Sanitation District No. 1
February 26, 2021

Amended Consent Decree Semi-Annual Report No. 3

(July 1, 2020 through December 31, 2020)

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SD1
Managing Northern Kentucky's
Wastewater and Storm Water

February 24, 2021

Director of the Division of Enforcement
Department for Environmental Protection
300 Sower Blvd.
Frankfort, KY 40601

Chief, Environmental Enforcement Section
Environmental and Natural Resources Division
U.S. Department of Justice
601 D Street NW
Washington, DC 20005
DOJ Case No. 90-5-1-1-08591

Mary Jo Bragan, Chief
Water Enforcement Branch
Enforcement & Compliance Assurance Division
U.S. Environmental Protection Agency, Region 4
61 Forsyth Street, S.W.
Atlanta, Georgia 30303

Re: Amended Consent Decree Case No. 2:05-CV-199-(WOB)

To Whom It May Concern:

Pursuant to the above-referenced Amended Consent Decree, Sanitation District No. 1 (SD1) is required to submit semi-annual reports that demonstrate SD1's compliance with the Amended Consent Decree:

> **47. Semi-Annual Reports.** The District shall submit to the Cabinet/EPA a Semi-Annual Report no later than sixty days after the end of each six-month calendar period ending June 30 and December 31.

Information contained within the enclosed Semi-Annual Report No. 3 describes SD1's compliance with Amended Consent Decree Case No. 2:05-CV-199-(WOB) for the period of July 1, 2020 through December 31, 2020.

A certification, as required by the Amended Consent Decree (paragraph 70), is also enclosed.

To the best of my knowledge and belief, the enclosed report is true, accurate, and complete, and further demonstrates SD1's commitment to the mission of protecting and enhancing the water resources and quality of life in Northern Kentucky.

If you have any questions or concerns, do not hesitate to contact me at 859-578-7465 or by e-mail at achaney@sd1.org.

Best regards,

Adam Chaney
Executive Director

AC/wck
Enclosures

CERTIFICATION

Amended Consent Decree Semi-Annual Report No. 3
Consent Decree Case No. 2:05-CV-199-(WOB)

I certify under penalty of law that this document and all attachments were prepared under my 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.

Adam Chaney
Executive Director

February 25, 2021
Date

COMMONWEALTH OF KENTUCKY

)ss.

COUNTY OF Kenton

The foregoing instrument was acknowledged before me this 25th day of February, 2021 by Adam Chaney, Executive Director of Sanitation District No. 1.

LORAINE E. BRAUN NOTARY PUBLIC ID 636601 COMMISSION EXPIRES DECEMBER 21, 2023 STATE AT LARGE, KENTUCKY

Loraine E. Braun
NOTARY PUBLIC

Kenton County, Kentucky

My commission expires: 12/21/2023

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AMENDED CONSENT DECREE
SEMI-ANNUAL REPORT NO. 3
JULY 1, 2020 – DECMEBER 31, 2020

February 26, 2021

Sanitation District No. 1
1045 Eaton Drive
Ft. Wright, KY 41017

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LIST OF ACRONYMS AND ABBREVIATIONS

ACD	Amended Consent Decree
Cabinet	Kentucky Energy and Environment Cabinet
CSAP	Continuous Sewer Assessment Program
CSO	Combined Sewer Overflow
CSS	Combined Sewer System
District	Sanitation District No. 1
EPA	U.S. Environmental Protection Agency
hr	Hours
MG	Million Gallons
MH	Manhole
min	Minutes
PS	Pump Station
SD1	Sanitation District No. 1
SSO	Sanitary Sewer Overflow
UT	Unnamed Tributary

SECTION 1. INTRODUCTION

The Semi-Annual Report is submitted to fulfill the reporting requirements of Sanitation District No. 1's (SD1) Amended Consent Decree, as entered on May 22, 2019. The Amended Consent Decree is a legal agreement with the U.S. Environmental Protection Agency (EPA) and the Kentucky Energy and Environment Cabinet (Cabinet). The purpose of the Amended Consent Decree is to address sanitary sewer overflows (SSOs) in SD1's sanitary sewer system and combined sewer overflows (CSOs) in the combined sewer system, in order to improve water quality throughout SD1's service area. Specifically, Section V Reporting Requirements, states that:

> **47. Semi-Annual Reports.** The District shall submit to the Cabinet/EPA a Semi-Annual Report no later than sixty days after the end of each six-month calendar period ending June 30 and December 31.

Information contained within this report describes SD1's compliance with Amended Consent Decree Case No. 2:05-CV-199 (WOB) for the last six months of calendar year 2020.

SECTION 2. OVERFLOW DETAILS

Paragraph 47 of the Amended Consent Decree provides the details to be included in the report:

> **47.** The Semi-Annual Report shall include the date, time, location, estimated volume, estimated duration, receiving water (if any), cause and actions taken to respond to and repair or otherwise resolve the cause of all SSOs and dry weather CSOs occurring in the most recently completed six-month calendar period. For reported SSOs, the Semi-Annual Report shall also identify any project that may be included in Appendix C of the Amended Consent Decree or in an Updated Watershed Plan that is designed to eliminate that SSO. The Semi-Annual Report shall also include such information in a tabulated electronic format.

The Semi-Annual Report provides overflow details from multiple sources. The two categories titled Dry Weather CSOs and SSOs Caused by Operational Failures are derived from records that were created as a result of visual confirmations of overflows. The two categories of SSOs at Pumps Stations Caused by Wet Weather are derived from records that were created as a result of telemetry-based alarms of remotely sensed overflows. The two categories of Model-Predicted Wet Weather SSOs are derived from hydraulic models that are continuously calibrated with a robust flow monitoring program, and simulations of wet weather events that were recorded by SD1's network of 23 rain gauges.

2.1 Dry Weather CSOs

CSO	KPDES Outfall #	Date & Time	Location (x, y)	Estimated Volume (gallons)	Duration (hrs:min)	Receiving Water	Cause	Actions
1730263	074	10/16/20 08:30	-84.564250, 39.083150	4,440	02:00	Ohio River	Blockage: Debris	Main line was vactored to remove gravel and rocks. Several lines in the vicinity were televised to ensure no debris remained in the system. Dry weather CSO discharged directly into the Ohio River. No cleanup required.

