRIDGE ST STORAGE BASIN	LTCP-CSO	CSO137-X	L_SO_MF_092_M_09B_B_D_8
LOGAN & BRECKINRIDGE ST STORAGE BASIN	LTCP-CSO	CSO146	L_SO_MF_092_M_09B_B_D_8
LOGAN & BRECKINRIDGE ST STORAGE BASIN	LTCP-CSO	CSO148	L_SO_MF_092_M_09B_B_D_8
LOGAN & BRECKINRIDGE ST STORAGE BASIN	LTCP-CSO	CSO149-M	L_SO_MF_092_M_09B_B_D_8
LOGAN & BRECKINRIDGE ST STORAGE BASIN	LTCP-CSO	CSO151	L_SO_MF_092_M_09B_B_D_8
LOGAN & BRECKINRIDGE ST STORAGE BASIN	LTCP-CSO	CSO152-M	L_SO_MF_092_M_09B_B_D_8
LUCAS LANE PS IN-LINE STORAGE	SSDP-SSO	MSD0199-LS	S_FF_BT_NB01_S_09A_C_A
MEADOW STREAM PS & FM UPGRADE	SSDP-SSO	91087	S_HC_HC_MSD1082_S_09A_C
MEADOW STREAM PS & FM UPGRADE	SSDP-SSO	MSD1082-PS	S_HC_HC_MSD1082_S_09A_C
MELLWOOD SYSTEM IMPROVEMENTS AND PS ELIMINATIONS 1 - MELLWOOD PS AND FM IMPROVEMENTS	SSDP-SSO	24152-W	S_OR_MF_NB01_M_01_B-1
MELLWOOD SYSTEM IMPROVEMENTS AND PS ELIMINATIONS 1 - MELLWOOD PS AND FM IMPROVEMENTS	SSDP-SSO	24472	S_OR_MF_NB01_M_01_B-1
MELLWOOD SYSTEM IMPROVEMENTS AND PS ELIMINATIONS 1 - MELLWOOD PS AND FM IMPROVEMENTS	SSDP-SSO	26752	S_OR_MF_NB01_M_01_B-1
MELLWOOD SYSTEM IMPROVEMENTS AND PS ELIMINATIONS 1 - MELLWOOD PS AND FM IMPROVEMENTS	SSDP-SSO	41374	S_OR_MF_NB01_M_01_B-1
MELLWOOD SYSTEM IMPROVEMENTS AND PS ELIMINATIONS 1 - MELLWOOD PS AND FM IMPROVEMENTS	SSDP-SSO	41416	S_OR_MF_NB01_M_01_B-1
MELLWOOD SYSTEM IMPROVEMENTS AND PS ELIMINATIONS 1 - MELLWOOD PS AND FM IMPROVEMENTS	SSDP-SSO	MSD0006-PS	S_OR_MF_NB01_M_01_B-1
MELLWOOD SYSTEM IMPROVEMENTS AND PS ELIMINATIONS 1 - MELLWOOD PS AND FM IMPROVEMENTS	SSDP-SSO	MSD0007-PS	S_OR_MF_NB01_M_01_B-1
MELLWOOD SYSTEM IMPROVEMENTS AND PS ELIMINATIONS 1 - MELLWOOD PS AND FM IMPROVEMENTS	SSDP-SSO	MSD0010-PS	S_OR_MF_NB01_M_01_B-1
MELLWOOD SYSTEM IMPROVEMENTS AND PS ELIMINATIONS 1 - MELLWOOD PS AND FM IMPROVEMENTS	SSDP-SSO	MSD0023-PS	S_OR_MF_NB01_M_01_B-1
MELLWOOD SYSTEM IMPROVEMENTS AND PS ELIMINATIONS 1 - MELLWOOD PS AND FM IMPROVEMENTS	SSDP-SSO	MSD0024-PS	S_OR_MF_NB01_M_01_B-1



PROJECT NAME	PROGRAM	ASSET ID	PROJECT ID
MIDDLE FORK RELIEF INTERCEPTOR, WET WEATHER STORAGE AND DIVERSION PHASE 2 - UPPER MIDDLE FORK PS DIVERSION	SSDP-SSO	02932	S_MISF_MF_NB01_M_01_C_A1-2
MIDDLE FORK RELIEF INTERCEPTOR, WET WEATHER STORAGE AND DIVERSION PHASE 2 - UPPER MIDDLE FORK PS DIVERSION	SSDP-SSO	02933	S_MISF_MF_NB01_M_01_C_A1-2
MIDDLE FORK RELIEF INTERCEPTOR, WET WEATHER STORAGE AND DIVERSION PHASE 2 - UPPER MIDDLE FORK PS DIVERSION	SSDP-SSO	02935	S_MISF_MF_NB01_M_01_C_A1-2
MIDDLE FORK RELIEF INTERCEPTOR, WET WEATHER STORAGE AND DIVERSION PHASE 2 - UPPER MIDDLE FORK PS DIVERSION	SSDP-SSO	08537	S_MISF_MF_NB01_M_01_C_A1-2
MIDDLE FORK RELIEF INTERCEPTOR, WET WEATHER STORAGE AND DIVERSION PHASE 2 - UPPER MIDDLE FORK PS DIVERSION	SSDP-SSO	08935-SM	S_MISF_MF_NB01_M_01_C_A1-2
MIDDLE FORK RELIEF INTERCEPTOR, WET WEATHER STORAGE AND DIVERSION PHASE 2 - UPPER MIDDLE FORK PS DIVERSION	SSDP-SSO	115183	S_MISF_MF_NB01_M_01_C_A1-2
MIDDLE FORK RELIEF INTERCEPTOR, WET WEATHER STORAGE AND DIVERSION PHASE 2 - UPPER MIDDLE FORK PS DIVERSION	SSDP-SSO	115184	S_MISF_MF_NB01_M_01_C_A1-2
MIDDLE FORK RELIEF INTERCEPTOR, WET WEATHER STORAGE AND DIVERSION PHASE 2 - UPPER MIDDLE FORK PS DIVERSION	SSDP-SSO	115185	S_MISF_MF_NB01_M_01_C_A1-2
MIDDLE FORK RELIEF INTERCEPTOR, WET WEATHER STORAGE AND DIVERSION PHASE 2 - UPPER MIDDLE FORK PS DIVERSION	SSDP-SSO	15194	S_MISF_MF_NB01_M_01_C_A1-2
MIDDLE FORK RELIEF INTERCEPTOR, WET WEATHER STORAGE AND DIVERSION PHASE 2 - UPPER MIDDLE FORK PS DIVERSION	SSDP-SSO	15195	S_MISF_MF_NB01_M_01_C_A1-2
MIDDLE FORK RELIEF INTERCEPTOR, WET WEATHER STORAGE AND DIVERSION PHASE 2 - UPPER MIDDLE FORK PS DIVERSION	SSDP-SSO	17618	S_MISF_MF_NB01_M_01_C_A1-2
MIDDLE FORK RELIEF INTERCEPTOR, WET WEATHER STORAGE AND DIVERSION PHASE 2 - UPPER MIDDLE FORK PS DIVERSION	SSDP-SSO	23211	S_MISF_MF_NB01_M_01_C_A1-2
MIDDLE FORK RELIEF INTERCEPTOR, WET WEATHER STORAGE AND DIVERSION PHASE 2 - UPPER MIDDLE FORK PS DIVERSION	SSDP-SSO	23212	S_MISF_MF_NB01_M_01_C_A1-2
MIDDLE FORK RELIEF INTERCEPTOR, WET WEATHER STORAGE AND DIVERSION PHASE 2 - UPPER MIDDLE FORK PS DIVERSION	SSDP-SSO	24553	S_MISF_MF_NB01_M_01_C_A1-2
MIDDLE FORK RELIEF INTERCEPTOR, WET WEATHER STORAGE AND DIVERSION PHASE 2 - UPPER MIDDLE FORK PS DIVERSION	SSDP-SSO	27005	S_MISF_MF_NB01_M_01_C_A1-2
MIDDLE FORK RELIEF INTERCEPTOR, WET WEATHER STORAGE AND DIVERSION PHASE 2 - UPPER MIDDLE FORK PS DIVERSION	SSDP-SSO	27007	S_MISF_MF_NB01_M_01_C_A1-2
MIDDLE FORK RELIEF INTERCEPTOR, WET WEATHER STORAGE AND DIVERSION PHASE 2 - UPPER MIDDLE FORK PS DIVERSION	SSDP-SSO	27008	S_MISF_MF_NB01_M_01_C_A1-2
MIDDLE FORK RELIEF INTERCEPTOR, WET WEATHER STORAGE AND DIVERSION PHASE 2 - UPPER MIDDLE FORK PS DIVERSION	SSDP-SSO	27012	S_MISF_MF_NB01_M_01_C_A1-2
MIDDLE FORK RELIEF INTERCEPTOR, WET WEATHER STORAGE AND DIVERSION PHASE 2 - UPPER MIDDLE FORK PS DIVERSION	SSDP-SSO	30376	S_MISF_MF_NB01_M_01_C_A1-2
MIDDLE FORK RELIEF INTERCEPTOR, WET WEATHER STORAGE AND DIVERSION PHASE 2 - UPPER MIDDLE FORK PS DIVERSION	SSDP-SSO	40471	S_MISF_MF_NB01_M_01_C_A1-2
MIDDLE FORK RELIEF INTERCEPTOR, WET WEATHER STORAGE AND DIVERSION PHASE 2 - UPPER MIDDLE FORK PS DIVERSION	SSDP-SSO	40471A	S_MISF_MF_NB01_M_01_C_A1-2
MIDDLE FORK RELIEF INTERCEPTOR, WET WEATHER STORAGE AND DIVERSION PHASE 2 - UPPER MIDDLE FORK PS DIVERSION	SSDP-SSO	40471C	S_MISF_MF_NB01_M_01_C_A1-2
MIDDLE FORK RELIEF INTERCEPTOR, WET WEATHER STORAGE AND DIVERSION PHASE 2 - UPPER MIDDLE FORK PS DIVERSION	SSDP-SSO	40559	S_MISF_MF_NB01_M_01_C_A1-2
MIDDLE FORK RELIEF INTERCEPTOR, WET WEATHER STORAGE AND DIVERSION PHASE 2 - UPPER MIDDLE FORK PS DIVERSION	SSDP-SSO	43726	S_MISF_MF_NB01_M_01_C_A1-2
MIDDLE FORK RELIEF INTERCEPTOR, WET WEATHER STORAGE AND DIVERSION PHASE 2 - UPPER MIDDLE FORK PS DIVERSION	SSDP-SSO	45796	S_MISF_MF_NB01_M_01_C_A1-2



SSDP-SSO SSD			4	
4D DIVERSION PHASE 2 - UPPER MIDDLE FORK PS 4D DIVERSION PHASE 2 - UPPER MIDDLE FORK PS 5SDP-SSO 4D DIVERSION PHASE 2 - UPPER MIDDLE FORK PS 5SDP-SSO 4D DIVERSION PHASE 2 - UPPER MIDDLE FORK PS 5SDP-SSO 5DD-SSDP-SSO 5DD-SS	PROJECT NAME ORK RELIEF INTERCEPTOR, WET WEATHER STORAGE AND DIVERSION PHASE 2. LIPPER MIDDLE FORK PS	PROGRAM	Assertib	PROJECT ID
4D DIVERSION PHASE 2 - UPPER MIDDLE FORK PS  4D DIVERSION PHASE 2 - UPPER MIDDLE FORK PS  4D DIVERSION PHASE 2 - UPPER MIDDLE FORK PS  4D DIVERSION PHASE 2 - UPPER MIDDLE FORK PS  5SDP-SSO  4D DIVERSION PHASE 2 - UPPER MIDDLE FORK PS  5SDP-SSO  4D DIVERSION PHASE 2 - UPPER MIDDLE FORK PS  5SDP-SSO  5DDIVERSION PHASE 2 - UPPER MIDDLE FORK PS  5SDP-SSO  5SDP-SSO  5DDIVERSION PHASE 2 - UPPER MIDDLE FORK PS  5SDP-SSO  5SDP-SSO	ONN RELIET IN ERCEPTION, WET WEATHER STONAGE AND DIVERSION PRASE 2- OPTER MIDDLE FORM TO N	SSDP-SSO	45829	S_MISF_MF_NB01_M_01_C_A1-2
ND DIVERSION PHASE 2 - UPPER MIDDLE FORK PS  ND DIVERSION PHASE 3 - UPPER MIDDLE FORK PS  ND DIVERSION PHASE 5 - UPPER MIDDLE FORK PS  ND DIVERSION PHASE 5 - UPPER MIDDLE FORK PS  ND DIVERSION PHASE 5 - UPPER MIDDLE FORK PS	ORK RELIEF INTERCEPTOR, WET WEATHER STORAGE AND DIVERSION PHASE 2 - UPPER MIDDLE FORK PS N	SSDP-SSO	45835	S_MISF_MF_NB01_M_01_C_A1-2
ND DIVERSION PHASE 2 - UPPER MIDDLE FORK PS  ND DIVERSION PHASE 3 - UPPER MIDDLE FORK PS  ND DIVERSION PHASE 5 - UPPER MIDDLE FORK PS  ND DIVERSION PHASE 5 - UPPER MIDDLE FORK PS	ORK RELIEF INTERCEPTOR, WET WEATHER STORAGE AND DIVERSION PHASE 2 - UPPER MIDDLE FORK PS N	SSDP-SSO	45900	S_MISF_MF_NB01_M_01_C_A1-2
ND DIVERSION PHASE 2 - UPPER MIDDLE FORK PS  ND DIVERSION PHASE 3 - UPPER MIDDLE FORK PS	ORK RELIEF INTERCEPTOR, WET WEATHER STORAGE AND DIVERSION PHASE 2 - UPPER MIDDLE FORK PS N	SSDP-SSO	47034	S_MISF_MF_NB01_M_01_C_A1-2
ND DIVERSION PHASE 2 - UPPER MIDDLE FORK PS  ND DIVERSION PHASE 3 - UPPER MIDDLE FORK PS  ND DIVERSION PHASE 3 - UPPER MIDDLE FORK PS	ORK RELIEF INTERCEPTOR, WET WEATHER STORAGE AND DIVERSION PHASE 2 - UPPER MIDDLE FORK PS N	SSDP-SSO	47582	S_MISF_MF_NB01_M_01_C_A1-2
ND DIVERSION PHASE 2 - UPPER MIDDLE FORK PS  ND DIVERSION PHASE 3 - UPPER MIDDLE FORK PS  ND DIVERSION PHASE 5 - UPPER MIDDLE FORK PS	ORK RELIEF INTERCEPTOR, WET WEATHER STORAGE AND DIVERSION PHASE 2 - UPPER MIDDLE FORK PS N	SSDP-SSO	47583	S_MISF_MF_NB01_M_01_C_A1-2
ND DIVERSION PHASE 2 - UPPER MIDDLE FORK PS  ND DIVERSION PHASE 2 - UPPER MIDDLE FORK PS	ORK RELIEF INTERCEPTOR, WET WEATHER STORAGE AND DIVERSION PHASE 2 - UPPER MIDDLE FORK PS N	SSDP-SSO	47593	S_MISF_MF_NB01_M_01_C_A1-2
ND DIVERSION PHASE 2 - UPPER MIDDLE FORK PS  ND DIVERSION PHASE 2 - UPPER MIDDLE FORK PS	DRK RELIEF INTERCEPTOR, WET WEATHER STORAGE AND DIVERSION PHASE 2 - UPPER MIDDLE FORK PS N	SSDP-SSO	47596	S_MISF_MF_NB01_M_01_C_A1-2
ND DIVERSION PHASE 2 - UPPER MIDDLE FORK PS  ND DIVERSION PHASE 2 - UPPER MIDDLE FORK PS	ORK RELIEF INTERCEPTOR, WET WEATHER STORAGE AND DIVERSION PHASE 2 - UPPER MIDDLE FORK PS N	SSDP-SSO	47603	S_MISF_MF_NB01_M_01_C_A1-2
ND DIVERSION PHASE 2 - UPPER MIDDLE FORK PS  ND DIVERSION PHASE 2 - UPPER MIDDLE FORK PS  ND DIVERSION PHASE 2 - UPPER MIDDLE FORK PS  ND DIVERSION PHASE 2 - UPPER MIDDLE FORK PS  ND DIVERSION PHASE 2 - UPPER MIDDLE FORK PS  ND DIVERSION PHASE 2 - UPPER MIDDLE FORK PS  ND DIVERSION PHASE 2 - UPPER MIDDLE FORK PS  ND DIVERSION PHASE 2 - UPPER MIDDLE FORK PS  ND DIVERSION PHASE 2 - UPPER MIDDLE FORK PS  ND DIVERSION PHASE 2 - UPPER MIDDLE FORK PS  ND DIVERSION PHASE 2 - UPPER MIDDLE FORK PS  ND DIVERSION PHASE 2 - UPPER MIDDLE FORK PS  ND DIVERSION PHASE 2 - UPPER MIDDLE FORK PS  ND DIVERSION PHASE 2 - UPPER MIDDLE FORK PS  SSDP-SSO  ND DIVERSION PHASE 2 - UPPER MIDDLE FORK PS  SSDP-SSO  ND DIVERSION PHASE 2 - UPPER MIDDLE FORK PS  SSDP-SSO  ND DIVERSION PHASE 2 - UPPER MIDDLE FORK PS  SSDP-SSO  ND DIVERSION PHASE 2 - UPPER MIDDLE FORK PS  SSDP-SSO  ND DIVERSION PHASE 2 - UPPER MIDDLE FORK PS  SSDP-SSO  ND DIVERSION PHASE 2 - UPPER MIDDLE FORK PS  SSDP-SSO  ND DIVERSION PHASE 2 - UPPER MIDDLE FORK PS  SSDP-SSO  ND DIVERSION PHASE 2 - UPPER MIDDLE FORK PS  SSDP-SSO	ORK RELIEF INTERCEPTOR, WET WEATHER STORAGE AND DIVERSION PHASE 2 - UPPER MIDDLE FORK PS N	SSDP-SSO	47604	S_MISF_MF_NB01_M_01_C_A1-2
ND DIVERSION PHASE 2 - UPPER MIDDLE FORK PS  ND DIVERSION PHASE 2 - UPPER MIDDLE FORK PS  ND DIVERSION PHASE 2 - UPPER MIDDLE FORK PS  ND DIVERSION PHASE 2 - UPPER MIDDLE FORK PS  ND DIVERSION PHASE 2 - UPPER MIDDLE FORK PS  ND DIVERSION PHASE 2 - UPPER MIDDLE FORK PS  ND DIVERSION PHASE 2 - UPPER MIDDLE FORK PS  ND DIVERSION PHASE 2 - UPPER MIDDLE FORK PS  ND DIVERSION PHASE 2 - UPPER MIDDLE FORK PS  ND DIVERSION PHASE 2 - UPPER MIDDLE FORK PS  ND DIVERSION PHASE 2 - UPPER MIDDLE FORK PS  ND DIVERSION PHASE 2 - UPPER MIDDLE FORK PS  ND DIVERSION PHASE 2 - UPPER MIDDLE FORK PS  ND DIVERSION PHASE 2 - UPPER MIDDLE FORK PS  ND DIVERSION PHASE 2 - UPPER MIDDLE FORK PS  SSDP-SSO  ND DIVERSION PHASE 2 - UPPER MIDDLE FORK PS  SSDP-SSO  ND DIVERSION PHASE 2 - UPPER MIDDLE FORK PS  SSDP-SSO	DRK RELIEF INTERCEPTOR, WET WEATHER STORAGE AND DIVERSION PHASE 2 - UPPER MIDDLE FORK PS N	SSDP-SSO	48864	S_MISF_MF_NB01_M_01_C_A1-2
ND DIVERSION PHASE 2 - UPPER MIDDLE FORK PS  VD DIVERSION PHASE 2 - UPPER MIDDLE FORK PS	DRK RELIEF INTERCEPTOR, WET WEATHER STORAGE AND DIVERSION PHASE 2 - UPPER MIDDLE FORK PS	SSDP-SSO	51160	S_MISF_MF_NB01_M_01_C_A1-2
ND DIVERSION PHASE 2 - UPPER MIDDLE FORK PS  ND DIVERSION PHASE 2 - UPPER MIDDLE FORK PS  ND DIVERSION PHASE 2 - UPPER MIDDLE FORK PS  ND DIVERSION PHASE 2 - UPPER MIDDLE FORK PS  ND DIVERSION PHASE 2 - UPPER MIDDLE FORK PS  ND DIVERSION PHASE 2 - UPPER MIDDLE FORK PS  ND DIVERSION PHASE 2 - UPPER MIDDLE FORK PS  ND DIVERSION PHASE 2 - UPPER MIDDLE FORK PS  ND DIVERSION PHASE 2 - UPPER MIDDLE FORK PS  ND DIVERSION PHASE 2 - UPPER MIDDLE FORK PS  ND DIVERSION PHASE 2 - UPPER MIDDLE FORK PS  ND DIVERSION PHASE 2 - UPPER MIDDLE FORK PS  ND DIVERSION PHASE 2 - UPPER MIDDLE FORK PS  ND DIVERSION PHASE 2 - UPPER MIDDLE FORK PS  ND DIVERSION PHASE 2 - UPPER MIDDLE FORK PS  ND DIVERSION PHASE 2 - UPPER MIDDLE FORK PS  ND DIVERSION PHASE 2 - UPPER MIDDLE FORK PS  ND DIVERSION PHASE 2 - UPPER MIDDLE FORK PS	RRK RELIEF INTERCEPTOR, WET WEATHER STORAGE AND DIVERSION PHASE 2 - UPPER MIDDLE FORK PS	SSDP-SSO	51161	S_MISF_MF_NB01_M_01_C_A1-2
ND DIVERSION PHASE 2 - UPPER MIDDLE FORK PS  ND DIVERSION PHASE 2 - UPPER MIDDLE FORK PS  ND DIVERSION PHASE 2 - UPPER MIDDLE FORK PS  ND DIVERSION PHASE 2 - UPPER MIDDLE FORK PS  ND DIVERSION PHASE 2 - UPPER MIDDLE FORK PS  ND DIVERSION PHASE 2 - UPPER MIDDLE FORK PS  ND DIVERSION PHASE 2 - UPPER MIDDLE FORK PS  ND DIVERSION PHASE 2 - UPPER MIDDLE FORK PS  ND DIVERSION PHASE 2 - UPPER MIDDLE FORK PS  ND DIVERSION PHASE 2 - UPPER MIDDLE FORK PS  ND DIVERSION PHASE 2 - UPPER MIDDLE FORK PS  ND DIVERSION PHASE 2 - UPPER MIDDLE FORK PS  ND DIVERSION PHASE 2 - UPPER MIDDLE FORK PS  ND DIVERSION PHASE 2 - UPPER MIDDLE FORK PS  ND DIVERSION PHASE 2 - UPPER MIDDLE FORK PS  ND DIVERSION PHASE 2 - UPPER MIDDLE FORK PS	RRK RELIEF INTERCEPTOR, WET WEATHER STORAGE AND DIVERSION PHASE 2 - UPPER MIDDLE FORK PS	SSDP-SSO	51180	S_MISF_MF_NB01_M_01_C_A1-2
ND DIVERSION PHASE 2 - UPPER MIDDLE FORK PS  ND DIVERSION PHASE 2 - UPPER MIDDLE FORK PS  ND DIVERSION PHASE 2 - UPPER MIDDLE FORK PS  ND DIVERSION PHASE 2 - UPPER MIDDLE FORK PS  ND DIVERSION PHASE 2 - UPPER MIDDLE FORK PS  ND DIVERSION PHASE 2 - UPPER MIDDLE FORK PS  ND DIVERSION PHASE 2 - UPPER MIDDLE FORK PS  ND DIVERSION PHASE 2 - UPPER MIDDLE FORK PS  ND DIVERSION PHASE 2 - UPPER MIDDLE FORK PS  ND DIVERSION PHASE 2 - UPPER MIDDLE FORK PS  ND DIVERSION PHASE 2 - UPPER MIDDLE FORK PS  ND DIVERSION PHASE 2 - UPPER MIDDLE FORK PS  ND DIVERSION PHASE 2 - UPPER MIDDLE FORK PS  ND DIVERSION PHASE 2 - UPPER MIDDLE FORK PS	RK RELIEF INTERCEPTOR, WET WEATHER STORAGE AND DIVERSION PHASE 2 - UPPER MIDDLE FORK PS	SSDP-SSO	51221	S_MISF_MF_NB01_M_01_C_A1-2
ND DIVERSION PHASE 2 - UPPER MIDDLE FORK PS  ND DIVERSION PHASE 2 - UPPER MIDDLE FORK PS  ND DIVERSION PHASE 2 - UPPER MIDDLE FORK PS  ND DIVERSION PHASE 2 - UPPER MIDDLE FORK PS  ND DIVERSION PHASE 2 - UPPER MIDDLE FORK PS  ND DIVERSION PHASE 2 - UPPER MIDDLE FORK PS  ND DIVERSION PHASE 2 - UPPER MIDDLE FORK PS  ND DIVERSION PHASE 2 - UPPER MIDDLE FORK PS  ND DIVERSION PHASE 2 - UPPER MIDDLE FORK PS  SSDP-SSO  ND DIVERSION PHASE 2 - UPPER MIDDLE FORK PS  SSDP-SSO	RKK RELIEF INTERCEPTOR, WET WEATHER STORAGE AND DIVERSION PHASE 2 - UPPER MIDDLE FORK PS	SSDP-SSO	65070	S_MISF_MF_NB01_M_01_C_A1-2
ND DIVERSION PHASE 2 - UPPER MIDDLE FORK PS  ND DIVERSION PHASE 2 - UPPER MIDDLE FORK PS  ND DIVERSION PHASE 2 - UPPER MIDDLE FORK PS  ND DIVERSION PHASE 2 - UPPER MIDDLE FORK PS  ND DIVERSION PHASE 2 - UPPER MIDDLE FORK PS  ND DIVERSION PHASE 2 - UPPER MIDDLE FORK PS  ND DIVERSION PHASE 2 - UPPER MIDDLE FORK PS  ND DIVERSION PHASE 2 - UPPER MIDDLE FORK PS  ND DIVERSION PHASE 2 - UPPER MIDDLE FORK PS  ND DIVERSION PHASE 2 - UPPER MIDDLE FORK PS  ND DIVERSION PHASE 2 - UPPER MIDDLE FORK PS	RRK RELIEF INTERCEPTOR, WET WEATHER STORAGE AND DIVERSION PHASE 2 - UPPER MIDDLE FORK PS	SSDP-SSO	72288	S_MISF_MF_NB01_M_01_C_A1-2
ND DIVERSION PHASE 2 - UPPER MIDDLE FORK PS SSDP-SSO ND DIVERSION PHASE 2 - UPPER MIDDLE FORK PS SSDP-SSO ND DIVERSION PHASE 2 - UPPER MIDDLE FORK PS SSDP-SSO ND DIVERSION PHASE 2 - UPPER MIDDLE FORK PS SSDP-SSO ND DIVERSION PHASE 2 - UPPER MIDDLE FORK PS SSDP-SSO ND DIVERSION PHASE 2 - UPPER MIDDLE FORK PS SSDP-SSO	RRK RELIEF INTERCEPTOR, WET WEATHER STORAGE AND DIVERSION PHASE 2 - UPPER MIDDLE FORK PS	SSDP-SSO	72289	S_MISF_MF_NB01_M_01_C_A1-2
ND DIVERSION PHASE 2 - UPPER MIDDLE FORK PS SSDP-SSO ND DIVERSION PHASE 2 - UPPER MIDDLE FORK PS SSDP-SSO ND DIVERSION PHASE 2 - UPPER MIDDLE FORK PS SSDP-SSO ND DIVERSION PHASE 2 - UPPER MIDDLE FORK PS SSDP-SSO ND DIVERSION PHASE 2 - UPPER MIDDLE FORK PS SSDP-SSO	RRK RELIEF INTERCEPTOR, WET WEATHER STORAGE AND DIVERSION PHASE 2 - UPPER MIDDLE FORK PS	SSDP-SSO	74512	S_MISF_MF_NB01_M_01_C_A1-2
ND DIVERSION PHASE 2 - UPPER MIDDLE FORK PS SSDP-SSO ND DIVERSION PHASE 2 - UPPER MIDDLE FORK PS SSDP-SSO ND DIVERSION PHASE 2 - UPPER MIDDLE FORK PS SSDP-SSO ND DIVERSION PHASE 2 - UPPER MIDDLE FORK PS SSDP-SSO	RRK RELIEF INTERCEPTOR, WET WEATHER STORAGE AND DIVERSION PHASE 2 - UPPER MIDDLE FORK PS	SSDP-SSO	74513	S_MISF_MF_NB01_M_01_C_A1-2
ND DIVERSION PHASE 2 - UPPER MIDDLE FORK PS SSDP-SSO ND DIVERSION PHASE 2 - UPPER MIDDLE FORK PS SSDP-SSO ND DIVERSION PHASE 2 - UPPER MIDDLE FORK PS SSDP-SSO	RRK RELIEF INTERCEPTOR, WET WEATHER STORAGE AND DIVERSION PHASE 2 - UPPER MIDDLE FORK PS	SSDP-SSO	74520	S_MISF_MF_NB01_M_01_C_A1-2
SSDP-SSO OSDP-SSO	DRK RELIEF INTERCEPTOR, WET WEATHER STORAGE AND DIVERSION PHASE 2 - UPPER MIDDLE FORK PS	SSDP-SSO	84155	S_MISF_MF_NB01_M_01_C_A1-2
SSDP-SSO	RRK RELIEF INTERCEPTOR, WET WEATHER STORAGE AND DIVERSION PHASE 2 - UPPER MIDDLE FORK PS	SSDP-SSO	00206	S_MISF_MF_NB01_M_01_C_A1-2
	MIDDLE FORK RELIEF INTERCEPTOR, WET WEATHER STORAGE AND DIVERSION PHASE 2 - UPPER MIDDLE FORK PS DIVERSION	SSDP-SSO	96672	S_MISF_MF_NB01_M_01_C_A1-2
MIDDLE FORK RELIEF INTERCEPTOR, WET WEATHER STORAGE AND DIVERSION PHASE 2 - UPPER MIDDLE FORK PS SSDP-SSO 96673 DIVERSION	RRK RELIEF INTERCEPTOR, WET WEATHER STORAGE AND DIVERSION PHASE 2 - UPPER MIDDLE FORK PS	SSDP-SSO	96673	S_MISF_MF_NB01_M_01_C_A1-2



MIDDLE FORK RELIEF INTERCEPTOR, WET WEATHER STORAGE AND DIVERSION PHASE 2 - UPPER MIDDLE FORK PS SSDP-SSO DIVERSION	KAIM ASSELLID	S_MISF_MF_NB01_C_A1-2
	_	S_MISF_MF_NB01_M_01_C_A1-2
MIDDLE FORK RELIEF INTERCEPTOR, WET WEATHER STORAGE AND DIVERSION PHASE 2 - UPPER MIDDLE FORK PS  DIVERSION	SSO IS021A-SI	S_MISF_MF_NB01_M_01_C_A1-2
MONTICELLO PS ELIMINATION SSDP-SSO	SSO 27969	S_JT_JT_NB04_M_01_A
MONTICELLO PS ELIMINATION SSDP-SSO	SSO MSD0151-PS	S_JT_JT_NB04_M_01_A
MORRIS FORMAN WQTC HEADWORKS (FORMERLY ALGONQUIN PKWY STORAGE BASIN)	CSO CSO211	L_OR_MF_211_M_13_B_A_8_
NIGHTINGALE PS REPLACEMENT & STORAGE LTCP-CSO	CSO CSO018	L_SO_MF_018_S_03_A_A
NORTHERN DITCH DIVERSION INTERCEPTOR	DP MSD0271	NORTHERN DITCH DIVERSION INTER
PARKVIEW ESTATES I&I INVESTIGATION SSDP-SSO	SSO 47250	S_SD_MF_NB03_S_07_C
PORTLAND CSO STORAGE BASIN	CSO CSO019-M	L_OR_MF_019_S_13_B_A_8
PROSPECT SYSTEM IMPROVEMENTS 1 - WQTC ELIMINATIONS SSDP-SSO	SSO 16455	S_OR_MF_NB04_M_03_B_B-1
PROSPECT SYSTEM IMPROVEMENTS 1 - WQTC ELIMINATIONS SSDP-SSO	SSO 22436	S_OR_MF_NB04_M_03_B_B-1
PROSPECT SYSTEM IMPROVEMENTS 1 - WQTC ELIMINATIONS SSDP-SSO	SSO 40870	S_OR_MF_NB04_M_03_B_B-1
PROSPECT SYSTEM IMPROVEMENTS 1 - WQTC ELIMINATIONS SSDP-SSO	SSO 40871	S_OR_MF_NB04_M_03_B_B-1
PROSPECT SYSTEM IMPROVEMENTS 1 - WQTC ELIMINATIONS SSDP-SSO	SSO 40872	S_OR_MF_NB04_M_03_B_B-1
PROSPECT SYSTEM IMPROVEMENTS 1 - WQTC ELIMINATIONS SSDP-SSO	SSO 40879	S_OR_MF_NB04_M_03_B_B-1
PROSPECT SYSTEM IMPROVEMENTS 1 - WQTC ELIMINATIONS SSDP-SSO	SSO 40880	S_OR_MF_NB04_M_03_B_B-1
PROSPECT SYSTEM IMPROVEMENTS 1 - WQTC ELIMINATIONS SSDP-SSO	SSO 42675	S_OR_MF_NB04_M_03_B_B-1
PROSPECT SYSTEM IMPROVEMENTS 1 - WQTC ELIMINATIONS	SSO 42680	S_OR_MF_NB04_M_03_B_B-1
PROSPECT SYSTEM IMPROVEMENTS 1 - WQTC ELIMINATIONS	SSO 46621	S_OR_MF_NB04_M_03_B_B-1
PROSPECT SYSTEM IMPROVEMENTS 1 - WQTC ELIMINATIONS	SSO 46623	S_OR_MF_NB04_M_03_B1
PROSPECT SYSTEM IMPROVEMENTS 1 - WQTC ELIMINATIONS	SSO 46627	S_OR_MF_NB04_M_03_B1
PROSPECT SYSTEM IMPROVEMENTS 1 - WQTC ELIMINATIONS SSDP-SSO	SSO 65606	S_OR_MF_NB04_M_03_B_B-1
PROSPECT SYSTEM IMPROVEMENTS 1 - WQTC ELIMINATIONS	SSO 65610	S_OR_MF_NB04_M_03_B_B-1
PROSPECT SYSTEM IMPROVEMENTS 1 - WQTC ELIMINATIONS SSDP-SSO	SSO 65623	S_OR_MF_NB04_M_03_B_B-1
PROSPECT SYSTEM IMPROVEMENTS 1 - WQTC ELIMINATIONS	SSO 65633	S_OR_MF_NB04_M_03_B_B-1
PROSPECT SYSTEM IMPROVEMENTS 1 - WQTC ELIMINATIONS SSDP-SSO	SSO 65635	S_OR_MF_NB04_M_03_B_B-1
PROSPECT SYSTEM IMPROVEMENTS 1 - WQTC ELIMINATIONS	SSO 89646	S_OR_MF_NB04_M_03_B_B-1
PROSPECT SYSTEM IMPROVEMENTS 1 - WQTC ELIMINATIONS	SSO 89791	S_OR_MF_NB04_M_03_B_B-1
PROSPECT SYSTEM IMPROVEMENTS 1 - WQTC ELIMINATIONS SSDP-SSO	SSO MSD0123-PS	S_OR_MF_NB04_M_03_B_B-1
PROSPECT SYSTEM IMPROVEMENTS 1 - WQTC ELIMINATIONS SSDP-SSO	SSO MSD0183-PS	S_OR_MF_NB04_M_03_B_B-1
PROSPECT SYSTEM IMPROVEMENTS 1 - WQTC ELIMINATIONS SSDP-SSO	SSO MSD0186-PS	S_OR_MF_NB04_M_03_B_B-1
PROSPECT SYSTEM IMPROVEMENTS 1 - WQTC ELIMINATIONS SSDP-SSO	SSO MSD0192-PS	S_OR_MF_NB04_M_03_B_B-1
PROSPECT SYSTEM IMPROVEMENTS 1 - WQTC ELIMINATIONS	SSO MSD0193-PS	S_OR_MF_NB04_M_03_B_1
PROSPECT SYSTEM IMPROVEMENTS 1 - WQTC ELIMINATIONS	SSO MSD0291	S_OR_MF_NB04_M_03_B_B-1
PROSPECT SYSTEM IMPROVEMENTS 1 - WQTC ELIMINATIONS	SSO MSD0292	S_OR_MF_NB04_M_03_B_B-1
PROSPECT SYSTEM IMPROVEMENTS 1 - WQTC ELIMINATIONS	SSO MSD1044-PS	S_OR_MF_NB04_M_03_B_B-1
PROSPECT SYSTEM IMPROVEMENTS 1 - WQTC ELIMINATIONS	SSO MSD1063-PS	S_OR_MF_NB04_M_03_B_B-1

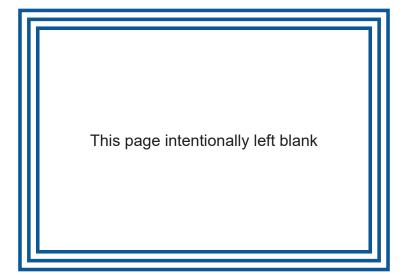


PROSPECT SYSTEM IMPROVEMENTS 3 - ORFM SYSTEM IMPROVEMENTS PHASE 1 - PUMP STATION ELIMINATION  RAINTREE DRIVE AND MARIAN COURT SYSTEM IMPROVEMENTS PHASE 1 - PUMP STATION ELIMINATION  SSDP-S RUDING RIDGE PS IMPROVEMENTS SSDP-S SHAWNIEF PSS DAVIG PI IMINATION  SSDP-S SHAWNIEF PSS DAVIG PI IMINATION  TITOLOGY  TITOLOGY SSDP-S STATION ELIMINATION  TITOLOGY SSDP-S STATION ELIMINATION  TITOLOGY SSDP-S STATION ELIMINATION  TITOLOGY SSDP-S STATION ELIMINATION  TITOLOGY STATION  TITOLOGY STATION ELIMINATION  TITOLOGY STATION ELIMI	SSDP-SSO SSDP-SSO SSDP-SSO SSDP-SSO	<b>ASSET ID</b> 117953 117959	S_OR_MF_NB04_M_03_B_B-3
- PUMP STATION ELIMINATION	SSDP-SSO SSDP-SSO SSDP-SSO	117953	S_OR_MF_NB04_M_03_B_B-3
	SSDP-SSO SSDP-SSO	117959	
	SSDP-SSO		S_OK_MP_NBU4_M_U3_B_b-3
		89641	S_OR_MF_NB04_M_03_B_B-3
	SSDP-SSO	89790	S_OR_MF_NB04_M_03_B_B-3
	SSDP-SSO	28729	S_JT_JT_NB03_M_01_C-1
	SSDP-SSO	MSD0149-PS	S_JT_JT_NB03_M_01_C-1
No	SSDP-SSO	MSD1060-LS	S_HC_HN_NB01_S_03_C_A
	SSDP-SSO	MSD1080-LS	S_CC_CC_MSD1080_S_01_C
	LTCP-DWO	MSD0309-FP	L_OR_MF_189_M_03_A_A
SHIVELY INTERCEPTOR SSDP-S	SSDP-SSO	04498	S_MC_WC_NB01_M_01_A
SHIVELY INTERCEPTOR SEP-5	SSDP-SSO	04542	S_MC_WC_NB01_M_01_A
SHIVELY INTERCEPTOR SEP-S	SSDP-SSO	81814-W	S_MC_WC_NB01_M_01_A
SHIVELY INTERCEPTOR SEP-S	SSDP-SSO	MSD0016-PS	S_MC_WC_NB01_M_01_A
SHIVELY INTERCEPTOR SEP-S	SSDP-SSO	MSD0043-PS	S_MC_WC_NB01_M_01_A
SHIVELY INTERCEPTOR SEP-S	SSDP-SSO	MSD0044-PS	S_MC_WC_NB01_M_01_A
SHIVELY INTERCEPTOR SEP-S	SSDP-SSO	MSD0047-PS	S_MC_WC_NB01_M_01_A
SHIVELY INTERCEPTOR SEP-S	SSDP-SSO	MSD0049-PS	S_MC_WC_NB01_M_01_A
SHIVELY INTERCEPTOR SEP-S	SSDP-SSO	MSD0050-PS	S_MC_WC_NB01_M_01_A
SINKING FORK INTERCEPTOR ISSDI	ISSDP	21103	SINKING FORK RELIEF SEWER
SINKING FORK INTERCEPTOR ISDI	ISSDP	25012	SINKING FORK RELIEF SEWER
SINKING FORK INTERCEPTOR ISDI	ISSDP	63319	SINKING FORK RELIEF SEWER
SONNE PS I&I INVESTIGATION & REHABILITATION SSDP-S	SSDP-SSO	MSD0042-PS	S_OR_MF_42007_S_07_C
SOUTHEASTERN DIVERSION STRUCTURE & INTERCEPTOR	ISSDP	30680	SOUTHEASTERN DIVERSION STRUCT
SOUTHEASTERN DIVERSION STRUCTURE & INTERCEPTOR	ISSDP	30681	SOUTHEASTERN DIVERSION STRUCT
SOUTHEASTERN DIVERSION STRUCTURE & INTERCEPTOR	ISSDP	30701	SOUTHEASTERN DIVERSION STRUCT
SOUTHEASTERN DIVERSION STRUCTURE & INTERCEPTOR	ISSDP	30702	SOUTHEASTERN DIVERSION STRUCT
SOUTHEASTERN DIVERSION STRUCTURE & INTERCEPTOR	ISSDP	30704	SOUTHEASTERN DIVERSION STRUCT
SOUTHEASTERN DIVERSION STRUCTURE & INTERCEPTOR	ISSDP	63779	SOUTHEASTERN DIVERSION STRUCT
SOUTHEASTERN DIVERSION STRUCTURE & INTERCEPTOR	ISSDP	72571-X	SOUTHEASTERN DIVERSION STRUCT
SOUTHERN OUTFALL IN-LINE STORAGE AT 43RD STREET (SOR1) (FORMERLY ALGONQUIN PKWY STORAGE BASIN)	LTCP-CSO	CSO016	L_OR_MF_211_M_13_B_A_8
SOUTHERN OUTFALL IN-LINE STORAGE AT 43RD STREET (SOR1) (FORMERLY ALGONQUIN PKWY STORAGE BASIN)	LTCP-CSO	CSO210	L_OR_MF_211_M_13_B_A_8
SOUTHWESTERN PKWY CSO BASIN	LTCP-CSO	CSO104	L_OR_MF_105_M_13_B_A_0
SOUTHWESTERN PKWY CSO BASIN	LTCP-CSO	CSO105	L_OR_MF_105_M_13_B_A_0
SOUTHWESTERN PKWY CSO BASIN	LTCP-CSO	CSO189X	L_OR_MF_105_M_13_B_A_0
ST RENE RD PS IN-LINE STORAGE SSDP-S	SSDP-SSO	94187	S_FF_CH_NB01_S_09A_C_A
SUTHERLAND INTERCEPTOR SUPP.S	SSDP-SSO	16649	S_SD_MF_NB05_M_01_A
WATERWAY PROTECTION TUNNEL	LTCP-CSO	CSO020-M	MULTIPLE
WATERWAY PROTECTION TUNNEL	LTCP-CSO	CS0023	MULTIPLE

PROJECT NAME	PROGRAM	ASSET ID	PROJECT ID
WATERWAY PROTECTION TUNNEL	LTCP-CSO	CSO050-M	MULTIPLE
WATERWAY PROTECTION TUNNEL	LTCP-CSO	CSO051-M	MULTIPLE
WATERWAY PROTECTION TUNNEL	LTCP-CSO	CSO052-M	MULTIPLE
WATERWAY PROTECTION TUNNEL	LTCP-CSO	CS0053	MULTIPLE
WATERWAY PROTECTION TUNNEL	LTCP-CSO	CS0054	MULTIPLE
WATERWAY PROTECTION TUNNEL	LTCP-CSO	CSO055	MULTIPLE
WATERWAY PROTECTION TUNNEL	LTCP-CSO	CSO056	MULTIPLE
WATERWAY PROTECTION TUNNEL	LTCP-CSO	CSO082-M	MULTIPLE
WATERWAY PROTECTION TUNNEL	LTCP-CSO	CSO084-M	MULTIPLE
WATERWAY PROTECTION TUNNEL	LTCP-CSO	CSO118-M	MULTIPLE
WATERWAY PROTECTION TUNNEL	LTCP-CSO	CSO119	MULTIPLE
WATERWAY PROTECTION TUNNEL	LTCP-CSO	CSO120-M	MULTIPLE
WATERWAY PROTECTION TUNNEL	LTCP-CSO	CSO121	MULTIPLE
WATERWAY PROTECTION TUNNEL	LTCP-CSO	CSO125	MULTIPLE
WATERWAY PROTECTION TUNNEL	LTCP-CSO	CSO126	MULTIPLE
WATERWAY PROTECTION TUNNEL	LTCP-CSO	CSO127	MULTIPLE
WATERWAY PROTECTION TUNNEL	LTCP-CSO	CSO141	MULTIPLE
WATERWAY PROTECTION TUNNEL	LTCP-CSO	CSO150	MULTIPLE
WATERWAY PROTECTION TUNNEL	LTCP-CSO	CSO153-M	MULTIPLE
WATERWAY PROTECTION TUNNEL	LTCP-CSO	CSO155X	MULTIPLE
WATERWAY PROTECTION TUNNEL	LTCP-CSO	CSO166	MULTIPLE
WOODLAND HILLS PS DIVERSION	SSDP-SSO	33003	S_FF_FF_NB01_S_01_C_A
WOODLAND HILLS PS DIVERSION	SSDP-SSO	65516	S_FF_FF_NB01_S_01_C_A
WOODLAND HILLS PS DIVERSION	SSDP-SSO	65531	S_FF_FF_NB01_S_01_C_A



# APPENDIX J WET WEATHER STORAGE AND DIVERSION TO TREATMENT VIA RTC





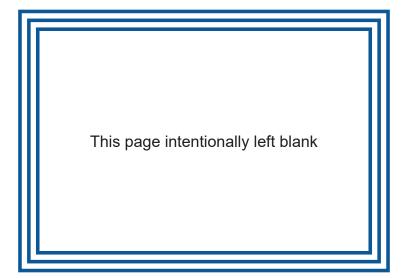
DESCRIPTION	Moderate wet weather event concentrated mostly on the Northern area of the collection system. CSO16 occurred due to localized rain event over the Shawnee park area, while 22% of Shawnee basin, 63% of WM and 63% of WO storage capacity are used. SED2 is still on degraded mode. Portland and Shawnee are partially on degraded mode. Malfunction in Rain Gauge TR-33 for several hours.	Moderate wet weather event concentrated mostly on Western and Northern areas of the collection system. Shawnee is still on Manual Operating Mode.	Moderate wet weather event homogeneously distributed over the collection system. Clifton is on degraded mode, therefore only 24% of its storage capacity is used while the CSO20 is occurred. Shawnee is still on Manual Operating Mode.	Very large wet weather event homogeneously distributed over the collection system. Shawnee is still on Manual Operating Mode. CSO016 overflow in the downstream of SOBA Basin while only 40% of the Basin capacity is used.	Small wet weather event heterogeneously distributed over the collection system.	Moderate wet weather event homogeneously distributed over the collection system. Shawnee is back to GOP Operating Mode. A problem in Csoft configuration caused an overflow in CSO016 while only 8% of the SOBA Basin capacity was used. The problem was resolved on October 6.	Small wet weather event heterogeneously distributed over the collection system.	Large wet weather event homogeneously distributed over the collection system except the central area. Aproblem in Csoft configuration caused an overflow in CSO016 while the SOBA Basin capacity is not completely used. The problem was resolved on October 6.	Moderate rainfall event distributed mostly on central area of the collection system. Discharge to the Ohio River at the CSO211 during the SOR1 devatering period.	Large rainfall event distributed mostly on Southern and Eastern areas of the collection system.	Large rainfall event heterogeneously distributed on the peripheral parts (West and East) of the collection system.	Moderate wet weather event concentrated mostly on the western area of the collection system. A problem in Csoft configuration caused an overflow in CSO016 while the SOBA Basin is dewatering and only 53% of its capacity is used. The problem was resolved on October 6.	Small wet weather event homogeneously distributed over the collection system.	Small homogeneous wet weather event. The SOBA basin was prevented from filling as it remain in Basin mode filling. The MF WQTC treatment capacity is reduced to 160 MGD.	Moderate wet weather event concentrated mostly on central parts of the collection system. The rain gauges TR12.NIGHTINGALE PS and TR10-CAMP HORINE(JEFFERSON FOREST) seems to be non-functional. Overflow in CSO16 despite available capacity in NWI and WO. The MF WQTC treatment capacity is reduced to 160 MGD.	Small wet weather event homogeneously distributed over the Southeastern area of the collection system. The MF WQTC treatment capacity is reduced to 160 MGD.
HIGH RIVER LEVELS	o N	No	o <sub>N</sub>	No	o Z	o <sub>N</sub>	o <sub>N</sub>	°N	o <sub>N</sub>	No	o Z	o <sub>N</sub>	° N	o <sub>N</sub>	o N	o N
TOTAL (MG)	23.06	88.09	92.20	302.44	46.51	67.83	9.00	127.04	43.26	52.07	88.35	47.11	7.85	57.47	75.08	27.52
MAX RAIN GAUGE	TR05	TR15	TR13	TR13	TR14	TR11	TR11	TR05	TR11	TR14	TR04	TR04	TR12	TR05	TR11	TR11
MAX TRFD (IN)	0.92	1.28	1.26	4.11	0.51	0.91	0.42	2.12	1.05	2.48	1.37	0.92	0.32	0.5	29:0	0.23
AVG TRFD (IN)	0.51	0.91	1.07	3.66	0.15	0.42	0.19	1.09	0.48	1.17	0.88	0.42	0.23	0.37	0.5	0.15
DURATION (H:MIN)	105:00	90:15	59:20	172:15	38:05	39:00	25:45	41:55	25:45	31:50	57:05	12:10	28:45	14:55	21:35	9:10
END DATE	7/7/2022 5:45	7/12/2022 4:50	7/19/2022 20:05	8/1/2022 3:35	8/2/2022	8/6/2022	8/7/2022 14:30	8/11/2022	8/22/2022 14:45	8/30/2022 22:05	9/6/2022 1:55	9/7/2022 3:05	9/12/2022 3:15	10/26/2022 9:20	10/31/2022 8:15	11/1/2022 4:45
START	7/2/2022 20:45	7/8/2022 10:35	7/17/2022 8:45	7/24/2022 23:20	8/1/2022 3:35	8/4/2022 21:45	8/6/2022 12:45	8/9/2022 21:10	8/21/2022 13:00	8/29/2022 14:15	9/3/2022	9/6/2022	9/10/2022 22:30	10/25/2022 18:25	10/30/2022	10/31/2022
EVENT	2022-047	2022-050	2022-051	2022-052	2022-053	2022-054	2022-055	2022-057	2022-059	2022-061	2022-062	2022-063	2022-064	2022-068	2022-069	2022-070



DESCRIPTION	Moderate wet weather event concentrated mostly on the Eastern and Western parts of the collection system. Overflow in CSO16 despite available capacity in NWI and WO. The MF WOTC treatment capacity is reduced to 160 MGD.	Small rainfall event homogeneously distributed over the collection systems. The MF WQTC treatment capacity is reduced to 160 MGD.	Small rainfall event concentrated mostly on Eastern parts of the collection system. Buchel Basin is unavailable. The MF WQTC treatment capacity is reduced to 160 MGD.	Moderate wet weather event concentrated on peripheral parts (mostly Southern parts) of the collection system. Two successive rainfall with the system dewatering partially between the two. Overflow of CSO016 despite the storage availability at Shawnee which is on degraded mode. Clifton, BUBA, BL, Nightingale PS and Basin are also on degraded mode. The MF WQTC treatment capacity is reduced to 160 MGD.	Small wet weather event homogeneously concentrated over the collection system except for the central part. BUBA is unavailable.  The MF WQTC treatment capacity is reduced to 160 MGD.	Large homogeneous wet weather event. Shawnee is on manual/degraded mode and an overflow caused in CSO016. The MF WQTC treatment capacity is reduced to 160 MGD.	Small rainfall event homogeneously distributed over the collection system. The MF WQTC treatment capacity is reduced to 160 MGD.	Very large wet weather event concentrated mostly on the Southern parts of the collection system. The MF WQTC treatment capacity is reduced to 160 MGD.	The continuation of the previous wet weather event, which now shows to be a less interse rainfall concentrated mostly on the Northern part of the collection system. The MF WQTC treatment capacity is reduced to 160 MGD.	Small homogenous wet weather event. The MF WQTC treatment capacity is reduced to 160 MGD. Dewatering in SOBA and POBA has not started during the wet weather event.	Moderate heterogeneous wet weather event concentrated mostly on Western part of the collection system. The MF WQTC treatment capacity is reduced to 160 MGD.	Moderate rainfall event homogeneously distributed over the collection system. Overflow in CSO20 while Clifton Basin is dewatering.  The MF WQTC treatment capacity is reduced to 160 MGD.	Moderate rainfall event concentrated mostly on North Western parts of the collection system. The MF WQTC treatment capacity is reduced to 160 MGD. An overflow in CSOO16 while the SOBA Basin is dewatering and only 72% of its capacity is used.	Large wet weather event mostly concentrated on Northern and North-Western parts of the collection system. The MF WQTC treatment capacity is reduced to 160 MGD. SOBA, NGPS, Portland and Clifton are partially on degraded mode.	Small rainfall event homogeneously distributed over the collection system. An overflow in CSO016 occurred while the SOBA Basin was empty. The MF WOTC treatment capacity is reduced to 160 MGD.	Very large wet weather event concentrated mostly on peripheral parts of the collection system. Overflow occurred in most of the CSOs. The MF WQTC treatment capacity is reduced to 160 MGD.	Small homogenous wet weather event (the continuation of the previous event), The MF WQTC treatment capacity is reduced to 160 MGD.	Very small wet weather event. On March 22nd, the MF WQTC treatment capacity was reduced from 150 MGD to 140 MGD.	Very large wet weather event concentrated mostly on Central and Western parts of the collection system.	Rain recorded only on TR12 - Nightingale PS rain gauge. Probably false rain data. Saved volume from the end of Clifton and Logan basins dewatering. The MF WQTC treatment capacity is reduced to 140 MGD.
HIGH RIVER	°N	°Z	§.	§ Ž	°Z	°S	°N ON	§.	°Z	°Z	° N	o <sub>N</sub>	° °	Yes	°Z	o <sub>N</sub>	Š	° N	ŝ	°S.
TOTAL (MG)	85.17	13.16	44.57	114.88	80.99	265.43	26.56	437.21	141.07	16.36	152.95	72.03	138.02	458.11	44.70	532.08	43.70	1.25	471.65	33.73
MAX	TR14	TR15	TR15	TR04	TR04	TR14	TR11	TR14	TR04	TR12	TR04	TR05	TR04	TR04	TR11	TR04	TR14	TR12	TR04	TR12
MAX	0.64	0.46	0.54	0.83	0.44	1.34	0.39	2.9	0.84	0.26	0.72	0.46	0.65	2.31	0.41	2.8	0.23	0.09	3.01	0.72
AVG TRFD	0.57	0.41	0.37	0.66	0.39	1.21	0.31	2.2	0.64	0.21	0.53	0.42	0.46	1.83	0.32	2.36	0.17	0.08	2.38	0.72
DURATION (H:MIN)	32:10	27:05	14:30	125:20	20:05	48:55	19:50	222:10	27:35	21:30	32:05	36:50	28:50	140:35	29:15	162:35	35:35	9:40	127:50	36:45
END DATE	11/12/2022	11/27/2022 23:50	11/30/2022 10:55	12/8/2022 2:00	12/9/2022 2:10	12/16/2022 2:55	12/31/2022 18:15	1/12/2023	1/13/2023	1/17/2023 10:05	1/20/2023 2:15	1/23/2023 17:55	1/26/2023 3:40	2/21/2023 23:00	2/23/2023 6:15	3/9/2023 19:30	3/11/2023 7:05	3/22/2023 15:45	3/29/2023 9:40	3/30/2023 22:25
START	11/11/2022 5:00	11/26/2022 20:45	11/29/2022 20:25	12/2/2022 20:40	12/8/2022 6:05	12/14/2022 2:00	12/30/2022 22:25	1/2/2023 22:15	1/12/2023 4:25	1/16/2023 12:35	1/18/2023 18:10	1/22/2023 5:05	1/24/2023 22:50	2/16/2023 2:25	2/22/2023 1:00	3/3/2023 0:55	3/9/2023	3/22/2023 6:05	3/24/2023 1:50	3/29/2023 9:40
EVENT	2022-072	2022-076	2022-077	2022-078	2022-080	2022-082	2022-085	2023-001	2023-002	2023-003	2023-004	2023-005	2023-006	2023-013	2023-014	2023-018	2023-019	2023-024	2023-025	2023-026



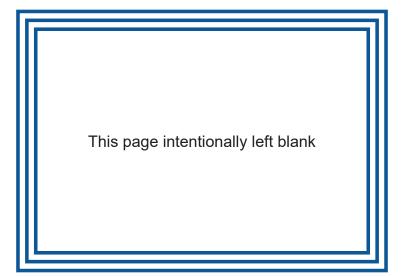
DESCRIPTION	Large rainfall event heterogeneously distributed over the Central to Northern parts of the collection system. Shawnee Basin on degraded mode, the MF WQTC treatment capacity is reduced to 140 MSD.	Moderate rainfall event occurred only on the Western parts of the collection system. Shawnee Basin was mostly on degraded mode and the MF WQTC treatment capacity is reduced to 140 MGD.	Moderate rainfall event concentrated mostly on Northern and Eastern parts of the collection system. SED is on degraded mode. The MF WQTC treatment capacity is reduced to 140 MGD. Due to the High River Level, the Waterway Protection Tunnel is filled with the river flow and kept full (52 MG) over 8 days.	Moderate wet weather event concentrated mostly on Central and Western parts of the collection system. The MF WQTC treatment capacity is reduced to 140 MGD.	Large wet weather event homogeneously distributed over the collection system. The MF WQTC treatment capacity is reduced to 140 MGD. Nightingale PS and Basin was on degraded mode 28% of time. Dewatering in SOR1 during the CSO211 overflow.	Moderate rainfall event concentrated mostly on Central and Western parts of the collection system. The MF WQTC treatment capacity is reduced to 140 MGD. ROWAN PS was partially on degraded mode.	Moderate heterogeneous wet weather event. The MF WQTC treatment capacity is reduced to 140 MGD.	Small rainfall event concentrated mostly on North-Western parts of the collection system. ROWAN PS is mostly on degraded mode.  The MF WQTC treatment capacity is reduced to 140 MGD.	Moderate heterogeneous wet weather event. Overflow in CSO20 while only 40% of the Logan Basin and 26% of the Clifton Basin are used. The MF WQTC treatment capacity is reduced to 140 MGD.	Moderate wet weather event concentrated mostly on Central and North-Eastern parts of the collection system. Shawnee basin is mostly on degraded mode. The MF WQTC treatment capacity is reduced to 140 MGD.	Very small wet weather event recorded only on TR17 and TR18 nain gauges on the Northern parts of the collection system. The MF WQTC treatment capacity is reduced to 140 MGD.	Small wet weather event concentrated mostly on Eastern part of the collection system. The MF WQTC treatment capacity is reduced to 140 MGD.	Small rainfall event concentrated mostly on Central parts of the collection system. The MF WQTC treatment capacity is reduced to 140 MGD.	Small wet weather event distributed mostly on Southern parts of the collection system. Portland Basin is on degraded mode. The MF WQTC treatment capacity is reduced to 140 MGD.	Very small homogenous wet weather event. Despite having a very small rainfall reported, an overflow occurred in CSO16. Portland Basin is on degraded mode. The MF WQTC treatment capacity is reduced to 140 MGD.	Moderate wet weather event concentrated mostly on Central and Northern parts of the collection system. ROWAN is on degraded mode during 59% of the event window.	Very small wet weather event ( the continuation of previous rainfall event) recorded only on TR27-ST MICHAEL ELEMENTARY rain gauge.	Small homogenous wet weather event. The MF WQTC treatment capacity is reduced to 140 MGD.	55
HIGH RIVER LEVELS	°Z	ON O	o N	oN O	ON	oN N	oN N	<sub>S</sub>	oN	o N	oN O	°S	oN N	oN N	oN N	<sub>S</sub>	o N	oN N	
TOTAL (MG)	248.69	43.87	129.11	88.25	167.58	158.64	140.50	75.78	190.12	132.83	1.48	165.70	46.06	160.48	25.57	257.83	98.86	10.36	6,471.21
MAX RAIN GAUGE	TR13	TR04	TR04	TR14	TR14	TR11	TR11	TR04	TR11	TR11	TR11	TR12	TR13	TR14	TR11	TR05	TR13	TR13	
MAX TRFD (IN)	1.37	0.79	0.78	2.0	1.1	1.1	69:0	0.65	0.99	0.8	0.01	0.33	0.36	1.02	0.12	0.88	0.02	0.12	
AVG TRFD (IN)	96.0	0.15	0.41	0.61	0.97	0.73	0.45	0.3	0.72	0.63	0.01	0.21	0.17	0.37	0.07	0.64	0.02	0.08	
DURATION (H:MIN)	61:30	70:25	34:35	23:45	70:15	39:15	92:00	32.25	37:45	18:45	8:10	40:40	31:15	39:50	32:50	35:30	45:40	16:05	
END DATE	4/2/2023	4/5/2023 17:00	4/7/2023 3:35	4/22/2023 12:20	4/30/2023 17:45	5/8/2023 11:20	5/10/2023 18:20	5/15/2023	5/17/2023 21:20	5/20/2023 19:55	5/31/2023 1:20	6/8/2023 22:35	6/12/2023	6/20/2023 19:45	6/22/2023 4:35	6/26/2023	6/28/2023 17:20	6/30/2023 2:30	
START	3/31/2023	4/2/2023 18:35	4/5/2023	4/21/2023 12:35	4/27/2023 19:30	5/6/2023 20:05	5/8/2023 11:20	5/14/2023 6:00	5/16/2023 7:35	5/20/2023 1:10	5/30/2023 17:10	6/7/2023 5:55	6/11/2023 4:00	6/19/2023 3:55	6/20/2023 19:45	6/25/2023 8:10	6/26/2023 19:40	6/29/2023 10:25	
EVENT	2023-027	2023-028	2023-029	2023-030	2023-031	2023-033	2023-034	2023-035	2023-036	2023-038	2023-039	2023-041	2023-042	2023-043	2023-044	2023-045	2023-046	2023-047	Total



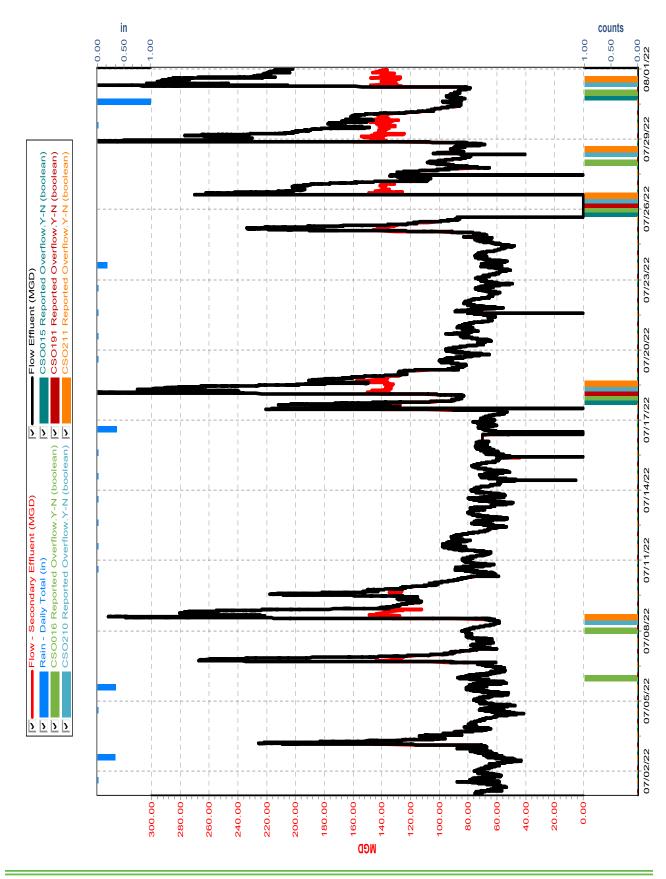


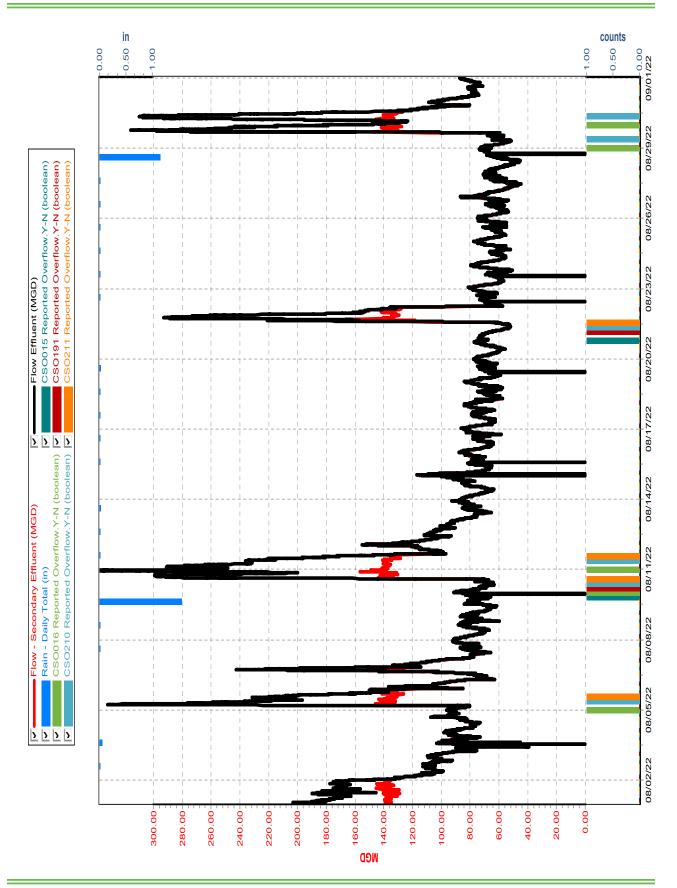
APPENDIX K

MORRIS FORMAN PLANT FLOWS AND ASSOCIATED CSO ACTIVATIONS

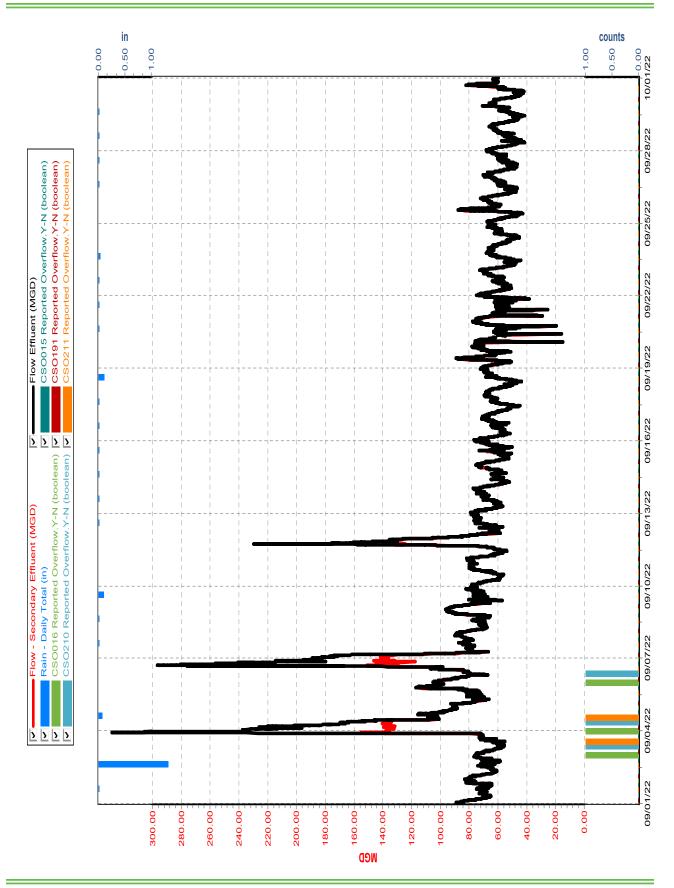


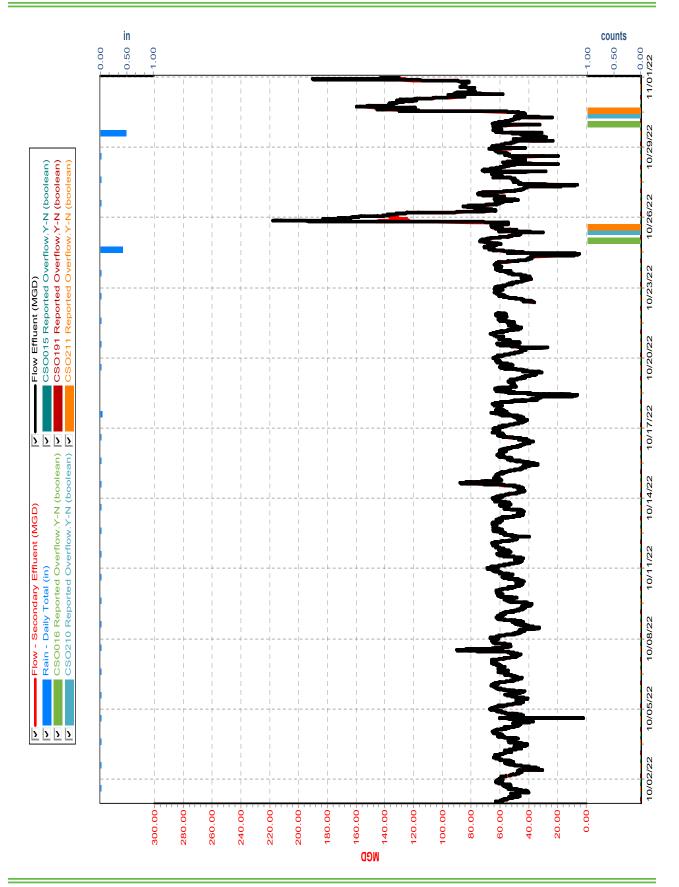




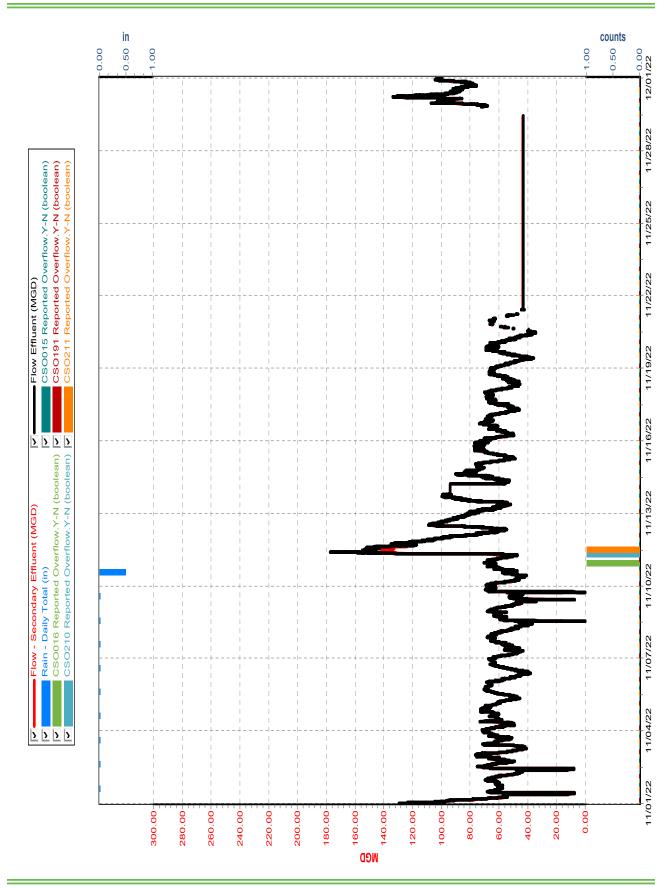


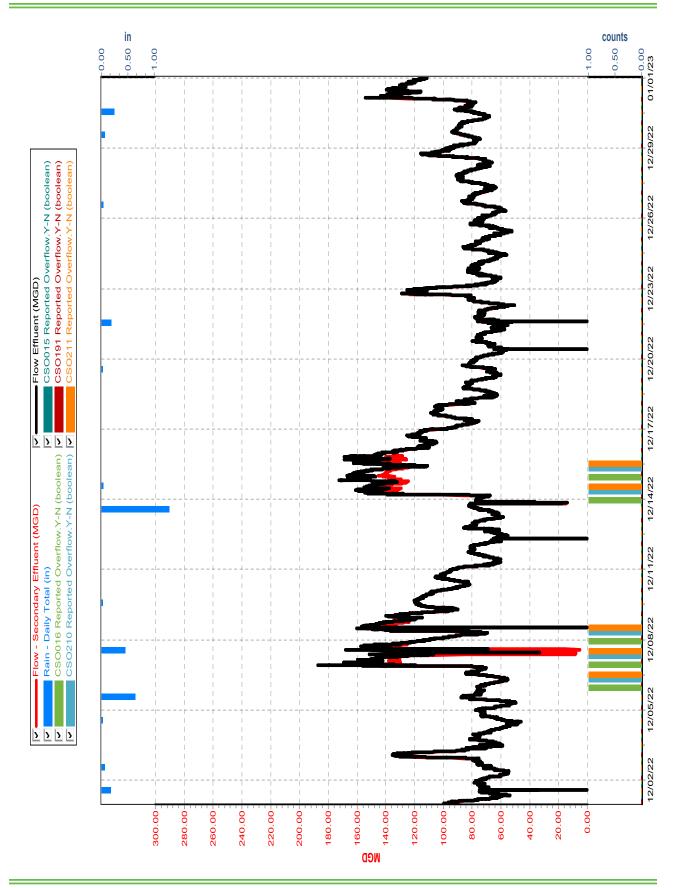




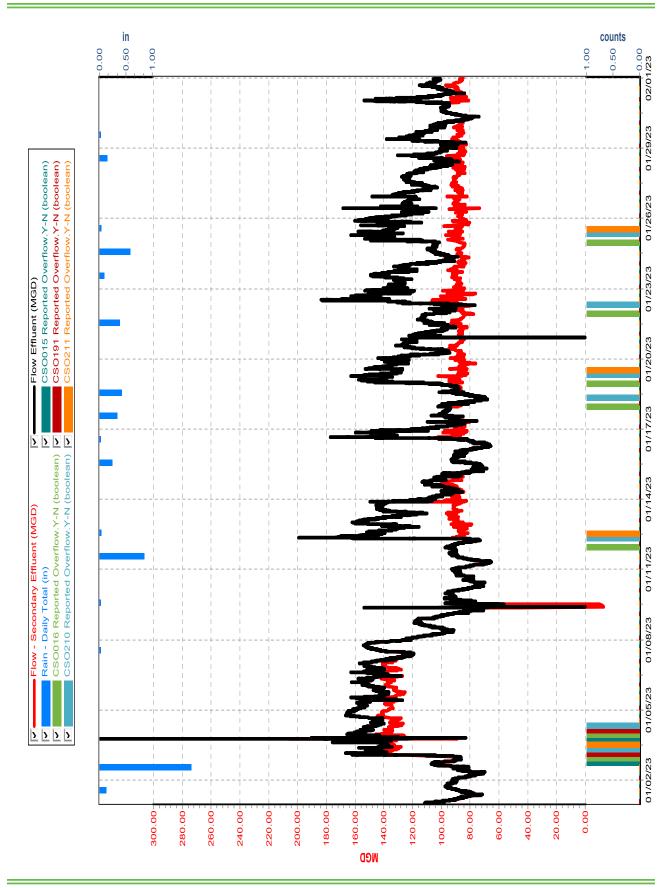


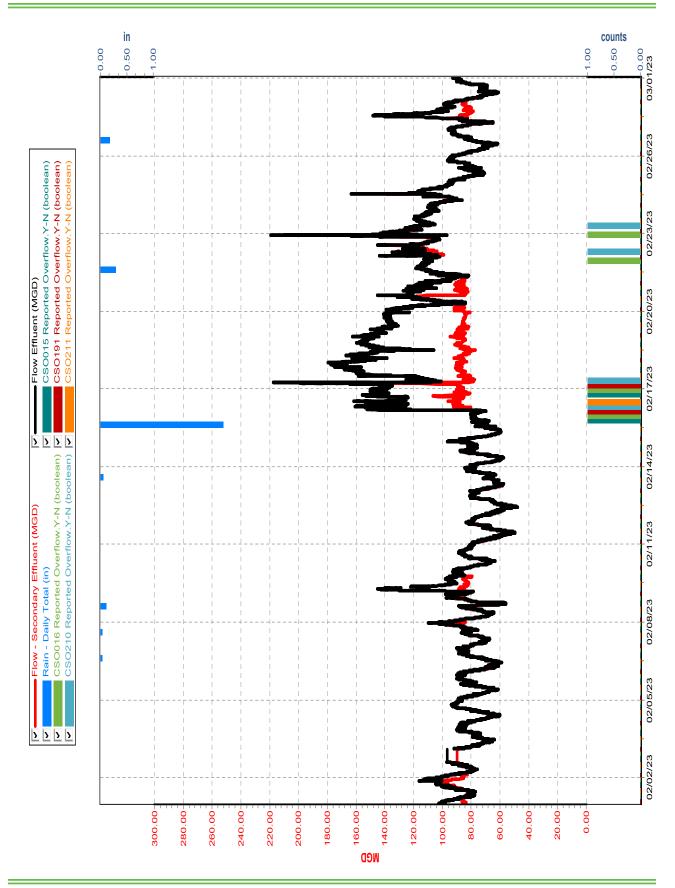




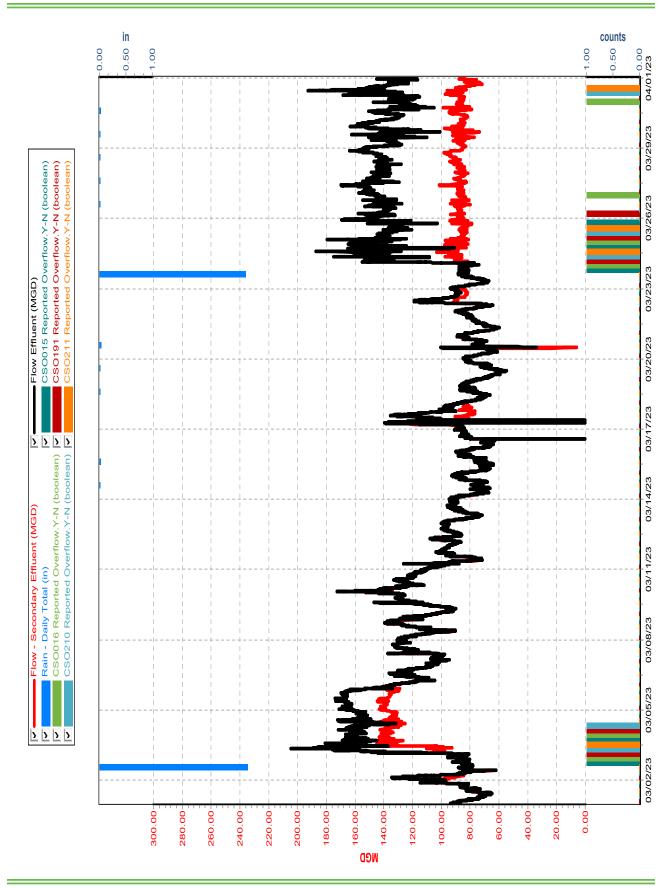


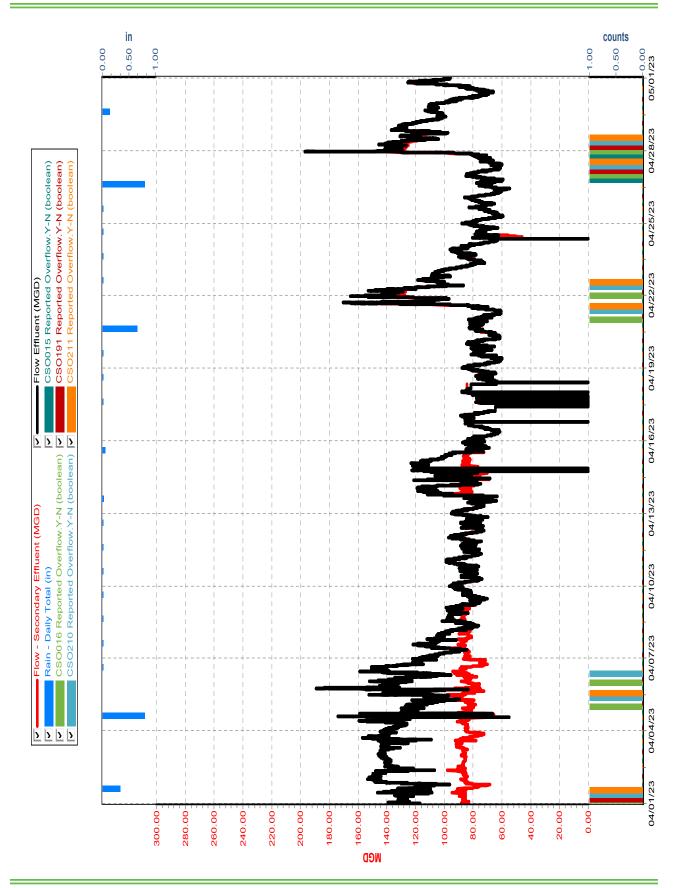




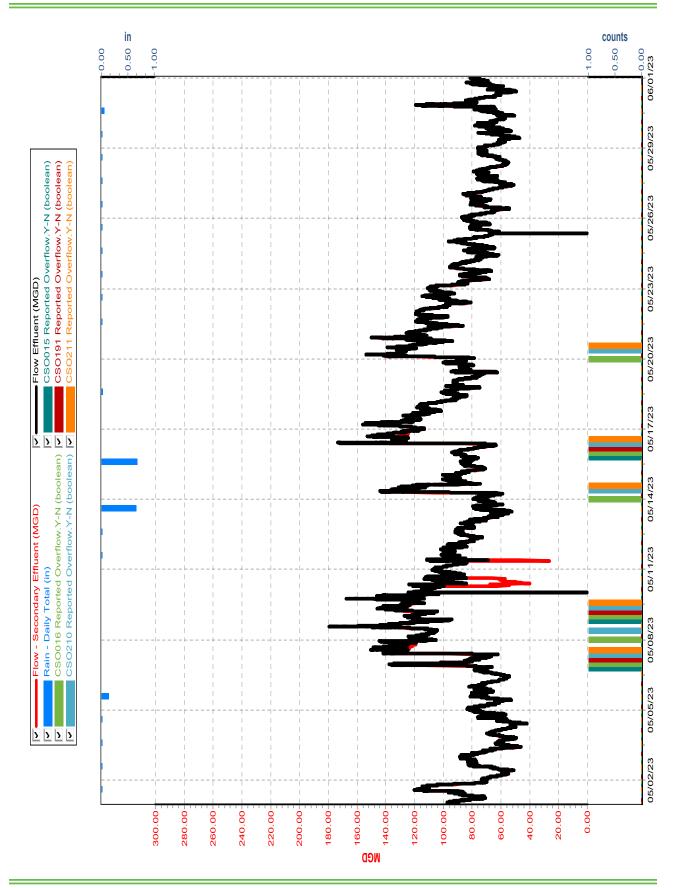


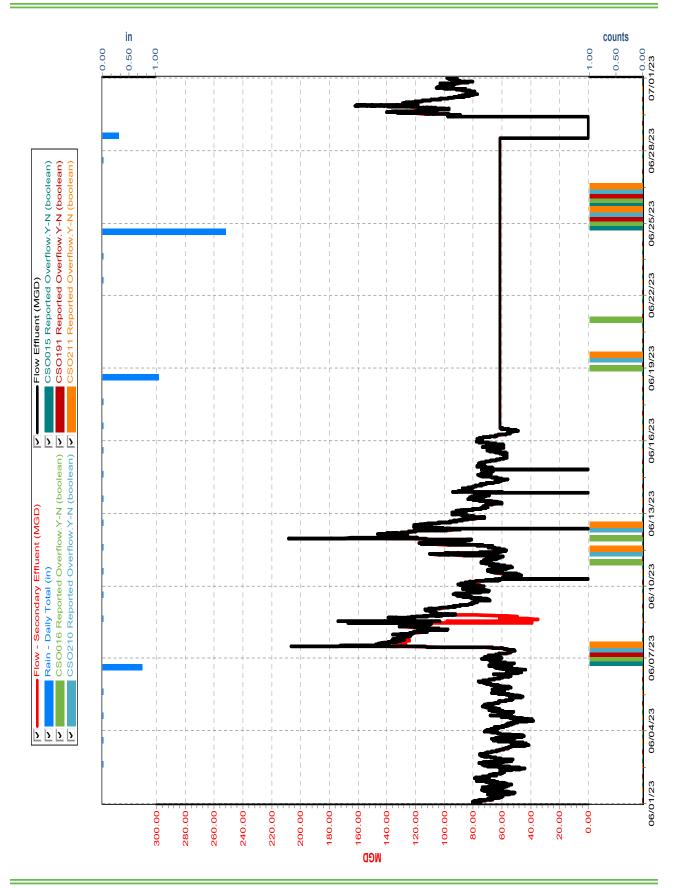






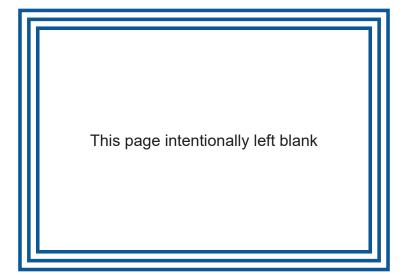








### APPENDIX L ORGANIZATIONAL CHART







Louisville and Jefferson County Metropolitan Sewer District

Organizational Chart Effective 07/01/2023

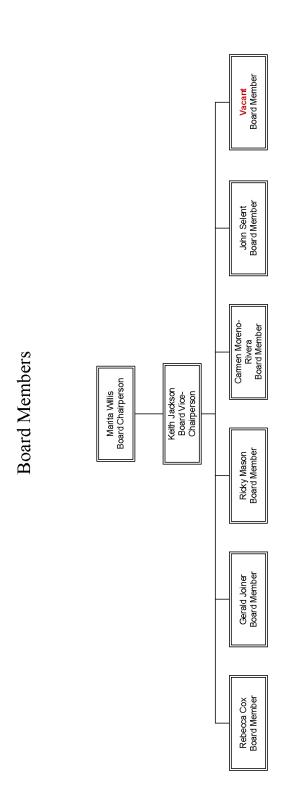
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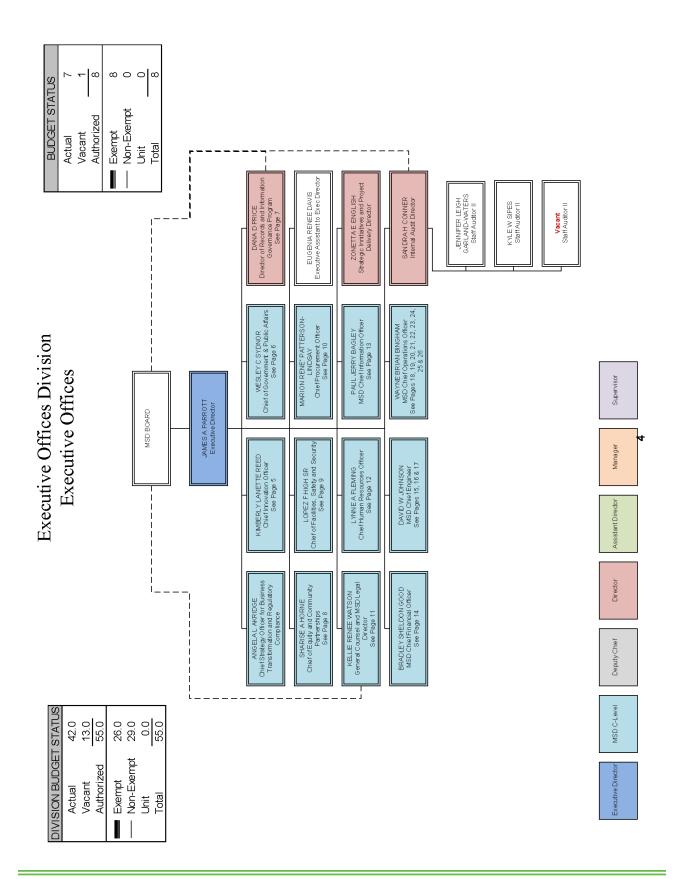
# Organizational Summary