2.2 SSOs Caused by Operational Failures

SSO	Date & Time	Location (x, y)	Estimated Volume (gallons)	Duration (hrs:min)	Receiving Water	Cause	Actions	Related Project
1950239	7/1/2020 9:33	-84.527042, 39.041307	6,590	0:36	Banklick Creek	Blockage: Debris	Line was cleaned and blockage was removed, which returned flow back into sanitary system. Several lines in the area were televised to ensure all debris had been removed. Debris was contained to the area around overflowing structure and small drainage swale going to Banklick Creek. Spill area was hosed down thoroughly, and debris and sewage were vactored up.	
2140105	7/7/2020 9:30	-84.613132, 39.062643	12,960	6:00	UT to Dry Creek	Blockage: Debris	Line was cleaned and flow was returned to sanitary system. Line was then televised to ensure that all debris was removed.	
1080005	7/8/2020 15:30	-84.579706, 38.994875	41,040	19:00	UT to Bullock Pen Creek	Blockage: Roots	Release was caused by a root blockage in mainline which surcharged the pipe and forced flow out of the ground through bad pipe. Line was cleaned which returned flow back into the sanitary system. Pipe was then televised to find cause of blockage and pipe condition. Point repairs were made at site of bad pipe and roots to ensure they did not grow back. Line was then televised to check point repairs and make sure all debris was removed. Area around pipe release was raked, contaminated soils were disposed of. Soil restored with seed and straw.	
Marshall Rd PS force main break	7/14/2020 10:15	-84.489947, 38.941477	12,650	2:05	DeCoursey Creek	Force Main Failure	Tankers were used to collect flows at Marshall Rd Pump Station to stop overflow on the forcemain. Point repairs on the forcemain were made once flow was contained with tankers. Cleanup and extensive soil remediation were performed in area of force main break. Top layer of soil and vegetation was removed where ground had been saturated by sewage and debris. Soil restored with seed and straw.	

SSO	Date & Time	Location (x, y)	Estimated Volume (gallons)	Duration (hrs:min)	Receiving Water	Cause	Actions	Related Project
1290047	7/17/2020 16:45	-84.521348, 39.056549	4,320	2:00	None: Returned to the CSS	Blockage: Vandalism	Manhole was filled with sticks and rocks. Made an entry to hand remove debris out the manhole and pipe. Jetted and televised line to make sure no other problems were present. Standard manhole lid replaced with a bolted down lid. Raked up effected solids and sprayed off driveway. Washed everything into a catch basin connected to the combined sewer system.	
2490002	9/1/2020 10:00	-84.724023, 39.119366	7,980	3:30	Loder Creek	Blockage: Debris	The cause of the release was a cap from an abandoned line in manhole came free and blocked pipe causing debris and grease to build up. Line was cleaned and cap was removed which returned flow back into sanitary system. The abandoned line we plugged. Solids were raked, picked up, and disposed of.	
1040904	9/1/2020 21:47	-84.600331, 38.976837	4,870	2:08	UT to Bullock Pen Creek	Blockage: Debris	Line was cleaned and televised. Grease and debris were removed. Several other lines in the area were televised to ensure that there were no other problems. Due to steady rain overnight, no cleanup was required. There were no odors or solids present when crew arrived in the morning to start investigation and cleanup.	
0020035	9/18/2020 20:00	-84.421673, 39.041300	21,960	2:00	Duck Creek	Blockage: Debris	A broken flow monitor was lodged in the line causing a blockage of debris. Multiple lines were televised to ensure that all debris was removed to prevent future issues. Line was jetted to remove all debris. Cleanup was performed by damming up the creek at the bridge and flushing with a fire hydrant to a pooling area that was vactored. After everything was cleaned up, the dam was cut out and the creek was flushed for a few more hours to make sure any low spots had fresh water in them. Soil restored with seed and straw.	

SSO	Date & Time	Location (x, y)	Estimated Volume (gallons)	Duration (hrs:min)	Receiving Water	Cause	Actions	Related Project
0360033	9/24/2020 14:20	-84.454311, 39.110679	7,790	3:25	UT Ohio River	Blockage: Roots	Root ball was sawed multiple times and removed. Point repairs of two offset joints were made. Line was then televised to ensure all roots were removed. Multiple other lines in the immediate area were also cleaned and televised. Contaminated soil was removed and restored with seed and straw. Creek was dammed up and all solids were vactored and flushed.	
Lakeview PS 1950PS1	10/6/2020 17:30	-84.532228, 39.029362	52,490	0:45	Banklick Creek	Equipment Malfunction: Electrical Failure	The PLC card went bad causing the station to lose communication and operation of the pumps. After the pumps were restarted, the station was run in manual mode until the PLC card was replaced.	Upgrade of Lakeview PS Electrical Components (FY22)
2280122	10/26/2020 18:15	-84.615984, 38.950843	40,090	5:35	UT to Banklick Creek	Blockage: Debris	Line was jetted and blockage was removed which returned flow back to sanitary system. Multiple lines in the vicinity were televised to ensure that all the debris was removed from system. The contaminated area around the releasing manhole was vactored up and debris was disposed of. Due to the rain event, there were no signs of sewage in storm line or outfall area.	
1910061	11/16/2020 7:00	-84.635396, 39.042084	93,330	8:30	UT to Dry Creek	Blockage: Debris	Due to a hole in the side of manhole 1910061, a large sinkhole formed, and the mud and rock from that hole filled the main line. Bypass pumping was set up to stop the release and a vactor thoroughly clean the lines. Several lines were televised to look for any other issues while the crew was onsite. The manhole was repaired, and the sinkhole was stabilized. Sprayed down the entire affected area around the building, including the parking lot and grass. The grass was thoroughly raked and sprayed to remove all debris, and the vactor sucked up all debris and flushed the area with water.	