	<u>Total</u> <u>Positions</u>	Current <u>Actual</u>	Vacant (Budgeted)	New/Unbudgeted (Vacant)	Exempt	Non- Exempt	Union	Net Overbudget
Executive Offices Division	c	1	•	C	c	Ċ	c	C
	xo	,	Т	0	xo	0	0	0
Innovation, Customer Relations and Dispatch	24	16	∞	0	Ŋ	19	0	0
Government & Public Affairs	9	9	0	0	4	2	0	0
Records and Information Governance	б	∞	П	0	m	9	0	0
Community Benefits and Partnerships	∞	2	33	0	9	2	0	0
Facilities, Safety and Security Division	34	27.5	6.5	0	16	18	0	0
Supply Chain and Economic Inclusion Division	27	23	4	0	14	13	0	0
Legal Division	10	6	1	0	10	0	0	0
Human Resources Division	21	19	2	0	15	9	0	0
Information Technology Division	33	29	4	0	28	2	0	0
Finance Division	20	18	2	0	7	13	0	0
Engineering Division								
Eng Admin, Reg Compliance, Records & GIS	18	18	0	0	12	9	0	0
Engineering Technical Services	47.5	42	5.5	0	27	20.5	0	0
Development & Stormwater Services	33	29	4	0	20	13	0	0
Operations Division								
Administration	m	2	1	0	2	1	0	0
Collections System and Emergency Response	99	26	10	0	15	16	35	0
Flood Protection	23	22	1	0	2	1	17	0
Treatment Facilities	92	88	4	0	20	16	26	0
Treatment Facilities (Maintenance)	49	48	1	0	9	2	41	0
Support Services	39	34	2	0	13	26	0	0
Wastewater and Drainage	129	101	28	0	15	13	101	0
Wastewater and Drainage (Sanitary)	81	29	14	0	11	1	69	0
Fleet Services	21	20	1	0	2	1	15	0
DISTRICT TOTAL	801.5	694.5	107.0	0.0	267.0	200.5	334.0	0.0
			c					

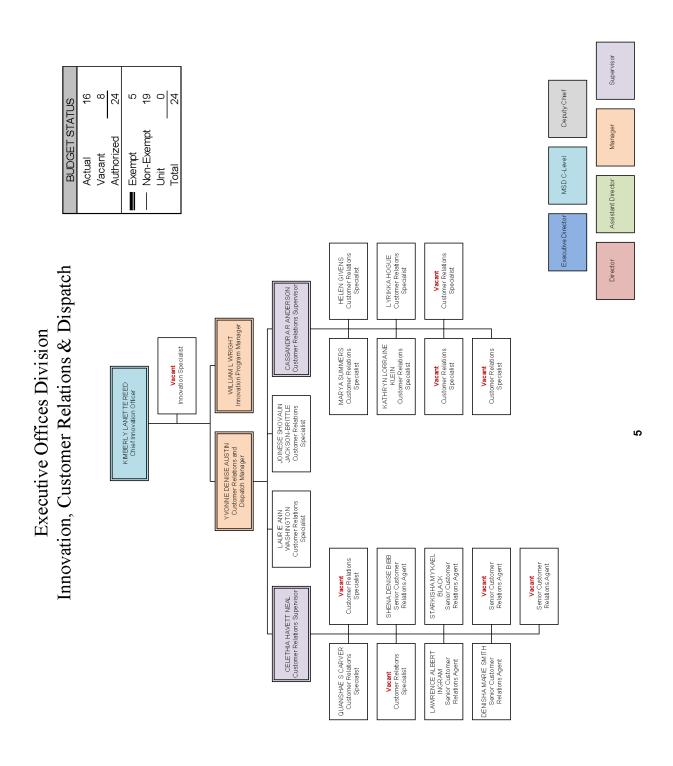


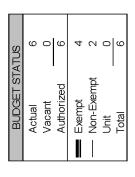


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Executive Offices Division

Government & Public Affairs

Cherof Government & Public Affairs

Cherof Government & Public Affairs

Communications Manager and

HAROLD J ADAMS

Communications Manager and

MILEST JACKSON

Videographer - Photographer

MILEST JACKSON

Videographer - Photographer

MACKSON

Wither-Multimedia Specialist

ACKSON

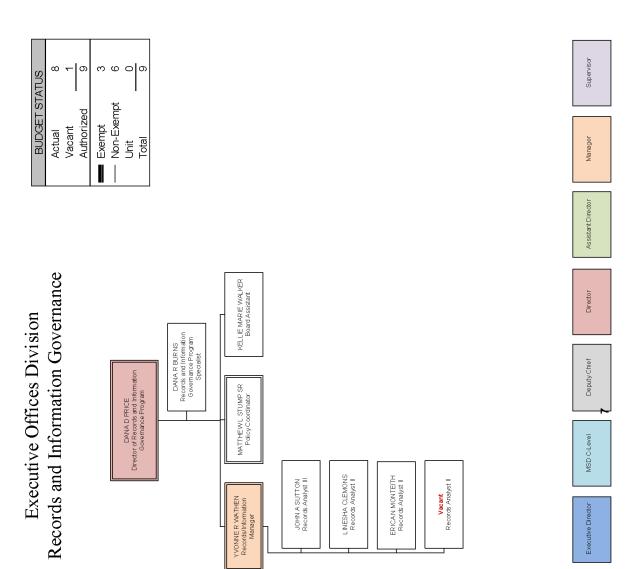
Wither-Multimedia Specialist

Executive Dredor MSD C-Level Deputy Chief

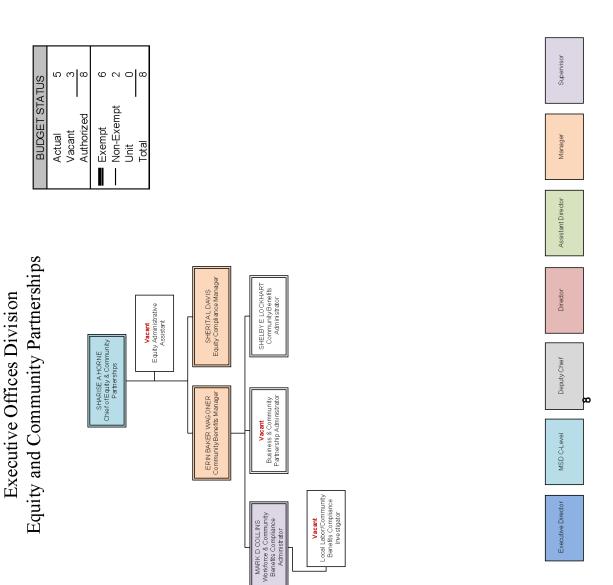
Director Assistant Director Manager Supervisor

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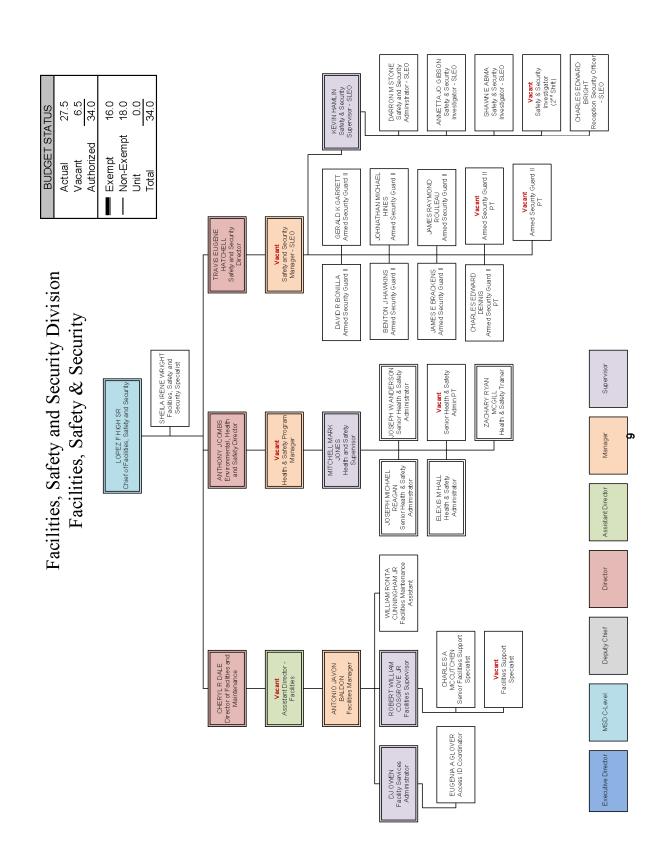


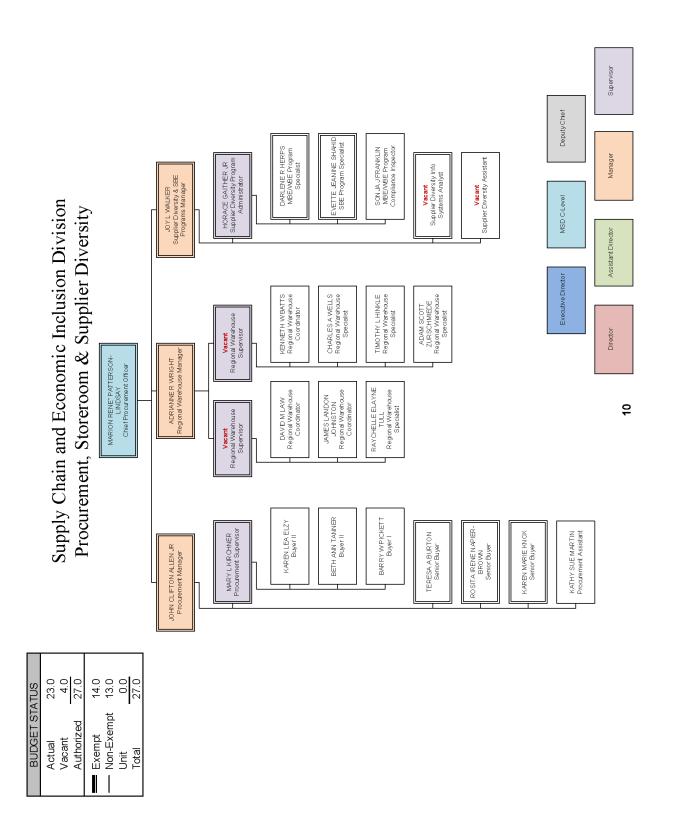




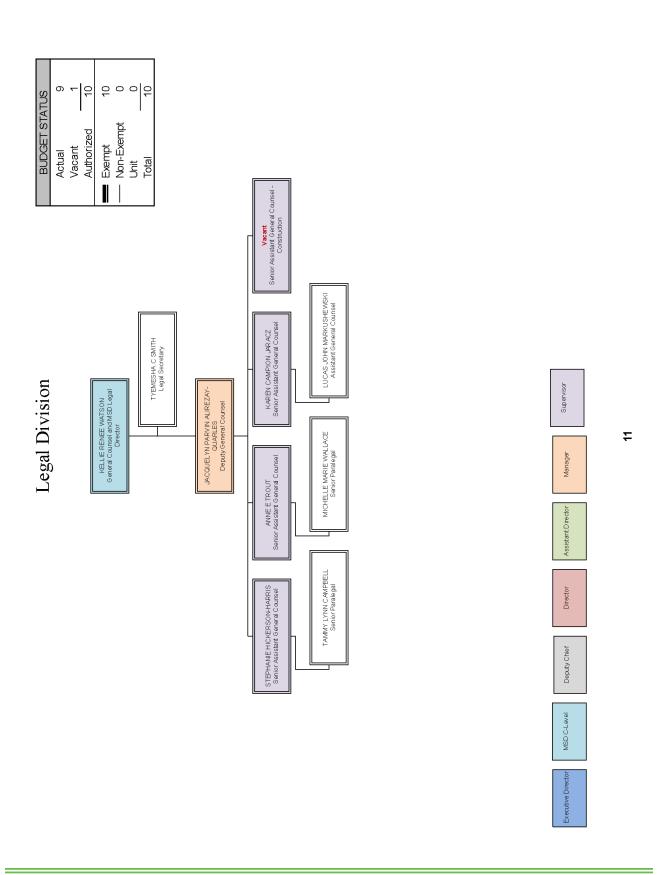


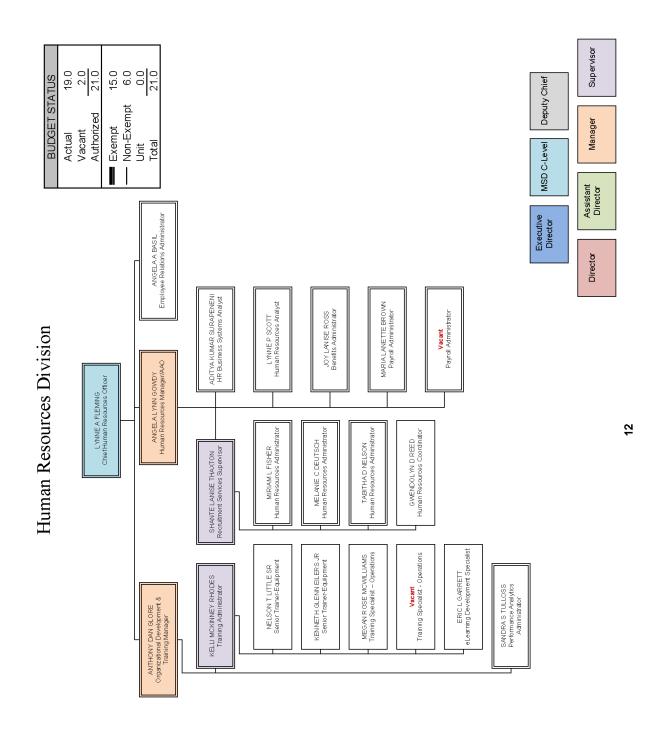




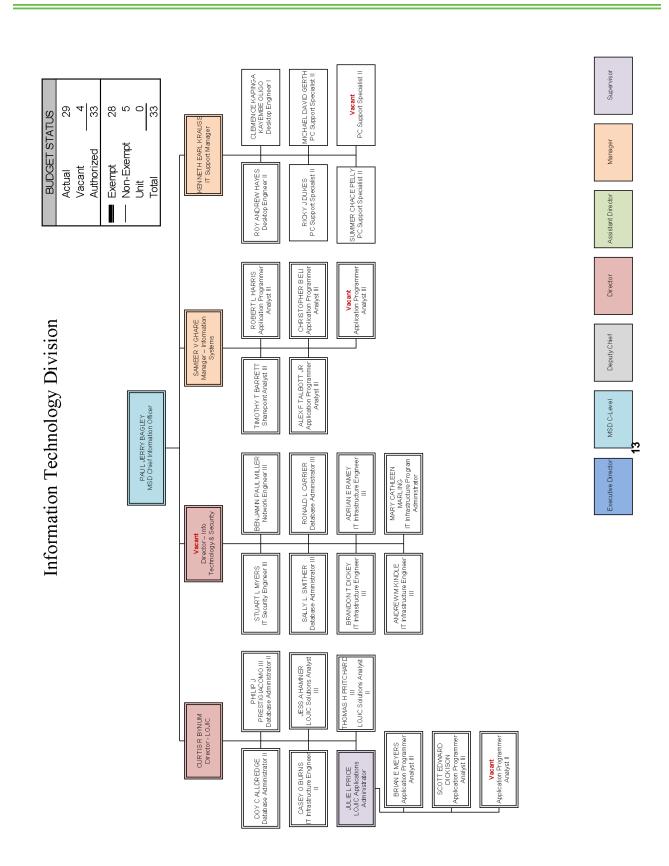


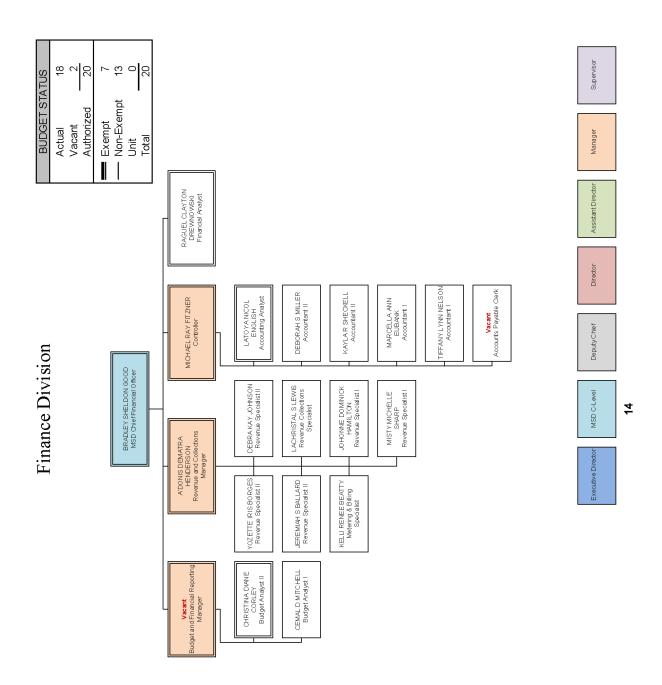




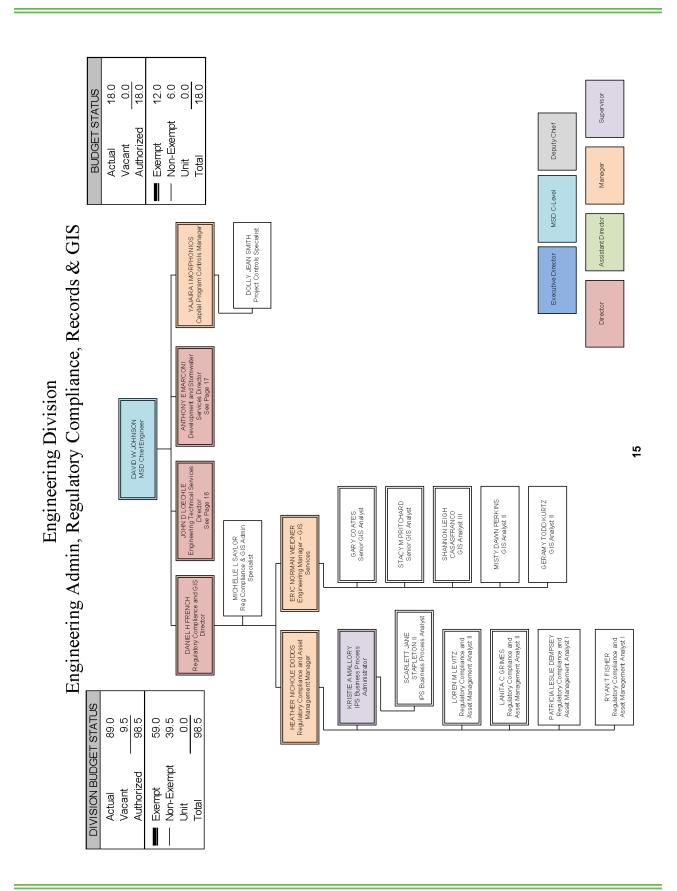


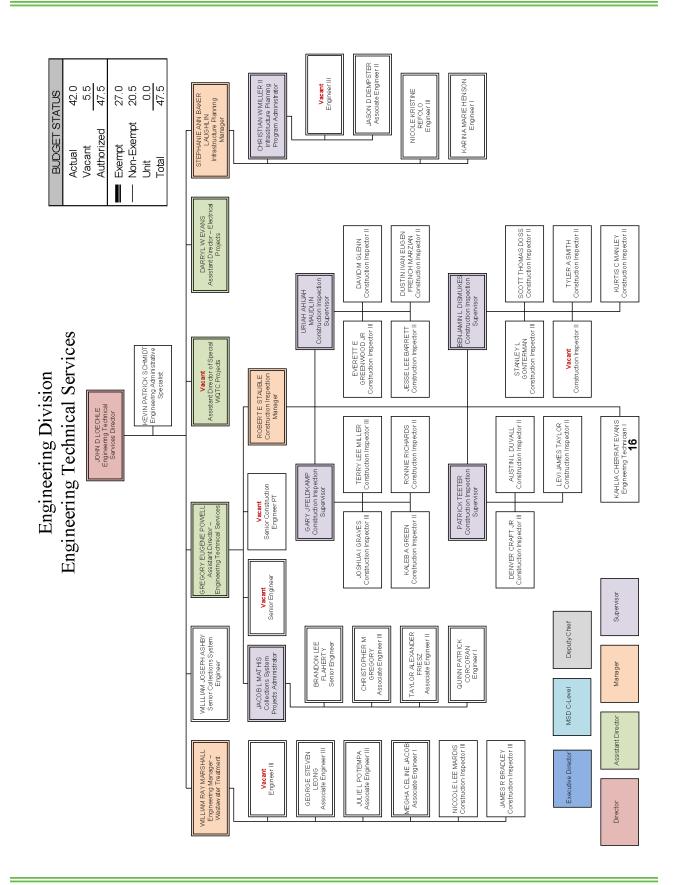




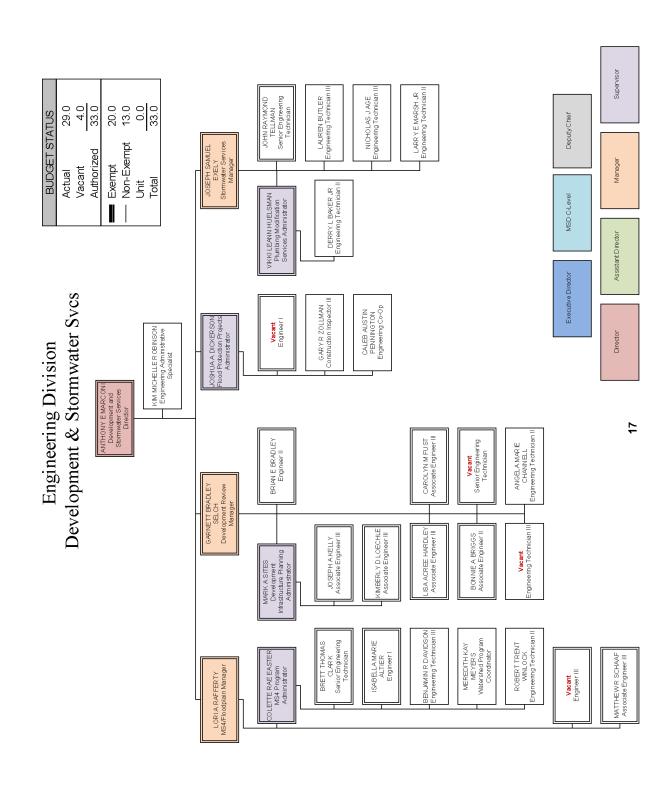


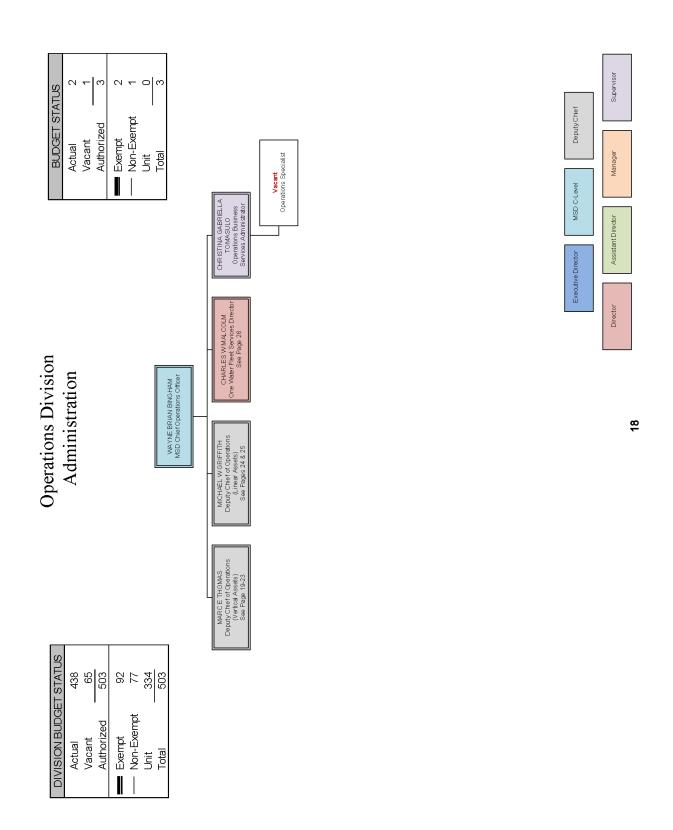




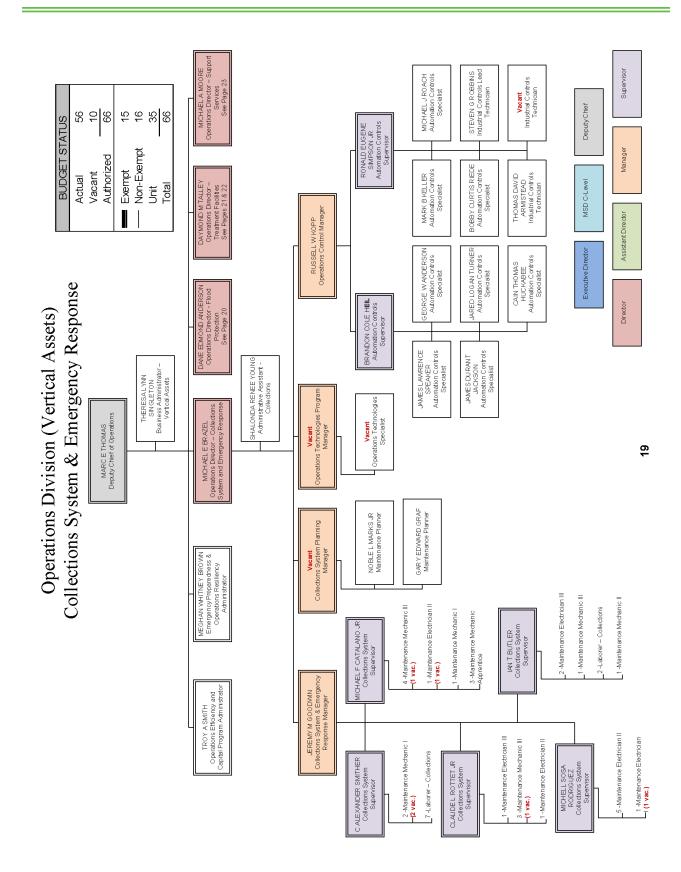


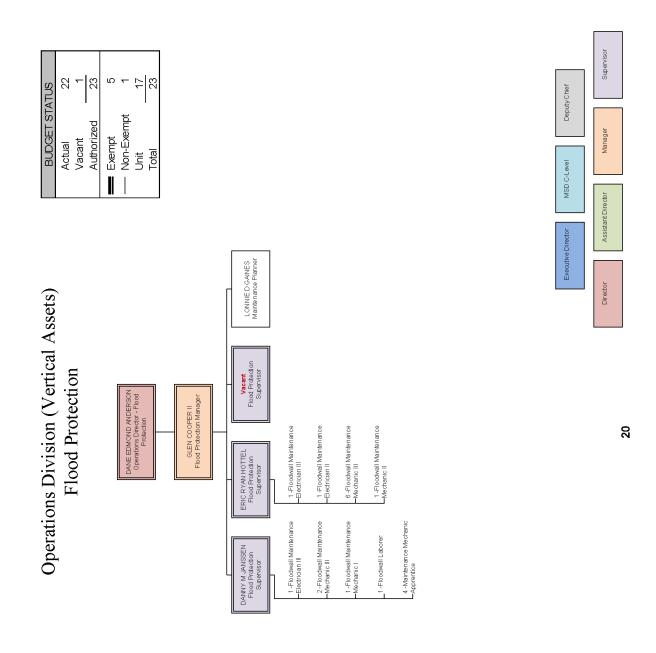




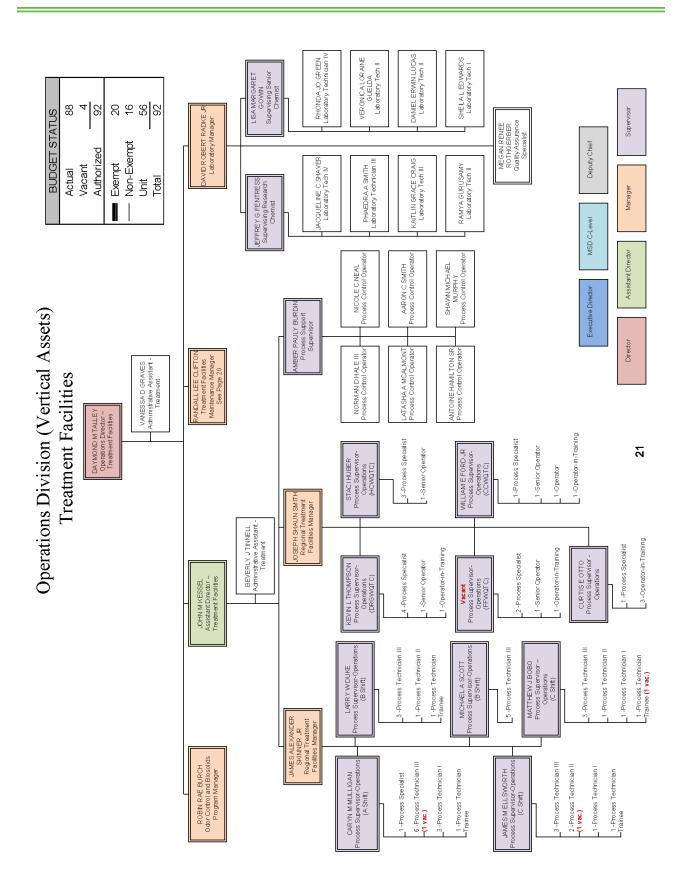


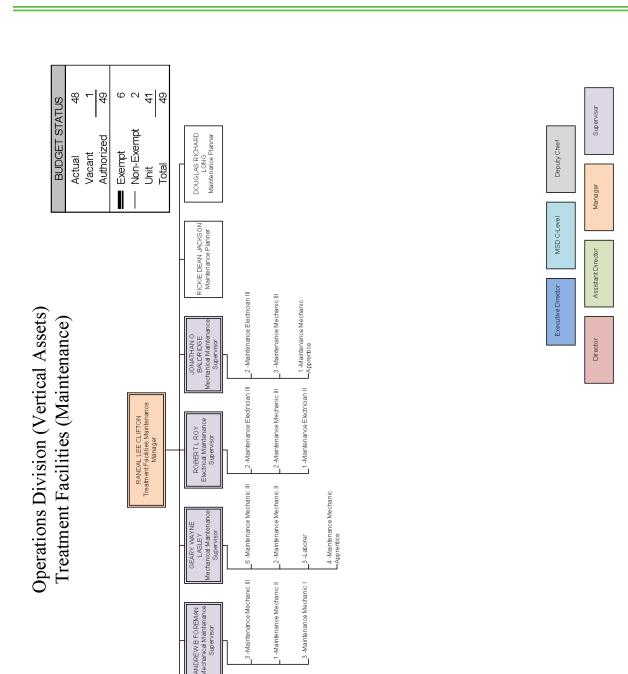












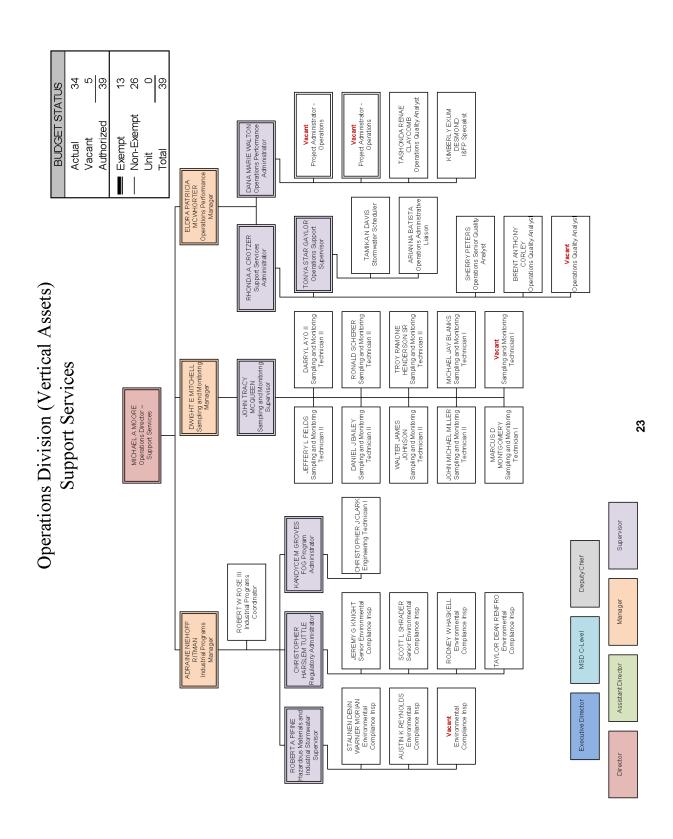
-Maintenance Electrician III

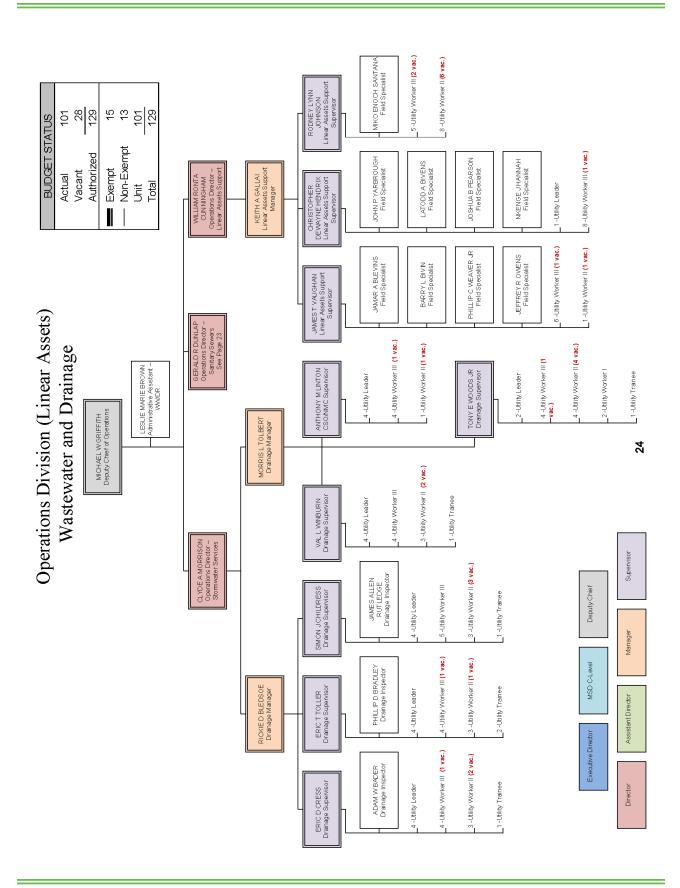
LAMONT HAWKINS Electrical Maintenance Supervisor 4 -Maintenance Electrician II -(1 vac.)