SSO	Date & Time	Location (x, y)	Estimated Volume (gallons)	Duration (hrs:min)	Receiving Water	Cause	Actions	Related Project
Sand Run PS force main break	11/14/2020 14:30	-84.719155, 39.099686	5,000	3:00	UT to Sand Run Creek	Force Main Failure	Pump trucks were used to keep the Sand Run Pump Station wet well pumped down while repairs to the forcemain were made. Cleanup and soil restoration with seed and straw was completed.	
2260005	12/6/2020 18:00	-84.389704, 38.953171	38,760	17:00	UT to Brush Creek	Blockage: Roots	Root blockage was removed, and flow returned to sanitary system. Line was then televised for condition and to ensure that all roots were removed. Multiple lines in the immediate area were also cleaned and televised. Point repairs in two locations were performed. All solids were raked and picked up and disposed of. Soil was restored with seed and straw.	
1330022	12/22/2020 9:20	-84.585159, 39.004349	7,790	2:25	UT to Licking River	Blockage: Roots	Root blockage was removed, and flow returned to sanitary system. Lines were then televised for condition and to ensure that all roots were removed. Multiple lines in the immediate area were also cleaned and televised. All solids were raked and picked up and disposed of. Soil was restored with seed and straw.	

2.3 SSOs at Pump Stations Caused by Typical Year Wet Weather

SSO	Date & Time	Location (x, y)	Estimated Volume (gallons)	Duration (hrs:min)	Receiving Water	Related Project
Highland Heights PS	7/6/2020 18:30	-84.433493, 39.054025	19,449	2:50	Three Mile Creek	Highland Heights EQ
Highland Heights PS	7/19/2020 18:40	-84.433493, 39.054025	6,606	1:20	Three Mile Creek	Highland Heights EQ
Highland Heights PS	7/22/2020 13:41	-84.433493, 39.054025	20,250	2:19	Three Mile Creek	Highland Heights EQ
Highland Heights PS	7/30/2020 11:29	-84.433493, 39.054025	195,620	13:46	Three Mile Creek	Highland Heights EQ
Bullitsville PS	7/30/2020 16:56	-84.738540 39.074793	8,050	3:29	Woolper Creek	Bullitsville PS Capacity Upgrade/EQ
Lakeview PS	7/30/2020 19:28	-84.433493, 39.054025	36,460	1:32	Banklick Creek	Lakeview EQ
Highland Heights PS	8/1/2020 17:57	-84.433493, 39.054025	50,980	11:18	Three Mile Creek	Highland Heights EQ
Highland Heights PS	9/2/2020 7:21	-84.433493, 39.054025	20,890	4:24	Three Mile Creek	Highland Heights EQ
Highland Heights PS	10/19/2020 7:01	-84.433493, 39.054025	71,740	7:19	Three Mile Creek	Highland Heights EQ
Lakeview PS	10/29/2020 10:05	-84.532228 39.029362	241,850	4:55	Banklick Creek	Lakeview EQ
Bullitsville PS	10/29/2020 11:22	-84.738539 39.074791	5,180	2:23	Woolper Creek	Bullitsville PS Capacity Upgrade/EQ
Highland Heights PS	11/25/2020 6:47	-84.433493, 39.054025	228,410	18:58	Three Mile Creek	Highland Heights EQ

SSO	Date & Time	Location (x, y)	Estimated Volume (gallons)	Duration (hrs:min)	Receiving Water	Related Project
Highland Heights PS	11/30/2020 4:44	-84.433493, 39.054025	151,170	20:46	Three Mile Creek	Highland Heights EQ
Highland Heights PS	12/30/2020 18:27	-84.433493, 39.054025	170,780	22:33	Three Mile Creek	Highland Heights EQ

2.4 SSOs at Pump Stations Caused by Non-Typical Year Wet Weather

SSO	Date & Time	Location (x, y)	Estimated Volume (gallons)	Duration (hrs:min)	Receiving Water	Related Project
Highland Heights PS	7/23/2020 20:33	-84.433493, 39.054025	47,250	5:12	Three Mile Creek	Highland Heights EQ
Highland Heights PS	10/29/2020 5:34	-84.433493, 39.054025	406,180	10:26	Three Mile Creek	Highland Heights EQ

2.5 Model Predicted SSOs Caused by Typical Year Wet Weather

SSO	Date & Time	Location (x, y)	Estimated Volume (MG)	Duration (hrs:min)	Receiving Water	Related Project
0020006	7/6/2020 19:00	-84.418123, 39.042277	0.044	03:26	Fourmile Creek	Silver Grove EQ
	7/19/2020 18:55	-84.418123, 39.042277	0.050	03:26	Fourmile Creek	Silver Grove EQ
	7/22/2020 15:05	-84.418123, 39.042277	0.009	01:38	Fourmile Creek	Silver Grove EQ
	7/30/2020 12:50	-84.418123, 39.042277	0.340	10:52	Fourmile Creek	Silver Grove EQ
	8/1/2020 21:05	-84.418123, 39.042277	0.212	05:25	Fourmile Creek	Silver Grove EQ
	9/3/2020 8:00	-84.418123, 39.042277	0.041	03:44	Fourmile Creek	Silver Grove EQ
	10/19/2020 8:05	-84.418123, 39.042277	0.173	06:44	Fourmile Creek	Silver Grove EQ
	11/11/2020 4:10	-84.418123, 39.042277	0.045	03:49	Fourmile Creek	Silver Grove EQ
	11/25/2020 7:55	-84.418123, 39.042277	0.371	09:04	Fourmile Creek	Silver Grove EQ
	11/30/2020 6:25	-84.418123, 39.042277	0.191	09:09	Fourmile Creek	Silver Grove EQ
	12/30/2020 19:20	-84.418123, 39.042277	0.182	09:33	Fourmile Creek	Silver Grove EQ
0020007	7/6/2020 19:06	-84.416948, 39.041655	0.006	03:12	Fourmile Creek	Silver Grove EQ
	7/19/2020 19:05	-84.416948, 39.041655	0.006	02:53	Fourmile Creek	Silver Grove EQ
	7/22/2020 15:07	-84.416948, 39.041655	0.002	01:11	Fourmile Creek	Silver Grove EQ
	7/30/2020 12:53	-84.416948, 39.041655	0.028	09:14	Fourmile Creek	Silver Grove EQ

SSO	Date & Time	Location (x, y)	Estimated Volume (MG)	Duration (hrs:min)	Receiving Water	Related Project
0020007	8/1/2020 21:11	-84.416948, 39.041655	0.015	04:13	Fourmile Creek	Silver Grove EQ
	9/3/2020 9:05	-84.416948, 39.041655	0.003	01:57	Fourmile Creek	Silver Grove EQ
	10/19/2020 8:10	-84.416948, 39.041655	0.016	05:53	Fourmile Creek	Silver Grove EQ
	11/11/2020 4:17	-84.416948, 39.041655	0.003	01:43	Fourmile Creek	Silver Grove EQ
	11/25/2020 8:06	-84.416948, 39.041655	0.025	06:43	Fourmile Creek	Silver Grove EQ
	11/30/2020 6:44	-84.416948, 39.041655	0.013	04:36	Fourmile Creek	Silver Grove EQ
	12/30/2020 19:44	-84.416948, 39.041655	0.012	04:35	Fourmile Creek	Silver Grove EQ
0020008	7/6/2020 19:14	-84.415802, 39.041032	0.006	02:48	Fourmile Creek	Silver Grove EQ
	7/19/2020 19:13	-84.415802, 39.041032	0.005	02:25	Fourmile Creek	Silver Grove EQ
	7/22/2020 15:10	-84.415802, 39.041032	0.001	00:56	Fourmile Creek	Silver Grove EQ
	7/30/2020 12:56	-84.415802, 39.041032	0.022	08:42	Fourmile Creek	Silver Grove EQ
	8/1/2020 21:21	-84.415802, 39.041032	0.011	03:42	Fourmile Creek	Silver Grove EQ
	9/3/2020 9:20	-84.415802, 39.041032	0.002	01:19	Fourmile Creek	Silver Grove EQ
	10/19/2020 8:12	-84.415802, 39.041032	0.015	05:27	Fourmile Creek	Silver Grove EQ
	11/11/2020 4:26	-84.415802, 39.041032	0.002	01:17	Fourmile Creek	Silver Grove EQ
	11/25/2020 8:14	-84.415802, 39.041032	0.018	06:03	Fourmile Creek	Silver Grove EQ

SSO	Date & Time	Location (x, y)	Estimated Volume (MG)	Duration (hrs:min)	Receiving Water	Related Project
0020008	11/30/2020 7:08	-84.415802, 39.041032	0.008	03:42	Fourmile Creek	Silver Grove EQ
	12/30/2020 20:10	-84.415802, 39.041032	0.006	03:27	Fourmile Creek	Silver Grove EQ
0020030	7/6/2020 18:54	-84.395755, 39.037011	0.001	02:15	Fourmile Creek	Ash St EQ
	7/19/2020 18:51	-84.395755, 39.037011	0.001	01:47	Fourmile Creek	Ash St EQ
	7/30/2020 12:23	-84.395755, 39.037011	0.004	08:10	Fourmile Creek	Ash St EQ
	8/1/2020 21:11	-84.395755, 39.037011	0.002	02:53	Fourmile Creek	Ash St EQ
	10/19/2020 7:43	-84.395755, 39.037011	0.003	04:58	Fourmile Creek	Ash St EQ
	11/25/2020 8:04	-84.395755, 39.037011	0.003	05:06	Fourmile Creek	Ash St EQ
	11/30/2020 7:35	-84.395755, 39.037011	0.001	01:55	Fourmile Creek	Ash St EQ
0110010	7/30/2020 17:40	-84.455989, 39.048830	0.008	01:08	Threemile Creek	Licking River Siphon Conveyance Extension
	8/1/2020 21:15	-84.455989, 39.048830	0.003	00:25	Threemile Creek	Licking River Siphon Conveyance Extension
	10/29/2020 6:55	-84.455989, 39.048830	0.039	05:33	Threemile Creek	Licking River Siphon Conveyance Extension
	11/25/2020 7:55	-84.455989, 39.048830	0.064	04:55	Threemile Creek	Licking River Siphon Conveyance Extension
0150009	7/23/2020 20:55	-84.481907, 39.053425	0.067	01:25	UT to Threemile Creek	Licking River Siphon Conveyance
	7/30/2020 17:05	-84.481907, 39.053425	0.100	03:24	UT to Threemile Creek	Licking River Siphon Conveyance
	10/29/2020 7:05	-84.481907, 39.053425	0.268	06:53	UT to Threemile Creek	Licking River Siphon Conveyance

SSO	Date & Time	Location (x, y)	Estimated Volume (MG)	Duration (hrs:min)	Receiving Water	Related Project
0150009	11/25/2020 8:10	-84.481907, 39.053425	0.183	06:01	UT to Threemile Creek	Licking River Siphon Conveyance
0150061	7/30/2020 18:20	-84.481442, 39.048237	0.003	00:40	Threemile Creek	Licking River Siphon Conveyance
	10/29/2020 9:35	-84.481442, 39.048237	0.022	03:43	Threemile Creek	Licking River Siphon Conveyance
	11/25/2020 9:05	-84.481442, 39.048237	0.033	04:34	Threemile Creek	Licking River Siphon Conveyance
0150063	11/25/2020 11:33	-84.480416, 39.048376	0.001	00:15	Threemile Creek	Licking River Siphon Conveyance
0150064	10/29/2020 9:45	-84.479495, 39.048569	0.040	03:19	Threemile Creek	Licking River Siphon Conveyance
	11/25/2020 9:15	-84.479495, 39.048569	0.036	04:04	Threemile Creek	Licking River Siphon Conveyance
0150399	7/23/2020 21:05	-84.483918, 39.049304	0.010	00:58	Threemile Creek	Licking River Siphon Conveyance
	7/30/2020 17:30	-84.483918, 39.049304	0.032	02:45	Threemile Creek	Licking River Siphon Conveyance
	10/29/2020 7:25	-84.483918, 39.049304	0.102	06:25	Threemile Creek	Licking River Siphon Conveyance
	11/25/2020 8:25	-84.483918, 39.049304	0.096	05:53	Threemile Creek	Licking River Siphon Conveyance
0230016	7/22/2020 13:10	-84.460345, 39.071407	0.003	00:10	UT to Threemile Creek	Licking River siphon Conveyance (2040)
0300035	7/22/2020 13:10	-84.446180, 39.084106	0.009	00:15	UT to Threemile Creek	HH/SG Improvements (2040)
	7/23/2020 20:15	-84.446180, 39.084106	0.011	00:35	UT to Ohio River	HH/SG Improvements (2040)
	7/22/2020 13:05	-84.451739, 39.092277	0.011	00:24	UT to Woodlawn Creek	Taylor Creek (2040)
	7/23/2020 20:25	-84.451739, 39.092277	0.004	00:20	UT to Woodlawn Creek	Taylor Creek (2040)