1 -Maintenance Electrician I

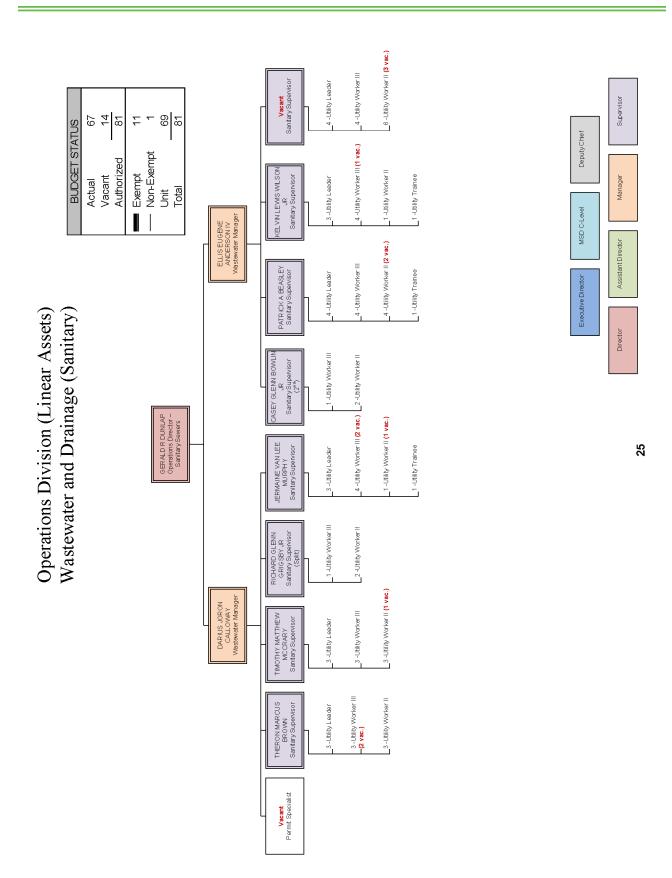
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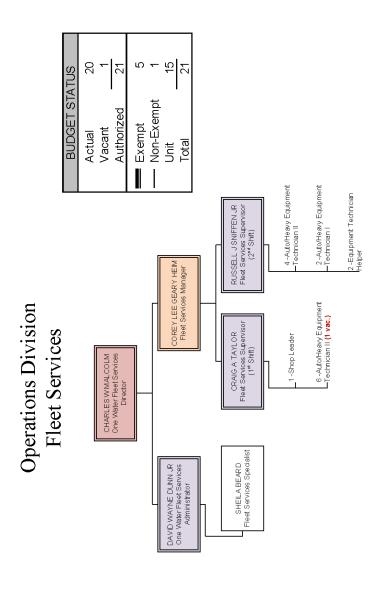


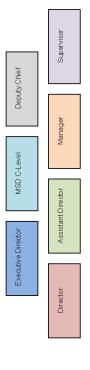








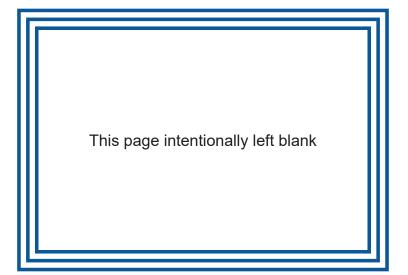






APPENDIX M

**SCAP BALANCE** 





CREDIT BASIN	APPLICATION	APPLICATION NAME	TYPE	FLOW (GAL/ DAY)	RELEASE	APPROVED CREDIT REQUIRED OR FLOW REDUCTION (GAL/DAY)	RUNNING TOTAL (GAL/DAY)
Cedar Creek	235533	MAINTENANCE WORK FY06 AUG-FY09 NOV - CEDAR CREEK	SCAPCREDIT		11/1/2008	6,521	6,521
Cedar Creek	362688	MAINTENANCE WORK FY09A - CEDAR CREEK	SCAPCREDIT		12/31/2008	5	6,526
Cedar Creek	236380	FY09 FAIRMOUNT ROAD MH REHAB	SCAPCREDIT		6/5/2009	10,734	17,260
Cedar Creek	362689	MAINTENANCE WORK FY09B - CEDAR CREEK	SCAPCREDIT		6/30/2009	201	17,461
Cedar Creek	SC1011254	MAINTENANCE WORK FY10A - CEDAR CREEK	SCAPCREDIT		12/31/2009	347	17,808
Cedar Creek	SC1011255	MAINTENANCE WORK FY10B - CEDAR CREEK	SCAPCREDIT		6/30/2010	194	18,002
Cedar Creek	SC1011259	MAINTENANCE WORK FY11A - CEDAR CREEK	SCAPCREDIT		12/31/2010	1,720	19,722
Cedar Creek	SC1011262	MAINTENANCE WORK FY11B - CEDAR CREEK	SCAPCREDIT		6/30/2011	934	20,656
Cedar Creek	SC1011264	MAINTENANCE WORK FY12A - CEDAR CREEK	SCAPCREDIT		12/31/2011	269	20,925
Cedar Creek	SC1011267	MAINTENANCE WORK FY12B - CEDAR CREEK	SCAPCREDIT		6/30/2012	814	21,739
Cedar Creek	SC1005519	CONTRACTED WORK FY12 - CEDAR CREEK	SCAPCREDIT		9/10/2012	21,321	43,060
Cedar Creek	320989	FY12 LITTLE CEDAR CREEK IJ REHABILITATION	SCAPCREDIT		9/27/2012	652,907	695,967
Cedar Creek	263934	ST JAMES CROSSINGS	LAT EXT	000'6	11/30/2012	(19,575)	676,392
Cedar Creek	196927	SONIC SPRINGS	LAT EXT	3,600	12/5/2012	(7,830)	668,562
Cedar Creek	350057	FMC EAST LOUISVILLE #1673-3	LAT EXT	3,400	1/29/2013	(395)	661,167
Cedar Creek	SC1074160	MAINTENANCE WORK FY13 JAN-JUN - CEDAR CREEK	SCAPCREDIT		6/30/2013	4,443	665,610
Cedar Creek	SC1005524	CONTRACTED WORK FY13 - CEDAR CREEK	SCAPCREDIT		8/19/2013	425	666,035
Cedar Creek	14SC1000	MAINTENANCE WORK FY14 JUL-DEC - CEDAR CREEK	SCAPCREDIT		12/31/2013	2,220	669,737
Cedar Creek	SC1082184	MAINTENANCE WORK FY13A - CEDAR CREEK	SCAPCREDIT		12/31/2013	1,482	667,517
Cedar Creek	13LE1155	RAISING CANE'S CEDARLOOK DRIVE	LAT EXT	1,175	5/23/2014	(2,556)	667,181
Cedar Creek	SC1082223	MAINTENANCE WORK FY14 JAN-JUN- CEDAR CREEK	SCAPCREDIT		6/30/2014	4,729	671,910
Cedar Creek	SC1082493	MAINTENANCE WORK FY15 JUL-DEC-CEDAR CREEK	SCAPCREDIT		12/30/2014	4,583	676,493
Cedar Creek	239030	POPLAR LAKES PH 1	LAT EXT	18,000	1/26/2015	(39,150)	637,343
Cedar Creek	13LE1003	Bardstown Woods Sec 6	LAT EXT	5,200	5/26/2015	(11,310)	626,033
Cedar Creek	SC1082496	MAINTENANCE WORK FY15 JAN-JUN-CEDAR CREEK	SCAPCREDIT		6/30/2015	21	626,054
Cedar Creek	LE916330	Altawood Development	LAT EXT	1,600	9/14/2015	(3,480)	622,574
Cedar Creek	SC1003694	CONTRACTED WORK FY15 - CEDAR CREEK	SCAPCREDIT		9/25/2015	328	622,903
Cedar Creek	SC1006188	CONTRACTED WORK FY16 - CEDAR CREEK	SCAPCREDIT		9/25/2015	1	622,575
Cedar Creek	SC1082497	MAINTENANCE WORK FY16 JUL-DEC-CEDAR CREEK	SCAPCREDIT		12/30/2015	16	622,919
Cedar Creek	LE915727	BARDSTOWN WOODS SEC 7	LAT EXT	4,400	5/25/2016	(0,570)	613,349
Cedar Creek	SC1082498	MAINTENANCE WORK FY16 JAN-JUN-CEDAR CREEK	SCAPCREDIT		6/30/2016	169	613,518
Cedar Creek	LE981692	Meredith Machinery	LAT EXT	400	8/9/2016	(870)	612,648
Cedar Creek	SC1006171	CONTRACTED WORK FY14 - CEDAR CREEK	SCAPCREDIT		10/26/2016	45,900	658,548
Cedar Creek	SC1082499	MAINTENANCE WORK FY17 JUL-DEC-CEDAR CREEK	SCAPCREDIT		12/30/2016	2,396	660,944
Cedar Creek	LE979589	Air Hydro Power Expansion	LAT EXT	3,120	2/9/2017	(6,786)	654,158
Cedar Creek	LE979025	Single Family Residence	LAT EXT	2,000	3/8/2017	(4,350)	649,808
Cedar Creek	SC1082500	MAINTENANCE WORK FY17 JAN-JUN-CEDAR CREEK	SCAPCREDIT		6/30/2017	3,464	653,272



CREDIT BASIN	APPLICATION	APPLICATION NAME	TYPE	FLOW (GAL/ DAY)	RELEASE Date	APPROVED CREDIT REQUIRED OR FLOW REDUCTION (GAL/DAY)	RUNNING TOTAL (GAL/DAY)
Cedar Creek	SC1107176	CONTRACTED WORK FY17 - CEDAR CREEK	SCAPCREDIT		7/11/2017	309	653,581
Cedar Creek	SC1107180	FY17 PROVIDENCE COURT PS REHABILITATION	SCAPCREDIT		7/21/2017	1,275	654,856
Cedar Creek	LE974484	Blue Sky Logistical Center	LAT EXT	2,250	7/26/2017	(4,894)	649,962
Cedar Creek	LE983107	Poplar Lakes Phase 3	LAT EXT	12,000	8/14/2017	(26,100)	623,862
Cedar Creek	LE971176	Cedar Ridge	LAT EXT	18,800	10/24/2017	(40,890)	582,972
Cedar Creek	SC1082501	MAINTENANCE WORK FY18 JUL-DEC-CEDAR CREEK	SCAPCREDIT		12/30/2017	3,067	586,039
Cedar Creek	LE1027406	Chenoweth Run, LLC	LAT EXT	1,600	3/13/2018	(3,480)	582,559
Cedar Creek	LE1005655	Carrier Court	LAT EXT	400	4/2/2018	(870)	581,689
Cedar Creek	SC1107051	FY18 BARDSTOWN RD I/I REMEDIATION	SCAPCREDIT		6/25/2019	22,963	604,652
Cedar Creek	LE1048252	Landherr Estates Phase II	LAT EXT	17,600	7/23/2019	(38,280)	566,372
Cedar Creek	LE1039387	Tuscany Ridge Section 3	LAT EXT	8,000	8/16/2019	(17,400)	548,972
Cedar Creek	LE1015579	Little Spring Farm, Section 4B	LAT EXT	8,800	9/12/2019	(19,140)	499,382
Cedar Creek	LE1049657	Glenmary Commons	LAT EXT	14,000	9/12/2019	(30,450)	518,522
Cedar Creek	LE978334	Houchens Industries	LAT EXT	780	10/2/2019	(1,697)	497,685
Cedar Creek	LE1049477	Hearthstone Meadows	LAT EXT	14,400	1/30/2020	(31,320)	466,365
Cedar Creek	LE1085520	Jefferson Trace Blvd. Sewer Extension	LAT EXT	400	2/27/2020	(870)	465,495
Cedar Creek	LE1099947	Cedar Creek Subdivision - Section 1	LAT EXT	16,000	9/10/2020	(34,800)	430,695
Cedar Creek	LE1057197	Cedar Brook Subdivision Section 4	LAT EXT	1,200	10/27/2020	(2,610)	428,085
Cedar Creek	LE1105493	Heritage Creek East Lot 384 PSC	LAT EXT	400	2/19/2021	(870)	427,215
Cedar Creek	LE1089846	Cedar Brook Subdivision, Section 5A FKA 5	LAT EXT	16,400	11/3/2021	(35,670)	391,545
Cedar Creek	LE1031168	Wingfield Road Office Building	LAT EXT	400	7/21/2022	(870)	390,675
Cedar Creek							390,675
Floyds Fork	235557	MAINTENANCE WORK FY06 AUG-FY09 NOV - FLOYDS FORK	SCAPCREDIT		11/1/2008	14,540	14,540
Floyds Fork	362638	MAINTENANCE WORK FY09A - FLOYDS FORK	SCAPCREDIT		12/31/2008	1	14,541
Floyds Fork	362647	MAINTENANCE WORK FY09B - FLOYDS FORK	SCAPCREDIT		6/30/2009	4	14,545
Floyds Fork	362651	MAINTENANCE WORK FY10A - FLOYDS FORK	SCAPCREDIT		12/31/2009	524	15,069
Floyds Fork	230379	SHAKES RUN SECTION 4	LAT EXT	3,770	1/5/2010	(8,200)	6,869
Floyds Fork	362655	MAINTENANCE WORK FY10B - FLOYDS FORK	SCAPCREDIT		6/30/2010	82	6,951
Floyds Fork	362661	MAINTENANCE WORK FY11A - FLOYDS FORK	SCAPCREDIT		12/31/2010	14,163	21,114
Floyds Fork	362669	MAINTENANCE WORK FY11B - FLOYDS FORK	SCAPCREDIT		6/30/2011	22,707	43,821
Floyds Fork	309608	BLANKENBAKER TRAIL OFFICE LN-B	LAT EXT	2,880	10/12/2011	(6,264)	37,557
Floyds Fork	242480	CLAIBOURNE CROSSINGS PHASE 2	LAT EXT		10/17/2011		37,557
Floyds Fork	362674	CALENDAR 2011 SUMP PUMP CREDIT	SCAPCREDIT		12/31/2011	317	41,874
Floyds Fork	359320	MAINTENANCE WORK FY12A - FLOYDS FORK	SCAPCREDIT		12/31/2011	4,000	41,557
Floyds Fork	319027	PREMIER SURGERY CENTER	LAT EXT	5,740	3/13/2012	(12,485)	29,389
Floyds Fork	362678	MAINTENANCE WORK FY12B - FLOYDS FORK	SCAPCREDIT		6/30/2012	338	29,727
Floyds Fork	332823	SINGLE FAMILY HOME	LATEXT	400	7/13/2012	(870)	28,857



CREDIT BASIN	APPLICATION	APPLICATION NAME	TYPE	FLOW (GAL/ DAY)	RELEASE Date	APPROVED CREDIT REQUIRED OR FLOW REDUCTION (GAL/DAY)	RUNNING TOTAL (GAL/DAY)
Floyds Fork	315945	BROOKFIELD SEC 3	LATEXT	12,800	10/26/2012	(27,840)	1,017
Floyds Fork	361689	FY13 LAKE FOREST REHAB PH1	SCAPCREDIT		12/18/2012	174,769	175,786
Floyds Fork	362683	MAINTENANCE WORK FY13A - FLOYDS FORK	SCAPCREDIT		12/31/2012	10	175,796
Floyds Fork	331397	BROOKFIELD SEC 2A	LAT EXT	14,400	5/8/2013	(31,320)	144,476
Floyds Fork	13SC1000	FY14 STARVIEW REHABILITATION	SCAPCREDIT		6/30/2013	14,183	158,820
Floyds Fork	SC1082514	MAINTENANCE WORK FY13 JAN-JUN-FLOYDS FORK	SCAPCREDIT		6/30/2013	161	144,637
Floyds Fork	SC1082517	MAINTENANCE WORK FY14 JUL-DEC-FLOYDS FORK	SCAPCREDIT		12/30/2013	991	159,811
Floyds Fork	SC1082518	MAINTENANCE WORK FY14 JAN-JUN-FLOYDS FORK	SCAPCREDIT		6/30/2014	662	160,473
Floyds Fork	SC1082519	MAINTENANCE WORK FY15 JUL-DEC-FLOYDS FORK	SCAPCREDIT		12/30/2014	1,318	161,791
Floyds Fork	13LE1062	SPEEDWAY #9451	LAT EXT	540	2/18/2015	(1,175)	160,616
Floyds Fork	SC1003809	FY14 BERRYTOWN WQTC I/I REMEDIATION	SCAPCREDIT		6/30/2015	116,834	273,935
Floyds Fork	LE932084	Speckman Center	LAT EXT	1,335	6/30/2015	(2,904)	271,031
Floyds Fork	SC1082520	MAINTENANCE WORK FY15 JAN-JUN-FLOYDS FORK	SCAPCREDIT		6/30/2015	661	161,277
Floyds Fork	LE939198	Donan Engineering Co., Inc Main Office	LAT EXT	1,920	6/30/2015	(4,176)	157,101
Floyds Fork	SC1003723	FY16 MIDDLETOWN SSR P2S2 I/I REMEDIATION	SCAPCREDIT		11/6/2015	102	271,133
Floyds Fork	LE965189	Edwards Restaurant	LAT EXT	1,200	11/23/2015	(2,610)	264,717
Floyds Fork	LE959078	The Meadows at the Polo Fields Patio Homes	LAT EXT	1,750	11/23/2015	(3,806)	267,327
Floyds Fork	SC1082521	MAINTENANCE WORK FY16 JUL-DEC-FLOYDS FORK	SCAPCREDIT		12/30/2015	629	265,376
Floyds Fork	LE941673	Locust Creek Section 8B	LAT EXT	2,000	1/7/2016	(4,350)	261,026
Floyds Fork	SC1082523	MAINTENANCE WORK FY16 JAN-JUN-FLOYDS FORK	SCAPCREDIT		6/30/2016	3,578	264,604
Floyds Fork	SC1003331	CONTRACTED WORK FY16 - FLOYDS FORK	SCAPCREDIT		7/7/2016	35	264,639
Floyds Fork	LE932677	Shakes Run Sec 9	LAT EXT	12,000	9/20/2016	(26,100)	238,539
Floyds Fork	SC1082524	MAINTENANCE WORK FY17 JUL-DEC-FLOYDS FORK	SCAPCREDIT		12/30/2016	1,804	240,343
Floyds Fork	LE945783	Urton Woods, Section 2B	LAT EXT	17,200	1/4/2017	(37,410)	202,933
Floyds Fork	LE983784	Catalpa Farms Subdivision	LAT EXT	16,000	1/6/2017	(34,800)	168,133
Floyds Fork	LE971261	Notting Hills Section 4 and Clubhouse	LAT EXT	10,400	2/27/2017	(22,620)	145,513
Floyds Fork	SC1082525	MAINTENANCE WORK FY17 JAN-JUN-FLOYDS FORK	SCAPCREDIT		6/30/2017	1,320	146,833
Floyds Fork	LE992628	Blankenbaker Centre II	LAT EXT	2,340	10/9/2017	(5,090)	141,743
Floyds Fork	SC1082526	MAINTENANCE WORK FY18 JUL-DEC-FLOYDS FORK	SCAPCREDIT		12/30/2017	6,158	147,901
Floyds Fork	LE1026269	Valencia Villas at Landis Lakes	LAT EXT	1,600	12/27/2018	(3,480)	144,421
Floyds Fork	LE1039193	Glen Lakes Section 4 - Phase 3	LAT EXT	16,400	1/7/2019	(35,670)	108,751
Floyds Fork	LE1030166	Victory Knoll Apartments - Phase 1	LAT EXT	91,400	2/7/2019	(198,795)	(90,044)
Floyds Fork	LE1024277	St. Joseph's Property	LAT EXT	70,128	4/19/2019	(152,528)	(242,572)
Floyds Fork	LE1030172	Victory Knoll Apartments - Phase 2	LAT EXT	36,100	6/25/2019	(78,518)	(321,090)
Floyds Fork	SC1107197	CONTRACTED WORK FY19 - FLOYDS FORK	SCAPCREDIT		8/27/2019	1,554	(319,536)
Floyds Fork	LE1050932	Courtyard at Curry Farms Section 1	LAT EXT	17,000	10/21/2019	(36,975)	(356,511)
Floyds Fork	LE1025883	Vinings at Claiboume	LAT EXT	69,800	12/6/2019	(151,815)	(508,326)



Floyds Fork Hite Creek Hite Creek Hite Creek				DAY)	DATE	FLOW REDUCTION (GAL/DAY)	(GAL/DAY)
Hite Creek Hite Creek Hite Creek							(508,326)
Hite Creek Hite Creek	SC1006307	CONTRACTED WORK FY06 - HITE CREEK	SCAPCREDIT		5/15/2006	656	656
Hite Creek	235561	MAINTENANCE WORK FY06 AUG-FY09 NOV - HITE CREEK	SCAPCREDIT		11/1/2008	6,404	7,060
	362641	MAINTENANCE WORK FY09A - HITE CREEK	SCAPCREDIT		12/31/2008	2	7,062
Hite Creek	SC1006214	CONTRACTED WORK FY09 - HITE CREEK	SCAPCREDIT		6/1/2009	328	7,390
Hite Creek	362648	MAINTENANCE WORK FY09B - HITE CREEK	SCAPCREDIT		6/30/2009	7	7,397
Hite Creek	362652	MAINTENANCE WORK FY10A - HITE CREEK	SCAPCREDIT		12/31/2009	10	7,407
Hite Creek	362657	MAINTENANCE WORK FY10B - HITE CREEK	SCAPCREDIT		6/30/2010	332	7,739
Hite Creek	320906	FY11 FLOYDSBURG ROAD I/I REHABILITATION	SCAPCREDIT		12/17/2010	28,437	36,176
Hite Creek	362662	MAINTENANCE WORK FY11A - HITE CREEK	SCAPCREDIT		12/31/2010	6	36,185
Hite Creek	362670	MAINTENANCE WORK FY11B - HITE CREEK	SCAPCREDIT		6/30/2011	6	36,194
Hite Creek	SC1011058	FY12 MEADOW STREAM PS AND FM EXPANSION	SCAPCREDIT		9/7/2011	2,304,000	2,340,194
Hite Creek	246638	CHAPMAN COURT S/S	LAT EXT	800	9/28/2011	(1,740)	2,338,454
Hite Creek	362675	MAINTENANCE WORK FY12A - HITE CREEK	SCAPCREDIT		12/31/2011	340	2,338,794
Hite Creek	362679	MAINTENANCE WORK FY12B - HITE CREEK	SCAPCREDIT		6/30/2012	200'5	2,343,801
Hite Creek	290181	CAMDEN WOOD APARTMENTS	LAT EXT	12,400	8/31/2012	(26,970)	2,316,831
Hite Creek	304536	MAGNOLIA SPRINGS EAST PRIV P/S	LAT EXT	9,500	12/1/2012	(20,663)	2,296,168
Hite Creek	335610	ROCK SPRINGS FARM SEC 4B	LAT EXT	6,400	12/7/2012	(13,920)	2,282,248
Hite Creek	362684	MAINTENANCE WORK FY13A - HITE CREEK	SCAPCREDIT		12/31/2012	2	2,282,255
Hite Creek	SC1005530	CONTRACTED WORK FY13 - HITE CREEK	SCAPCREDIT		4/11/2013	1,442	2,283,697
Hite Creek	SC1082527	MAINTENANCE WORK FY13 JAN-JUN-HITE CREEK	SCAPCREDIT		6/30/2013	967	2,284,664
Hite Creek	13LE1150	SINGLE FAMILY 5800 MOUNT PLEASANT RD	LAT EXT	400	11/26/2013	(870)	2,283,794
Hite Creek	SC1082528	MAINTENANCE WORK FY14 JUL-DEC-HITE CREEK	SCAPCREDIT		12/30/2013	3,211	2,287,005
Hite Creek	SC1082529	MAINTENANCE WORK FY14 JAN-JUNE-HITE CREEK	SCAPCREDIT		6/30/2014	2,207	2,289,212
Hite Creek	SC1082530	MAINTENANCE WORK FY15 JUL-DEC-HITE CREEK	SCAPCREDIT		12/30/2014	360	2,289,572
Hite Creek	SC1006178	CONTRACTED WORK FY14 - HITE CREEK	SCAPCREDIT		1/27/2015	77,660	2,367,232
Hite Creek	SC983697	FY13 MEADOWSTREAM REHABILITATION	SCAPCREDIT		3/13/2015	448,447	2,815,679
Hite Creek	SC1082531	MAINTENANCE WORK FY15 JAN-JUN-HITE CREEK	SCAPCREDIT		6/30/2015	124	2,815,803
Hite Creek	SC1082532	MAINTENANCE WORK FY16 JUL-DEC-HITE CREEK	SCAPCREDIT		12/30/2015	1,191	2,816,994
Hite Creek	LE967612	Camden Wood Apartments, Phase III	LAT EXT	2,400	3/2/2016	(5,220)	2,811,774
Hite Creek	SC1082533	MAINTENANCE WORK FY16 JAN-JUN-HITE CREEK	SCAPCREDIT		6/30/2016	336	2,812,110
Hite Creek	LE943178	Rock Springs Farm Section 5A	LAT EXT	6,800	9/13/2016	(14,790)	2,797,320
Hite Creek	SC1006192	CONTRACTED WORK FY15 - HITE CREEK	SCAPCREDIT		10/26/2016	1	2,797,321
Hite Creek	SC1082534	MAINTENANCE WORK FY17 JUL-DEC-HITE CREEK	SCAPCREDIT		12/30/2016	3,599	2,800,920
Hite Creek	LE971406	Old Henry Business Park	LAT EXT	930	3/17/2017	(2,023)	2,798,897
Hite Creek	SC1082535	MAINTENANCE WORK FY17 JAN-JUN-HITE CREEK	SCAPCREDIT		6/30/2017	4,109	2,803,006
Hite Creek	LE1008225	LINAK Expansion	LATEXT	3,610	8/25/2017	(7,852)	2,795,154



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Hite Creek	SC1082536	MAINTENANCE WORK FY18 JUL-DEC-HITE CREEK	SCAPCREDIT		12/30/2017	6,823	2,801,977
Hite Creek	SC1107182	FY18 FLOYDSBURG ROAD PS REHABILITATION	SCAPCREDIT		8/9/2018	7,825	2,809,802
Hite Creek	LE1031180	Norton Commons North Village Phase 6	LAT EXT	26,800	1/7/2019	(58,290)	2,725,412
Hite Creek	LE1042390	Norton Commons North Village Phase 7	LAT EXT	12,000	1/7/2019	(26,100)	2,783,702
Hite Creek	LE1079340	Norton Commons North Village Phase 6A	LAT EXT	008'9	1/10/2019	(14,790)	2,710,622
Hite Creek	LE1056431	Norton Commons North Village The Grove Pool	LAT EXT	400	3/15/2019	(870)	2,709,752
Hite Creek	LE1088579	A & L Expansion	LAT EXT	400	3/28/2019	(870)	2,708,882
Hite Creek	14LE1103	Accomack Mini Warehouses	LAT EXT	400	5/8/2019	(870)	2,708,012
Hite Creek	LE1068686	Ghasem/Fadory Lane Project	LAT EXT	685	5/29/2019	(1,490)	2,706,522
Hite Creek	LE1103150	Anchorage Plaza II Phase II	LAT EXT	2,300	11/18/2019	(2,003)	2,701,519
Hite Creek	LE1104289	LYRIC AT NORTON COMMONS	LAT EXT	71,357	2/20/2020	(155,201)	2,546,318
Hite Creek	LE1054784	Norton Commons North Village Phase 8	LAT EXT	009'6	2/21/2020	(20,880)	2,525,438
Hite Creek	LE1102996	Thomas Eastpoint Warehouse Expansion	LAT EXT	400	3/3/2020	(870)	2,524,568
Hite Creek	LE1104592	EPOP II	LAT EXT	510	6/3/2020	(1,109)	2,523,459
Hite Creek	LE1102431	Tony's Wrecker Service	LAT EXT	400	6/12/2020	(870)	2,522,589
Hite Creek	LE1089366	Norton Commons North Village Phase 10	LAT EXT	29,200	6/30/2020	(63,510)	2,459,079
Hite Creek	LE1104374	KEN TOWERY	LAT EXT	400	7/16/2020	(870)	2,458,209
Hite Creek	LE1105275	Rollington Ridge Subdivision	LAT EXT	33,600	5/31/2023	(73,080)	2,385,129
Hite Creek							2,385,129
Jeffersontown	235563	MAINTENANCE WORK FY06 AUG-FY09 NOV - JEFFERSONTOWN	SCAPCREDIT		11/1/2008	6,203	6,203
Jeffersontown	359323	CALENDAR 2008 SUMP PUMP CREDIT	SCAPCREDIT		12/31/2008	4,000	10,203
Jeffersontown	254871	LAKESIDE BAPT CHURCH PRIV PS	LAT EXT	2,500	8/10/2010	(5,438)	4,765
Jeffersontown	340213	FY12 JEFFERSONTOWN ENG REHAB	SCAPCREDIT		8/11/2011	997,448	1,002,213
Jeffersontown	359324	CALENDAR 2011 SUMP PUMP CREDIT	SCAPCREDIT		12/31/2011	4,000	1,006,213
Jeffersontown	14SC1002	MAINTENANCE WORK FY13A- JEFFERSONTOWN	SCAPCREDIT		12/31/2012	3,490	1,009,703
Jeffersontown	337261	SINGLE FAMILY 2909 PELHAM CT	LAT EXT	400	5/28/2013	(870)	1,008,833
Jeffersontown	13LE1010	SWOPE HR & TRAINING BLDG	LAT EXT	400	6/28/2013	(870)	1,007,963
Jeffersontown	13LE1092	BALE EQUIPMENT	LAT EXT	450	10/25/2013	(679)	1,006,984
Jeffersontown	13LE1098	UNIPAK	LAT EXT	720	2/27/2014	(1,566)	1,005,418
Jeffersontown	LE924043	Bluegrass Indoor Carting	LAT EXT	400	5/1/2014	(870)	1,004,548
Jeffersontown	13LE1153	VALUE PLACE	LAT EXT	12,400	7/9/2014	(26,970)	977,578
Jeffersontown	14LE1082	Single Family Home	LAT EXT	400	7/22/2014	(870)	976,708
Jeffersontown	13LE1067	PARK COMMUNITY	LAT EXT	2,200	12/31/2014	(4,785)	971,923
Jeffersontown	LE952541	TYLER RETAIL CTR & KROGER EXPAN	LAT EXT	,	8/17/2015		971,923
Jeffersontown	14LE1149	Grand Lakes Section 3	LAT EXT	5,600	2/1/2016	(12,180)	959,743
Jeffersontown	LE924049	Blankenbaker Road S/S	LAT EXT	9,010	3/10/2016	(19,597)	940,146
Jeffersontown	LE948691	Kowaleski Salon	LAT EXT	900	3/15/2016	(1,305)	938,841



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Jeffersontown	326360	WATTERSON TRAIL CENTER	LAT EXT	2,745	5/4/2016	(5,970)	932,871
Jeffersontown	LE972153	Tova Industries	LAT EXT	400	5/9/2016	(870)	932,001
Jeffersontown	LE930127	Vantage Point Sec 3B	LAT EXT	7,200	6/21/2016	(15,660)	916,341
Jeffersontown	13LE1158	GOODWILL INDUSTRIES OF KENTUCKY	LAT EXT	400	7/28/2016	(870)	915,471
Jeffersontown	14LE1148	Grand Lakes Section 2	LAT EXT	4,400	11/8/2016	(9,570)	905,901
Jeffersontown	LE950059	Embassy Square Office Park	LAT EXT	009	11/17/2016	(1,305)	904,596
Jeffersontown	LE926081	Monticello Manors Sec 2	LAT EXT	7,600	3/23/2017	(16,530)	888,066
Jeffersontown	LE967619	Louis F. Zoeller, Jr Minor Plat	LAT EXT	400	3/31/2017	(870)	887,196
Jeffersontown							887,196
Middle Fork Beargrass Creek	359328	CALENDAR 2007 DOWNSPOUT CREDIT	SCAPCREDIT		12/31/2007	20,000	104,000
Middle Fork Beargrass Creek	359400	CALENDAR 2007 SUMP PUMP CREDIT	SCAPCREDIT		12/31/2007	84,000	84,000
Middle Fork Beargrass Creek	235566	MAINTENANCE WORK FY06 AUG-FY09 NOV - MIDDLE FORK	SCAPCREDIT		11/1/2008	43,779	147,779
Middle Fork Beargrass Creek	359329	CALENDAR 2008 SUMP PUMP CREDIT	SCAPCREDIT		12/31/2008	000'8	155,792
Middle Fork Beargrass Creek	SC1011287	MAINTENANCE WORK FY09A - MIDDLE FORK	SCAPCREDIT		12/31/2008	13	147,792
Middle Fork Beargrass Creek	236517	FY11 ANCHOR ESTATES MH REHAB	SCAPCREDIT		1/16/2009	15,552	171,344
Middle Fork Beargrass Creek	217235	FY09 SINKING FORK ICAPHASE I REHAB	SCAPCREDIT		3/30/2009	437,967	609,311
Middle Fork Beargrass Creek	235376	FY09 MIDDLE FORK INT REHAB PH1	SCAPCREDIT		5/15/2009	487,744	1,097,055
Middle Fork Beargrass Creek	179246	SHADY GLEN OF LYNDON PERSONAL	LAT EXT	(200)	5/26/2009	1,088	1,098,143
Middle Fork Beargrass Creek	SC1011288	MAINTENANCE WORK FY09B - MIDDLE FORK	SCAPCREDIT		6/30/2009	4,208	1,102,351
Middle Fork Beargrass Creek	250572	1316 WITAWANGAAVE	LAT EXT	400	11/4/2009	(870)	1,101,481
Middle Fork Beargrass Creek	359401	MAINTENANCE WORK FY10A - MIDDLE FORK	SCAPCREDIT		12/31/2009	4,000	1,129,531
Middle Fork Beargrass Creek	SC1011290	CALENDAR 2009 DOWNSPOUT CREDIT	SCAPCREDIT		12/31/2009	90	1,125,531
Middle Fork Beargrass Creek	359331	CALENDAR 2009 SUMP PUMP CREDIT	SCAPCREDIT		12/31/2009	24,000	1,125,481
Middle Fork Beargrass Creek	197432	ALMOST HOME KENNELS - ALL PET	LAT EXT	3,700	3/16/2010	(8,048)	1,121,483
Middle Fork Beargrass Creek	260065	OXMOOR GOLF FRONT 9	LAT EXT	400	4/15/2010	(870)	1,120,613
Middle Fork Beargrass Creek	260064	OXMOOR GOLF BACK 9	LAT EXT	400	4/15/2010	(870)	1,119,743
Middle Fork Beargrass Creek	229834	THE BROOK HOS- DUPONT ADDITION	LAT EXT	1,763	4/27/2010	(3,835)	1,115,908
Middle Fork Beargrass Creek	SC1011292	MAINTENANCE WORK FY10B - MIDDLE FORK	SCAPCREDIT		6/30/2010	1,113	1,117,021



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Middle Fork Beargrass Creek	265723	Z-XPRESS CAR WASH	LAT EXT	5,449	7/2/2010	(11,852)	1,105,169
Middle Fork Beargrass Creek	255792	HERR LANE APARTMENTS - 8 PLEX	LAT EXT	2,400	7/14/2010	(5,220)	1,097,339
Middle Fork Beargrass Creek	255793	HERR LANE APARTMENTS - 4 PLEX	LAT EXT	1,200	7/14/2010	(2,610)	1,102,559
Middle Fork Beargrass Creek	274303	FARM CREDIT SERVICES	LAT EXT	525	9/9/2010	(1,142)	1,096,197
Middle Fork Beargrass Creek	278015	METROPOLITAN UROLOGY	LAT EXT	400	12/15/2010	(870)	1,095,327
Middle Fork Beargrass Creek	359402	CALENDAR 2010 SUMP PUMP CREDIT	SCAPCREDIT		12/31/2010	000'8	1,116,532
Middle Fork Beargrass Creek	359333	MAINTENANCE WORK FY11A - MIDDLE FORK	SCAPCREDIT		12/31/2010	12,000	1,108,532
Middle Fork Beargrass Creek	SC1011293	CALENDAR 2010 DOWNSPOUT CREDIT	SCAPCREDIT		12/31/2010	1,205	1,096,532
Middle Fork Beargrass Creek	285637	SHELBYHURST OFFICE BUILDING 1	LAT EXT	009'9	1/20/2011	(14,355)	1,102,177
Middle Fork Beargrass Creek	313465	DORSEY POINTE/CODOMINIUMS 8-13	LAT EXT	2,400	1/27/2011	(5,220)	1,096,957
Middle Fork Beargrass Creek	291263	BROWNS LANE BUILDING	LAT EXT	400	4/14/2011	(870)	1,096,087
Middle Fork Beargrass Creek	293400	FOUR PLEX APARTMENTS	LAT EXT	1,200	6/14/2011	(2,610)	1,093,477
Middle Fork Beargrass Creek	SC1011294	MAINTENANCE WORK FY11B - MIDDLE FORK	SCAPCREDIT		6/30/2011	7,183	1,100,660
Middle Fork Beargrass Creek	330019	FY11 ANCHOR ESTATES REHAB	SCAPCREDIT		8/11/2011	1,359	1,102,019
Middle Fork Beargrass Creek	310046	EL NAPEL - MCMAHAN CENTER	LAT EXT	3,100	10/31/2011	(6,743)	1,095,276
Middle Fork Beargrass Creek	314591	CHOCOLATE MARTINI BAR/REST	LAT EXT	3,275	11/29/2011	(7,123)	1,088,153
Middle Fork Beargrass Creek	320983	FY12 HURSTBOURNE I/I INVESTIGATION	SCAPCREDIT		12/27/2011	1,408,279	2,496,432
Middle Fork Beargrass Creek	359335	MAINTENANCE WORK FY12A - MIDDLE FORK	SCAPCREDIT		12/31/2011	16,000	2,513,351
Middle Fork Beargrass Creek	SC1011295	CALENDAR 2011 SUMP PUMP CREDIT	SCAPCREDIT		12/31/2011	919	2,497,351
Middle Fork Beargrass Creek	321228	SINGLE FAMILY UNIT	LAT EXT	400	2/15/2012	(870)	2,512,481
Middle Fork Beargrass Creek	SC1005671	CONTRACTED WORK FY12 - MIDDLE FORK	SCAPCREDIT		3/16/2012	7,305	2,519,786
Middle Fork Beargrass Creek	321647	SINGLE FAMILY	LAT EXT	400	3/27/2012	(870)	2,518,916
Middle Fork Beargrass Creek	328074	SINGLE FAMILY:703 FOUNTAIN AVE	LAT EXT	400	6/22/2012	(870)	2,518,046
Middle Fork Beargrass Creek	SC1011297	MAINTENANCE WORK FY12B - MIDDLE FORK	SCAPCREDIT		6/30/2012	949	2,518,995
Middle Fork Beargrass Creek	193195	CEDAR LAKE LODGE WASHBURN	LAT EXT	1,900	8/20/2012	(4,133)	2,514,862



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Middle Fork Beargrass Creek	320923	FY12 ST MATTHEWS IN REHABILITATION	SCAPCREDIT		8/23/2012	20,841	2,535,703
Middle Fork Beargrass Creek	337796	CHAMPPS	LAT EXT	635	9/5/2012	(1,381)	2,534,322
Middle Fork Beargrass Creek	347126	ADVANCE PRODUCTION SYSTEMS	LAT EXT	400	12/28/2012	(870)	2,533,452
Middle Fork Beargrass Creek	14SC1003	MAINTENANCE WORK FY13A - MIDDLE FORK	SCAPCREDIT		12/31/2012	3,309	2,628,761
Middle Fork Beargrass Creek	359336	CALENDAR 2012 SUMP PUMP CREDIT	SCAPCREDIT		12/31/2012	92,000	2,625,452
Middle Fork Beargrass Creek	339367	BAPTIST RADIATION ONCOLOGY	LAT EXT	1,500	1/4/2013	(3,263)	2,625,498
Middle Fork Beargrass Creek	340778	PANDA RESTAURANT	LAT EXT	1,725	1/16/2013	(3,752)	2,621,746
Middle Fork Beargrass Creek	349044	BLAIRWOOD POOL ADDITION	LAT EXT	400	1/29/2013	(870)	2,620,876
Middle Fork Beargrass Creek	328659	SINGLE FAMILY HOME - 6911 AMBR	LAT EXT	400	2/4/2013	(870)	2,620,006
Middle Fork Beargrass Creek	352805	POOL HOUSE 9213 REIGATE COURT	LAT EXT	200	2/20/2013	(435)	2,619,571
Middle Fork Beargrass Creek	14LE1001	MIRANDA LAGRANGE RD	LAT EXT	400	3/19/2013	(870)	2,618,701
Middle Fork Beargrass Creek	350246	SINGLE FAMILY - 218 BLISS AVE	LAT EXT	400	3/20/2013	(870)	2,617,831
Middle Fork Beargrass Creek	349974	SINGLE FAMILY 205 N WATTERSON	LAT EXT	400	3/26/2013	(870)	2,616,961
Middle Fork Beargrass Creek	342433	SHELBYHURST 700 OFFICE BLDG	LAT EXT	7,500	4/15/2013	(16,313)	2,600,648
Middle Fork Beargrass Creek	350340	JARED THE GALLERY OF JEWELRY	LAT EXT	770	4/16/2013	(1,675)	2,598,973
Middle Fork Beargrass Creek	SC1005532	CONTRACTED WORK FY13 - MIDDLE FORK	SCAPCREDIT		5/30/2013	6,480	2,605,453
Middle Fork Beargrass Creek	13LE1009	Single family 11716 Wetherby Ave	LAT EXT	400	6/7/2013	(870)	2,604,583
Middle Fork Beargrass Creek	SC1082545	MAINTENANCE WORK FY13 JAN-JUN-MIDDLE FORK BEARGRAS	SCAPCREDIT		6/30/2013	6,989	2,611,572
Middle Fork Beargrass Creek	13LE1001	Single Family 835 Fountain Ave	LAT EXT	400	8/28/2013	(870)	2,610,702
Middle Fork Beargrass Creek	344385	WALDORF SCHOOL OF LOUISVILLE	LAT EXT	400	9/3/2013	(870)	2,609,832
Middle Fork Beargrass Creek	355162	PROPOSED RESTAURANT	LAT EXT	7,540	9/10/2013	(16,400)	2,593,432
Middle Fork Beargrass Creek	13LE1045	SINGLE FAMILY 8325 WHIPPS MILL RD	LAT EXT	400	9/30/2013	(870)	2,592,562
Middle Fork Beargrass Creek	319292	WATERMARK ON HURSTBOURNE	LAT EXT	71,600	10/22/2013	(155,730)	2,436,832
Middle Fork Beargrass Creek	331542	DENTAL/MEDICAL OFFICE BLDG	LAT EXT	400	10/28/2013	(870)	2,435,962
Middle Fork Beargrass Creek	13LE1144	SINGLE FAMILY HOME 1327 ETAWAH AVE	LAT EXT	400	11/5/2013	(870)	2,435,092



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Middle Fork Beargrass Creek	13LE1128	SINGLE FAMILY 1329 ETAWAH AVE	LAT EXT	400	11/5/2013	(870)	2,434,222
Middle Fork Beargrass Creek	13LE1165	SINGLE FAMILY 8504 LORE LANE	LAT EXT	400	11/25/2013	(870)	2,433,352
Middle Fork Beargrass Creek	13LE1146	CITY OF ST MATTHEWS COMMUNITY CTR PARK RESTROOM	LAT EXT	1,500	11/26/2013	(3,263)	2,430,089
Middle Fork Beargrass Creek	13LE1099	NICKLIES - ST MATTHEWS	LAT EXT	1,920	12/11/2013	(4,176)	2,425,913
Middle Fork Beargrass Creek	353963	DORSEY COMMONS TRACTS 1,2,3	LAT EXT	1,960	12/18/2013	(4,263)	2,421,650
Middle Fork Beargrass Creek	SC1082546	MAINTENANCE WORK FY14 JUL-DEC-MIDDLE FORK BEARGRAS	SCAPCREDIT		12/30/2013	91,183	2,512,833
Middle Fork Beargrass Creek	352026	MCMAHAN PLAZA PHASE II BLDG B	LAT EXT	992	12/31/2013	(1,666)	2,511,167
Middle Fork Beargrass Creek	13LE1117	THE VININGS	LAT EXT	850	4/10/2014	(1,849)	2,509,318
Middle Fork Beargrass Creek	14LE1021	KODAKENTUCKY ORGAN DONOR AFFILIATES	LAT EXT	400	6/18/2014	(870)	2,508,448
Middle Fork Beargrass Creek	14LE1128	MAINTENANCE WORK FY14 JAN-JUN-MIDDLE FORK BEARGRAS	SCAPCREDIT	400	6/30/2014	(870)	2,511,982
Middle Fork Beargrass Creek	SC1082547	WALDORF SCHOOL OF LOUISVILLE	LAT EXT		6/30/2014	4,404	2,512,852
Middle Fork Beargrass Creek	13LE1163	FIRSTWATCH RESTAURANT	LAT EXT	926	7/7/2014	(2,012)	2,509,970
Middle Fork Beargrass Creek	14LE1114	Madison Station	LAT EXT	1,640	7/17/2014	(3,567)	2,506,403
Middle Fork Beargrass Creek	356879	MARYHURST CAMPUS ADDITION	LAT EXT	1,800	8/1/2014	(3,915)	2,502,488
Middle Fork Beargrass Creek	14LE1040	SFU-206 Wood Road	LAT EXT	400	8/18/2014	(870)	2,501,618
Middle Fork Beargrass Creek	354880	ADULT DAY CARE	LAT EXT	630	8/19/2014	(1,370)	2,500,248
Middle Fork Beargrass Creek	14LE1081	Woodlawn Center - Lot 2	LAT EXT	540	9/8/2014	(1,175)	2,499,073
Middle Fork Beargrass Creek	LE921312	Oxmoor Ford Car Wash	LAT EXT	2,520	12/29/2014	(5,481)	2,493,592
Middle Fork Beargrass Creek	SC1082548	MAINTENANCE WORK FY15 JUL-DEC-MIDDLE FORK BEARGRAS	SCAPCREDIT		12/30/2014	3,664	2,497,256
Middle Fork Beargrass Creek	14LE1097	TOWNPLACE SUITES & HAMPTON INN	LAT EXT	15,700	1/29/2015	(34,148)	2,463,108
Middle Fork Beargrass Creek	SC1006201	FY14 GOOSE CREEK PLANTATION I/I REHABILITATION	SCAPCREDIT		2/10/2015	163,919	2,627,027
Middle Fork Beargrass Creek	SC1006179	CONTRACTED WORK FY14 - MIDDLE FORK	SCAPCREDIT		2/11/2015	15,043	2,642,070
Middle Fork Beargrass Creek	LE917106	ETSCORN - DAISEY LANE	LAT EXT	400	2/25/2015	(870)	2,641,200
Middle Fork Beargrass Creek	LE924108	City of Middletown City Hall	LAT EXT	400	5/13/2015	(870)	2,640,330
Middle Fork Beargrass Creek	LE943174	Single Family - 11707 Hazelwood Road	LAT EXT	400	6/30/2015	(870)	2,641,158



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Middle Fork Beargrass Creek	SC1082549	Single Family - 11707 Hazelwood Road	LAT EXT		6/30/2015	2,568	2,642,898
Middle Fork Beargrass Creek	LE943173	MAINTENANCE WORK FY15 JAN-JUN-MIDDLE FORK BEARGRAS	SCAPCREDIT	400	6/30/2015	(870)	2,642,028
Middle Fork Beargrass Creek	LE927810	The Vinings Apartments	LAT EXT	38,100	10/2/2015	(82,868)	2,558,290
Middle Fork Beargrass Creek	LE940742	POUVINO	LAT EXT	1,930	10/5/2015	(4,198)	2,554,092
Middle Fork Beargrass Creek	SC1082550	MAINTENANCE WORK FY16 JUL-DEC-MIDDLE FORK BEARGRAS	SCAPCREDIT		12/30/2015	15,216	2,569,308
Middle Fork Beargrass Creek	LE971036	Robsion Park Splash Pad Bathroom	LAT EXT	400	2/4/2016	(870)	2,568,438
Middle Fork Beargrass Creek	LE969593	First Watch	LAT EXT	760	2/22/2016	(1,653)	2,566,785
Middle Fork Beargrass Creek	14LE1026	HIGHLANDS LATIN SCHOOL GYM ADDITION	LAT EXT	400	4/18/2016	(870)	2,565,915
Middle Fork Beargrass Creek	LE982217	Dropping Bird #12	LAT EXT	1,600	5/9/2016	(3,480)	2,562,435
Middle Fork Beargrass Creek	LE939199	Westport Road Apartments	LAT EXT	62,800	6/8/2016	(136,590)	2,425,845
Middle Fork Beargrass Creek	LE972151	Baptist Hospital East ER Expansion	LAT EXT	1,856	6/15/2016	(4,037)	2,421,808
Middle Fork Beargrass Creek	SC1082552	MAINTENANCE WORK FY16 JAN-JUN-MIDDLE FORK BEARGRAS	SCAPCREDIT		6/30/2016	3,573	2,425,381
Middle Fork Beargrass Creek	LE971405	Lyndon Lane Office Condos	LAT EXT	2,652	8/30/2016	(5,768)	2,419,613
Middle Fork Beargrass Creek	LE987390	Oxmoor Park Condominiums	LAT EXT	1,800	10/17/2016	(3,915)	2,415,698
Middle Fork Beargrass Creek	SC1003387	CONTRACTED WORK FY16 - MIDDLE FORK	SCAPCREDIT		10/18/2016	91,264	2,506,962
Middle Fork Beargrass Creek	SC1006194	CONTRACTED WORK FY15 - MIDDLE FORK	SCAPCREDIT		10/24/2016	3	2,506,965
Middle Fork Beargrass Creek	LE986129	Norton Women's & Kosair Children's Hospital	LAT EXT	1,000	11/17/2016	(2,175)	2,504,790
Middle Fork Beargrass Creek	LE1009529	Single Family Residence , 12006 Brinley	LAT EXT	400	12/14/2016	(870)	2,503,920
Middle Fork Beargrass Creek	LE938563	The Paddock at Sawyer Park	LAT EXT	008'66	12/20/2016	(217,065)	2,286,855
Middle Fork Beargrass Creek	SC1082554	MAINTENANCE WORK FY17 JUL-DEC-MIDDLE FORK BEARGRAS	SCAPCREDIT		12/30/2016	2,385	2,289,240
Middle Fork Beargrass Creek	LE1008219	BMW Certified Pre-Owned	LAT EXT	800	2/14/2017	(1,740)	2,287,500
Middle Fork Beargrass Creek	LE994524	Wanwick Storage	LAT EXT	400	2/28/2017	(870)	2,286,630
Middle Fork Beargrass Creek	LE998260	North Hurstbourne Storage	LAT EXT	400	3/28/2017	(870)	2,285,760
Middle Fork Beargrass Creek	LE1005641	City of Anchorage Sewer Extension	LAT EXT	800	5/9/2017	(1,740)	2,284,020
Middle Fork Beargrass Creek	LE1005633	Louisville Family Chiropractor	LAT EXT	400	5/11/2017	(870)	2,283,150



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Middle Fork Beargrass Creek	SC1107188	MAINTENANCE WORK FY17 JAN-JUN-MIDDLE FORK BEARGRAS	SCAPCREDIT		6/30/2017	51,809	2,338,758
Middle Fork Beargrass Creek	SC1082555	CONTRACTED WORK FY17 - MIDDLE FORK	SCAPCREDIT		6/30/2017	3,799	2,286,949
Middle Fork Beargrass Creek	SC1082557	MAINTENANCE WORK FY18 JUL-DEC-MIDDLE FORK BEARGRAS	SCAPCREDIT		12/30/2017	5,851	2,344,609
Middle Fork Beargrass Creek	LE1017531	526 & 528 Fountain Ave	LAT EXT	800	2/19/2018	(1,740)	2,342,869
Middle Fork Beargrass Creek	LE960134	ShelbyHurst Office - 805 Building	LAT EXT	005'6	3/9/2018	(20,663)	2,322,206
Middle Fork Beargrass Creek	LE960135	ShelbyHurst Office - 815 Building	LAT EXT	5,000	3/15/2018	(10,875)	2,311,331
Middle Fork Beargrass Creek	LE1032029	The Endave at Douglas Hills Section 1	LAT EXT	27,200	4/23/2018	(59,160)	2,252,171
Middle Fork Beargrass Creek	LE960133	ShelbyHurst Office - 435 Building	LAT EXT	7,125	5/17/2018	(15,497)	2,236,674
Middle Fork Beargrass Creek	LE1055615	Bennett & Bloom Medical Office	LAT EXT	585	6/6/2018	(1,272)	2,235,402
Middle Fork Beargrass Creek	LE1041043	Single Family Unit (Lot 11)	LAT EXT	400	7/24/2018	(870)	2,234,532
Middle Fork Beargrass Creek	166053	616 & 618 FOUNTAIN AVE S/S	LAT EXT	400	9/7/2018	(870)	2,233,662
Middle Fork Beargrass Creek	LE1074826	Tri-Plex Apartments	LAT EXT	006	10/8/2018	(1,958)	2,231,704
Middle Fork Beargrass Creek	LE1085525	Brown Park	LAT EXT	400	1/15/2019	(870)	2,230,834
Middle Fork Beargrass Creek	SC1107196	CONTRACTED WORK FY19 - MIDDLE FORK	SCAPCREDIT		4/22/2019	1,476	2,232,310
Middle Fork Beargrass Creek	LE1082291	Taco Bell	LAT EXT	1,100	5/29/2019	(2,393)	2,229,917
Middle Fork Beargrass Creek	LE1102470	Hurstboume Town Center - Hyatt House Louisville E	LAT EXT	15,275	7/1/2019	(33,223)	2,196,694
Middle Fork Beargrass Creek	LE1051776	Bluegrass Manor - Tract 2	LAT EXT	450	7/23/2019	(979)	2,195,715
Middle Fork Beargrass Creek	LE1024084	LFPL - Northeast Regional Library	LAT EXT	62,250	7/26/2019	(135,394)	2,060,321
Middle Fork Beargrass Creek	LE1020250	Morat Avenue Apartments	LAT EXT	800	7/26/2019	(1,740)	2,058,581
Middle Fork Beargrass Creek	LE1039542	Meadowview - Breckenridge Lane	LAT EXT	2,080	8/28/2019	(4,524)	2,054,057
Middle Fork Beargrass Creek	LE1083952	1700 Cold Spring Rd & 12004 Osage Rd	LAT EXT	800	11/4/2019	(1,740)	2,052,317
Middle Fork Beargrass Creek	LE1056406	Stewart Condos	LAT EXT	4,500	12/2/2019	(9,788)	2,042,529
Middle Fork Beargrass Creek	LE1104174	JAGGERS	LAT EXT	1,460	1/30/2020	(3,176)	2,039,353
Middle Fork Beargrass Creek	LE1089288	Portland Christian School System Inc	LAT EXT	400	2/13/2020	(870)	2,038,483
Middle Fork Beargrass Creek	LE1059259	904 Browns Lane	LAT EXT	1,600	4/24/2020	(3,480)	2,035,003



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Middle Fork Beargrass Creek	LE1061684	Hurstboume Town Center - Tract 5 & 6	LAT EXT	54,730	4/30/2020	(119,038)	1,915,965
Middle Fork Beargrass Creek	LE1093858	Hurstbourne Town Center - Tract1	LAT EXT	5,716	4/30/2020	(12,432)	1,903,533
Middle Fork Beargrass Creek	LE1102767	Parks - Herr Lane Office Building	LAT EXT	260	5/5/2020	(1,218)	1,902,315
Middle Fork Beargrass Creek	LE1104478	Breckenridge Center	LAT EXT	4,000	5/14/2020	(8,700)	1,893,615
Middle Fork Beargrass Creek	LE1082329	St. Luke's Episcopal Church	LAT EXT	920	6/5/2020	(2,001)	1,891,614
Middle Fork Beargrass Creek	LE1010450	Ormsby Lane Senior Apartments	LAT EXT	11,900	8/28/2020	(25,883)	1,865,731
Middle Fork Beargrass Creek	LE1098358	Golden Retriever Rescue & Adoption	LAT EXT	400	9/11/2020	(870)	1,864,861
Middle Fork Beargrass Creek	LE1104887	Episcopal Home - Dudley Square Condominiums	LAT EXT	1,300	9/28/2020	(2,828)	1,862,033
Middle Fork Beargrass Creek	LE1090567	4229 Taylorsville Road	LAT EXT	11,200	10/5/2020	(24,360)	1,837,673
Middle Fork Beargrass Creek	LE1105277	Partridge Meadows New Maintenance and Laundry Bldg	LAT EXT	3,200	11/9/2020	(096'9)	1,830,713
Middle Fork Beargrass Creek	LE1097560	Norht Hurstbourne Climate Controlled Storage	LAT EXT	400	2/1/2021	(870)	1,829,843
Middle Fork Beargrass Creek	LE1102535	Enclave at Warwick Village	LAT EXT	5,100	11/22/2021	(11,093)	1,818,750
Middle Fork Beargrass Creek	LE1106282	Aspen Dental	LAT EXT	1,395	12/2/2021	(3,034)	1,815,716
Middle Fork Beargrass Creek	LE1106661	Walgreens	LAT EXT		3/15/2022		1,815,716
Middle Fork Beargrass Creek	LE1104269	OXMOOR CENTER RESTAURANT OUTPARCEL #1	LAT EXT	12,250	11/10/2022	(26,644)	1,789,072
Middle Fork Beargrass Creek							1,789,072
Mill Creek	359380	CALENDAR 2005 DOWNSPOUT CREDIT	SCAPCREDIT		12/31/2005	12,000	12,000
Mill Creek	359381	CALENDAR 2007 DOWNSPOUT CREDIT	SCAPCREDIT		12/31/2007	24,000	36,000
Mill Creek	235568	MAINTENANCE WORK FY06 AUG-FY09 NOV - MILL CREEK	SCAPCREDIT		11/1/2008	51,530	87,530
Mill Creek	362642	MAINTENANCE WORK FY09A - MILL CREEK	SCAPCREDIT		12/31/2008	93	103,623
Mill Creek	359382	CALENDAR 2008 DOWNSPOUT CREDIT	SCAPCREDIT		12/31/2008	16,000	103,530
Mill Creek	362649	MAINTENANCE WORK FY09B - MILL CREEK	SCAPCREDIT		6/30/2009	1,507	105,130
Mill Creek	236614	DEVEROES	LATEXT	096	9/9/2009	(2,088)	103,042
Mill Creek	362653	MAINTENANCE WORK FY10A - MILL CREEK	SCAPCREDIT		12/31/2009	25,272	128,314
Mill Creek	359383	CALENDAR 2009 DOWNSPOUT CREDIT	SCAPCREDIT		12/31/2009	32,000	160,314
Mill Creek	253586	KINGSFORD RETAIL CENTER	LATEXT	480	1/6/2010	(1,044)	159,270
Mill Creek	238421	6840 DIXIE HWY OUTLOT	LAT EXT	2,100	4/28/2010	(4,568)	154,702
Mill Creek	362658	MAINTENANCE WORK FY10B - MILL CREEK	SCAPCREDIT		6/30/2010	6,216	160,918
Mill Creek	259408	FAMILY DOLLAR 5105 DIXIE	LATEXT	1,200	7/2/2010	(2,610)	158,308



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Mill Creek	264294	SAINT PETER THE APOSTLE CATHOL	LAT EXT	2,000	7/23/2010	(4,350)	153,958
Mill Creek	276215	FAMILY DOLLAR - KRISTIN WAY	LAT EXT	400	10/12/2010	(870)	153,088
Mill Creek	359384	CALENDAR 2010 SUMP PUMP CREDIT	SCAPCREDIT		12/31/2010	4,000	165,088
Mill Creek	359325	CALENDAR 2010 DOWNSPOUT CREDIT	SCAPCREDIT		12/31/2010	8,000	161,088
Mill Creek	362664	MAINTENANCE WORK FY11A- MILL CREEK	SCAPCREDIT		12/31/2010	22,745	187,833
Mill Creek	320916	MAINTENANCE WORK FY11B - MILL CREEK	SCAPCREDIT		6/30/2011	120,800	308,633
Mill Creek	362671	FY11 SONNE AVE PS REHABILITATION	SCAPCREDIT		6/30/2011	11,745	320,378
Mill Creek	299399	FAMILY DOLLAR - GREENWOOD RD	LAT EXT	800	10/4/2011	(1,740)	318,638
Mill Creek	309018	PRP PERFORMING ARTS ADDITION	LAT EXT	1,134	11/9/2011	(2,466)	316,172
Mill Creek	359326	CALENDAR 2011 SUMP PUMP CREDIT	SCAPCREDIT		12/31/2011	12,000	340,172
Mill Creek	359385	CALENDAR 2011 DOWNSPOUT CREDIT	SCAPCREDIT		12/31/2011	12,000	328,172
Mill Creek	362676	MAINTENANCE WORK FY12A - MILL CREEK	SCAPCREDIT		12/31/2011	4,800	344,972
Mill Creek	318096	CRACKER BARREL OLD COUNTRY	LAT EXT	000'9	1/19/2012	(13,050)	331,922
Mill Creek	SC1005678	CONTRACTED WORK FY12 - MILL CREEK	SCAPCREDIT		3/16/2012	22	331,944
Mill Creek	262545	DIXIE MANOR SHOPPING CENTER	LAT EXT	965	5/21/2012	(2,099)	329,845
Mill Creek	300374	FORT KNOX FEDERAL CREDIT UNION	LAT EXT	400	6/26/2012	(870)	328,975
Mill Creek	361693	FY12 MILL CREEK REHAB	SCAPCREDIT		6/30/2012	81,675	414,783
Mill Creek	362680	MAINTENANCE WORK FY12B - MILL CREEK	SCAPCREDIT		6/30/2012	4,133	333,108
Mill Creek	231800	PIONEER MOBILE HOME PARK	LAT EXT	11,200	7/24/2012	(24,360)	390,423
Mill Creek	237457	WAVERLY HILLS	LAT EXT	400	9/18/2012	(870)	389,553
Mill Creek	341883	NHK SPRING PRECISION	LAT EXT	17,800	10/19/2012	(38,715)	350,838
Mill Creek	334997	BEECHLAND BAPTIST CHURCH	LAT EXT	2,715	12/5/2012	(5,905)	344,933
Mill Creek	362685	CALENDAR 2012 SUMP PUMP CREDIT	SCAPCREDIT		12/31/2012	22,996	515,929
Mill Creek	359327	CALENDAR 2012 DOWNSPOUT CREDIT	SCAPCREDIT		12/31/2012	148,000	492,933
Mill Creek	359386	MAINTENANCE WORK FY13A - MILL CREEK	SCAPCREDIT		12/31/2012	4,000	519,929
Mill Creek	343763	SOUTHEAST CHRISTIAN CHURCH SW	LAT EXT	000'9	1/18/2013	(13,050)	506,879
Mill Creek	224875	ASHBY GREEN APARTMENT HOMES	LAT EXT	36,400	3/20/2013	(79,170)	427,709
Mill Creek	265944	RIVERPORT PHASE 4A - MICHELIN	LAT EXT	400	6/6/2013	(870)	426,839
Mill Creek	SC1082559	MAINTENANCE WORK FY13 JANI-JUN-MILL CREEK	SCAPCREDIT		6/30/2013	32,425	459,264
Mill Creek	314887	DAYTON FREIGHT	LAT EXT	1,200	9/10/2013	(2,610)	456,654
Mill Creek	13LE1014	LOUISVILLE FREE PUBLIC LIBRARY SOUTHWEST	LAT EXT	2,400	9/26/2013	(5,220)	451,434
Mill Creek	357140	FAMILY DOLLAR CANE RUN ROAD	LAT EXT	832	10/3/2013	(1,810)	449,624
Mill Creek	SC1082560	MAINTENANCE WORK FY14 JUL-DEC-MILL CREEK	SCAPCREDIT		12/30/2013	11,451	461,075
Mill Creek	13LE1007	Cane Run Generating Station	LAT EXT	495	1/3/2014	(1,077)	459,998
Mill Creek	13LE1171	SINGLE FAMILY HOME 3700 ROMANIA DR	LAT EXT	400	1/29/2014	(870)	459,128
Mill Creek	SC1082562	MAINTENANCE WORK FY14 JAN-JUN-MILL CREEK	SCAPCREDIT		6/30/2014	7,753	466,881
Mill Creek	14LE1120	Shively Center - Additional Office Space	LAT EXT	400	7/23/2014	(028)	466.011



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Mill Creek	14LE1124	Raising Cane's - 5212 Dixie Highway	LAT EXT	1,400	8/18/2014	(3,045)	462,966
Mill Creek	14LE1075	Global Drive Warehouse Addition	LAT EXT	1,200	9/15/2014	(2,610)	460,356
Mill Creek	14LE1171	Planet Fitness	LAT EXT	3,400	9/16/2014	(7,395)	452,961
Mill Creek	14LE1164	Nair Office Building Expansion	LAT EXT	795	11/25/2014	(1,729)	451,232
Mill Creek	SC1082563	MAINTENANCE WORK FY15 JUL-DEC-MILL CREEK	SCAPCREDIT		12/30/2014	4,491	455,723
Mill Creek	SC1005536	FY13 ROSA TERRACE I/I REHABILITATION	SCAPCREDIT		3/10/2015	156,635	612,358
Mill Creek	SC1082564	Key Oil	LAT EXT		6/30/2015	4,861	617,219
Mill Creek	LE941671	MAINTENANCE WORK FY15 JAN-JUN-MILL CREEK	SCAPCREDIT	400	6/30/2015	(870)	616,349
Mill Creek	SC1003690	CONTRACTED WORK FY15 - MILL CREEK	SCAPCREDIT		7/31/2015	58	616,407
Mill Creek	LE937142	ZAXBYS DIXIE HWY	LAT EXT	924	8/10/2015	(2,010)	614,397
Mill Creek	LE938172	Misa Metals	LAT EXT	400	10/5/2015	(870)	613,527
Mill Creek	LE945721	Thortons Convenience Store/Gas Station	LAT EXT	1,000	10/5/2015	(2,175)	611,352
Mill Creek	LE947311	Chick-fil-A	LAT EXT	1,500	10/28/2015	(3,263)	608,089
Mill Creek	LE959150	Misa Metals Processing Warehouse Expansion	LAT EXT	1,000	11/23/2015	(2,175)	605,914
Mill Creek	LE942399	Restaurant - 6900 Dixie Highway	LAT EXT	098	12/14/2015	(1,871)	604,043
Mill Creek	SC1082565	MAINTENANCE WORK FY16 JUL-DEC-MILL CREEK	SCAPCREDIT		12/30/2015	6,692	610,735
Mill Creek	LE971379	Discount Tires	LAT EXT	400	2/22/2016	(870)	609,865
Mill Creek	LE967622	1719 Leroy Ave. Town Homes	LAT EXT	4,200	5/9/2016	(9,135)	598,555
Mill Creek	LE953021	Thorntons - 4136 Cane Run Road	LAT EXT	1,000	5/9/2016	(2,175)	607,690
Mill Creek	SC1082566	MAINTENANCE WORK FY16 JAN-JUN-MILL CREEK	SCAPCREDIT		6/30/2016	3,523	602,078
Mill Creek	LE944727	Britz Deer Hollow Lane	LAT EXT	800	7/28/2016	(1,740)	600,338
Mill Creek	SC1082567	MAINTENANCE WORK FY17 JUL-DEC-MILL CREEK	SCAPCREDIT		12/30/2016	12,857	613,195
Mill Creek	SC1107184	CONTRACTED WORK FY17 - MILL CREEK	SCAPCREDIT		2/20/2017	11	613,206
Mill Creek	LE978336	Blue Iguana Car Wash	LAT EXT	20,217	4/7/2017	(43,972)	569,234
Mill Creek	SC1082568	MAINTENANCE WORK FY17 JAN-JUN-MILL CREEK	SCAPCREDIT		6/30/2017	5,103	574,337
Mill Creek	LE991553	Greenwood Plaza	LAT EXT	1,256	10/19/2017	(2,732)	571,605
Mill Creek	LE1025905	RussTech, Inc	LAT EXT	875	11/13/2017	(1,903)	569,702
Mill Creek	SC1082569	MAINTENANCE WORK FY18 JUL-DEC-MILL CREEK	SCAPCREDIT		12/30/2017	27,293	596,995
Mill Creek	LE986760	Algood Food Company Warehouse	LAT EXT	750	3/8/2018	(1,631)	595,364
Mill Creek	LE1049057	Advanced ENT	LAT EXT	705	5/15/2018	(1,533)	593,831
Mill Creek	LE995375	1105 Dorsey lane	LAT EXT	10,300	4/10/2019	(22,403)	571,428
Mill Creek	LE1041776	Terry Road Gas & Retail	LAT EXT	788	4/12/2019	(1,714)	569,714
Mill Creek	LE1039415	Delcour Multi-Family Apartments	LAT EXT	60,400	10/31/2019	(131,370)	438,344
Mill Creek							438,344
Northern Ditch	359404	CALENDAR 2007 DOWNSPOUT CREDIT	SCAPCREDIT		12/31/2007	28,000	28,000
Northern Ditch	235569	MAINTENANCE WORK FY06 AUG-FY09 NOV - NORTHERN DIT	SCAPCREDIT		11/1/2008	11,147	39,147
Northern Ditch	236363	FY09 NORTHERN DITCH INT REHAB PH1	SCAPCREDIT		11/25/2008	108,760	147,907



CREDIT BASIN	APPLICATION	APPLICATION NAME	TYPE	FLOW (GAL/ DAY)	RELEASE DATE	APPROVED CREDIT REQUIRED OR FLOW REDUCTION (GAL/DAY)	RUNNING TOTAL (GAL/DAY)
Northern Ditch	SC1011338	MAINTENANCE WORK FY09A - NORTHERN DITCH	SCAPCREDIT		12/31/2008	11	147,918
Northern Ditch	SC1011339	MAINTENANCE WORK FY09B - NORTHERN DITCH	SCAPCREDIT		6/30/2009	1,884	149,802
Northern Ditch	359339	MAINTENANCE WORK FY10A- NORTHERN DITCH	SCAPCREDIT		12/31/2009	4,000	154,979
Northern Ditch	SC1011340	CALENDAR 2009 SUMP PUMP CREDIT	SCAPCREDIT		12/31/2009	1,177	150,979
Northern Ditch	234678	THE LIGHTHOUSE PROMISE COMPLEX	LAT EXT	2,825	3/5/2010	(6,144)	148,835
Northern Ditch	SC1011343	MAINTENANCE WORK FY10B - NORTHERN DITCH	SCAPCREDIT		6/30/2010	2,532	151,367
Northern Ditch	284728	SUBWAY - NEW CUT RD	LAT EXT	1,314	12/21/2010	(2,858)	148,509
Northern Ditch	359340	CALENDAR 2010 SUMP PUMP CREDIT	SCAPCREDIT		12/31/2010	4,000	154,965
Northern Ditch	SC1011344	MAINTENANCE WORK FY11A - NORTHERN DITCH	SCAPCREDIT		12/31/2010	2,456	150,965
Northern Ditch	320908	FY11 PARKVIEW ESTATES REHABILITATION	SCAPCREDIT		6/28/2011	36	155,001
Northern Ditch	SC1011345	MAINTENANCE WORK FY11B - NORTHERN DITCH	SCAPCREDIT		6/30/2011	1,989	156,990
Northern Ditch	312810	WILLOW PLACE APT COMMUNITY CEN	LAT EXT	400	11/11/2011	(870)	156,120
Northern Ditch	359405	CALENDAR 2011 SUMP PUMP CREDIT	SCAPCREDIT		12/31/2011	12,000	193,031
Northern Ditch	359341	CALENDAR 2011 DOWNSPOUT CREDIT	SCAPCREDIT		12/31/2011	24,000	181,031
Northern Ditch	SC1011346	MAINTENANCE WORK FY12A- NORTHERN DITCH	SCAPCREDIT		12/31/2011	911	157,031
Northern Ditch	315723	JCPS EARLY CHILDHOOD DEVELOP	LAT EXT	000'9	1/26/2012	(13,050)	179,981
Northern Ditch	312057	DOLLAR GENERAL - MEDALLION CT	LAT EXT	400	3/21/2012	(870)	179,111
Northern Ditch	SC1011336	MAINTENANCE WORK FY12B - NORTHERN DITCH	SCAPCREDIT		6/30/2012	7,893	187,004
Northern Ditch	312659	KROGER L-350 FUEL STATION	LAT EXT	400	8/20/2012	(870)	186,134
Northern Ditch	14SC1004	MAINTENANCE WORK FY13A- NORTHERN DITCH	SCAPCREDIT		12/31/2012	4,239	214,373
Northern Ditch	359343	CALENDAR 2012 SUMP PUMP CREDIT	SCAPCREDIT		12/31/2012	24,000	210,134
Northern Ditch	SC1082570	MAINTENANCE WORK FY13 JAN-JUN-NORTH DITCH	SCAPCREDIT		6/30/2013	6,459	220,832
Northern Ditch	13LE1147	CARLON ROOFING	LAT EXT	892	12/5/2013	(2,158)	218,674
Northern Ditch	13LE1126	JENNINGS CROSSING TRACT 3	LAT EXT	2,100	12/12/2013	(4,568)	214,106
Northern Ditch	SC1082571	MAINTENANCE WORK FY14 JUL-DEC-NORTH DITCH	SCAPCREDIT		12/30/2013	2,707	216,813
Northern Ditch	SC1082572	MAINTENANCE WORK FY14 JAN-JUN-NORTH DITCH	SCAPCREDIT		6/30/2014	9,044	225,857
Northern Ditch	SC1006180	CONTRACTED WORK FY14 - NORTHERN DITCH	SCAPCREDIT		10/21/2014	5	225,862
Northern Ditch	14LE1136	Jennings Crossings Tracts 1 & 2	LAT EXT	400	12/29/2014	(870)	221,860
Northern Ditch	14LE1065	Single Family - 5220 Petersburg Road	LAT EXT	1,440	12/29/2014	(3,132)	222,730
Northern Ditch	SC1082573	MAINTENANCE WORK FY15 JUL-DEC-NORTH DITCH	SCAPCREDIT		12/30/2014	8,330	230,190
Northern Ditch	LE916332	Trei Louisville - HVAC Distributors	LAT EXT	4,225	5/20/2015	(9,189)	221,001
Northern Ditch	SC1082575	MAINTENANCE WORK FY15 JAN-JUN-NORTH DITCH	SCAPCREDIT		6/30/2015	5,564	226,565
Northern Ditch	LE947318	Heimbrock I	LAT EXT	400	8/14/2015	(870)	224,825
Northern Ditch	LE947316	Heimbrock II	LAT EXT	400	8/14/2015	(870)	225,695
Northern Ditch	SC1082576	MAINTENANCE WORK FY16 JUL-DEC-NORTH DITCH	SCAPCREDIT		12/30/2015	6,074	230,899
Northern Ditch	LE968510	Hugh Ave. Warehouse	LAT EXT	400	1/5/2016	(870)	230,029
Northern Ditch	SC1082577	MAINTENANCE WORK FY16 JAN-JUN-NORTH DITCH	SCAPCREDIT		6/30/2016	5,519	235,548



Northern Ditch SC Northern Ditch SC Northern Ditch SC Northern Ditch LE Northern Ditch LE Northern Ditch LE Northern Ditch LE Northern Ditch SC				DAY)	RELEASE DATE	APPROVED CREDIT REQUIRED OR FLOW REDUCTION (GAL/DAY)	(GAL/DAY)
	LE978344	Townplace Suites	LAT EXT	009'6	11/7/2016	(20,663)	214,885
	SC1082578	MAINTENANCE WORK FY17 JUL-DEC-NORTH DITCH	SCAPCREDIT		12/30/2016	9,266	224,151
	SC1082579	MAINTENANCE WORK FY17 JAN-JUN-NORTH DITCH	SCAPCREDIT		6/30/2017	6,441	230,592
	SC1082580	MAINTENANCE WORK FY18 JUL-DEC-NORTH DITCH	SCAPCREDIT		12/30/2017	7,810	238,402
	LE1042541	5051 Poplar Level	LAT EXT	7,600	4/9/2018	(16,530)	221,872
	LE1053453	Durrett Lane & Preston Highway Convenience Store/G	LAT EXT	1,880	8/28/2018	(4,089)	217,783
	LE1056400	Thomas Car Wash	LAT EXT	4,670	10/10/2018	(10,157)	207,626
	LE1032761	TRACKSIDE at Churchill Downs	LAT EXT	13,400	10/22/2018	(29,145)	178,481
	SC1107198	CONTRACTED WORK FY19 - NORTHERN DITCH	SCAPCREDIT		6/18/2019	14,321	192,802
Northern Ditch							192,802
Ohio River FM	359433	CALENDAR 2007 SUMP PUMP CREDIT	SCAPCREDIT		12/31/2007	26,000	000'09
Ohio River FM	359344	CALENDAR 2007 DOWNSPOUT CREDIT	SCAPCREDIT		12/31/2007	4,000	4,000
Ohio River FM	235572	MAINTENANCE WORK FY06 AUG-FY09 NOV - ORFM	SCAPCREDIT		11/1/2008	19,826	79,826
Ohio River FM	362643	MAINTENANCE WORK FY09A - ORFM	SCAPCREDIT		12/31/2008	2	79,828
Ohio River FM	362650	MAINTENANCE WORK FY09B - ORFM	SCAPCREDIT		6/30/2009	3,835	83,663
Ohio River FM	362654	MAINTENANCE WORK FY10A - ORFM	SCAPCREDIT		12/31/2009	7,330	90,993
Ohio River FM	263548	SINGLE FAMILY CONNECTION	LAT EXT	400	5/18/2010	(870)	90,123
Ohio River FM	213488	NORTHEAST CHRISTIAN CHURCH	LAT EXT	10,000	6/28/2010	(21,750)	68,373
Ohio River FM	362660	MAINTENANCE WORK FY10B - ORFM	SCAPCREDIT		6/30/2010	6,773	75,146
Ohio River FM	254919	TRILOGY HEALTH SERVICES, LLC	LAT EXT	8,200	8/30/2010	(17,835)	57,311
Ohio River FM	362665	MAINTENANCE WORK FY11A - ORFM	SCAPCREDIT		12/31/2010	181	57,492
Ohio River FM	362672	MAINTENANCE WORK FY11B - ORFM	SCAPCREDIT		6/30/2011	4,139	61,631
Ohio River FM	280837	SPRINGHURST TOWNE CTR LOT C	LAT EXT	400	9/20/2011	(870)	60,761
Ohio River FM	320920	FY11 SHADOW WOOD IN REHABILITATION	SCAPCREDIT		9/30/2011	14,279	75,040
Ohio River FM	311412	SPRINGHURST CHEVROLET	LAT EXT	855	10/14/2011	(1,860)	73,180
Ohio River FM	359345	CALENDAR 2011 DOWNSPOUT CREDIT	SCAPCREDIT		12/31/2011	16,000	112,448
Ohio River FM	362677	CALENDAR 2011 SUMP PUMP CREDIT	SCAPCREDIT		12/31/2011	7,268	96,448
Ohio River FM	359434	MAINTENANCE WORK FY12A - ORFM	SCAPCREDIT		12/31/2011	16,000	89,180
Ohio River FM	320921	FY12 DERINGTON COURT I/I REHABILITATION	SCAPCREDIT		3/1/2012	56,208	168,656
Ohio River FM	187028	GLENVIEW PARK SUB, SEC 2	LAT EXT	4,400	3/5/2012	(9,570)	146,906
Ohio River FM	213450	GLENVIEW PARK SUBD SECTION 1	LAT EXT	2,600	3/5/2012	(12,180)	156,476
Ohio River FM	322455	FIRST LADY NAILS	LAT EXT	400	3/12/2012	(870)	146,036
Ohio River FM SC	SC1011315	MAINTENANCE WORK FY12B - ORFM	SCAPCREDIT		6/30/2012	19,941	185,918
Ohio River FM	362681	MAINTENANCE WORK FY12B - ORFM	SCAPCREDIT		6/30/2012	19,941	165,977
Ohio River FM	292239	SPRINGHURST RESTAURANT/ RETAIL	LATEXT	3,440	7/5/2012	(7,482)	178,436
Ohio River FM	323821	TIRE DISCOUNTERS WESTPORT RD	LATEXT	400	12/11/2012	(870)	177,566
Ohio River FM	341319	RAISING CANES RETAIL CENTER	LAT EXT	1,225	12/18/2012	(2,664)	247,605



CKEDII BASIN				DAY)	DATE	FLOW REDUCTION (GAL/DAY)	(GAL/DAY)
Ohio River FM	363238	FY13 PROSPECT MANHOLE REHAB	SCAPCREDIT		12/18/2012	72,703	250,269
Ohio River FM	359346	CALENDAR 2012 SUMP PUMP CREDIT	SCAPCREDIT		12/31/2012	24,000	314,419
Ohio River FM	362686	MAINTENANCE WORK FY13A - ORFM	SCAPCREDIT		12/31/2012	1,161	290,419
Ohio River FM	363235	FY13 MUDDY FORK MH REHAB	SCAPCREDIT		12/31/2012	41,653	289,258
Ohio River FM	322458	KROGER L-707 STORE EXPANSION	LAT EXT	400	3/12/2013	(870)	313,549
Ohio River FM	360262	SINGLE FAMILY 3419 HILLVALE RD	LAT EXT	400	5/13/2013	(870)	312,679
Ohio River FM	343729	RETAIL & RESTAURANT	LAT EXT	3,500	6/21/2013	(7,613)	305,066
Ohio River FM	SC1082581	MAINTENANCE WORK FY13 JAN-JUN-OHIO RIVER FORCE MAI	SCAPCREDIT		6/30/2013	279	305,345
Ohio River FM	13LE1145	SINGLE FAMILY 3930 1/2 OLD BROWNSBORO RD	LAT EXT	400	11/5/2013	(870)	304,475
Ohio River FM	334154	GLENVIEW PARK SUBD SEC 4	LAT EXT	3,600	11/7/2013	(7,830)	296,645
Ohio River FM	13LE1161	Single Family Residence 3221 Woodside Rd	LAT EXT	400	11/20/2013	(870)	295,775
Ohio River FM	SC1082582	MAINTENANCE WORK FY14 JUL-DEC-OHIO RIVER FORCE MAI	SCAPCREDIT		12/30/2013	1,302	297,077
Ohio River FM	13LE1024	Overlook at Beech Spring Farm Sec 4	LAT EXT	2,600	12/31/2013	(12,180)	284,897
Ohio River FM	199896	SPRINGDALE OFFICE BUILDING	LAT EXT	4,210	3/11/2014	(9,157)	275,740
Ohio River FM	352090	DRURY INN	LAT EXT	11,508	5/13/2014	(25,030)	250,710
Ohio River FM	225863	SPRING FARM LAKES SEC 1	LAT EXT	4,800	5/16/2014	(10,440)	240,270
Ohio River FM	SC1082583	MAINTENANCE WORK FY14 JAN-JUN-OHIO RIVER FORCE MAI	SCAPCREDIT		6/30/2014	1,293	241,563
Ohio River FM	177756	SUMMIT GARDENS PHASE 1	LAT EXT	32,000	9/22/2014	(69,600)	171,963
Ohio River FM	14LE1121	Riverside Sewer Extension	LAT EXT	1,200	11/10/2014	(2,610)	169,353
Ohio River FM	SC1082584	MAINTENANCE WORK FY15 JUL-DEC-OHIO RIVER FORCE MAI	SCAPCREDIT		12/30/2014	4,394	173,747
Ohio River FM	SC1006181	CONTRACTED WORK FY14 - ORFM	SCAPCREDIT		12/31/2014	1,654	175,401
Ohio River FM	13LE1071	SPRING FARM LAKE SEC 2	LAT EXT	000'9	1/16/2015	(13,050)	162,351
Ohio River FM	352634	BAUER PROPERTY	LAT EXT	2,920	2/12/2015	(6,351)	156,000
Ohio River FM	SC1082585	MAINTENANCE WORK FY15 JAN-JUN-OHIO RIVER FORCE MAI	SCAPCREDIT		6/30/2015	2,547	158,547
Ohio River FM	SC983704	FY13 PROSPECT I&I REHABILITATION - PHASE IA	SCAPCREDIT		7/12/2015	1,034,758	1,193,305
Ohio River FM	SC1003730	FY15 RIVER ROAD I/I REMEDIATION	SCAPCREDIT		8/5/2015	120,418	1,313,723
Ohio River FM	LE929244	Summit Gardens Phase 2	LAT EXT	18,000	10/21/2015	(39,150)	1,274,573
Ohio River FM	SC1006195	CONTRACTED WORK FY15 - ORFM	SCAPCREDIT		11/19/2015	-	1,274,574
Ohio River FM	LE938166	Spring Farm Lake Section 3	LAT EXT	3,200	12/14/2015	(096'9)	1,267,614
Ohio River FM	SC1082586	MAINTENANCE WORK FY16 JUL-DEC-OHIO RIVER FORCE MAI	SCAPCREDIT		12/30/2015	1,478	1,269,092
Ohio River FM	LE950063	Panda Express - 10600 Westport Road	LAT EXT	2,000	4/6/2016	(4,350)	1,264,742
Ohio River FM	SC1082589	MAINTENANCE WORK FY17 JUL-DEC-OHIO RIVER FORCE MAI	SCAPCREDIT		6/30/2016	3,171	1,268,373
Ohio River FM	SC1082587	MAINTENANCE WORK FY16 JAN-JUN-OHIO RIVER FORCE MAI	SCAPCREDIT		6/30/2016	460	1,265,202
Ohio River FM	SC1003696	CONTRACTED WORK FY16 - ORFM	SCAPCREDIT		8/10/2016	17,566	1,285,939
Ohio River FM	SC1003728	FY16 PROSPECT I&I REHABILITATION - PHASE IB	SCAPCREDIT		10/6/2016	199,036	1,484,975
Ohio River FM	LE923204	Indian Springs Hotel	LAT EXT	13,000	11/16/2016	(28,275)	1,456,700
Ohio River FM	001080500		H 000				



Ohio River FM			TYPE	FLOW (GAL/ DAY)	RELEASE Date	APPROVED CREDIT REQUIRED OR FLOW REDUCTION (GAL/DAY)	RUNNING TOTAL (GAL/DAY)
	SC1082592	MAINTENANCE WORK FY18 JUL-DEC-OHIO RIVER FORCE MAI	SCAPCREDIT		12/30/2017	3,330	1,461,660
Ohio River FM	SC1107187	CONTRACTED WORK FY18 - ORFM	SCAPCREDIT		6/20/2018	656	1,462,316
Ohio River FM	SC1107194	CONTRACTED WORK FY19 - ORFM	SCAPCREDIT		7/30/2019	32,673	1,494,989
Ohio River FM	LE997630	QSR Automations, Inc.	LAT EXT	3,300	9/12/2019	(7,178)	1,487,811
Ohio River FM	LE971285	Cityscape - Simcoe Lane	LAT EXT	66,700	12/6/2019	(145,073)	1,342,738
Ohio River FM	LE937450	Poplar Hill Place	LAT EXT	4,000	6/16/2020	(8,700)	1,334,038
Ohio River FM	LE1056413	Schuhmann - Blankenbaker Lane	LAT EXT	800	10/14/2021	(1,740)	1,332,298
Ohio River FM							1,332,298
Pond Creek	235574	MAINTENANCE WORK FY06 AUG-FY09 NOV - POND CREEK	SCAPCREDIT		11/1/2008	71,782	71,782
Pond Creek	359438	MAINTENANCE WORK FY09A - POND CREEK	SCAPCREDIT		12/31/2008	4,000	81,695
Pond Creek	SC1011298	CALENDAR 2008 SUMP PUMP CREDIT	SCAPCREDIT		12/31/2008	1,913	77,695
Pond Creek	359347	CALENDAR 2008 DOWNSPOUT CREDIT	SCAPCREDIT		12/31/2008	4,000	75,782
Pond Creek	SC1011299	MAINTENANCE WORK FY09B - POND CREEK	SCAPCREDIT		6/30/2009	6,403	860'88
Pond Creek	359348	CALENDAR 2009 DOWNSPOUT CREDIT	SCAPCREDIT		12/31/2009	4,000	126,435
Pond Creek	359439	MAINTENANCE WORK FY10A - POND CREEK	SCAPCREDIT		12/31/2009	12,000	122,435
Pond Creek	SC1011305	CALENDAR 2009 SUMP PUMP CREDIT	SCAPCREDIT		12/31/2009	22,337	110,435
Pond Creek	192513	BANNON CROSSINGS SECTION 3A-1	LAT EXT	800	2/17/2010	(1,740)	124,695
Pond Creek	219734	DSL LIFE LONG LEARNING CENTER	LAT EXT	006	3/26/2010	(1,958)	122,737
Pond Creek	261115	EMERGENCY RESTORATION	LAT EXT	400	4/27/2010	(870)	121,867
Pond Creek	SC1011307	MAINTENANCE WORK FY10B - POND CREEK	SCAPCREDIT		6/30/2010	11,060	132,927
Pond Creek	276977	DADISMAN BUILDERS-POPLAR TREE	LAT EXT	400	10/13/2010	(870)	132,057
Pond Creek	266833	THORNTONS @ PRESTON HWY	LAT EXT	400	12/1/2010	(870)	131,187
Pond Creek	280751	NOTTINGTON HILLS SEC 1	LAT EXT	4,400	12/29/2010	(9,570)	121,617
Pond Creek	359350	CALENDAR 2010 SUMP PUMP CREDIT	SCAPCREDIT		12/31/2010	12,000	153,390
Pond Creek	SC1011308	MAINTENANCE WORK FY11A - POND CREEK	SCAPCREDIT		12/31/2010	19,773	141,390
Pond Creek	187739	GLENGARRY INDUSTRIAL PARK	LAT EXT	4,300	1/13/2011	(9,353)	144,037
Pond Creek	277777	TIRE DISCOUNTERS - BOERSTE WAY	LAT EXT	2,960	3/21/2011	(6,438)	137,599
Pond Creek	SC1011309	MAINTENANCE WORK FY11B - POND CREEK	SCAPCREDIT		6/30/2011	10,562	148,161
Pond Creek	304408	UPS SUPPLY CHAIN SOLUTIONS #7	LAT EXT	2,250	9/14/2011	(4,894)	143,267
Pond Creek	320918	FY12 EDSEL VI REHABILITATION	SCAPCREDIT		9/27/2011	106,700	249,967
Pond Creek	313444	PLANET FITNESS - JEFF BLVD	LAT EXT	1,600	11/4/2011	(3,480)	246,487
Pond Creek	312391	LONGHORN STEAKHOUSE RESTAURANT	LAT EXT	4,840	11/29/2011	(10,527)	235,960
Pond Creek	320919	FY12 LANTANA I/I REHABILITATION	SCAPCREDIT		12/29/2011	2,000	240,960
Pond Creek	359351	MAINTENANCE WORK FY12A - POND CREEK	SCAPCREDIT		12/31/2011	20,000	266,340
Pond Creek	SC1011310	CALENDAR 2011 SUMP PUMP CREDIT	SCAPCREDIT		12/31/2011	5,380	246,340
Pond Creek	310845	ZAXBY'S RESTAURANT	LAT EXT	3,750	2/28/2012	(8,156)	258,184
Pond Creek	255044	ISA-RECYCLING CENTER	LAT EXT	400	3/13/2012	(870)	257,314