SSO	Date & Time	Location (x, y)	Estimated Volume (MG)	Duration (hrs:min)	Receiving Water	Related Project
0410019	7/22/2020 13:20	-84.459029, 39.086080	0.002	00:23	UT to Woodlawn Creek	Taylor Creek (2040)
	7/23/2020 20:30	-84.459029, 39.086080	0.003	00:29	UT to Woodlawn Creek	Taylor Creek (2040)
0430006	11/25/2020 8:48	-84.469461, 39.095033	0.010	02:50	UT to Woodlawn Creek	Taylor Creek (2040)
0530083	11/25/2020 8:20	-84.473394, 39.093628	0.057	04:23	UT to Woodlawn Creek	Taylor Creek (2040)
0860001	7/6/2020 19:25	-84.494621, 39.052515	0.058	03:11	Licking River	Licking River Siphon EQ
	7/19/2020 19:20	-84.494621, 39.052515	0.021	01:31	Licking River	Licking River Siphon EQ
	7/22/2020 13:55	-84.494621, 39.052515	0.198	07:03	Licking River	Licking River Siphon EQ
	7/23/2020 20:50	-84.494621, 39.052515	0.671	07:12	Licking River	Licking River Siphon EQ
	7/30/2020 12:22	-84.494621, 39.052515	1.543	14:06	Licking River	Licking River Siphon EQ
	8/1/2020 18:05	-84.494621, 39.052515	0.540	08:23	Licking River	Licking River Siphon EQ
	9/2/2020 7:50	-84.494621, 39.052515	0.060	03:07	Licking River	Licking River Siphon EQ
	9/3/2020 7:45	-84.494621, 39.052515	0.288	07:34	Licking River	Licking River Siphon EQ
	10/19/2020 7:40	-84.494621, 39.052515	1.094	26:45	Licking River	Licking River Siphon EQ
	10/29/2020 6:15	-84.494621, 39.052515	2.574	19:18	Licking River	Licking River Siphon EQ
	11/11/2020 3:25	-84.494621, 39.052515	0.666	10:19	Licking River	Licking River Siphon EQ
	11/15/2020 9:45	-84.494621, 39.052515	0.187	06:01	Licking River	Licking River Siphon EQ

SSO	Date & Time	Location (x, y)	Estimated Volume (MG)	Duration (hrs:min)	Receiving Water	Related Project
0860001	11/25/2020 7:25	-84.494621, 39.052515	2.265	19:02	Licking River	Licking River Siphon EQ
	11/30/2020 5:15	-84.494621, 39.052515	1.425	18:35	Licking River	Licking River Siphon EQ
	12/24/2020 6:15	-84.494621, 39.052515	0.146	06:27	Licking River	Licking River Siphon EQ
	12/30/2020 18:20	-84.494621, 39.052515	1.563	27:26	Licking River	Licking River Siphon EQ
0870037	7/19/2020 18:15	-84.494850, 39.046409	0.004	00:10	None: Returns to CSS	James Ave Consolidation Sewer
	7/22/2020 13:10	-84.494850, 39.046409	0.016	00:15	None: Returns to CSS	James Ave Consolidation Sewer
	7/23/2020 20:35	-84.494850, 39.046409	0.014	00:15	None: Returns to CSS	James Ave Consolidation Sewer
	7/30/2020 16:15	-84.494850, 39.046409	0.045	01:60	None: Returns to CSS	James Ave Consolidation Sewer
1190012	10/29/2020 9:35	-84.608249, 39.015680	0.032	03:26	UT to Dry Creek	Dry Creek (2040)
	11/25/2020 8:45	-84.608249, 39.015680	0.019	03:55	UT to Dry Creek	Dry Creek (2040)
1200022	10/29/2020 10:36	-84.603567, 39.022725	0.009	01:35	UT to Dry Creek	Dry Creek (2040)
1220016	7/22/2020 13:15	-84.599485, 39.028552	0.005	00:50	UT to Dry Creek	Dry Creek (2040)
	10/29/2020 7:00	-84.599485, 39.028552	0.024	06:06	UT to Dry Creek	Dry Creek (2040)
	11/25/2020 8:50	-84.599485, 39.028552	0.010	03:48	UT to Dry Creek	Dry Creek (2040)
1220054	7/22/2020 13:15	-84.601512, 39.026306	0.007	00:44	UT to Dry Creek	Dry Creek (2040)
	10/29/2020 7:00	-84.601512, 39.026306	0.101	06:55	UT to Dry Creek	Dry Creek (2040)