CREDIT BASIN	APPLICATION	APPLICATION NAME	TYPE	FLOW (GAL/	RELEASE	APPROVED CREDIT REQUIRED OR	RUNNING TOTAL
				DAY)	DATE	FLOW REDUCTION (GAL/DAY)	(GAL/DAY)
Pond Creek	312814	MILLER TRANSPORTATION	LAT EXT	1,800	3/19/2012	(3,915)	253,399
Pond Creek	324554	NORTONS TEMPORARY OFFICE	LAT EXT	900	4/16/2012	(1,958)	251,441
Pond Creek	234102	ETHOS AT VALLEY FARM SR LIVING	LAT EXT	7,050	6/19/2012	(15,334)	236,107
Pond Creek	322367	SHEPHERDS CARE MEMORY HOME	LAT EXT	2,000	6/21/2012	(4,350)	231,757
Pond Creek	SC1011313	MAINTENANCE WORK FY12B - POND CREEK	SCAPCREDIT		6/30/2012	3,877	235,634
Pond Creek	307332	LOUISVILLE INDUSTRIAL BLDG B	LAT EXT	2,520	8/6/2012	(5,481)	230,153
Pond Creek	SC1005684	CONTRACTED WORK FY12 - POND CREEK	SCAPCREDIT		8/10/2012	3,812	213,085
Pond Creek	279860	BANNON CROSSINGS SEC 3B-2	LAT EXT	009'6	8/10/2012	(20,880)	209,273
Pond Creek	312053	DOLLAR GENERAL - CLEARWATER FA	LAT EXT	400	8/13/2012	(870)	212,215
Pond Creek	343455	SINGLE FAMILY 1812 GREYLING DR	LAT EXT	400	10/12/2012	(870)	211,345
Pond Creek	243109	OVERBROOK APARTMENTS	LAT EXT	41,200	11/9/2012	(89,610)	121,735
Pond Creek	14SC1005	CALENDAR 2012 SUMP PUMP CREDIT	SCAPCREDIT		12/31/2012	25,984	203,719
Pond Creek	359354	MAINTENANCE WORK FY13A - POND CREEK	SCAPCREDIT		12/31/2012	56,000	177,735
Pond Creek	329624	COPART	LAT EXT	400	2/20/2013	(870)	202,849
Pond Creek	320924	FY12 LEA ANN WAY INTERCEPTOR I&I RE	SCAPCREDIT		4/8/2013	1,195,676	1,398,525
Pond Creek	348982	SOUTHGATE BUSINESS CTR RETAIL	LAT EXT	2,060	4/15/2013	(4,481)	1,394,044
Pond Creek	346082	ZAXBYS	LAT EXT	2,065	5/2/2013	(4,491)	1,389,553
Pond Creek	SC1082593	MAINTENANCE WORK FY13 JAN-JUN-POND CREEK	SCAPCREDIT		6/30/2013	41,995	1,431,548
Pond Creek	335385	HARRISON LOW PRESSURE S/S	LAT EXT	1,600	7/2/2013	(3,480)	1,428,068
Pond Creek	SC1005534	FY13 PICADILLY I/I REHABILITATION	SCAPCREDIT		7/12/2013	187,564	1,615,632
Pond Creek	320940	4 RESIDENCE SFU 7821 MANSLICK	LAT EXT	400	8/16/2013	(870)	1,614,762
Pond Creek	SC1005538	CONTRACTED WORK FY13 - POND CREEK	SCAPCREDIT		8/27/2013	18,958	1,633,720
Pond Creek	324886	RENAISSANCE SOUTH BUSINESS	LAT EXT	400	9/6/2013	(870)	1,631,675
Pond Creek	361336	PNC BANK	LAT EXT	540	9/6/2013	(1,175)	1,632,545
Pond Creek	13LE1083	SINGLE FAMILY HOME 5402 (H) E MANSLICK RD	LAT EXT	400	9/26/2013	(870)	1,630,805
Pond Creek	331546	BLAIR JEFFERSON BLVD	LAT EXT	3,500	10/7/2013	(7,613)	1,623,192
Pond Creek	SC1005319	FY13 FEGENBUSH I/I REHABILITATION	SCAPCREDIT		11/12/2013	226,201	1,849,393
Pond Creek	353125	PEGASUS TRANSPORTATION	LAT EXT	250	12/9/2013	(544)	1,848,849
Pond Creek	308206	APPLEGATE FARMS	LAT EXT	57,200	12/10/2013	(124,410)	1,676,154
Pond Creek	341439	PRESTON GARDENS APTS	LAT EXT	22,200	12/10/2013	(48,285)	1,800,564
Pond Creek	SC1082594	MAINTENANCE WORK FY14 JUL-DEC-POND CREEK	SCAPCREDIT		12/30/2013	19,491	1,695,645
Pond Creek	13LE1179	TIMBERBEND SUBDIVISION SEC 5B	LAT EXT	6,400	2/14/2014	(13,920)	1,681,725
Pond Creek	13LE1035	RENAISSANCE SOUTH BUSINESS PARK TRACT 4	LAT EXT	5,415	4/10/2014	(11,778)	1,669,947
Pond Creek	13LE1115	VERIZON-OUTER LOOP	LAT EXT	400	4/22/2014	(870)	1,669,077
Pond Creek	348014	ASHTON PARK TOWN HOMES	LAT EXT	9,000	4/24/2014	(19,575)	1,649,502
Pond Creek	280180	LOUISVILLE INDUSTRIAL CTR F	LAT EXT	2,480	5/16/2014	(5,394)	1,644,108
Pond Creek	14LE1085	Williams Properties - Self Storage Facility	LAT EXT	400	5/28/2014	(870)	1,643,238



CREDIT BASIN	APPLICATION	APPLICATION NAME	TYPE	FLOW (GAL/ DAY)	RELEASE Date	APPROVED CREDIT REQUIRED OR FLOW REDUCTION (GAL/DAY)	RUNNING TOTAL (GAL/DAY)
Pond Creek	13LE1034	6300 GEIL LANE WAREHOUSE	LAT EXT	720	6/9/2014	(1,566)	1,641,672
Pond Creek	14LE1052	Stor-All Fairdale	LAT EXT	400	6/12/2014	(870)	1,640,802
Pond Creek	SC1082595	MAINTENANCE WORK FY14 JAN-JUN-POND CREEK	SCAPCREDIT		6/30/2014	14,457	1,655,259
Pond Creek	284215	HURSTBOURNE POINTE APTS	LAT EXT	009'6	7/7/2014	(20,880)	1,634,379
Pond Creek	344230	AUSTIN PARK APARTMENTS PH6	LAT EXT	27,600	8/25/2014	(60,030)	1,574,349
Pond Creek	14LE1177	Valley Farm Subd.	LAT EXT	•	8/29/2014		1,574,349
Pond Creek	13LE1105	JEFFERSON COMMONS	LAT EXT	17,075	11/13/2014	(37,138)	1,537,211
Pond Creek	SC1005323	FY13 FERN CREEK IЛ REHABILITATION	SCAPCREDIT		11/18/2014	551,108	2,088,319
Pond Creek	SC1082596	MAINTENANCE WORK FY15 JUL-DEC-POND CREEK	SCAPCREDIT		12/30/2014	26,095	2,114,414
Pond Creek	13LE1017	APEX ON PRESTON APT HOMES(Formally CITYSCAPE APTS	LAT EXT	84,400	1/13/2015	(183,570)	1,930,844
Pond Creek	14LE1145	Murphy USA - Outer Loop	LAT EXT	2,000	2/6/2015	(4,350)	1,926,494
Pond Creek	SC1005541	FY13 STONY BROOK I/I REHABILITATION	SCAPCREDIT		3/10/2015	345,397	2,271,891
Pond Creek	SC995942	FY13 CAVEN AVE II REMEDIATION	SCAPCREDIT		3/11/2015	225,645	2,497,536
Pond Creek	354207	COOPER FARMS SEC 11B	LAT EXT	12,400	4/29/2015	(26,970)	2,441,856
Pond Creek	354209	COOPER FARMS SEC 11A	LAT EXT	13,200	4/29/2015	(28,710)	2,468,826
Pond Creek	LE939897	Thorntons - 8405 National Tumpike	LAT EXT	1,000	5/14/2015	(2,175)	2,439,681
Pond Creek	SC1082597	MAINTENANCE WORK FY15 JAN-JUN-POND CREEK	SCAPCREDIT		6/30/2015	10,279	2,449,960
Pond Creek	LE948692	Jim's Express Wash	LAT EXT	10,500	7/28/2015	(22,838)	2,427,122
Pond Creek	LE951121	Allgeier Site	LAT EXT	400	8/7/2015	(870)	2,426,252
Pond Creek	13LE1086	WOODS OF PENN RUN OFFSITE SS	LAT EXT	1,000	8/25/2015	(2,175)	2,424,077
Pond Creek	LE950066	Challenger Lifts New Assembly	LAT EXT	1,010	10/1/2015	(2,197)	2,421,880
Pond Creek	13LE1140	JEFFERSON POST APARTMENTS	LAT EXT	28,800	10/2/2015	(62,640)	2,359,240
Pond Creek	LE950068	Single Family Home - 1707 Greyling Drive	LAT EXT	400	10/6/2015	(870)	2,357,500
Pond Creek	LE950067	Single Family Home - 1801 Greyling Drive	LAT EXT	400	10/6/2015	(870)	2,358,370
Pond Creek	14LE1116	MAINTENANCE WORK FY16 JUL-DEC-POND CREEK	SCAPCREDIT	2,800	12/30/2015	(060'9)	2,365,404
Pond Creek	SC1082598	CATALPA SPRINGS	LAT EXT		12/30/2015	13,994	2,371,494
Pond Creek	13LE1056	MORNING POINTE AT HURSTBOURNE	LAT EXT	13,000	2/4/2016	(28,275)	2,337,129
Pond Creek	358356	WOODS OF PENN RUN Section 1	LAT EXT	18,800	2/12/2016	(40,890)	2,296,239
Pond Creek	LE971260	Louisville Free Public Library South Central	LAT EXT	2,325	2/22/2016	(5,057)	2,291,182
Pond Creek	LE947322	Renaissance South Business Park Tract 5B	LAT EXT	10,140	3/14/2016	(22,055)	2,269,127
Pond Creek	LE971269	Renaissance South Business Park, Tract 5	LAT EXT	9,336	3/22/2016	(20,306)	2,248,821
Pond Creek	SC1003699	CONTRACTED WORK FY16 - POND CREEK	SCAPCREDIT		5/17/2016	36,063	2,284,884
Pond Creek	LE936598	Jefferson Commerce Center Tract 1A	LAT EXT	5,250	6/6/2016	(11,419)	2,273,465
Pond Creek	14LE1170	AUSTIN PARK SS PHASE 8	LAT EXT	26,400	6/21/2016	(57,420)	2,179,505
Pond Creek	LE918484	Austin Park Phase 7 & 8	LAT EXT	16,800	6/21/2016	(36,540)	2,236,925
Pond Creek	SC1082599	MAINTENANCE WORK FY16 JAN-JUN-POND CREEK	SCAPCREDIT		6/30/2016	12,650	2,192,155
Pond Creek	SC1003087	FY14 HILLRIDGE I/I REMEDIATION	SCAPCREDIT		8/5/2016	308,184	2,500,339



				DAY)	DATE	FLOW REDUCTION (GAL/DAY)	(GAL/DAY)
Pond Creek	SC939830	FY15 LEAANN WAY WEST (LAWW) I/I REHABILITATION	SCAPCREDIT		8/20/2016	538,285	3,038,624
Pond Creek	SC1003292	FY14 LEA ANN WAY WEST (LAWW) QUAD3 I/I REMEDIATION	SCAPCREDIT		8/31/2016	311,526	3,350,150
Pond Creek	SC1006197	CONTRACTED WORK FY15 - POND CREEK	SCAPCREDIT		10/24/2016	310	3,350,460
Pond Creek	SC1006182	CONTRACTED WORK FY14 - POND CREEK	SCAPCREDIT		10/26/2016	068'8	3,358,850
Pond Creek	SC1005631	FY14 LEAANN WAY WEST (LAWW) QUAD4 I/I REHAB	SCAPCREDIT		10/31/2016	692,905	4,336,691
Pond Creek	SC1005639	FY16 SILVER HEIGHTS SEWER REHAB	SCAPCREDIT		10/31/2016	284,936	3,643,786
Pond Creek	SC1082601	MAINTENANCE WORK FY17 JUL-DEC-POND CREEK	SCAPCREDIT		12/30/2016	14,699	4,351,390
Pond Creek	LE942402	Preston Crossing Apartments	LAT EXT	46,400	1/17/2017	(100,920)	4,250,470
Pond Creek	LE954229	Jeffeerson Commerce Center Bldg.2	LAT EXT	3,150	2/2/2017	(6,851)	4,243,619
Pond Creek	LE971220	Woods of Penn Run Sec. 2	LAT EXT	20,000	3/28/2017	(43,500)	4,200,119
Pond Creek	SC1082602	MAINTENANCE WORK FY17 JAN-JUN-POND CREEK	SCAPCREDIT		6/30/2017	14,076	4,214,195
Pond Creek	LE967615	Cooper Farms Section 12	LAT EXT	21,200	7/6/2017	(46,110)	4,168,085
Pond Creek	SC1107179	CONTRACTED WORK FY17 - POND CREEK	SCAPCREDIT		7/31/2017	39	4,168,124
Pond Creek	LE1020224	Renaissance South Business Park Tract 11	LAT EXT	000'9	9/20/2017	(13,050)	4,155,074
Pond Creek	SC1082603	MAINTENANCE WORK FY18 JUL-DEC-POND CREEK	SCAPCREDIT		12/30/2017	10,803	4,165,877
Pond Creek	LE1016885	Poplar Logistics	LAT EXT	3,212	2/19/2018	(6,986)	4,158,891
Pond Creek	LE1029503	Texas Roadhouse	LAT EXT	700	3/15/2018	(1,523)	4,157,368
Pond Creek	LE1053266	Yokomori Manufacturing Facility	LAT EXT	1,750	4/9/2018	(3,806)	4,153,562
Pond Creek	SC1107183	FY18 MOUNT WASHINGTON ROAD PS REHABILITATION	SCAPCREDIT		6/4/2018	48,610	4,202,172
Pond Creek	SC1096902	FY17 ADMIRAL PS	SCAPCREDIT		6/30/2018	977,768	5,179,940
Pond Creek	LE1049509	Poplar Logistics Center - Building 3	LAT EXT	3,776	2/14/2019	(8,213)	5,164,410
Pond Creek	LE1049512	Poplar Logistics Center building 2	LAT EXT	3,364	2/14/2019	(7,317)	5,172,623
Pond Creek	LE1047077	Orell Station 1C	LAT EXT	10,400	6/10/2019	(22,620)	5,141,790
Pond Creek	SC1107191	FY18 OAKLAWN	SCAPCREDIT		6/21/2019	198,872	5,340,662
Pond Creek	LE1053368	Ferndale Place Subdivision	LAT EXT	009'6	7/10/2019	(20,880)	5,319,782
Pond Creek	LE1055055	Convington by the Lake Area 1	LAT EXT	33,600	8/8/2019	(73,080)	5,246,702
Pond Creek	LE1048948	Estates of St Anthony Sec 3	LAT EXT	4,000	11/22/2019	(8,700)	5,238,002
Pond Creek	LE1013108	Menards	LAT EXT	18,450	1/6/2020	(40,129)	5,197,873
Pond Creek	LE1092680	Hidden Forest Section 2	LAT EXT	10,000	1/13/2020	(21,750)	5,176,123
Pond Creek	LE1102769	L & N Federal Credit Union	LAT EXT	1,950	2/18/2020	(4,241)	5,171,882
Pond Creek	LE1047091	New Cut Road Retail Shop	LAT EXT	1,381	5/12/2020	(3,004)	5,168,878
Pond Creek	LE1078674	Frontgate Apartments	LAT EXT	30,600	6/10/2020	(66,555)	5,102,323
Pond Creek	LE1104752	Carwash USA	LAT EXT	9,000	12/10/2020	(19,575)	5,082,748
Pond Creek	LE1104279	Parkside at Mt. Washington Section 2	LAT EXT	48,800	3/9/2022	(106,140)	4,976,608
Pond Creek	LE1105623	The Preserve at Cedar Creek Section 3	LAT EXT	28,800	9/27/2022	(62,640)	4,913,968
Pond Creek	LE1106463	Fern Valley Road & Shepherdsville Road Commercial	LAT EXT	10,060	1/6/2023	(21,881)	4,892,087
Pond Creek	LE1105370	Stern Commercial Center	I AT EXT	450	000000		



Control Control         Control Control         Control Control         Control         Control           Subdistati Diversion         286033         Lout Data (2004)         100 0000         100 0000         100 0000           Subdistati Diversion         286033         Lout Data (2004)         200 0000         100 0000         100 0000           Subdistati Diversion         286033         Lout Data (2004)         200 0000         100 0000         100 0000           Subdistati Diversion         286043         Provide Libert (2004)         200 0000         100 0000         100 0000           Subdistati Diversion         286043         Provide Libert (2004)         200 0000         100 0000         100 0000           Subdistati Diversion         286043         Provide Libert (2004)         200 0000         100 0000         100 0000           Subdistati Diversion         286044         Provide Libert (2004)         200 0000         100 0000         100 0000           Subdistati Diversion         286044         Provide Libert (2004)         100 0000         100 0000         100 0000           Subdistati Diversion         286044         Provide Libert (2004)         100 0000         100 0000         100 0000           Subdistati Diversion         286044         Provide Libert (2004)	CREDIT BASIN	APPLICATION	APPLICATION NAME	TYPE	FLOW (GAL/ DAY)	RELEASE Date	APPROVED CREDIT REQUIRED OR FLOW REDUCTION (GAL/DAY)	RUNNING TOTAL (GAL/DAY)
50000000         CALERDARA SONS SIMP PUBLIC DESIGN         SCHOCKERDIT         2000000         2000000           2000000         MANTENARES YORGE VARIO PER PRINTEDIA         SCHOCKERDIT         117,0000         117,0000           2000000         SEGORIA         MANTENARES YORGE VARIO PER PRINTEDIA         SCHOCKERDIT         117,0000           2000000         SEGORIA         FYDYO CALCIANTH BERLINGE CAP HE REBAND         SCHOCKERDIT         1202,0000           2000000         SEGORIA DE CALCIANTH BERLINGE CAP HE REBAND         SCHOCKERDIT         1202,0000           2000000         SEGORIA DE CALCIANTH BERLINGE CAP HE REBAND         SCHOCKERDIT         1202,0000           2000000         SEGORIA DE CALCIANTH BERLINGE CAP HE REBAND         SCHOCKERDIT         1202,0000           2000000         CALCIANTH BERLINGE CAP HE REBAND         SCHOCKERDIT         1202,0000           2000000         SEGORIA DE CALCIANTH BERLINGE CAP HE REBAND         SCHOCKERDIT         1202,0000           2000000         SEGORIA DE CALCIANTH BERLINGE DA CALCIANTH CAP HE REBAND         SCHOCKERDIT         1207,0000           2000000         SEGORIA DE CALCIANTH BERLINGE DA CALCIANTH CAP HE REBAND         SCHOCKERDIT         1207,0000           2000000         SEGORIA DE CALCIANTH SERVICE DE CALCIANTH CAP HE REBAND         LATEDIT         2000,0000 <td< td=""><td>Pond Creek</td><td></td><td></td><td></td><td></td><td></td><td></td><td>4,891,108</td></td<>	Pond Creek							4,891,108
2000/05/2017/2017/2017/2017/2017/2017/2017/2017	Southeast Diversion	359440	CALENDAR 2007 SUMP PUMP CREDIT	SCAPCREDIT		12/31/2007	128,000	136,000
20000000         MANYTHANAEL ROOKE YORA ALGE-YORA NOW-SE DATEBOOK         SCHOCHERITY         101/2008         101/2008           2000000         2000000         PYNYR SCHOOLANGEN BERGERICH         SCHOCHESTY         1.002/2000         1.002/2000           2000000         2000000         2000000         2.002/2000         1.202/2000         1.202/2000           2000000         2000000         2000000         2.002/2000         1.202/2000         1.202/2000           2000000         2000000         2000000         2.002/2000         1.202/2000         1.202/2000           2000000         2000000         2000000         2.002/2000         1.202/2000         1.202/2000           2000000         2000000         2.002/2000         2.002/2000         1.202/2000         1.202/2000           2000000         2000000         2.002/2000         2.002/2000         2.202/2000         1.202/2000           2000000         2000000         2.002/2000         2.002/2000         2.002/2000         2.202/2000           2000000         2000000         2.002/2000         2.002/2000         2.002/2000         2.202/2000           20000000         2000000         2.002/2000         2.002/2000         2.002/2000         2.202/2000           2000000	Southeast Diversion	359355	CALENDAR 2007 DOWNSPOUT CREDIT	SCAPCREDIT		12/31/2007	8,000	8,000
2000000         FYORD BEARDAGASS INT RENAM BHY (SED)         SCHOPERDIT         2020004         2020004           2020014         CALENDAR 2008 SUMP ENDAM SED WHEREHOM         SCHOPERDIT         1020/12008           2020014         CALENDAR 2008 SUMP ENDAM SED WEREHOM         1020/12009         1020/12008           2020014         MANTENDAMCE WORK FYORA - SE DYFERION         1020/12009         1020/12008           2020014         MANTENDAMCE WORK FYORA - SE DYFERION         1020/12009         1020/12009           2020014         MANTENDAMCE WORK FYORA - SE DYFERION         1020/12009         1020/12009           2020014         MANTENDAMCE WORK FYORA - SE DYFERION         1020/12009         1020/12009           2020014         MANTENDAMCE WORK FYORA - SE DYFERION         1020/12009         1020/12009           2020014         MANTENDAMCE WORK FYORA - SE DYFERION         1020/12009         1020/12009           2020014         MANTENDAMCE WORK FYORA - SE DYFERION         1020/12009         1020/12009           2020017         SERVAR         MANTENDAMCE WORK FYORA - SE DYFERION         1020/12009         1020/12009           202002         SERVAR         MANTENDAMCE WORK FYORA - SE DYFERION         1020/12009         1020/12009           202002         SERVAR         SERVAR         1020/12009         1020/	Southeast Diversion	235575	MAINTENANCE WORK FY06 AUG-FY09 NOV - SE DIVERSION	SCAPCREDIT		11/1/2008	71,472	207,472
2000143         FYROD CALLSMATH MELGINE IC, PAR FERMAN         SCHOCKERDIT         10202000           20001547         CALENDARA ZORO BOWNEDOUT CREDIT         SCHOCKEDIT         1201/2000           20001547         MANTENAMCE WORK FYROR-SE DIVERSION         SCHOCKEDIT         1723 (2000)           20001547         MANTENAMCE WORK FYROR-SE DIVERSION         SCHOCKEDIT         1,225 (2000)           20001547         MANTENAMCE WORK FYROR-SE DIVERSION         1,225 (2000)         1,2000           200000000         20000000         1,2000         1,2000           200000000         20000000         1,2000         1,2000           200000000         20000000         1,2000         1,2000           2000000000         20000000         1,2000         1,2000           20000000000         200000000         1,2000         1,2000           2000000000000000000000000000000000000	Southeast Diversion	236296	FY09 BEARGRASS INT REHAB PH1 (SED)	SCAPCREDIT		12/22/2008	122,688	644,968
358441         CALEIDAR 2000 DOWNSPOLT CREDIT         SCAPCREDIT         SCAPCREDIT         12510008           55011378         AMANTERANCE WORK PYTON-SE DIVERGION         SCAPCREDIT         172510008         172510008           55011378         AMANTERANCE WORK PYTON-SE DIVERGION         SCAPCREDIT         17251000         172510008           520854         AMANTERANCE WORK PYTON-SE DIVERGION         SCAPCREDIT         17251000         172510009           520854         AMANTERANCE WORK PYTON-SE DIVERGION         SCAPCREDIT         17251009         17251000           520854         AMANTERANCE WORK PYTON-SE DIVERGION         SCAPCREDIT         17251000         17251000           520854         AMANTERANCE WORK PYTON-SE DIVERGION         SCAPCREDIT         500 20170         17251000           520855         CALEDOR 2008 SURVEY	Southeast Diversion	236214	FY09 GOLDSMITH BUECHB ICA PHI REHAB	SCAPCREDIT		12/22/2008	314,808	522,280
5 SCOUTIST         MANITEDANCE WORK PYIGA. SE DIVERSION         SCORPOREDIT         12571 (2008)           5 SCOUTIST         MANITEDANCE WORK PYIGA. SE DIVERSION         SCORPOREDIT         1727 (2009)           5 SCOUTIST         MANITEDANCE WORK PYIGA. SE DIVERSION         SCORPOREDIT         1727 (2009)           5 SCOUTIST         MANITEDANCE WORK PYIGA. SE DIVERSION         SCORPOREDIT         1727 (2009)           5 SCOUTISZ         LOLD SOUTISZ         LOLD SOUTISZ         1727 (2009)           5 SCOUTISZ         CALEDAN GOUR PYIGA. SE DIVERSION         SCORPOREDIT         1721 (2009)           5 SCOUTISZ         CALEDAN GOUR PYIGA. SE DIVERSION         SCORPOREDIT         400         317000           5 SCOUTISZ         CALEDAN GOUR PYIGA. SE DIVERSION         LOLD STATE         400         317000           2 2020         20070         SCORPORATION COLLEGE OF TECHNOLOGY         LATEXT         400         317000           2 2020         20070         SCORPORATION COLLEGE OF TECHNOLOGY         LATEXT         400         317000           2 2020         20070         SCORPOREDIT         SCORPOREDIT         400         317000           2 2020         ALTEXT         ALD         ALTEXT         400         317000           2 2020         ALTEXT         SCORPO	Southeast Diversion	359441	CALENDAR 2008 DOWNSPOUT CREDIT	SCAPCREDIT		12/31/2008	16,000	666,523
SCOUTIST         MANNTENANCE VORDE - SE DIVERSON         SCACCEBENT         C1221         C1231 (2002)           SCEDITISS         MANNTENANCE VORDE - SE DIVERSON         SCACCEBENT         1,225         (1020200)           S28287         ALABORA E ROBAR PORDA E POLACARE         LULE DEL COLLEGA E PORTA E POLACARE         1,225         (1020200)           S28287         CALLEROAR ZOOB DOWNSPOUT CREDIT         SCACCEBENT         1,225         (1020200)           S28287         CALLEROAR ZOOB DOWNSPOUT CREDIT         SCACCEBENT         1,231,0200         1,231,0200           S28287         CALLEROAR ZOOB DOWNSPOUT CREDIT         SCACCEBENT         400         2,117,000           S28289         CALLEROAR ZOOB DOWNSPOUT CREDIT         LULE EXT         400         2,117,000           S28289         LOUGASALLE COLLEGGE P TECHNOLOCY         LULE EXT         400         2,117,000           241700         SACCERDIT         LULE	Southeast Diversion	359356	CALENDAR 2008 SUMP PUMP CREDIT	SCAPCREDIT		12/31/2008	4,000	650,523
SCOUTISTION         MANIMITERANCE NORMS FYONE SE DIVERSION         SOUCHERDIT         1,225         GROZZORO           35,2884-4         SASSART         LANDEZT         1,225         1,201,2000           35,2884-3         MANITERANGE NORMS FYONS - SE DIFESSION         SOUCHERDIT         1,225         1,201,2000           35,2881-3         CALENDAR ZOOR SOWINGE NORMS FYONS - SE DIFESSION         LANDEXT         400         217,201           25,2882-3         CALENDAR ZOOR SOWINGE THORNORM         LANDEXT         400         217,201           25,2883-3         LOUBWILLE COLLEGATE SPORTS         LANDEXT         400         217,201           25,010-32         CALENDAR ZOOR SOWINGE THORNORM         LANDEXT         400         217,201           25,010-32         LOUBWILLE COLLEGATE SPORTS         LANDEXT         400         217,201           25,010-32         LOUBWILLE JANDEA COLLEGATE SPORTS         LANDEXT         400         620,201           25,010-32         LOUBWILLE JANDEA COLLEGATE SPORTS         LANDEXT         400         620,201           25,010-32         SCOUTIS         LANDEXT         1,100         1,21,201           25,010-32         SCOUTIS         LANDEXT         1,100         2,21,201           25,010-32         SCOUTIS         L	Southeast Diversion	SC1011317	MAINTENANCE WORK FY09A - SE DIVERSION	SCAPCREDIT		12/31/2008	1,555	646,523
20864         ITMY HANDES DANCAREE         LATENT         1,225         1,020,0000           358547         MANINTBAANCE WORK FYLAN, SE DAVERBOTH         SCAPCREDIT         1,225         1,221,0000           358443         CALENDAR ZORD DOWNSPOLT DREDIT         SCAPCREDIT         1,221,0000         1,221,0000           258228         CALENDAR ZORD DOWNSPOLT DREDIT         SCAPCREDIT         400         3172010           258228         SALLIAWA COLLEGO FITE TOWNSPOLT DREDIT         LATENT         400         3172010           258228         SALLIAWA COLLEGO FITE TOWNSPOLT DREDIT         LATENT         400         3172010           258228         LOUISVILLE COLLEGATE SPORTS         LATENT         400         3172010           258228         LOUISVILLE COLLEGATE SPORTS         LATENT         400         3172010           258228         LOUISVILLE COLLEGATE SPORTS         LATENT         400         3202010           25826         ANATENTA SALLIANAT         LATENT         400         3202010           25826         ANATENTA SALLIANAT         LATENT         400         3202010           25826         ANATENDA COMERCATION         SCAPCREDIT         400         3202010           25826         ALLIANA SALLIANA COLLEGAT         SCAPCREDIT	Southeast Diversion	SC1011318	MAINTENANCE WORK FY09B - SE DIVERSION	SCAPCREDIT		6/30/2009	2,929	669,452
358547         MANNTENANCE WORK PYTOA, SE DIVERSION         SCACPEEDIT         1201/2000           5050443         GALENDAR ZOOB DOWASPOUT OREDIT         SCACPEEDIT         1207/2000         1207/2000           205011322         CALENDAR ZOOB DOWASPOUT OREDIT         SCACPEEDIT         2000         1207/2000           205011323         SALIVANO CLIEGGE OF TECHNOLOGY         LATEXT         400         3107/2000           205011323         JULIANO CLIEGGE OF TECHNOLOGY         LATEXT         400         3107/2000           205011323         LOGUSIVILE COLLEGATE PERMACACON         LATEXT         400         3107/200           205011323         LOGUSIVILE COLLEGATE PERMACACON         LATEXT         400         3102/200           20501033         SALOCAREDIT         ALA         400         3102/200           20501033         SALOCAREDIT         ALA         400         3102/200           20501033         CALENDAR COMBERON         LATEXT         400         3102/200           2050203         CALENDAR COMBERON         SCACCREDIT         3000         3102/200           20503         CALENDAR CONSENDAR         SCACCREDIT         400         3102/200           20503         CALENDAR COLLEGAR PONT RESIDENCE HALL         LATEXT         1,100	Southeast Diversion	229854	TINY HANDS DAYCARE	LATEXT	1,225	10/20/2009	(2,664)	882'999
859443         CALENDAR 2009 DOWNSPOUT CREDIT         SCAPCREDIT         SCAPCREDIT         123712009           85010132         GALENDAR 2009 SUNP PUMP CREDIT         SCAPCREDIT         800         2172010           255251         SULLUANA COLLEGE OF TECHNOLOGY         LATEXT         400         2172010           255253         JULISALLE CALLEGARIE SPORTS         LATEXT         400         2172010           257265         JULISALLE CALLEGARIE SPORTS         LATEXT         400         247201           257275         JULISALLE LANINY COLLEGE OF TECHNOLOGY         LATEXT         400         372010           257275         JULISALLE LANINY CONNECTION         LATEXT         400         67262010           250013230         NAANTERANCE WORK FY10B. SE DIVERSION         LATEXT         400         67262010           2501013230         NAANTERANCE WORK FY10B. SE DIVERSION         SCAPCREDIT         400         67262010           2501013230         ACALENDAR 2010 SUNP PUMP CREDIT         SCAPCREDIT         10,000         1231/2010           2501013230         ACALENDAR 2010 SUNP PUMP CREDIT         LATEXT         1,100         1231/2010           250101320         ACALENDAR 2010 SUNP PUMP CREDIT         SCAPCREDIT         400         1,120/10211           250101330	Southeast Diversion	359357	MAINTENANCE WORK FY10A - SE DIVERSION	SCAPCREDIT		12/31/2009	12,000	703,762
SECTOTISZA         CALENDAR 2009 SUMP PUMP CREDIT         SCAPCREDIT         SCAPCREDIT         2028/2020         21/10/2010           2.585281         SULLUANOL COLLEGOR TE CHORLOOV         LATEXT         400         21/10/2010           2.687283         SULLUANOL COLLEGOR ESPORTS         LATEXT         400         21/10/2010           2.687284         JANESSA         LATEXT         400         21/10/2010           2.687285         STATESTALERANT         LATEXT         400         21/10/2010           2.687286         SCAPCREDIT         400         21/10/2010         21/10/2010           2.68728         SAGRERANITY CORNECTOR         SCAPCREDIT         400         21/10/2010           2.68728         PATILITIERA GENORE HANSE IL/REDIT         SCAPCREDIT         10,000         21/10/2010           2.68728         ALALENDAR ZOLO BUMERRO MERCANDER         SCAPCREDIT         1,000         21/20/2011           2.68728         SEGERA         ALALENT         1,000	Southeast Diversion	359443	CALENDAR 2009 DOWNSPOUT CREDIT	SCAPCREDIT		12/31/2009	8,000	691,762
2826281         SULLIVANI COLLEGE OF TECHNOLOGY         LATEXT         800         21712010           2876286         LOUISVILLE COLLEGATE SPORTS         LATEXT         400         3172010           2417591         FRISCISE BIG BOY RESTALRAMT         LATEXT         2400         3472010           2407863         LOUISVILLE JOUNDRA ADDIANY CONNECTION         LATEXT         2400         3472010           2507013         SCOTOTIASA         MANTENANCE WORK FYITA - SE DIVERSION         LATEXT         400         47162010           2507013         AGENDAR ADDIO BOWANSPOLIT CEBUT         SCAPCREDIT         400         123172010           2507013         AGENDAR ADDIO BOWANSPOLIT CEBUT         SCAPCREDIT         400         123172010           2507013         AGENDAR ADDIO BOWANSPOLIT CEBUT         SCAPCREDIT         123172010         123172010           2507014         AGENDAR ADDIO BOWANSPOLIT CEBUT         SCAPCREDIT         1,180         123172010           2507015         AGENDAR ADDIO BOWANSPOLIT CEBUT         SCAPCREDIT         1,180         1,18010           2507015         AGENDAR ADDIO BOWANSPOLIT CEBUT         SCAPCREDIT         4,180         1,124/2010           2507015         AGENDAR ADDIO BORDAR ADDIO BORDA	Southeast Diversion	SC1011322	CALENDAR 2009 SUMP PUMP CREDIT	SCAPCREDIT		12/31/2009	16,974	683,762
258288         LOUBSVILLE COLLEGNATE SPORTS         LATEKT         400         3712010           2507275         LOUBSVILLE JUNGRACADEMY         LATEKT         240         3472010           2507275         LOUBSVILLE JUNGRACADEMY         LATEKT         240         410-2070           2507276         STORES         LOUBSVILLE JUNGRACADEMY         LATEKT         400         410-2070           250701328         MANTENANCE WORK FYIGH SE DIVERSION         LATEKT         400         822/2070           250808         PYHI BERNGRASS CREEK PHASE II SEDI         SCAPCREDIT         1231/2070         1231/2070           250818         CALENDAR ZOHO SUMP PLINIP CREDIT         SCAPCREDIT         1231/2070         1231/2070           250818         CALENDAR ZOHO SUMP PLINIP CREDIT         SCAPCREDIT         1231/2070         1231/2070           250813         CALENDAR ZOHO SUMP PLINIP CREDIT         SCAPCREDIT         1231/2070         1231/2070           250813         CALENDAR ZOHO SUMP PLINIP CREDIT         LATEKT         15800         250/2071           250823         MANTIENANCE WORK FYTIB - SE DIVERSION         SCAPCREDIT         400         171/2071           250823         MANTIENANCE WORK FYTIB - SE DIVERSION         SCAPCREDIT         400         1201/201	Southeast Diversion	235291	SULLIVAN COLLEGE OF TECHNOLOGY	LATEXT	006	2/11/2010	(1,958)	701,804
241769         FRISCHE BIG BOY RESTAURANT         LATEXT         2400         362010           257275         LOUISVILLE JUNIOR ACADEMY         LATEXT         520         4462010           270858         SINGLE FAMILY CONNECTION         LATEXT         400         6202010           270858         SCHU1326         MANNTENANCE WORK PY108-SE DIVERSION         SCAPCREDIT         400         6202010           270858         FY11 BEARGRASS CREEK PHASE II (SED)         SCAPCREDIT         400         6202010           270858         FY11 BEARGRASS CREEK PHASE II (SED)         SCAPCREDIT         1714/2010           270858         CALENDAR 2010 BOUNNEPOUNC FREDIT         SCAPCREDIT         1721/2010           270878         MANTENANCE WORK FY11A-SE DIVERSION         LATEXT         1,180         5602011           270878         AGREDINER POINTERS - BEDIVERSION         SCAPCREDIT         1,180         5602011           270878         AGREDINER POINTERS - BEDIVERSION         SCAPCREDIT         1,180         5702011           270878         AGREDINER POINTERS - BEDIVERSION         SCAPCREDIT         1,180         5702011           270878         AGREDINER POINTERS - BEDIVERSION         SCAPCREDIT         1,180         47202012           270878         AGREDIAT	Southeast Diversion	238328	LOUISVILLE COLLEGIATE SPORTS	LATEXT	400	3/1/2010	(870)	700,934
257275         LOUISVILLE JUNIOR ACADEMY         LUTEXT         \$20         4162010           270858         SINIGLE FAMILY CONNECTION         LUTEXT         400         \$2292010           220833         MAINTENANCE WORK FYIGB - SE DIVERSION         SCAPCREDIT         400         \$2292010           220835         FYIT BEARGRASS CREEK PHASE II (SED)         SCAPCREDIT         121/12010         \$121/12010           250836         ACALENDAR 2010 DOWINSPOUT CREDIT         SCAPCREDIT         121/12010         \$121/12010           250838         ACALENDAR 2010 SUMP PUMP CREDIT         SCAPCREDIT         121/12010         \$121/12010           25838         ACALENDAR 2010 SUMP PUMP CREDIT         LATEXT         1,180         \$120/12010           25838         ACALENDAR 2010 SUMP PUMP CREDIT         LATEXT         1,180         \$120/1011           25838         ACALENDAR 2011 DOWNSPOUT CREDIT         LATEXT         400         \$1/1011           258281         ACALENDAR 2011 DOWNSPOUT CREDIT         SCAPCREDIT         1,180         \$1/2011           258281         ACALENDAR 2011 DOWNSPOUT CREDIT         LATEXT         1,180         \$1/2012           2501133         SCIOTI33         ACALENDAR 2011 DOWNSPOUT CREDIT         LATEXT         1,180         \$1/2012	Southeast Diversion	241759	FRISCHS BIG BOY RESTAURANT	LATEXT	2,400	3/5/2010	(5,220)	695,714
270868         SINIGLE FAMILY CONNECTION         LATEXT         400         6282010           8207011328         MANNTENANCE WORK FYIGB-SE DIVERSION         SCAPCREDIT         6302010         6302010           820893         FYIT BEARGRASS CREEK PHASE I (SED)         SCAPCREDIT         7214/2010         1214/2010           836868         CALENDAR 2010 DOWNSPOUT CREDIT         SCAPCREDIT         1214/2010         1214/2010           836878         CALENDAR 2010 SUMP PUMP CREDIT         SCAPCREDIT         1021/2010         1211/2010           836878         AGRENDER POINT RESIDENCE HALL         LATEXT         10,800         216/2011           826878         AGRENDER POINT RESIDENCE HALL         LATEXT         1,800         56/2011           826878         AGRENDER POINT RESIDENCE HALL         LATEXT         1,800         56/2011           826878         AGRENDER POINT RESIDENCE HALL         LATEXT         1,800         56/2011           826878         MAINTENANCE WORK PYTES - SE DIVERSION         LATEXT         400         71/2011           826878         MAINTENANCE WORK PYTES - SE DIVERSION         SCAPCREDIT         1,800         123/2011           826879         AGRENDAR 2011 DOWNSPOUT REDIT         LATEXT         1,800         123/2011           826871 <td>Southeast Diversion</td> <td>257275</td> <td>LOUISVILLE JUNIOR ACADEMY</td> <td>LATEXT</td> <td>520</td> <td>4/16/2010</td> <td>(1,131)</td> <td>694,583</td>	Southeast Diversion	257275	LOUISVILLE JUNIOR ACADEMY	LATEXT	520	4/16/2010	(1,131)	694,583
SCOUTIAGE         MANITENANCE WORK FY10B - SE DIVERSION         SCAPCREDIT         6502010           320833         FY11 BEARGRASS CREEK PHASE II (SED)         SCAPCREDIT         1214/2010           350848         CALENDAR 2010 BOWNSPOUT CREDIT         SCAPCREDIT         1231/2010           350844         MANNTENANCE WORK FY11A-SE DIVERSION         SCAPCREDIT         10,800         21/6/2011           286513         GARDINER POINT RESIDENCE HALL         LAT EXT         1,600         21/6/2011           286513         GARDINER POINT RESIDENCE HALL         LAT EXT         1,600         21/6/2011           286513         GARDINER POINT RESIDENCE HALL         LAT EXT         1,600         21/6/2011           286713         TITRE DISCOUNTERS - BARDISTOWN         LAT EXT         1,600         27/6/2011           286724         MAINTENANCE WORK FY18 - SE DIVERSION         SCAPCREDIT         400         7/1/2011           286839         MAINTENANCE WORK FY12A - SE DIVERSION         SCAPCREDIT         4,000         7/1/2011           286839         MAINTENANCE WORK FY12A - SE DIVERSION         SCAPCREDIT         1,800         4,02012           286845         MAINTENANCE WORK FY12B - SE DIVERSION         SCAPCREDIT         1,800         4,020212           286845         MAINTENANCE WORK	Southeast Diversion	270858	SINGLE FAMILY CONNECTION	LATEXT	400	6/29/2010	(870)	693,713
32 0893         FY1 BEARGRASS CREEK PHASE II (SED)         SCAPCREDIT         1274/2010           5 CS 011328         CALENDAR 2010 DOWNSPOUT CREDIT         SCAPCREDIT         1231/2010           35 68363         CALENDAR 2010 BUMP PUMP CREDIT         SCAPCREDIT         1231/2010           28 6813         MANINTENANCE WORK FY11A- SE DIVERSION         LATEXT         1,600         2162011           28 6813         TITRE DISCOUNTERS BARDSTOWN         LATEXT         1,600         2162011           28 7567B         TITRE DISCOUNTERS BARDSTOWN         LATEXT         1,600         5.602011           28 7567B         TITRE DISCOUNTERS BARDSTOWN         LATEXT         1,600         5.602011           28 7567B         MANINTENANCE WORK FY1B- SE DIVERSION         SCAPCREDIT         400         7/1/2011           28 7567B         MANINTENANCE WORK FY12A- SE DIVERSION         SCAPCREDIT         400         7/1/2011           28 7567B         MANINTENANCE WORK FY12B- SE DIVERSION         SCAPCREDIT         1,800         1/20/2012           28 751133         MANINTENANCE WORK FY12B- SE DIVERSION         SCAPCREDIT         1,800         4/20/2012           28 7511336         MANINTENANCE WORK FY12B- SE DIVERSION         SCAPCREDIT         400         8/10/2012           28 7511336         MAN	Southeast Diversion	SC1011326	MAINTENANCE WORK FY10B - SE DIVERSION	SCAPCREDIT		6/30/2010	10,739	704,452
SCT 011328         CALENDAR 2010 DOWNSPOUT CREDIT         SCAPCREDIT         1231/2010           359548         CALENDAR 2010 SUMP PUMP CREDIT         SCAPCREDIT         1231/2010           359444         MANNTENANCE WORK FY1A - SE DIVERSION         SCAPCREDIT         1231/2010           226513         GARDINER POINT RESIDENCE HALL         LAT EXT         1,6800         2/16/2011           226788         TITIED IDSCOUNTERS - BARDSTOWN         LAT EXT         1,680         5/16/2011           SC1011330         MAINTENANCE WORK FY1B - SE DIVERSION         LAT EXT         1,180         5/30/2011           SC5011330         MAINTENANCE WORK FY12A - SE DIVERSION         SCAPCREDIT         400         7/1/2011           SC5011331         MAINTENANCE WORK FY12A - SE DIVERSION         SCAPCREDIT         1,180         4/20/2012           SC5011331         ASSUMPTION SPORTS AND REC CTR         LAT EXT         1,180         1/23/2011           SC5011331         MAINTENANCE WORK FY12B - SE DIVERSION         SCAPCREDIT         1,180         4/20/2012           SC1011331         MAINTENANCE WORK FY12B - SE DIVERSION         SCAPCREDIT         1,180         4/20/2012           SC1011331         MAINTENANCE WORK FY12B - SE DIVERSION         SCAPCREDIT         400         8/10/2012           SC1011332<	Southeast Diversion	320993	FY11 BEARGRASS CREEK PHASE II (SED)	SCAPCREDIT		12/14/2010	10,368	714,820
358368         CALENDAR 2010 SUMP PUMP CREDIT         SCAPCREDIT         1231/2010           359444         MANITENANCE WORK FY1TA - SE DIVERSION         SCAPCREDIT         10,800         2/16/2011           286513         GARDINER POINT RESIDENCE HALL         LAT EXT         1,600         2/16/2011           286513         GARDINER POINT RESIDENCE HALL         LAT EXT         1,600         2/16/2011           287688         TIRRE DISCOUNTERS - BARDSTOWN         LAT EXT         1,180         2/16/2011           SC1011330         MAINTENANCE WORK FY1B - SE DIVERSION         SCAPCREDIT         400         7/1/2011           385445         CALENDAR 2011 SUMP PUMP CREDIT         SCAPCREDIT         1,260         2/1/2011           SC1011331         CALENDAR 2011 DOWNSPOUT CREDIT         SCAPCREDIT         1,800         4/20/2012           SC1011331         CALENDAR 2011 DOWNSPOUT CREDIT         SCAPCREDIT         1,800         4/20/2012           SC1011331         CALENDAR 2011 DOWNSPOUT CREDIT         SCAPCREDIT         1,800         4/20/2012           SC1011331         MAINTENANCE WORK FY12B - SE DIVERSION         SCAPCREDIT         1,800         4/20/2012           SC1011316         MAINTENANCE WORK FY12B - SE DIVERSION         LAT EXT         4/20/2012         6/30/2012	Southeast Diversion	SC1011328	CALENDAR 2010 DOWNSPOUT CREDIT	SCAPCREDIT		12/31/2010	11,090	753,910
358444         MAINTENANCE WORK FY11A - SE DIVERSION         SCAPCREDIT         1,500         21/82/101           286513         GARDINER POINT RESDIENCE HALL         LAT EXT         10,800         2/16/2011           276378         TIRE DISCOUNTERS - BARDSTOWN         LAT EXT         1,500         2/16/2011           287888         MAINTENANCE WORK FY11B - SE DIVERSION         SCAPCREDIT         1,180         5/6/2011           287285         MAINTENANCE WORK FY12A - SE DIVERSION         SCAPCREDIT         400         7/1/20/11           385849         MAINTENANCE WORK FY12A - SE DIVERSION         SCAPCREDIT         1,800         1/20/12           5C1011331         CALENDAR 2011 SUMP PUMP CREDIT         SCAPCREDIT         1,800         1/20/12           5C1011331         ASSUMPTION SPORTS AND REC CTR         LAT EXT         1,800         420/20/12           5C1011331         MAINTENANCE WORK FY12B - SE DIVERSION         SCAPCREDIT         1,800         420/20/12           5C1011316         MAINTENANCE WORK FY12B - SE DIVERSION         SCAPCREDIT         400         81/01/20/12           5C1011316         MAINTENANCE WORK FY12B - SE DIVERSION         SCAPCREDIT         400         81/01/20/12           5C1011316         MAINTENANCE WORK FY12B - SE DIVERSION         SCAPCREDIT         400	Southeast Diversion	359358	CALENDAR 2010 SUMP PUMP CREDIT	SCAPCREDIT		12/31/2010	4,000	742,820
286513         GARDINER POINT RESDENCE HALL         LATEXT         1,500         216,2011           276378         TIRE DISCOUNTERS- BARDSTOWN         LATEXT         1,500         56/2011           287888         TIRE DISCOUNTERS - BARDSTOWN         LATEXT         1,180         56/2011           287888         MAINTENANCE WORK FY11B - SE DIVERSION         SCAPCREDIT         400         7/1/2011           296295         KEN TOWERY - 3800 S HURSTBOURNE         LATEXT         400         7/1/2011           359345         CALENDAR 2011 SUMP PUMP CREDIT         SCAPCREDIT         1223/2011           359346         CALENDAR 2011 SUMP PUMP CREDIT         SCAPCREDIT         1223/2011           350413         CALENDAR 2011 SUMP PUMP CREDIT         SCAPCREDIT         1,800         47.02012           350413         MAINTENANCE WORK FY12B - SE DIVERSION         SCAPCREDIT         400         47.02012           307018         MAINTENANCE WORK FY12B - SE DIVERSION         SCAPCREDIT         400         8/10/2012           307018         HOOK PROPERTY FAMILY DOLLAR         LATEXT         400         8/10/2012	Southeast Diversion	359444	MAINTENANCE WORK FY11A - SE DIVERSION	SCAPCREDIT		12/31/2010	24,000	738,820
276378         TIRE DISCOUNTERS - BARDSTOWN         LATEXT         1,500         56/2011           287888         BEVERAGE WAREHOUSE         LATEXT         1,180         56/30201           201011330         MAINTENANCE WORK FY18 - SE DIVERSION         SCAPCREDIT         400         7/1/2011           296295         MAINTENANCE WORK FY12A - SE DIVERSION         SCAPCREDIT         400         7/1/2011           359345         MAINTENANCE WORK FY12A - SE DIVERSION         SCAPCREDIT         1231/2011         1231/2011           5C1011331         CALENDAR 2011 DOWNSPOUT CREDIT         SCAPCREDIT         1,800         420/2012           5C1011332         MAINTENANCE WORK FY12B - SE DIVERSION         SCAPCREDIT         1,800         420/2012           5C1011316         MAINTENANCE WORK FY12B - SE DIVERSION         SCAPCREDIT         400         8/10/2012           307018         HOOK PROPERTY FAMILY DOLLAR         LATEXT         400         8/10/2012	Southeast Diversion	286513	GARDINER POINT RESIDENCE HALL	LATEXT	10,800	2/16/2011	(23,490)	730,420
287888         BEVERAGE WAREHOUSE         LATEXT         1,180         5902011           SC1011330         MAINTENANCE WORK FY11B - SE DIVERSION         SCAPCREDIT         400         7/1/2011           296235         KEN TOWERY - 3800 S HURSTBOURNE         LAT EXT         400         7/1/2011           359345         MAINTENANCE WORK FY12A - SE DIVERSION         SCAPCREDIT         12/31/2011           SC1011331         CALENDAR 2011 DOWNSPOUT CREDIT         SCAPCREDIT         1/800         1/23/1/2011           SC1011332         MAINTENANCE WORK FY12B - SE DIVERSION         SCAPCREDIT         1/800         4/20/2012           SC1011333         MAINTENANCE WORK FY12B - SE DIVERSION         SCAPCREDIT         1/800         4/20/2012           SC1011334         MAINTENANCE WORK FY12B - SE DIVERSION         SCAPCREDIT         400         8/10/2012           307018         HOOK PRODERTY FAMILY DOLLAR         LAT EXT         400         8/10/2012	Southeast Diversion	276378	TIRE DISCOUNTERS - BARDSTOWN	LATEXT	1,500	5/6/2011	(3,263)	727,157
SC1011330         MAINTENANCE WORK FY11B - SE DIVERSION         SCAPCREDIT         400         7/1/2011           296235         KEN TOWERY - 3800 S HURSTBOURNE         LAT EXT         400         7/1/2011           358359         MAINTENANCE WORK FY12A - SE DIVERSION         SCAPCREDIT         400         7/1/2011           SC1011331         CALENDAR 2011 SUMP PUMP CREDIT         SCAPCREDIT         1/23/1/2011         1/23/1/2011           SC1011333         MAINTENANCE WORK FY12B - SE DIVERSION         SCAPCREDIT         1,800         4/20/2012           SC1011316         MAINTENANCE WORK FY12B - SE DIVERSION         SCAPCREDIT         6/30/2012         6/30/2012           307018         HOOK PROPERTY FAMILY DOLLAR         LAT EXT         400         8/10/2012           34182B         SINGLE FAMILY - 3408 HUNSIGNER         LAT EXT         400         10/11/2012	Southeast Diversion	287888	BEVERAGE WAREHOUSE	LATEXT	1,180	5/30/2011	(2,567)	724,590
296295         KEN TOWERY -3800 S HURSTBOURNE         LAT EXT         400         71/12011           358369         MAINTENANCE WORK FY1ZA - SE DIVERSION         SCAPCREDIT         12/31/2011         12/31/2011           358345         CALENDAR 2011 SUMP PUMP CREDIT         SCAPCREDIT         12/31/2011         12/31/2011           355446         CALENDAR 2011 SUMP PUMP CREDIT         SCAPCREDIT         1/800         12/31/2011           35231         ASSUMPTION SPORTS AND REC CTR         LAT EXT         1,800         4/20/2012           SC1011333         MAINTENANCE WORK FY12B - SE DIVERSION         SCAPCREDIT         6/30/2012           307018         HOOK PROPERTY FAMILY DOLLAR         LAT EXT         400         8/10/2012           341828         SINGLE FAMILY - 3408 HUNSIGNER         LAT EXT         400         10/11/2012	Southeast Diversion	SC1011330	MAINTENANCE WORK FY11B - SE DIVERSION	SCAPCREDIT		6/30/2011	3,661	728,251
359369         MAINTENANCE WORK FY12A - SE DIVERSION         SCAPCREDIT         1281/2011           359445         CALENDAR 2011 SUMP PUMP CREDIT         SCAPCREDIT         12/31/2011           SC1011331         CALENDAR 2011 DOWNSPOUT CREDIT         SCAPCREDIT         1/800         1/231/2011           SC1011332         MAINTENANCE WORK FY12B - SE DIVERSION         SCAPCREDIT         6/30/2012         6/30/2012           SC1011316         MAINTENANCE WORK FY12B - SE DIVERSION         SCAPCREDIT         400         8/10/2012           307018         HOOK PROPERTY FAMILY DOLLAR         LAT EXT         400         10/11/2012	Southeast Diversion	296295	KEN TOWERY -3800 S HURSTBOURNE	LATEXT	400	7/1/2011	(870)	727,381
359445         CALENDAR 2011 SUMP PUMP CREDIT         SCAPCREDIT         1281/2011           SC1011331         CALENDAR 2011 DOWNSPOUT CREDIT         SCAPCREDIT         12031/2011           SC1011333         MAINTENANCE WORK FY12B - SE DIVERSION         SCAPCREDIT         6/30/2012           SC1011316         MAINTENANCE WORK FY12B - SE DIVERSION         SCAPCREDIT         6/30/2012           307018         HOOK PROPERTY FAMILY DOLLAR         LAT EXT         400         8/10/2012           341228         SINGLE FAMILY - 3408 HUNSIGNER         LAT EXT         400         10/11/2012	Southeast Diversion	359359	MAINTENANCE WORK FY12A - SE DIVERSION	SCAPCREDIT		12/31/2011	64,000	804,452
SC1011331         CALENDAR 2011 DOWNSPOUT CREDIT         SCAPCREDIT         1,800         4/20/2012           325231         ASSUMPTION SPORTS AND REC CTR         LAT EXT         1,800         4/20/2012           SC1011333         MAINTENANCE WORK FY12B - SE DIVERSION         SCAPCREDIT         6/30/2012           SC1011316         HOOK PROPERTY FAMILY DOLLAR         LAT EXT         400         8/10/2012           307018         SINGLE FAMILY - 3408 HUNSIGNER         LAT EXT         400         10/11/2012	Southeast Diversion	359445	CALENDAR 2011 SUMP PUMP CREDIT	SCAPCREDIT		12/31/2011	8,000	740,452
326231         ASSUMPTION SPORTS AND REC CTR         LATEXT         1,800         47202012           SC1011333         MAINTENANCE WORK FY12B - SE DIVERSION         SCAPCREDIT         6/30/2012           SC1011316         MAINTENANCE WORK FY12B - SE DIVERSION         SCAPCREDIT         6/30/2012           307018         HOOCK PROPERTY FAMILY DOLLAR         LATEXT         400         8/10/2012           341828         SINGLE FAMILY - 3408 HUNSIGNER         LATEXT         400         10/11/2012	Southeast Diversion	SC1011331	CALENDAR 2011 DOWNSPOUT CREDIT	SCAPCREDIT		12/31/2011	5,071	732,452
SC1011336         MAINTENANCE WORK FY12B - SE DIVERSION         SCAPCREDIT         6/30/2012           SC1011316         MAINTENANCE WORK FY12B - SE DIVERSION         SCAPCREDIT         6/30/2012           307018         HOOK PROPERTY FAMILY DOLLAR         LAT EXT         400         8/10/2012           341828         SINGLE FAMILY - 3408 HUNSIGNER         LAT EXT         400         10/11/2012	Southeast Diversion	325231	ASSUMPTION SPORTS AND REC CTR	LATEXT	1,800	4/20/2012	(3,915)	800,537
SC1011316         MAINTENANCE WORK FY12B - SE DIVERSION         SCAPCREDIT         6/30/2012           307018         HOOK PROPERTY FAMILY DOLLAR         LAT EXT         400         8/10/2012           341828         SINGLE FAMILY - 3408 HUNSIGNER         LAT EXT         400         10/11/2012	Southeast Diversion	SC1011333	MAINTENANCE WORK FY12B - SE DIVERSION	SCAPCREDIT		6/30/2012	6,141	830,880
307018         HOOK PROPERTY FAMILY DOLLAR         LAT EXT         400         8/10/2012           341828         SINGLE FAMILY - 3408 HUNSIGNER         LAT EXT         400         10/11/2012	Southeast Diversion	SC1011316	MAINTENANCE WORK FY12B - SE DIVERSION	SCAPCREDIT		6/30/2012	24,202	824,739
341828 SINGLE FAMILY - 3408 HUNSIGNER LAT EXT 400 10/11/2012	Southeast Diversion	307018	HOOK PROPERTY FAMILY DOLLAR	LATEXT	400	8/10/2012	(870)	830,010
	Southeast Diversion	341828	SINGLE FAMILY - 3408 HUNSIGNER	LATEXT	400	10/11/2012	(870)	829,140



CREDIT BASIN	APPLICATION	APPLICATION NAME	TYPE	FLOW (GAL/	RELEASE	APPROVED CREDIT REQUIRED OR	RUNNING TOTAL
	0			) lead	aled organica		(SALIDAT)
Southeast Diversion	359446	CALENDAR 2012 SUMP PUMP CREDIT	SCAPCREUII		72/31/2012	4,000	925,342
Southeast Diversion	359361	MAINTENANCE WORK FY13A - SE DIVERSION	SCAPCREDIT		12/31/2012	68,000	921,342
Southeast Diversion	14SC1006	CALENDAR 2012 DOWNSPOUT CREDIT	SCAPCREDIT		12/31/2012	24,202	853,342
Southeast Diversion	187741	BROOKSTONE SENIOR APARTMENTS	LATEXT	16,800	3/11/2013	(36,540)	888,802
Southeast Diversion	359068	SINGLE FAMILY 2233 BEARGRASS	LATEXT	400	4/22/2013	(870)	887,932
Southeast Diversion	355163	ZOELLER APARTMENTS LOT 1	LATEXT	2,300	5/15/2013	(6,003)	882,929
Southeast Diversion	232601	RAINTREE/MARIAN CT P/S ELIM	LATEXT	105,800	6/14/2013	(230,115)	652,814
Southeast Diversion	SC1082605	MAINTENANCE WORK FY13 JAN-JUN-SOUTHEAST DIVERSION	SCAPCREDIT		6/30/2013	21,761	674,575
Southeast Diversion	13LE1052	BACHMAN PRE-OWNED CAR DEALERSHIP	LATEXT	845	8/22/2013	(1,838)	672,737
Southeast Diversion	SC1005539	CONTRACTED WORK FY13 - SOUTHEAST DIVERSION	SCAPCREDIT		9/18/2013	25,344	698,081
Southeast Diversion	13LE1041	RESTAURANT/RETAIL AT 2131 HURSTBOURNE PKWY	LATEXT	1,920	9/20/2013	(4,176)	693,905
Southeast Diversion	330437	COLLEGIATE ATHLETIC FIELD	LATEXT	800	11/26/2013	(1,740)	692,165
Southeast Diversion	SC1082606	MAINTENANCE WORK FY14 JUL-DEC-SOUTHEAST DIVERSION	SCAPCREDIT		12/30/2013	19,491	711,656
Southeast Diversion	SC1082607	MAINTENANCE WORK FY14 JAN-JUN-SOUTHEAST DIVERSION	SCAPCREDIT		6/30/2014	9,087	720,743
Southeast Diversion	14LE1156	Copper Chase Business Park, Phase	LATEXT	840	12/29/2014	(1,827)	718,916
Southeast Diversion	SC1082608	MAINTENANCE WORK FY15 JUL-DEC-SOUTHEAST DIVERSION	SCAPCREDIT		12/30/2014	15,321	734,237
Southeast Diversion	SC1006185	CONTRACTED WORK FY14 - SOUTHEAST DIVERSION	SCAPCREDIT		2/11/2015	187,478	921,715
Southeast Diversion	LE939900	Thorntons - 4154 Bardstown Road	LATEXT	1,000	5/14/2015	(2,175)	919,540
Southeast Diversion	SC1082610	MAINTENANCE WORK FY15 JAN-JUN-SOUTHEAST DIVERSION	SCAPCREDIT		6/30/2015	10,273	928,943
Southeast Diversion	LE932083	Commercial Shell Bldg Addition	LATEXT	400	6/30/2015	(870)	918,670
Southeast Diversion	SC1006199	CONTRACTED WORK FY15 - SOUTHEAST DIVERSION	SCAPCREDIT		10/20/2015	1	928,944
Southeast Diversion	LE919560	Todd's Place Express Car Wash	LATEXT	4,830	12/22/2015	(10,505)	918,439
Southeast Diversion	SC1082611	MAINTENANCE WORK FY16 JUL-DEC-SOUTHEAST DIVERSION	SCAPCREDIT		12/30/2015	7,052	925,491
Southeast Diversion	LE948013	Unspecified Commercial Development	LATEXT	2,620	1/8/2016	(669'9)	919,792
Southeast Diversion	SC1003718	FY16 FSOUTHEAST DIVERSION AREA G (SEDG) I/I REHAB	SCAPCREDIT		2/16/2016	75,998	995,790
Southeast Diversion	14LE1110	Bosniak-American Islamic Center	LATEXT	1,100	4/4/2016	(2,393)	993,397
Southeast Diversion	SC1003704	CONTRACTED WORK FY16 - SOUTHEAST DIVERSION	SCAPCREDIT		5/24/2016	99	993,463
Southeast Diversion	SC1082612	MAINTENANCE WORK FY16 JAN-JUN-SOUTHEAST DIVERSION	SCAPCREDIT		6/30/2016	19,904	1,013,367
Southeast Diversion	LE943171	Costco Wholesale and Fuel Facility	LATEXT	8,000	7/28/2016	(17,400)	995,967
Southeast Diversion	SC1082613	MAINTENANCE WORK FY17 JUL-DEC-SOUTHEAST DIVERSION	SCAPCREDIT		12/30/2016	5,812	1,001,779
Southeast Diversion	LE967621	Chick-fil-A FSU #	LATEXT	1,500	1/6/2017	(3,263)	998,516
Southeast Diversion	SC1082614	MAINTENANCE WORK FY17 JAN-JUN-SOUTHEAST DIVERSION	SCAPCREDIT		6/30/2017	6,961	1,005,477
Southeast Diversion	LE1019576	Bachman Subaru Dealership	LATEXT	489	7/18/2017	(1,064)	1,004,413
Southeast Diversion	LE1030200	Wingate Hotel Pool	LATEXT	400	8/10/2017	(870)	1,003,543
Southeast Diversion	SC1082615	MAINTENANCE WORK FY18 JUL-DEC-SOUTHEAST DIVERSION	SCAPCREDIT		12/30/2017	14,909	1,018,452
Southeast Diversion	LE1031137	Collins Body Shop Expansion	LATEXT	400	3/9/2018	(870)	1,017,582
Southeast Diversion	LE1002002	ALDI #39	LATEXT	400	3/15/2018	(870)	1,016,712
Southeast Diversion	LE1039341	Silver Creek Place Apartments	LATEXT	7,200	4/9/2018	(15,660)	1,001,052

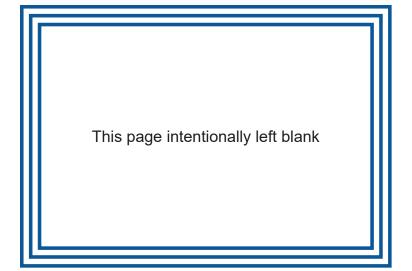


CREDIT BASIN	APPLICATION	APPLICATION NAME	TYPE	FLOW (GAL/ DAY)	RELEASE DATE	APPROVED CREDIT REQUIRED OR FLOW REDUCTION (GAL/DAY)	RUNNING TOTAL (GAL/DAY)
Southeast Diversion	LE1046691	Crown Packaging	LATEXT	400	4/18/2018	(870)	1,000,182
Southeast Diversion	LE1061616	Bob Hook Chevrolet	LATEXT	400	6/4/2018	(870)	999,312
Southeast Diversion	LE1068750	Nicklies Paragon Centre - Corporate Office Additio	LATEXT	3,040	1/10/2019	(6,612)	992,700
Southeast Diversion	SC1107193	CONTRACTED WORK FY19 - SOUTHEAST DIVERSION	SCAPCREDIT		8/30/2019	15,760	1,008,460
Southeast Diversion	SC1107192	FY18 SOUATHEAST DIVERSION AREA F (SEDF)	SCAPCREDIT		9/12/2019	1,617,410	2,625,870
Southeast Diversion	LE1102994	Honda World - building expansion	LATEXT	400	1/17/2020	(870)	2,625,000
Southeast Diversion	LE1074909	Bardstown Road Storage	LATEXT	400	7/29/2020	(870)	2,624,130
Southeast Diversion	LE1104178	DRAKES RESTAURANT	LATEXT	3,000	1/4/2021	(6,525)	2,617,605
Southeast Diversion	LE1104275	FKC WATTERSON DIALYSIS	LATEXT	6,180	1/5/2021	(13,442)	2,604,163
Southeast Diversion	SC1107199	FY20 NIGHTINGALE (SEDC) REHABILITATION	SCAPCREDIT		9/2/2021	739,758	3,343,921
Southeast Diversion	LE1054201	9603 Watterson Trail	LATEXT	400	11/22/2021	(870)	3,343,051
Southeast Diversion							3,343,051



APPENDIX N

FY23 ASSET MANAGEMENT PROGRAM COSTS





BUDGET ID	PROJECT NAME	ACTUAL Expenditures
A14129	Gorham Way Pump Station Elimination	\$0
A21241	26th Street Sewer Repair Emergency	\$0
A22183	15th St Emergency Sewer Repair	\$2,239,326
A22195	PS Action Plan Evaluation	\$35,165
A23070	I&I Rehabilitation and PSC Program Support	\$1,251,712
A23211	Concrete Repairs at DRG Dewatering Bldg	\$0
A23219	Cedar Forest PS Elimination Excess Cost	\$132,768
C22028	Lower Floyds Fork Facilities Plan	\$62,913
D15024	MFWQTC Chiller Replacement	\$740
D18090	CCWQTC Solids Dewatering Facility	\$94,436
D18132	DRGWQTC WWPS & WWSB Rehabilitation	\$114,750
D18285	ORFM Odor and Corrosion Control	\$0
D18292	DRGWQTC Clarifier Grout Repair and RAS Gate Replacement	\$0
D18489	Fairmount Road Pump Station Force Main Extension - Phase 1	\$12,917
D19039	CCWQTC Effluent Parshall Flume Upgrade	\$5,110
D19130	FY23 MFWQTC Equipment RR	\$762,888
D19286	SWPS Gas Monitoring and SP1 Odor Control	\$661,382
D20007	Peabody Gate Structure Rehabilitation	\$0
D20008	Kirby Lane Pump Station Elimination	\$96,855
D20012	SGC RTC Enhancements	\$181,465
D20017	CCWQTC Sodium Aluminate Building	\$0
D20148	FFWQTC Regional Facilities Plan Update	\$158,839
D20149	CCWQTC Admin Building Expansion	\$60,212
D20223	Bells Lane WWTF Polymer Dosing System Updates	\$112,585
D20224	Bells Lane Disinfection System Upgrades	\$181,823
D20304	MFWQTC Headworks and Dumpster Building Repairs and Primary Blower Building Stair Repairs	\$1,406
D20314	MFWQTC Sewer and Manhole Condition Assessment and Repair	\$0
D20351	Floyds Fork Interceptor	\$2,149,362
D21059	Asset Management Plan Development	\$1,569,618
D21063	Odor Management Plan	\$307,518
D21079	Fairmount Road Pump Station Force Main Extension - Phase 2 Ph. 2&3	\$225,771
D21097	FY23 Regional WQTC Equipment RR	\$619,741
D21129	DRGWQTC Elevator Repairs	\$1,587
D21208	MFWQTC Administration Building Exterior Repairs	\$1,315
D21222	DRGWQTC Grit Handling Building Roof Replacement	\$180,176
D21223	HCWQTC Grit Building Roof Replacement	\$2,992
D21224	DRGWQTC Sodium Hypochlorite and Process Water Buildings Roof Replacement	\$3,510



BUDGET ID	PROJECT NAME	ACTUAL Expenditures
D21230	DRG RAS Pumps 2 and 3 Replacement	\$45,065
D21233	MFWQTC MEB Roof Replacement	\$1,703,871
D21237	MFWQTC Secondary Clarifiers Assessment	\$51,216
D21239	MFWQTC Groundwater Wells Assistance	\$73,913
D21242	DRGWQTC Lab Upgrade	\$290,007
D21247	MFWQTC MEB HVAC Replacement	\$215,817
D22041	District Wide High Voltage Maintenance Program	\$2,815
D22042	FFWQTC Power Factor Correction	\$51,601
D22080	DRG Clarifier 4-6 Mechanism Update	\$117,612
D22098	CCWQTC Re-rating to 9_0 MGD	\$269,541
D22102	MFWQTC Centrifuge Repair	\$82,224
D22122	MFWQTC MEB Boiler Replacement	\$280,838
D22175	HCWQTC Spare Parts Pole Barn	\$105,700
D22178	SWPS Bar Screen Evaluation	\$42,430
D22186	MFWQTC Computer Room Upgrades	\$109,113
D22187	FFWQTC Tertiary Treatment Bldgs Roof Replacement	\$10,585
D22211	MFWQTC Secondary Improvements (Design Definition Memorandum)	\$524,592
D22213	CCWQTC Tertiary Filtration	\$367,122
D23082	Odor Sampling Master Plan	\$0
D23159	CCWQTC Maintenance Offices Roof Replacement	\$39,339
D23160	CCWQTC Roof Repairs	\$30,035
D23161	DRGWQTC Clarifier MCC and Grit Electric MCC Buildings Roof Replacement	\$29,200
D23162	DRGWQTC Grit Electric MCC Building Roof Replacement	\$29,200
D23163	DRGWQTC Roof Repais	\$97,038
D23165	HCWQTC Aeration Blower Buildings, Sec 1 & 2 Roof Replacement	\$0
D23166	MFWQTC Activated Sludge Building Roof Replacement	\$21,111
D23167	MFWQTC Dechlorination Building Roof Replacement	\$23,450
D23168	MFWQTC Odor Control Chemical Storage Building Roof Replacement	\$40,450
D23194	MFWQTC Emergency Elevator Project	\$661
E15035	Lake Forest Pump Station Eliminations	\$369,811
E18094	FY23 CMOM Infrastructure Rehabilitation Program	\$2,982,417
E18470	FY23 CMOM Collection System Pump Rehab & Replacement	\$680,699
E19213	FY22 Operations Renewal and Replacement	\$175,594
E21062	Modesto Pump Station Elimination	\$360,024
E21066	Pirogue Court Pump Station Elimination	\$0
E21070	Rosa Terrace PS Elimination	\$2,917,439
E21071	Wathen Lane PS Rehabilitation	\$256,723



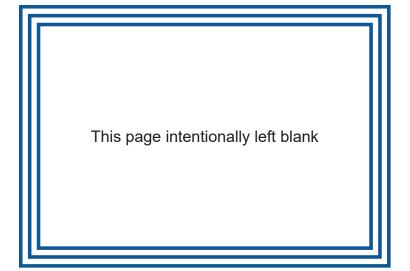
BUDGET ID	PROJECT NAME	ACTUAL Expenditures
E21090	Sonne Avenue PS Elimination	\$2,684,894
E21091	Sanders Lane PS Rehabilitation	\$469,337
E22116	South Shelby St Sanitary Sewer Improvements	\$20,962
E22223	Lantana Drive PS No 1 Elimination	\$127,101
E23064	34th St CSO Emergency	\$1,126,482
E23172	Liberty Street Emergency Sewer Repair	\$2,458,969
F20107	Starkey FPS Electrical Service Improvements	\$0
F20321	Bluegrass Fields PS Renovation	\$40,456
F21153	SWPS Influent Gate Seal Replacement	\$20,532
F21202	SGC Gate 1 Repair	\$0
F23052	Flood Gate 114 Replacement	\$0
G18147	Admiral Rd Pump Station Improvements	\$0
G18417	MFWQTC Admin Building Roof Replacement	-\$6,239
G19033	FY23 Operations Renewal and Replacement	\$165,828
G20018	SWPS Site Security	\$667,815
G20028	MFWQTC Elevator Repair	\$399,888
G21231	FY21 WQTC and FPS Roof Assessments	\$11,628
G22001	FY22 Renewal and Replacement	\$1,158,607
G23001	FY23 Renewal and Replacement	\$4,478,511
G23021	CMF Inventory Management System	\$0
G23086	McNeely Lake PS Elimination Excess Cost	\$0
H09215	FY22 CMOM Infrastructure Rehabilitation	\$299,449
H14126	HCWQTC Expansion	\$1,330,276
H19002	FY23 Plumbing Modification Program	\$199,562
H19005	FY23 NMC Support	\$29,907
H19019	FY23 CMOM SCAP AAM FOG	\$121,166
H19116	FY22 NMC RTC	-\$48
H19132	FY23 NMC RTC	\$437,109
H20021	Admiral Rd Force Main	\$97,125
H20050	FY23 NMC CSO Inspection Cameras	\$0
H20058	FY23 CMOM I and C Implementation	\$80,501
H20063	FY22 CMOM Gravity Line Cleaning and Inspection	-\$46,289
H20064	FY23 CMOM Gravity Line Cleaning and Inspection	\$1,587,228
H22009	FY22 WQTC Engineering Support	\$8,861
H22014	MFWQTC Groundwater Dewatering System Automation	\$18,204
H22017	Regional Biosolids Management Study	\$633,223
H22018	CCWQTC Sludge Storage Tank Improvements	\$2,166,631
H22020	MFWQTC Admin Bldg Renovation and Computer Room Expansion Assessment	\$46,890
H22022	SGC Gate Replacements	\$5,981,108



BUDGET ID	PROJECT NAME	ACTUAL Expenditures
H22032	DRGWQTC Sodium Bisulfite Bldg Improvements	\$288,357
H22033	Park DuVall Trap Catch Basin Rehab	\$99,685
H22038	Sneads Branch Pump Replacement	\$478,120
H22086	Floyds Fork and Ohio River Condition Assessment	\$482,329
H23013	Beargrass Interceptor Relief Rehab	\$0
H23016	California Neighborhood Trap Catch Basin Rehab	\$0
H23018	Cedar Creek Main Interceptor	\$0
H23033	FY23 WQTC Engineering Support	\$56,451
H23039	Middletown Station PS Elimination	\$151,810
H23041	Olde Copper Ct PS Elimination	\$51,680
H23043	Parkwood PS Elimination	\$131,392
H23048	SWPS Screen Replacement	\$0
H23050	WQTC Regional Lab Upgrade	\$188,695
H23175	California Maple St Trap Catch Basin Rehab	\$0
H23179	CSO 140 Outfall Reconstruction	\$0
Total		\$52,370,329



### APPENDIX O CSO 108 SEMI-ANNUAL REPORTS







January 30, 2023

Josh Lillpop Natural Areas Branch Manager Office of Kentucky Nature Preserves Kentucky Energy and Environment Cabinet 300 Sower Boulevard, 4th Floor Frankfort, KY 40601

Subject: CSO108 Semi-Annual Report #29

Dear Mr. Lillpop,

As required in Paragraph #2 of the document titled "Memorandum of Understanding by and between the Commonwealth of Kentucky, Office of Kentucky Nature Preserves ad the Louisville and Jefferson County Metropolitan Sewer District", MSD submits to you the MOU Semi-Annual Report #29. This report summarizes activities at the CSO108 CDS Site during the reporting period of June 1, 2022 to December 31, 2022.

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

Sincerely,

Heather Dodds, PE

Heather Dods

Regulatory Compliance & Asset Management Administrator



MOU SEMI-ANNUAL REPORT 29 JUNE 1, 2022 - DECEMBER 31, 2022



#### INTRODUCTION

The Louisville and Jefferson County Metropolitan Sewer District (MSD) has entered into a Memorandum of Understanding (MOU) with the Kentucky State Nature Preserve Commission (Commission). The MOU was signed by MSD on July 31, 2018, and by the Commission on August 10, 2018. This MOU is effective for the period starting August 1, 2018, and ending on August 1, 2028.

This is the 29th Semi-Annual Report submitted in accordance with Paragraph 2 of the MOU. This report covers the time period of June 1, 2022 to December 31, 2022.

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

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

### 1. PARAGRQAPH #2 OF THE MOU

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

#### 2. MSD Response

This document is the 29th semi-annual report to the Commission since the completion of the Project. Appendix A shows photos of the area around the CDS unit and South Fork Beargrass Creek during the reporting period.

### 2.1. CLEANING & INSPECTION ACTIVITIES

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

### 2.2. MAINTENANCE ACTIVITIES

In addition to the weekly inspections, MSD has initiated a preventative maintenance program to insure that the CDS unit and respective pumps are performing optimally. During these quarterly preventative maintenance activities, MSD staff also cleans the CDS unit and rack bars, washing the debris into the interceptor. The CDS Table 1. CSO108 CDS Unit Debris Removal

ACTIVITY	QUANTITY	COMMENTS	COMPLETED DATE
DEBRIS	UNKNOWN	CLEANED MEDIUM DEBRIS OFF RACK BARS D NORTHINGTON LAW	10/18/2022
DEBRIS	UNKNOWN	CLEANED MEDIUM DEBRIS FROM RACK BARS NORTHINGTON BRITTLE	11/29/2022
DEBRIS	UNKNOWN	CLEANED LIGHT DEBRIS OFF RACK BARS MCKENNA BRITTLE	12/6/2022

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Unit's pumps are removed from the facility twice yearly to more closely inspect and to perform any needed maintenance. During the reporting period, MSD completed replacement of two of the pumps.

### 2.3. CAPTURED FLOW

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

In an effort to estimate the volume of debris captured by the CDS unit and kept within the sewer system, a study of the efficiency of the unit was performed in early 2002. The results of the study indicated that the concentration of solids kept within the sewer system was approximately 1ml/l. Using pump run times and knowing the efficiency of the pumps, MSD was able to determine a volume of solids captured by the CDS technology. MSD estimates that the CDS unit captured approximately 72.5 tons of solids during the reporting period based on available data. Due to the low capture rate reported during the previous reporting period period, MSD investigated the telemetry equipment and calculations and found that a change was made to the PLC programming on January 26, 2002, that required a change in the calculation of the volume estimate. The revised volume estimate for the previous reporting period is 13.4 tons, and the corrected data is reported in the appendix. Appendix B lists the pump run times and Appendix C shows the calculations MSD used to determine the amount of debris captured by the CDS Unit and sent to the Morris Forman WQTC for treatment.