SSO	Date & Time	Location (x, y)	Estimated Volume (MG)	Duration (hrs:min)	Receiving Water	Related Project
1220054	11/25/2020 8:50	-84.601512, 39.026306	0.035	04:02	UT to Dry Creek	Dry Creek (2040)
1230019	11/25/2020 9:07	-84.615307, 39.017120	0.006	02:07	UT to Dry Creek	Dry Creek (2040)
1240008	10/29/2020 8:09	-84.615784, 39.013657	0.049	04:50	UT to Dry Creek	Dry Creek (2040)
	11/11/2020 2:40	-84.615784, 39.013657	0.007	01:38	UT to Dry Creek	Dry Creek (2040)
	11/25/2020 6:50	-84.615784, 39.013657	0.073	06:02	UT to Dry Creek	Dry Creek (2040)
	12/30/2020 18:16	-84.615784, 39.013657	0.018	03:20	UT to Dry Creek	Dry Creek (2040)
1520124	7/22/2020 13:15	-84.543298, 39.053274	0.008	00:20	Moser's Branch	Lakeview (2040)
1560092	7/19/2020 16:20	-84.559279, 39.046501	0.005	00:15	UT to Pleasant Run Creek	Bromley Crescent Springs Conveyance
1760047	11/25/2020 8:35	-84.566260, 39.002867	0.044	06:49	UT to Bullock Pen Creek	Lakeview (2040)
1760048	11/25/2020 11:48	-84.566090, 39.003054	0.001	00:46	UT to Bullock Pen Creek	Lakeview (2040)
1850141	7/19/2020 18:20	-84.501171, 39.034191	0.019	00:44	Banklick Creek	Banklick EQ/Conveyance
	7/22/2020 13:15	-84.501171, 39.034191	0.026	01:34	Banklick Creek	Banklick EQ/Conveyance
	7/23/2020 20:40	-84.501171, 39.034191	0.011	00:33	Banklick Creek	Banklick EQ/Conveyance
	7/30/2020 11:05	-84.501171, 39.034191	0.137	08:44	Banklick Creek	Banklick EQ/Conveyance
	9/2/2020 6:35	-84.501171, 39.034191	0.020	01:11	Banklick Creek	Banklick EQ/Conveyance
	10/29/2020 5:00	-84.501171, 39.034191	0.165	13:37	Banklick Creek	Banklick EQ/Conveyance

SSO	Date & Time	Location (x, y)	Estimated Volume (MG)	Duration (hrs:min)	Receiving Water	Related Project
1850141	11/11/2020 2:35	-84.501171, 39.034191	0.016	01:28	Banklick Creek	Banklick EQ/Conveyance
	11/25/2020 6:55	-84.501171, 39.034191	0.063	05:43	Banklick Creek	Banklick EQ/Conveyance
	11/30/2020 3:35	-84.501171, 39.034191	0.008	05:04	Banklick Creek	Banklick EQ/Conveyance
	12/30/2020 19:35	-84.501171, 39.034191	0.042	08:53	Banklick Creek	Banklick EQ/Conveyance
1860108	7/19/2020 18:25	-84.508653, 39.036049	0.003	00:24	Banklick Creek	Banklick EQ/Conveyance
	7/22/2020 13:20	-84.508653, 39.036049	0.005	00:31	Banklick Creek	Banklick EQ/Conveyance
	7/30/2020 16:10	-84.508653, 39.036049	0.023	02:19	Banklick Creek	Banklick EQ/Conveyance
	9/3/2020 8:45	-84.508653, 39.036049	0.002	00:23	Banklick Creek	Banklick EQ/Conveyance
	10/19/2020 7:11	-84.508653, 39.036049	0.004	02:04	Banklick Creek	Banklick EQ/Conveyance
	10/29/2020 5:56	-84.508653, 39.036049	0.029	05:59	Banklick Creek	Banklick EQ/Conveyance
	11/11/2020 3:20	-84.508653, 39.036049	0.003	00:30	Banklick Creek	Banklick EQ/Conveyance
	11/25/2020 7:55	-84.508653, 39.036049	0.078	06:34	Banklick Creek	Banklick EQ/Conveyance
	11/30/2020 6:05	-84.508653, 39.036049	0.033	04:45	Banklick Creek	Banklick EQ/Conveyance
	12/30/2020 19:45	-84.508653, 39.036049	0.043	09:33	Banklick Creek	Banklick EQ/Conveyance
1940006	10/29/2020 8:35	-84.534620, 39.032334	0.090	03:01	Moser's Branch	Lakeview (2040)
1940024	10/29/2020 5:21	-84.538356, 39.039696	0.009	04:47	Moser's Branch	Lakeview (2040)

SSO	Date & Time	Location (x, y)	Estimated Volume (MG)	Duration (hrs:min)	Receiving Water	Related Project
1940026	7/30/2020 16:45	-84.539504, 39.041017	0.043	01:60	Moser's Branch	Lakeview (2040)
	10/29/2020 5:15	-84.539504, 39.041017	0.192	07:04	Moser's Branch	Lakeview (2040)
1950010	10/29/2020 8:25	-84.529224, 39.034633	0.513	12:54	Banklick Creek	Lakeview (2040)
	11/25/2020 10:55	-84.529224, 39.034633	0.143	04:60	Banklick Creek	Lakeview (2040)
1950027	10/29/2020 9:00	-84.524989, 39.041148	0.011	01:39	Banklick Creek	Lakeview (2040)
1950036	10/29/2020 8:35	-84.519178, 39.045160	0.592	08:55	UT to Banklick Creek	Lakeview (2040)
	11/25/2020 11:05	-84.519178, 39.045160	0.069	02:54	UT to Banklick Creek	Lakeview (2040)
1990018	10/29/2020 9:00	-84.528748, 39.016262	0.430	05:28	Banklick Creek	Lakeview (2040)
2020035	10/29/2020 7:10	-84.519138, 38.992666	0.063	05:34	Wayman or Hands Branch	Lakeview (2040)
	11/25/2020 9:30	-84.519138, 38.992666	0.008	02:21	Wayman or Hands Branch	Lakeview (2040)
2110006	7/22/2020 13:40	-84.606363, 39.004057	0.005	00:34	UT to Bullock Pen Creek	Lakeview (2040)
	10/29/2020 6:50	-84.606363, 39.004057	0.132	06:21	UT to Bullock Pen Creek	Lakeview (2040)
	11/25/2020 8:40	-84.606363, 39.004057	0.037	04:04	UT to Bullock Pen Creek	Lakeview (2040)
2120041	7/22/2020 1:45	-84.603772, 39.007017	0.001	00:14	UT to Bullock Pen Creek	Lakeview (2040)
	7/22/2020 13:15	-84.603772, 39.007017	0.002	00:15	UT to Bullock Pen Creek	Lakeview (2040)
	10/12/2020 20:35	-84.603772, 39.007017	0.002	00:14	Unnamed Tributaries to Bullock Pen Creek	Lakeview (2040)