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**APPENDIX A** 

PHOTOS OF AREA ADJACENT TO CSO108 AND THE CDS UNIT (DATED JANUARY 23, 2023)





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APPENDIX B

**CDS UNIT PUMP RUN TIMES** 





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DATE	PUMP 1 RUN HOURS	PUMP 2 RUN HOURS	PUMP 3 RUN HOURS
July 1, 2022	0.00	0.00	0.05
July 2, 2022	0.00	0.00	0.00
July 3, 2022	0.00	0.00	0.00
July 4, 2022	0.00	0.00	0.00
July 5, 2022	0.00	0.00	0.05
July 6, 2022	0.00	0.00	0.00
July 7, 2022	0.00	0.00	0.00
July 8, 2022	0.00	0.00	0.00
July 9, 2022	0.00	0.00	0.05
July 10, 2022	0.00	0.00	0.17
July 11, 2022	0.00	0.00	0.03
July 12, 2022	0.00	0.00	0.00
July 13, 2022	0.00	0.00	0.00
July 14, 2022	0.00	0.00	0.05
July 15, 2022	0.00	0.00	0.00
July 16, 2022	0.00	0.00	0.00
July 17, 2022	0.00	0.00	0.00
July 18, 2022	0.00	0.00	0.05
July 19, 2022	0.00	0.00	0.00
July 20, 2022	0.00	0.00	0.18
July 21, 2022	0.00	0.00	0.00
July 22, 2022	0.00	0.00	0.00
July 23, 2022	0.00	0.00	0.00
July 24, 2022	0.00	0.00	0.00
July 25, 2022	0.00	0.00	0.00
July 26, 2022	0.00	0.00	0.00
July 27, 2022	0.00	0.00	0.05
July 28, 2022	0.00	0.00	0.12
July 29, 2022	0.00	0.00	0.00
July 30, 2022	0.12	0.25	0.62
July 31, 2022	0.00	0.00	0.08
August 1, 2022	0.00	0.00	0.03
August 2, 2022	0.02	0.15	1.47
August 3, 2022	0.00	0.00	0.08
August 4, 2022	0.00	0.00	0.00
August 5, 2022	0.00	0.00	0.05
August 6, 2022	0.00	0.00	0.00
August 7, 2022	0.00	0.00	0.00
August 8, 2022	0.00	0.00	0.03
August 9, 2022	0.00	0.00	0.00

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DATE	PUMP 1 RUN HOURS	PUMP 2 RUN HOURS	PUMP 3 RUN HOURS
August 10, 2022	0.00	0.00	0.00
August 11, 2022	0.00	0.00	0.05
August 12, 2022	0.15	0.25	9.52
August 13, 2022	0.00	0.00	24.00
August 14, 2022	0.00	0.00	24.00
August 15, 2022	0.00	0.00	24.00
August 16, 2022	0.00	0.00	24.00
August 17, 2022	0.00	0.00	9.37
August 18, 2022	0.00	0.00	0.28
August 19, 2022	0.00	0.00	0.00
August 20, 2022	0.00	0.00	0.00
August 21, 2022	0.00	0.00	0.00
August 22, 2022	0.00	0.00	0.00
August 23, 2022	0.00	0.00	0.00
August 24, 2022	0.00	0.00	0.00
August 25, 2022	0.00	0.00	0.00
August 26, 2022	0.00	0.00	0.00
August 27, 2022	0.00	0.00	0.00
August 28, 2022	0.00	0.00	0.05
August 29, 2022	0.00	0.00	0.00
August 30, 2022	0.00	0.00	0.00
August 31, 2022	0.00	0.00	0.03
September 1, 2022	0.00	0.00	0.10
September 2, 2022	0.00	0.00	0.00
September 3, 2022	0.00	0.00	0.03
September 4, 2022	0.00	0.00	0.00
September 5, 2022	0.00	0.00	0.23
September 6, 2022	0.00	0.00	0.05
September 7, 2022	0.00	0.00	0.00
September 8, 2022	0.02	0.00	0.03
September 9, 2022	0.00	0.00	0.05
September 10, 2022	0.00	0.00	0.00
September 11, 2022	0.00	0.00	0.03
September 12, 2022	0.00	0.00	0.00
September 13, 2022	0.00	0.00	0.00
September 14, 2022	0.00	0.00	0.00
September 15, 2022	0.00	0.00	0.05
September 16, 2022	0.00	0.00	0.00
September 17, 2022	0.00	0.00	0.05
September 18, 2022	0.00	0.00	0.00

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DATE	PUMP 1 RUN HOURS	PUMP 2 RUN HOURS	PUMP 3 RUN HOURS
September 19, 2022	0.00	0.00	0.00
September 20, 2022	0.00	0.00	0.00
September 21, 2022	0.00	0.00	0.03
September 22, 2022	0.00	0.00	0.00
September 23, 2022	0.00	0.00	0.00
September 24, 2022	0.00	0.00	0.00
September 25, 2022	0.00	0.00	0.00
September 26, 2022	0.00	0.00	0.05
September 27, 2022	0.00	0.00	0.00
September 28, 2022	0.00	0.00	0.00
September 29, 2022	0.00	0.00	0.00
September 30, 2022	0.00	0.00	0.03
October 1, 2022	0.00	0.00	0.00
October 2, 2022	0.00	0.00	0.00
October 3, 2022	0.00	0.00	0.00
October 4, 2022	0.00	0.00	0.00
October 5, 2022	0.00	0.00	0.05
October 6, 2022	0.00	0.00	0.00
October 7, 2022	0.00	0.00	0.00
October 8, 2022	0.00	0.00	0.00
October 9, 2022	0.00	0.00	0.00
October 10, 2022	0.00	0.00	0.05
October 11, 2022	0.00	0.00	0.00
October 12, 2022	0.00	0.00	0.00
October 13, 2022	0.00	0.00	0.00
October 14, 2022	0.00	0.00	0.00
October 15, 2022	0.00	0.00	0.03
October 16, 2022	0.00	0.00	0.00
October 17, 2022	0.00	0.00	0.00
October 18, 2022	0.00	0.00	0.00
October 19, 2022	0.00	0.00	0.05
October 20, 2022	0.00	0.00	0.00
October 21, 2022	0.00	0.00	0.00
October 22, 2022	0.00	0.00	0.00
October 23, 2022	0.00	0.00	0.17
October 24, 2022	0.00	0.00	0.00
October 25, 2022	0.00	0.00	0.00
October 26, 2022	0.00	0.00	0.05
October 27, 2022	0.00	0.00	0.00
October 28, 2022	0.00	0.00	0.00

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### MOU SEMI-ANNUAL REPORT 29 JUNE 1, 2022 - DECEMBER 31, 2022



DATE	PUMP 1 RUN HOURS	PUMP 2 RUN HOURS	PUMP 3 RUN HOURS
October 29, 2022	0.00	0.00	0.00
October 30, 2022	0.00	0.00	0.00
October 31, 2022	0.00	0.00	0.00
November 1, 2022	0.00	0.00	0.00
November 2, 2022	0.00	0.00	0.05
November 3, 2022	0.00	0.00	0.00
November 4, 2022	0.00	0.00	0.03
November 5, 2022	0.00	0.00	0.00
November 6, 2022	0.00	0.00	0.00
November 7, 2022	0.00	0.00	0.00
November 8, 2022	0.00	0.00	0.00
November 9, 2022	0.00	0.00	0.07
November 10, 2022	0.00	0.00	0.00
November 11, 2022	0.00	0.00	0.00
November 12, 2022	0.00	0.00	0.03
November 13, 2022	0.00	0.00	0.05
November 14, 2022	0.00	0.00	0.00
November 15, 2022	0.00	0.00	0.03
November 16, 2022	0.00	0.00	0.00
November 17, 2022	0.00	0.00	0.00
November 18, 2022	0.00	0.00	0.00
November 19, 2022	0.00	0.00	0.00
November 20, 2022	0.00	0.00	0.05
November 21, 2022	0.00	0.00	0.00
November 22, 2022	0.00	0.00	0.00
November 23, 2022	0.00	0.00	0.00
November 24, 2022	0.00	0.00	0.00
November 25, 2022	0.00	0.00	0.05
November 26, 2022	0.00	0.00	0.00
November 27, 2022	0.00	0.00	0.00
November 28, 2022	0.00	0.00	0.00
November 29, 2022	0.00	0.00	0.00
November 30, 2022	0.00	0.00	0.03
December 1, 2022	0.00	0.00	0.00
December 2, 2022	0.00	0.00	0.00
December 3, 2022	0.00	0.00	0.05
December 4, 2022	0.00	0.00	0.00
December 5, 2022	0.00	0.00	0.00
December 6, 2022	0.00	0.00	0.00
December 7, 2022	0.00	0.00	0.00

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DATE	PUMP 1 RUN HOURS	PUMP 2 RUN HOURS	PUMP 3 RUN HOURS
December 8, 2022	0.00	0.00	0.08
December 9, 2022	0.00	0.00	0.03
December 10, 2022	0.00	0.00	0.10
December 11, 2022	0.00	0.00	0.00
December 12, 2022	0.00	0.00	0.00
December 13, 2022	0.00	0.00	0.00
December 14, 2022	0.00	0.00	0.03
December 15, 2022	0.00	0.00	0.13
December 16, 2022	0.00	0.00	0.17
December 17, 2022	0.00	0.00	0.08
December 18, 2022	0.00	0.00	0.00
December 19, 2022	0.00	0.00	0.00
December 20, 2022	0.00	0.00	0.05
December 21, 2022	0.00	0.00	0.00
December 22, 2022	0.00	0.00	0.00
December 23, 2022	0.00	0.00	0.00
December 24, 2022	0.00	0.00	0.00
December 25, 2022	0.00	0.00	0.00
December 26, 2022	0.00	0.00	0.00
December 27, 2022	0.00	0.00	0.00
December 28, 2022	0.00	0.00	0.00
December 29, 2022	0.00	0.00	0.05
December 30, 2022	0.00	0.00	0.00
December 31, 2022	0.00	0.00	0.00

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**APPENDIX C** 

**CSO108 Underflow Pump Flow Meter Data** 





### MOU SEMI-ANNUAL REPORT 29 JUNE 1, 2022 - DECEMBER 31, 2022

DATE	DAILY VOLUME (MG)	DAILY VOLUME (CF)	DAILY VOLUME (GAL)	DAILY VOLUME DEBRIS (GAL)
January 1, 2022	1	190,609	1,425,856	1,426
January 2, 2022	0	17,688	132,317	132
January 3, 2022	0	6,743	50,441	50
January 4, 2022	0	4,146	31,016	31
January 5, 2022	0	3,192	23,881	24
January 6, 2022	0	2,656	19,865	20
January 7, 2022	0	1,623	12,144	12
January 8, 2022	0	1,656	12,386	12
January 9, 2022	0	947	7,082	7
January 10, 2022	0	19,335	144,639	145
January 11, 2022	0	4,733	35,408	35
January 12, 2022	0	3,445	25,769	26
January 13, 2022	0	3,387	25,338	25
January 14, 2022	0	2,147	16,062	16
January 15, 2022	0	1,978	14,799	15
January 16, 2022	0	818	6,122	6
January 17, 2022	0	872	6,526	7
January 18, 2022	0	936	7,003	7
January 19, 2022	0	174	1,304	1
January 20, 2022	0	768	5,742	6
January 21, 2022	0	939	7,026	7
January 22, 2022	0	349	2,614	3
January 23, 2022	0	950	7,105	7
January 24, 2022	0	251	1,877	2
January 25, 2022	0	2,509	18,765	19
January 26, 2022	0	2	17	0
January 27, 2022	-	0	0	0
January 28, 2022	-	0	0	0
January 29, 2022	-	0	0	0
January 30, 2022	-	0	0	0
January 31, 2022	-	0	0	0
February 1, 2022	-	0	0	0
February 2, 2022	-	0	0	0
February 3, 2022	-	0	0	0
February 4, 2022	0	688	5,145	5
February 5, 2022	-	0	0	0
February 6, 2022	0	670	5,014	5
February 7, 2022	-	0	0	0
February 8, 2022	-	0	0	0

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### MOU SEMI-ANNUAL REPORT 29 JUNE 1, 2022 - DECEMBER 31, 2022



2000				
DATE	DAILY VOLUME (MG)	DAILY VOLUME (CF)	DAILY VOLUME (GAL)	DAILY VOLUME DEBRIS (GAL)
February 9, 2022	-	0	0	0
February 10, 2022	-	0	0	0
February 11, 2022	-	0	0	0
February 12, 2022	-	0	0	0
February 13, 2022	-	0	0	0
February 14, 2022	-	0	0	0
February 15, 2022	-	0	0	0
February 16, 2022	-	0	0	0
February 17, 2022	-	0	0	0
February 18, 2022	0	48	356	0
February 19, 2022	-	0	0	0
February 20, 2022	0	608	4,546	5
February 21, 2022	-	0	0	0
February 22, 2022	-	0	0	0
February 23, 2022	-	0	0	0
February 24, 2022	-	0	0	0
February 25, 2022	-	0	0	0
February 26, 2022	-	0	0	0
February 27, 2022	-	0	0	0
February 28, 2022	-	0	0	0
March 1, 2022	-	0	0	0
March 2, 2022	-	0	0	0
March 3, 2022	-	0	0	0
March 4, 2022	-	0	0	0
March 5, 2022	-	0	0	0
March 6, 2022	-	0	0	0
March 7, 2022	-	0	0	0
March 8, 2022	-	0	0	0
March 9, 2022	-	0	0	0
March 10, 2022	-	0	0	0
March 11, 2022	-	0	0	0
March 12, 2022	-	0	0	0
March 13, 2022	-	0	0	0
March 14, 2022	0	1,309	9,791	10
March 15, 2022	0	686	5,131	5
March 16, 2022	0	618	4,625	5
March 17, 2022	-	0	0	0
March 18, 2022	0	680	5,085	5
March 19, 2022	-	0	0	0

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DATE	DAILY VOLUME (MG)	DAILY VOLUME (CF)	DAILY VOLUME (GAL)	DAILY VOLUME DEBRIS (GAL)
March 20, 2022	0	645	4,823	5
March 21, 2022	-	0	0	0
March 22, 2022	0	637	4,762	5
March 23, 2022	-	0	0	0
March 24, 2022	-	0	0	0
March 25, 2022	0	640	4,787	5
March 26, 2022	-	0	0	0
March 27, 2022	-	0	0	0
March 28, 2022	0	583	4,362	4
March 29, 2022	-	0	0	0
March 30, 2022	-	0	0	0
March 31, 2022	-	0	0	0
April 1, 2022	-	0	0	0
April 2, 2022	-	0	0	0
April 3, 2022	-	0	0	0
April 4, 2022	-	0	0	0
April 5, 2022	-	0	0	0
April 6, 2022	-	0	0	0
April 7, 2022	-	0	0	0
April 8, 2022	-	0	0	0
April 9, 2022	-	0	0	0
April 10, 2022	-	0	0	0
April 11, 2022	-	0	0	0
April 12, 2022	-	0	0	0
April 13, 2022	-	0	0	0
April 14, 2022	-	0	0	0
April 15, 2022	-	0	0	0
April 16, 2022	-	0	0	0
April 17, 2022	-	0	0	0
April 18, 2022	-	0	0	0
April 19, 2022	-	0	0	0
April 20, 2022	-	0	0	0
April 21, 2022	-	0	0	0
April 22, 2022	-	0	0	0
April 23, 2022	-	0	0	0
April 24, 2022	0	1,298	9,708	10
April 25, 2022	0	1,265	9,459	9
April 26, 2022	0	1,292	9,663	10
April 27, 2022	0	650	4,860	5

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DATE	DAILY VOLUME	DAILY VOLUME	DAILY VOLUME	DAILY VOLUME
DAIL	(MG)	(CF)	(GAL)	DEBRIS (GAL)
April 28, 2022	0	654	4,891	5
April 29, 2022	-	0	0	0
April 30, 2022	0	1,372	10,261	10
May 1, 2022	-	0	0	0
May 2, 2022	-	0	0	0
May 3, 2022	-	0	0	0
May 4, 2022	0	651	4,871	5
May 5, 2022	-	0	0	0
May 6, 2022	-	0	0	0
May 7, 2022	0	649	4,851	5
May 8, 2022	-	0	0	0
May 9, 2022	0	603	4,508	5
May 10, 2022	-	0	0	0
May 11, 2022	-	0	0	0
May 12, 2022	-	0	0	0
May 13, 2022	0	644	4,820	5
May 14, 2022	-	0	0	0
May 15, 2022	-	0	0	0
May 16, 2022	0	560	4,191	4
May 17, 2022	-	0	0	0
May 18, 2022	0	651	4,871	5
May 19, 2022	-	0	0	0
May 20, 2022	-	0	0	0
May 21, 2022	0	650	4,861	5
May 22, 2022	-	0	0	0
May 23, 2022	-	0	0	0
May 24, 2022	-	0	0	0
May 25, 2022	0	644	4,820	5
May 26, 2022	0	5,834	43,641	44
May 27, 2022	0	1,284	9,605	10
May 28, 2022	0	1,940	14,515	15
May 29, 2022	0	648	4,847	5
May 30, 2022	-	0	0	0
May 31, 2022	0	652	4,877	5
June 1, 2022	-	0	0	0
June 2, 2022	-	0	0	0
June 3, 2022	0	8,733	65,328	65
June 4, 2022	-	0	0	0
June 5, 2022	0	657	4,914	5

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DATE	DAILY VOLUME (MG)	DAILY VOLUME (CF)	DAILY VOLUME (GAL)	DAILY VOLUME DEBRIS (GAL)
June 6, 2022	-	0	0	0
June 7, 2022	-	0	0	0
June 8, 2022	0	1,984	14,841	15
June 9, 2022	-	0	0	0
June 10, 2022	-	0	0	0
June 11, 2022	0	644	4,819	5
June 12, 2022	-	0	0	0
June 13, 2022	-	0	0	0
June 14, 2022	0	644	4,816	5
June 15, 2022	-	0	0	0
June 16, 2022	-	0	0	0
June 17, 2022	0	656	4,909	5
June 18, 2022	-	0	0	0
June 19, 2022	-	0	0	0
June 20, 2022	0	624	4,668	5
June 21, 2022	-	0	0	0
June 22, 2022	0	2,244	16,783	17
June 23, 2022	-	0	0	0
June 24, 2022	-	0	0	0
June 25, 2022	-	0	0	0
June 26, 2022	-	0	0	0
June 27, 2022	0	8,190	61,264	61
June 28, 2022	0	1,978	14,795	15
June 29, 2022	-	0	0	0
June 30, 2022	0	663	4,960	5
July 1, 2022	-	0	0	0
July 2, 2022	-	0	0	0
July 3, 2022	-	0	0	0
July 4, 2022	0	660	4,934	5
July 5, 2022	-	0	0	0
July 6, 2022	-	0	0	0
July 7, 2022	-	0	0	0
July 8, 2022	0	682	5,100	5
July 9, 2022	0	2,543	19,024	19
July 10, 2022	0	639	4,783	5
July 11, 2022	-	0	0	0
July 12, 2022	-	0	0	0
July 13, 2022	0	658	4,925	5
July 14, 2022	-	0	0	0

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### MOU SEMI-ANNUAL REPORT 29 JUNE 1, 2022 - DECEMBER 31, 2022



DATE	DAILY VOLUME (MG)	DAILY VOLUME (CF)	DAILY VOLUME (GAL)	DAILY VOLUME DEBRIS (GAL)
July 15, 2022	-	0	0	0
July 16, 2022	-	0	0	0
July 17, 2022	0	660	4,934	5
July 18, 2022	-	0	0	0
July 19, 2022	0	2,875	21,507	22
July 20, 2022	-	0	0	0
July 21, 2022	-	0	0	0
July 22, 2022	0	663	4,962	5
July 23, 2022	-	0	0	0
July 24, 2022	-	0	0	0
July 25, 2022	-	0	0	0
July 26, 2022	0	648	4,844	5
July 27, 2022	0	1,956	14,632	15
July 28, 2022	-	0	0	0
July 29, 2022	0	8,704	65,114	65
July 30, 2022	0	1,313	9,822	10
July 31, 2022	0	653	4,885	5
August 1, 2022	0	22,073	165,115	165
August 2, 2022	0	1,303	9,746	10
August 3, 2022	-	0	0	0
August 4, 2022	0	621	4,642	5
August 5, 2022	-	0	0	0
August 6, 2022	-	0	0	0
August 7, 2022	0	627	4,693	5
August 8, 2022	-	0	0	0
August 9, 2022	-	0	0	0
August 10, 2022	0	665	4,976	5
August 11, 2022	0	52,273	391,026	391
August 12, 2022	3	377,395	2,823,111	2,823
August 13, 2022	3	380,069	2,843,117	2,843
August 14, 2022	3	380,605	2,847,120	2,847
August 15, 2022	3	380,034	2,842,849	2,843
August 16, 2022	1	143,609	1,074,273	1,074
August 17, 2022	0	3,458	25,864	26
August 18, 2022	-	0	0	0
August 19, 2022	-	0	0	0
August 20, 2022	-	0	0	0
August 21, 2022	-	0	0	0
August 22, 2022	-	0	0	0

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MOU SEMI-ANNUAL REPORT 29 JUNE 1, 2022 - DECEMBER 31, 2022

DATE	DAILY VOLUME (MG)	DAILY VOLUME (CF)	DAILY VOLUME (GAL)	DAILY VOLUME DEBRIS (GAL)
August 23, 2022	-	0	0	0
August 24, 2022	-	0	0	0
August 25, 2022	-	0	0	0
August 26, 2022	-	0	0	0
August 27, 2022	0	633	4,735	5
August 28, 2022	-	0	0	0
August 29, 2022	-	0	0	0
August 30, 2022	0	651	4,873	5
August 31, 2022	0	1,227	9,182	9
September 1, 2022	-	0	0	0
September 2, 2022	0	562	4,205	4
September 3, 2022	-	0	0	0
September 4, 2022	0	3,626	27,123	27
September 5, 2022	0	656	4,907	5
September 6, 2022	-	0	0	0
September 7, 2022	0	592	4,428	4
September 8, 2022	0	642	4,804	5
September 9, 2022	-	0	0	0
September 10, 2022	0	649	4,853	5
September 11, 2022	-	0	0	0
September 12, 2022	-	0	0	0
September 13, 2022	-	0	0	0
September 14, 2022	0	663	4,960	5
September 15, 2022	-	0	0	0
September 16, 2022	0	652	4,880	5
September 17, 2022	-	0	0	0
September 18, 2022	-	0	0	0
September 19, 2022	-	0	0	0
September 20, 2022	0	651	4,872	5
September 21, 2022	-	0	0	0
September 22, 2022	-	0	0	0
September 23, 2022	-	0	0	0
September 24, 2022	-	0	0	0
September 25, 2022	0	649	4,855	5
September 26, 2022	-	0	0	0
September 27, 2022	-	0	0	0
September 28, 2022	-	0	0	0
September 29, 2022	0	651	4,870	5
September 30, 2022	-	0	0	0

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### MOU SEMI-ANNUAL REPORT 29 JUNE 1, 2022 - DECEMBER 31, 2022



DATE	DAILY VOLUME (MG)	DAILY VOLUME (CF)	DAILY VOLUME (GAL)	DAILY VOLUME DEBRIS (GAL)	
October 1, 2022	-	0	0	0	
October 2, 2022	-	0	0	0	
October 3, 2022	-	0	0	0	
October 4, 2022	0	650	4,864	5	
October 5, 2022	-	0	0	0	
October 6, 2022	-	0	0	0	
October 7, 2022	-	0	0	0	
October 8, 2022	-	0	0	0	
October 9, 2022	0	646	4,832	5	
October 10, 2022	-	0	0	0	
October 11, 2022	-	0	0	0	
October 12, 2022	-	0	0	0	
October 13, 2022	-	0	0	0	
October 14, 2022	0	649	4,856	5	
October 15, 2022	-	0	0	0	
October 16, 2022	-	0	0	0	
October 17, 2022	-	0	0	0	
October 18, 2022	0	628	4,697	5	
October 19, 2022	-	0	0	0	
October 20, 2022	-	0	0	0	
October 21, 2022	-	0	0	0	
October 22, 2022	0	2,469	18,468	18	
October 23, 2022	-	0	0	0	
October 24, 2022	-	0	0	0	
October 25, 2022	0	642	4,805	5	
October 26, 2022	-	0	0	0	
October 27, 2022	-	0	0	0	
October 28, 2022	-	0	0	0	
October 29, 2022	-	0	0	0	
October 30, 2022	-	0	0	0	
October 31, 2022	-	0	0	0	
November 1, 2022	0	663	4,958	5	
November 2, 2022	-	0	0	0	
November 3, 2022	0	644	4,818	5	
November 4, 2022	-	0	0	0	
November 5, 2022	-	0	0	0	
November 6, 2022	-	0	0	0	
November 7, 2022	-	0	0	0	
November 8, 2022	-	0	0	0	

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DATE	DAILY VOLUME (MG)	DAILY VOLUME (CF)	DAILY VOLUME (GAL)	DAILY VOLUME DEBRIS (GAL)
November 9, 2022	-	0	0	0
November 10, 2022	-	0	0	0
November 11, 2022	-	0	0	0
November 12, 2022	-	0	0	0
November 13, 2022	-	0	0	0
November 14, 2022	-	0	0	0
November 15, 2022	-	0	0	0
November 16, 2022	-	0	0	0
November 17, 2022	-	0	0	0
November 18, 2022	-	0	0	0
November 19, 2022	-	0	0	0
November 20, 2022	-	0	0	0
November 21, 2022	-	0	0	0
November 22, 2022	-	0	0	0
November 23, 2022	-	0	0	0
November 24, 2022	-	0	0	0
November 25, 2022	-	0	0	0
November 26, 2022	-	0	0	0
November 27, 2022	-	0	0	0
November 28, 2022	-	0	0	0
November 29, 2022	-	0	0	0
November 30, 2022	-	0	0	0
December 1, 2022	-	0	0	0
December 2, 2022	-	0	0	0
December 3, 2022	-	0	0	0
December 4, 2022	-	0	0	0
December 5, 2022	-	0	0	0
December 6, 2022	-	0	0	0
December 7, 2022	0	662	4,953	5
December 8, 2022	-	0	0	0
December 9, 2022	0	655	4,898	5
December 10, 2022	-	0	0	0
December 11, 2022	-	0	0	0
December 12, 2022	-	0	0	0
December 13, 2022	-	0	0	0
December 14, 2022	-	0	0	0
December 15, 2022	-	0	0	0
December 16, 2022	-	0	0	0
December 17, 2022	-	0	0	0

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### MOU SEMI-ANNUAL REPORT 29 JUNE 1, 2022 - DECEMBER 31, 2022



DATE	DAILY VOLUME (MG)	DAILY VOLUME (CF)	DAILY VOLUME (GAL)	DAILY VOLUME DEBRIS (GAL)
December 18, 2022	-	0	0	0
December 19, 2022	-	0	0	0
December 20, 2022	-	0	0	0
December 21, 2022	-	0	0	0
December 22, 2022	-	0	0	0
December 23, 2022	-	0	0	0
December 24, 2022	-	0	0	0
December 25, 2022	-	0	0	0
December 26, 2022	-	0	0	0
December 27, 2022	-	0	0	0
December 28, 2022	0	661	4,941	5
December 29, 2022	-	0	0	0
December 30, 2022	-	0	0	0
December 31, 2022	-	0	0	0

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July 30, 2023

Josh Lillpop Natural Areas Branch Manager Office of Kentucky Nature Preserves Kentucky Energy and Environment Cabinet 300 Sower Boulevard, 4th Floor Frankfort, KY 40601

Subject: CSO108 Semi-Annual Report #30

Dear Mr. Lillpop,

As required in Paragraph #2 of the document titled "Memorandum of Understanding by and between the Commonwealth of Kentucky, Office of Kentucky Nature Preserves ad the Louisville and Jefferson County Metropolitan Sewer District", MSD submits to you the MOU Semi-Annual Report #30. This report summarizes activities at the CSO108 CDS Site during the reporting period of January 1, 2023 to June 30, 2023.

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

Sincerely,

Heather Dodds, PE

Heather Dods

Regulatory Compliance & Asset Management Administrator



MOU SEMI-ANNUAL REPORT 30 JANUARY 1, 2023 - JUNE 30, 2023



#### INTRODUCTION

The Louisville and Jefferson County Metropolitan Sewer District (MSD) has entered into a Memorandum of Understanding (MOU) with the Kentucky State Nature Preserve Commission (Commission). The MOU was signed by MSD on July 31, 2018, and by the Commission on August 10, 2018. This MOU is effective for the period starting August 1, 2018, and ending on August 1, 2028.

This is the 30th Semi-Annual Report submitted in accordance with Paragraph 2 of the MOU. This report covers the time period of January 1, 2023 to June 30, 2023.

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

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

### 1. PARAGRQAPH #2 OF THE MOU

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

#### 2. MSD Response

This document is the 30th semi-annual report to the Commission since the completion of the Project. Appendix A shows photos of the area around the CDS unit and South Fork Beargrass Creek during the reporting period.

### 2.1. CLEANING & INSPECTION ACTIVITIES

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

### 2.2. MAINTENANCE ACTIVITIES

In addition to the weekly inspections, MSD has initiated a preventative maintenance program to insure that the CDS unit and respective pumps are performing optimally. During these quarterly preventative maintenance activities, MSD staff also cleans the CDS unit and rack bars, washing the debris into the interceptor. The CDS Table 1. CSO108 CDS Unit Debris Removal

ACTIVITY	QUANTITY	COMMENTS	COMPLETED DATE
DEBRIS	UNKNOWN	REMOVED MED DEBRIS FROM RACK BAR MCKENNA YOUNG	3/7/2023

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Unit's pumps are removed from the facility twice yearly to more closely inspect and to perform any needed maintenance.

#### 2.3. CAPTURED FLOW

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

In an effort to estimate the volume of debris captured by the CDS unit and kept within the sewer system, a study of the efficiency of the unit was performed in early 2002. The results of the study indicated that the concentration of solids kept within the sewer system was approximately 1ml/l. Using pump run times and knowing the efficiency of the pumps, MSD was able to determine a volume of solids captured by the CDS technology. MSD estimates that the CDS unit captured approximately 1,275 tons of solids during the reporting period based on available data. Appendix B lists the pump run times and Appendix C shows the calculations MSD used to determine the amount of debris captured by the CDS Unit and sent to the Morris Forman WQTC for treatment.

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**APPENDIX A** 

PHOTOS OF AREA ADJACENT TO CSO108 AND THE CDS Unit (Dated July 12, 2023)

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**APPENDIX B** 

**CDS UNIT PUMP RUN TIMES** 

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DATE	PUMP 1 RUN HOURS	PUMP 2 RUN HOURS	PUMP 3 RUN HOURS
January 1, 2023	0	0	0
January 2, 2023	0	0	0
January 3, 2023	0	0	0
January 4, 2023	0	0	3
January 5, 2023	0	0	0
January 6, 2023	0	0	0
January 7, 2023	0	0	0
January 8, 2023	0	0	0
January 9, 2023	0	0	0
January 10, 2023	0	0	0
January 11, 2023	0	0	0
January 12, 2023	0	0	0
January 13, 2023	0	0	0
January 14, 2023	0	0	0
January 15, 2023	0	0	0
January 16, 2023	0	0	0
January 17, 2023	0	0	0
January 18, 2023	0	0	0
January 19, 2023	0	0	0
January 20, 2023	0	0	0
January 21, 2023	0	0	0
January 22, 2023	0	0	0
January 23, 2023	0	0	0
January 24, 2023	0	0	0
January 25, 2023	0	0	0
January 26, 2023	0	0	0
January 27, 2023	0	0	0
January 28, 2023	0	0	0
January 29, 2023	0	0	0
January 30, 2023	0	0	0
January 31, 2023	0	0	0
February 1, 2023	0	0	0
February 2, 2023	0	0	0
February 3, 2023	0	0	0
February 4, 2023	0	0	0
February 5, 2023	0	0	0
February 6, 2023	0	0	0
February 7, 2023	0	0	0
February 8, 2023	0	0	0
February 9, 2023	0	0	0

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### MOU SEMI-ANNUAL REPORT 30 JANUARY 1, 2023 - JUNE 30, 2023



DATE	PUMP 1 RUN HOURS	PUMP 2 RUN HOURS	PUMP 3 RUN HOURS
February 10, 2023	0	0	0
February 11, 2023	0	0	0
February 12, 2023	0	0	0
February 13, 2023	0	0	0
February 14, 2023	0	0	0
February 15, 2023	0	0	0
February 16, 2023	0	0	0
February 17, 2023	0	0	0
February 18, 2023	0	0	0
February 19, 2023	0	0	0
February 20, 2023	0	0	0
February 21, 2023	0	0	0
February 22, 2023	0	0	0
February 23, 2023	0	0	0
February 24, 2023	0	0	0
February 25, 2023	0	0	0
February 26, 2023	0	0	0
February 27, 2023	0	0	0
February 28, 2023	0	0	0
March 1, 2023	0	0	0
March 2, 2023	0	0	0
March 3, 2023	0	0	0
March 4, 2023	0	0	0
March 5, 2023	2	1	2
March 6, 2023	0	0	0
March 7, 2023	0	0	0
March 8, 2023	0	0	0
March 9, 2023	0	0	0
March 10, 2023	0	0	0
March 11, 2023	0	0	0
March 12, 2023	0	0	0
March 13, 2023	0	0	0
March 14, 2023	0	0	0
March 15, 2023	0	0	0
March 16, 2023	0	0	0
March 17, 2023	0	0	0
March 18, 2023	0	0	0
March 19, 2023	0	0	0
March 20, 2023	0	0	0
March 21, 2023	0	0	0

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DATE	PUMP 1 RUN HOURS	PUMP 2 RUN HOURS	PUMP 3 RUN HOURS
March 22, 2023	0	0	0
March 23, 2023	0	0	0
March 24, 2023	0	0	0
March 25, 2023	0	0	0
March 26, 2023	0	0	1
March 27, 2023	2	0	3
March 28, 2023	0	0	0
March 29, 2023	0	0	0
March 30, 2023	0	0	0
March 31, 2023	0	0	0
April 1, 2023	0	0	0
April 2, 2023	0	0	1
April 3, 2023	0	0	1
April 4, 2023	0	0	0
April 5, 2023	0	0	0
April 6, 2023	0	0	0
April 7, 2023	0	0	0
April 8, 2023	0	0	0
April 9, 2023	0	0	0
April 10, 2023	0	0	0
April 11, 2023	0	0	0
April 12, 2023	0	0	0
April 13, 2023	0	0	0
April 14, 2023	0	0	0
April 15, 2023	0	0	0
April 16, 2023	0	0	0
April 17, 2023	0	0	0
April 18, 2023	0	0	0
April 19, 2023	0	0	0
April 20, 2023	0	0	0
April 21, 2023	0	0	0
April 22, 2023	0	0	0
April 23, 2023	0	0	0
April 24, 2023	0	0	0
April 25, 2023	0	0	0
April 26, 2023	0	0	0
April 27, 2023	0	0	0
April 28, 2023	0	0	0
April 29, 2023	0	0	0
April 30, 2023	0	0	0

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DATE	PUMP 1 RUN HOURS	PUMP 2 RUN HOURS	PUMP 3 RUN HOURS
May 1, 2023	0	0	0
May 2, 2023	0	0	0
May 3, 2023	0	0	0
May 4, 2023	0	0	0
May 5, 2023	0	0	0
May 6, 2023	0	0	0
May 7, 2023	0	0	0
May 8, 2023	0	0	0
May 9, 2023	0	0	0
May 10, 2023	0	0	0
May 11, 2023	0	0	0
May 12, 2023	0	0	0
May 13, 2023	0	0	0
May 14, 2023	0	0	0
May 15, 2023	0	0	0
May 16, 2023	0	0	0
May 17, 2023	0	0	0
May 18, 2023	0	0	0
May 19, 2023	0	0	0
May 20, 2023	0	0	0
May 21, 2023	0	0	0
May 22, 2023	0	0	0
May 23, 2023	0	0	0
May 24, 2023	0	0	0
May 25, 2023	0	0	0
May 26, 2023	0	0	0
May 27, 2023	0	0	0
May 28, 2023	0	0	0
May 29, 2023	0	0	0
May 30, 2023	0	0	0
May 31, 2023	0	0	0
June 1, 2023	0	0	0
June 2, 2023	0	0	0
June 3, 2023	0	0	0
June 4, 2023	0	0	0
June 5, 2023	0	0	0
June 6, 2023	0	0	0
June 7, 2023	0	0	0
June 8, 2023	0	0	0
June 9, 2023	0	0	0

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DATE	PUMP 1 RUN HOURS	PUMP 2 RUN HOURS	PUMP 3 RUN HOURS
June 10, 2023	0	0	0
June 11, 2023	0	0	0
June 12, 2023	0	0	0
June 13, 2023	0	0	0
June 14, 2023	0	0	0
June 15, 2023	0	0	0
June 16, 2023	0	0	0
June 17, 2023	0	0	0
June 18, 2023	0	0	0
June 19, 2023	0	0	0
June 20, 2023	0	0	0
June 21, 2023	0	0	0
June 22, 2023	0	0	0
June 23, 2023	0	0	0
June 24, 2023	0	0	0
June 25, 2023	0	0	0
June 26, 2023	0	0	0
June 27, 2023	0	0	1
June 28, 2023	0	0	0
June 29, 2023	0	0	0
June 30, 2023	0	0	0

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**APPENDIX C** 

**CSO108 Underflow Pump Flow Meter Data** 

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DATE	DAILY VOLUME (MG)	DAILY VOLUME (CF)	DAILY VOLUME (GAL)	DAILY VOLUME DEBRIS (GAL)
January 1, 2023	-	0	0	0
January 2, 2023	-	0	0	0
January 3, 2023	-	0	0	0
January 4, 2023	-	0	0	0
January 5, 2023	-	0	0	0
January 6, 2023	-	0	0	0
January 7, 2023	-	0	0	0
January 8, 2023	-	0	0	0
January 9, 2023	-	0	0	0
January 10, 2023	-	0	0	0
January 11, 2023	0	661	4,941	5
January 12, 2023	(0)	(661)	(4,941)	(5)
January 13, 2023	-	0	0	0
January 14, 2023	-	0	0	0
January 15, 2023	-	0	0	0
January 16, 2023	-	0	0	0
January 17, 2023	0	664	4,968	5
January 18, 2023	(0)	(664)	(4,968)	(5)
January 19, 2023	0	661	4,948	5
January 20, 2023	0	645	4,826	5
January 21, 2023	0	903	6,755	7
January 22, 2023	(0)	(2,210)	(16,529)	(17)
January 23, 2023	0	1,290	9,649	10
January 24, 2023	(0)	(684)	(5,119)	(5)
January 25, 2023	0	51	384	0
January 26, 2023	0	1,970	14,738	15
January 27, 2023	0	651	4,870	5
January 28, 2023	0	1,320	9,876	10
January 29, 2023	0	1,856	13,883	14
January 30, 2023	-	0	0	0
January 31, 2023	0	653	4,881	5
February 1, 2023	0	1,329	9,944	10
February 2, 2023	0	644	4,817	5
February 3, 2023	-	0	0	0
February 4, 2023	-	0	0	0
February 5, 2023	0	666	4,981	5
February 6, 2023	-	0	0	0
February 7, 2023	0	663	4,962	5
February 8, 2023	-	0	0	0

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### MOU SEMI-ANNUAL REPORT 30 JANUARY 1, 2023 - JUNE 30, 2023



DATE	DAILY VOLUME (MG)	DAILY VOLUME (CF)	DAILY VOLUME (GAL)	DAILY VOLUME DEBRIS (GAL)
February 9, 2023	-	0	0	0
February 10, 2023	-	0	0	0
February 11, 2023	-	0	0	0
February 12, 2023	-	0	0	0
February 13, 2023	-	0	0	0
February 14, 2023	-	0	0	0
February 15, 2023	-	0	0	0
February 16, 2023	-	0	0	0
February 17, 2023	-	0	0	0
February 18, 2023	-	0	0	0
February 19, 2023	-	0	0	0
February 20, 2023	-	0	0	0
February 21, 2023	-	0	0	0
February 22, 2023	-	0	0	0
February 23, 2023	-	0	0	0
February 24, 2023	-	0	0	0
February 25, 2023	-	0	0	0
February 26, 2023	-	0	0	0
February 27, 2023	-	0	0	0
February 28, 2023	-	0	0	0
March 1, 2023	-	0	0	0
March 2, 2023	-	0	0	0
March 3, 2023	-	0	0	0
March 4, 2023	1	174,271	1,303,634	1,304
March 5, 2023	2	252,666	1,890,073	1,890
March 6, 2023	2	252,666	1,890,073	1,890
March 7, 2023	2	217,279	1,625,356	1,625
March 8, 2023	3	360,766	2,698,718	2,699
March 9, 2023	2	253,020	1,892,720	1,893
March 10, 2023	2	252,666	1,890,073	1,890
March 11, 2023	2	253,020	1,892,720	1,893
March 12, 2023	2	252,843	1,891,396	1,891
March 13, 2023	2	242,227	1,811,981	1,812
March 14, 2023	2	242,227	1,811,981	1,812
March 15, 2023	2	242,227	1,811,981	1,812
March 16, 2023	2	242,050	1,810,658	1,811
March 17, 2023	2	242,227	1,811,981	1,812
March 18, 2023	2	242,227	1,811,981	1,812
March 19, 2023	2	242,227	1,811,981	1,812

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MOU SEMI-ANNUAL REPORT 30 JANUARY 1, 2023 - JUNE 30, 2023

DATE	DAILY VOLUME (MG)	DAILY VOLUME (CF)	DAILY VOLUME (GAL)	DAILY VOLUME DEBRIS (GAL)
March 20, 2023	2	242,050	1,810,658	1,811
March 21, 2023	2	242,404	1,813,305	1,813
March 22, 2023	2	242,404	1,813,305	1,813
March 23, 2023	2	242,050	1,810,658	1,811
March 24, 2023	2	242,581	1,814,628	1,815
March 25, 2023	2	242,227	1,811,981	1,812
March 26, 2023	1	100,063	748,526	749
March 27, 2023	1	78,598	587,952	588
March 28, 2023	1	78,598	587,952	588
March 29, 2023	1	78,540	587,522	588
March 30, 2023	1	78,598	587,952	588
March 31, 2023	1	76,933	575,498	576
April 1, 2023	1	78,713	588,811	589
April 2, 2023	2	279,281	2,089,165	2,089
April 3, 2023	2	279,451	2,090,435	2,090
April 4, 2023	2	279,246	2,088,908	2,089
April 5, 2023	2	279,451	2,090,435	2,090
April 6, 2023	2	279,451	2,090,435	2,090
April 7, 2023	2	279,451	2,090,435	2,090
April 8, 2023	2	279,451	2,090,435	2,090
April 9, 2023	2	279,246	2,088,908	2,089
April 10, 2023	2	279,451	2,090,435	2,090
April 11, 2023	2	279,655	2,091,962	2,092
April 12, 2023	2	279,655	2,091,962	2,092
April 13, 2023	2	279,655	2,091,962	2,092
April 14, 2023	2	279,451	2,090,435	2,090
April 15, 2023	2	279,655	2,091,962	2,092
April 16, 2023	2	279,859	2,093,489	2,093
April 17, 2023	2	279,655	2,091,962	2,092
April 18, 2023	2	279,451	2,090,435	2,090
April 19, 2023	2	279,451	2,090,435	2,090
April 20, 2023	2	279,655	2,091,962	2,092
April 21, 2023	2	280,063	2,095,016	2,095
April 22, 2023	2	279,451	2,090,435	2,090
April 23, 2023	2	279,655	2,091,962	2,092
April 24, 2023	2	279,451	2,090,435	2,090
April 25, 2023	2	279,655	2,091,962	2,092
April 26, 2023	2	279,859	2,093,489	2,093
April 27, 2023	2	279,859	2,093,489	2,093

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MOU SEMI-ANNUAL REPORT 30 JANUARY 1, 2023 - JUNE 30, 2023



2000				
DATE	DAILY VOLUME (MG)	DAILY VOLUME (CF)	DAILY VOLUME (GAL)	DAILY VOLUME DEBRIS (GAL)
April 28, 2023	2	280,675	2,099,598	2,100
April 29, 2023	2	279,451	2,090,435	2,090
April 30, 2023	2	279,246	2,088,908	2,089
May 1, 2023	2	279,655	2,091,962	2,092
May 2, 2023	2	279,655	2,091,962	2,092
May 3, 2023	2	279,655	2,091,962	2,092
May 4, 2023	2	279,451	2,090,435	2,090
May 5, 2023	2	279,655	2,091,962	2,092
May 6, 2023	2	279,655	2,091,962	2,092
May 7, 2023	2	279,655	2,091,962	2,092
May 8, 2023	2	279,655	2,091,962	2,092
May 9, 2023	2	279,451	2,090,435	2,090
May 10, 2023	2	279,246	2,088,908	2,089
May 11, 2023	2	279,246	2,088,908	2,089
May 12, 2023	2	279,655	2,091,962	2,092
May 13, 2023	2	279,451	2,090,435	2,090
May 14, 2023	2	279,451	2,090,435	2,090
May 15, 2023	2	279,655	2,091,962	2,092
May 16, 2023	2	279,655	2,091,962	2,092
May 17, 2023	2	279,655	2,091,962	2,092
May 18, 2023	2	279,655	2,091,962	2,092
May 19, 2023	2	279,655	2,091,962	2,092
May 20, 2023	2	279,655	2,091,962	2,092
May 21, 2023	2	279,655	2,091,962	2,092
May 22, 2023	2	279,655	2,091,962	2,092
May 23, 2023	2	279,042	2,087,381	2,087
May 24, 2023	2	279,655	2,091,962	2,092
May 25, 2023	2	279,451	2,090,435	2,090
May 26, 2023	2	279,655	2,091,962	2,092
May 27, 2023	2	279,655	2,091,962	2,092
May 28, 2023	2	279,655	2,091,962	2,092
May 29, 2023	2	279,655	2,091,962	2,092
May 30, 2023	2	279,655	2,091,962	2,092
May 31, 2023	2	279,655	2,091,962	2,092
June 1, 2023	2	279,655	2,091,962	2,092
June 2, 2023	2	279,451	2,090,435	2,090
June 3, 2023	2	279,655	2,091,962	2,092
June 4, 2023	2	279,655	2,091,962	2,092
June 5, 2023	2	279,655	2,091,962	2,092

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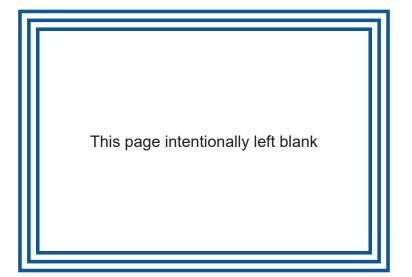




MOU SEMI-ANNUAL REPORT 30 JANUARY 1, 2023 - JUNE 30, 2023

DATE	DAILY VOLUME (MG)	DAILY VOLUME (CF)	DAILY VOLUME (GAL)	DAILY VOLUME DEBRIS (GAL)
June 6, 2023	2	279,451	2,090,435	2,090
June 7, 2023	2	279,655	2,091,962	2,092
June 8, 2023	2	279,655	2,091,962	2,092
June 9, 2023	2	279,655	2,091,962	2,092
June 10, 2023	2	279,655	2,091,962	2,092
June 11, 2023	2	279,246	2,088,908	2,089
June 12, 2023	2	279,451	2,090,435	2,090
June 13, 2023	2	279,451	2,090,435	2,090
June 14, 2023	2	279,451	2,090,435	2,090
June 15, 2023	2	279,451	2,090,435	2,090
June 16, 2023	2	279,451	2,090,435	2,090
June 17, 2023	2	279,655	2,091,962	2,092
June 18, 2023	2	279,655	2,091,962	2,092
June 19, 2023	2	279,451	2,090,435	2,090
June 20, 2023	2	279,655	2,091,962	2,092
June 21, 2023	2	279,451	2,090,435	2,090
June 22, 2023	2	280,675	2,099,598	2,100
June 23, 2023	2	280,267	2,096,544	2,097
June 24, 2023	2	279,246	2,088,908	2,089
June 25, 2023	2	279,451	2,090,435	2,090
June 26, 2023	2	283,144	2,118,065	2,118
June 27, 2023	3	348,888	2,609,863	2,610
June 28, 2023	3	348,888	2,609,863	2,610
June 29, 2023	3	349,143	2,611,769	2,612
June 30, 2023	3	349,143	2,611,769	2,612

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Louisville and Jefferson County Metropolitan Sewer District Second Amended Consent Decree Annual Report FY23