SSO	Date & Time	Location (x, y)	Estimated Volume (MG)	Duration (hrs:min)	Receiving Water	Related Project
2210009	10/29/2020 11:40	-84.387178, 38.977331	0.006	02:33	Unnamed Tributaries to Tug Creek	Eastern Regional (2040)
2210050	10/29/2020 9:36	-84.390543, 38.980709	0.021	05:26	Unnamed Tributaries to Tug Creek	Eastern Regional (2040)
2300013	11/25/2020 9:50	-84.539668, 38.984153	0.140	05:37	Banklick Creek	W6 Improvements (2029)/Lakeview (2040)
2301219	11/25/2020 10:05	-84.541256, 38.980638	0.077	04:29	Banklick Creek	W6 Improvements (2029)/Lakeview (2040)

2.6 Model Predicted SSOs Caused by Non-Typical Year Wet Weather

SSO	Date & Time	Location (x, y)	Estimated Volume (MG)	Duration (hrs:min)	Receiving Water	Related Project
0010162	7/23/2020 21:05	-84.374977, 39.032159	0.002	00:37	Ohio River	Not Applicable
0020006	7/23/2020 20:55	-84.418123, 39.042277	0.276	06:04	Fourmile Creek	Silver Grove EQ
	10/29/2020 6:25	-84.418123, 39.042277	0.565	16:44	Fourmile Creek	Silver Grove EQ
0020007	7/23/2020 21:00	-84.416948, 39.041655	0.019	04:46	Fourmile Creek	Silver Grove EQ
	10/29/2020 6:27	-84.416948, 39.041655	0.043	14:51	Fourmile Creek	Silver Grove EQ
0020008	7/23/2020 21:05	-84.415802, 39.041032	0.016	04:17	Fourmile Creek	Silver Grove EQ
	10/29/2020 6:31	-84.415802, 39.041032	0.036	14:15	Fourmile Creek	Silver Grove EQ
0020030	7/23/2020 20:43	-84.395755, 39.037011	0.002	03:30	Fourmile Creek	Ash St EQ
	10/29/2020 6:16	-84.395755, 39.037011	0.005	07:20	Fourmile Creek	Ash St EQ
0020032	7/23/2020 21:00	-84.420000, 39.043000	0.077	01:60	Fourmile Creek	HH/SG Improvements (2040)
0060001	7/23/2020 20:56	-84.435000, 39.054000	0.002	00:18	Three Mile Creek	HH/SG Improvements (2040)
0110010	7/23/2020 20:50	-84.455989, 39.048830	0.011	00:40	Threemile Creek	LRS Conveyance Extension
0220056	7/23/2020 20:45	-84.454804, 39.066994	0.004	00:34	UT to Three Mile Creek	LRS Conveyance (2040)
0220086	7/23/2020 20:40	-84.456303, 39.064285	0.003	00:20	UT to Three Mile Creek	LRS Conveyance (2040)
0270026	7/23/2020 20:35	-84.451222, 39.074989	0.009	00:29	UT to Threemile Creek	LRS Conveyance (2040)

SSO	Date & Time	Location (x, y)	Estimated Volume (MG)	Duration (hrs:min)	Receiving Water	Related Project
0280001	7/23/2020 20:20	-84.440902, 39.075061	0.007	00:35	UT to Ohio River	HH/SG Improvements (2040)
0390007	7/1/2020 4:45	-84.456644, 39.101019	0.002	00:19	UT to Taylor Creek	Taylor Creek (2040)
	7/19/2020 16:45	-84.456644, 39.101019	0.001	00:10	UT to Taylor Creek	Taylor Creek (2040)
0430006	7/22/2020 13:35	-84.469461, 39.095033	0.001	00:19	UT to Woodlawn Creek	Taylor Creek (2040)
	7/23/2020 20:45	-84.469461, 39.095033	0.011	00:30	UT to Woodlawn Creek	Taylor Creek (2040)
0440074	7/1/2020 4:50	-84.459567, 39.102626	0.003	00:38	Taylor Creek	Taylor Creek (2040)
0530083	7/22/2020 13:40	-84.473394, 39.093628	0.002	00:24	UT to Woodlawn Creek	Taylor Creek (2040)
	7/23/2020 20:45	-84.473394, 39.093628	0.005	00:39	UT to Woodlawn Creek	Taylor Creek (2040)
0550015	7/1/2020 4:40	-84.474271, 39.102420	0.004	00:20	Chadwick Branch	Not Applicable
	7/6/2020 17:05	-84.474271, 39.102420	0.005	00:15	Chadwick Branch	Not Applicable
	7/19/2020 16:40	-84.474271, 39.102420	0.010	00:20	Chadwick Branch	Not Applicable
	7/22/2020 12:05	-84.474271, 39.102420	0.009	00:15	Chadwick Branch	Not Applicable
0600044	7/19/2020 16:45	-84.480813, 39.109760	0.004	00:10	None: Returned to CSS	Not Applicable
	7/22/2020 12:05	-84.480813, 39.109760	0.005	00:10	None: Returned to CSS	Not Applicable
0610023	7/19/2020 16:45	-84.478409, 39.102693	0.002	00:14	UT to Covert Run	Not Applicable
0610055	7/19/2020 16:45	-84.480753, 39.102749	0.007	00:10	None: Returned to CSS	Not Applicable

SSO	Date & Time	Location (x, y)	Estimated Volume (MG)	Duration (hrs:min)	Receiving Water	Related Project
0610055	7/22/2020 12:05	-84.480753, 39.102749	0.005	00:15	None: Returned to CSS	Not Applicable
0610067	7/19/2020 16:45	-84.479410, 39.101471	0.002	00:10	None: Returned to CSS	Not Applicable
0610089	7/19/2020 16:45	-84.481948, 39.103870	0.007	00:10	None: Returned to CSS	Not Applicable
0620057	7/1/2020 4:40	-84.482660, 39.101530	0.025	00:25	None: Returned to CSS	Not Applicable
	7/6/2020 17:05	-84.482660, 39.101530	0.021	00:15	None: Returned to CSS	Not Applicable
	7/19/2020 16:40	-84.482660, 39.101530	0.041	00:20	None: Returned to CSS	Not Applicable
	7/22/2020 12:05	-84.482660, 39.101530	0.031	00:19	None: Returned to CSS	Not Applicable
	7/23/2020 18:50	-84.482660, 39.101530	0.010	00:15	None: Returned to CSS	Not Applicable
	8/10/2020 21:50	-84.482660, 39.101530	0.007	00:15	None: Returned to CSS	Not Applicable
0730034	7/22/2020 13:05	-84.494078, 39.078995	0.012	00:15	UT Licking River	Not Applicable
0760047	7/19/2020 17:45	-84.490190, 39.090159	0.004	00:10	None: Returned to CSS	Not Applicable
	7/22/2020 13:05	-84.490190, 39.090159	0.011	00:10	None: Returned to CSS	Not Applicable
0760048	7/22/2020 13:05	-84.490407, 39.090391	0.002	00:10	None: Returned to CSS	Not Applicable
0780055	7/19/2020 17:45	-84.496301, 39.090033	0.007	00:10	None: Returned to CSS	Not Applicable
	7/22/2020 13:05	-84.496301, 39.090033	0.018	00:15	None: Returned to CSS	Not Applicable
0780062	7/22/2020 13:05	-84.495392, 39.089097	0.010	00:10	None: Returned to CSS	Not Applicable

SSO	Date & Time	Location (x, y)	Estimated Volume (MG)	Duration (hrs:min)	Receiving Water	Related Project
0780084	7/19/2020 17:45	-84.495817, 39.090297	0.003	00:10	None: Returned to CSS	Not Applicable
	7/22/2020 13:05	-84.495817, 39.090297	0.006	00:15	None: Returned to CSS	Not Applicable
0780091	7/19/2020 17:45	-84.495334, 39.090563	0.017	00:10	None: Returned to CSS	Not Applicable
	7/22/2020 13:05	-84.495334, 39.090563	0.027	00:15	None: Returned to CSS	Not Applicable
0780092	7/19/2020 17:45	-84.494848, 39.090831	0.002	00:10	None: Returned to CSS	Not Applicable
	7/22/2020 13:05	-84.494848, 39.090831	0.021	00:10	None: Returned to CSS	Not Applicable
0820078	7/19/2020 17:45	-84.498653, 39.089982	0.005	00:10	None: Returned to CSS	Not Applicable
	7/22/2020 13:05	-84.498653, 39.089982	0.021	00:10	None: Returned to CSS	Not Applicable
0830058	7/19/2020 17:45	-84.499760, 39.085144	0.009	00:10	None: Returned to CSS	Not Applicable
	7/22/2020 13:05	-84.499760, 39.085144	0.026	00:15	None: Returned to CSS	Not Applicable
0890064	7/22/2020 13:10	-84.504816, 39.054849	0.001	00:10	None: Returned to CSS	Not Applicable
0940027	7/22/2020 13:10	-84.503758, 39.068515	0.003	00:10	None: Returned to CSS	Not Applicable
1310067	7/6/2020 18:35	-84.507998, 39.060240	0.002	00:10	None: Returned to CSS	Not Applicable
	7/19/2020 18:15	-84.507998, 39.060240	0.001	00:14	None: Returned to CSS	Not Applicable
	7/22/2020 1:45	-84.507998, 39.060240	0.003	00:10	None: Returned to CSS	Not Applicable
	7/22/2020 13:05	-84.507998, 39.060240	0.019	00:20	None: Returned to CSS	Not Applicable

SSO	Date & Time	Location (x, y)	Estimated Volume (MG)	Duration (hrs:min)	Receiving Water	Related Project
1310067	7/27/2020 14:20	-84.507998, 39.060240	0.004	00:15	None: Returned to CSS	Not Applicable
1440077	7/22/2020 13:05	-84.511493, 39.088848	0.013	00:10	None: Returned to CSS	Not Applicable
1440084	7/22/2020 13:05	-84.511350, 39.088266	0.020	00:10	None: Returned to CSS	Not Applicable
1440088	7/22/2020 13:05	-84.511068, 39.087015	0.007	00:10	None: Returned to CSS	Not Applicable
1440193	7/22/2020 13:05	-84.509585, 39.087848	0.012	00:10	None: Returned to CSS	Not Applicable
1690043	7/22/2020 13:10	-84.540460, 39.068509	0.002	00:15	UT to Pleasant Run Creek	Bromley Crescent Springs Conveyance
1760047	10/29/2020 6:25	-84.566260, 39.002867	0.190	17:26	UT to Bullock Pen Creek	Lakeview (2040)
1760048	10/29/2020 6:31	-84.566090, 39.003054	0.134	14:20	UT to Bullock Pen Creek	Lakeview (2040)
1760055	10/29/2020 10:27	-84.567428, 39.004031	0.004	01:48	UT to Bullock Pen Creek	Lakeview (2040)
2030031	10/29/2020 7:10	-84.545597, 38.995830	0.017	04:59	Bullock Pen Creek	Not Applicable
2300011	10/29/2020 8:06	-84.538000, 38.985000	0.046	05:44	Banklick Creek	W6 Improvements (2029)/Lakeview (2040)
2300013	10/29/2020 8:00	-84.539668, 38.984153	0.323	14:17	Banklick Creek	W6 Improvements (2029)/Lakeview (2040)
2300019	10/29/2020 8:50	-84.543000, 38.978000	0.088	07:13	Banklick Creek	W6 Improvements (2029)/Lakeview (2040)
2300027	10/29/2020 9:05	-84.549000, 38.975000	0.077	06:04	Banklick Creek	W6 Improvements (2029)/Lakeview (2040)
2300121	10/29/2020 7:35	-84.579000, 38.943000	0.221	06:12	Banklick Creek	Western Regional (2034)

SSO	Date & Time	Location (x, y)	Estimated Volume (MG)	Duration (hrs:min)	Receiving Water	Related Project
2300123	10/29/2020 7:45	-84.581000, 38.942000	0.006	01:02	Banklick Creek	Western Regional (2034)
2301219	10/29/2020 8:05	-84.541256, 38.980638	0.397	13:38	Banklick Creek	W6 Improvements (2029)/Lakeview (2040)
2420171	7/6/2020 8:10	-84.649930, 38.947255	0.012	00:48	UT South Fork Gunpowder Creek	Not Applicable
C0630068	7/22/2020 13:05	-84.489405, 39.100317	0.009	00:10	None: Returned to CSS	Not Applicable