



April 30, 2014

Director of the Division of Enforcement  
Department for Environmental Protection  
300 Fair Oaks Lane  
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

Chief, Water Program Enforcement Branch  
Water Management Division  
U.S. Environmental Protection Agency, Region 4  
Atlanta Federal Center  
61 Forsyth Street, S.W.  
Atlanta, Georgia 30303

Re: Consent Decree Case No. 2:05-cv-00199-WOB

To Whom It May Concern:

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

**42. Quarterly Reports.** The District shall submit to the Cabinet/EPA a quarterly report that describes the District's progress in complying with this Consent Decree for the previous quarter no later than thirty days after the end of each calendar quarter. The first such report shall be submitted to the Cabinet/EPA no later than thirty days after the second full quarter after entry of this Consent Decree.

Information contained within the enclosed Quarterly Report describes SD1's compliance with Consent Decree Case No. 2:05-cv-00199-WOB for the period of October 1, 2013 through December 31, 2013. The report also contains an outlook for the upcoming calendar quarter period of January 1, 2014 through March 31, 2014. An annual review of 2013, with comparisons to previous years, is included in the report, as well.

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April 30, 2014

A certification as required by the Consent Decree is also enclosed (Consent Decree paragraph 38).

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 859-578-6762 or by e-mail at [drager@sd1.org](mailto:drager@sd1.org).

Best regards,

A handwritten signature in black ink, appearing to read "David E. Rager". The signature is fluid and cursive, with a large loop at the beginning.

David E. Rager  
Executive Director

DER/wck  
Enclosures

Sanitation District No. 1  
April 30, 2014

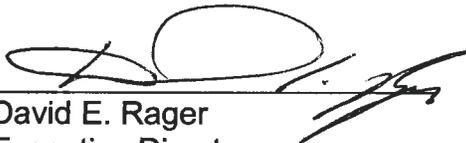
**Consent Decree**  
**Quarterly Report No. 26**  
(January 1, 2014 through March 31, 2014)



**CERTIFICATION**

Consent Decree Quarterly Report No. 26  
Consent Decree Case No. 2:05-cv-00199-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.

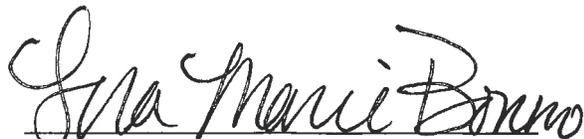
  
\_\_\_\_\_  
David E. Rager  
Executive Director

4/25/14  
\_\_\_\_\_  
Date

COMMONWEALTH OF KENTUCKY

COUNTY OF Kenton )ss.

The foregoing instrument was acknowledged before me this 25 day of April, 2014 by David E. Rager, Executive Director of Sanitation District. No. 1.

  
\_\_\_\_\_  
NOTARY PUBLIC

Kenton County, Kentucky

My commission expires: 7/6/14

Lora Marie Bonno  
Notary Public  
Kentucky, State at Large  
Comm. Exp. 07-06-14  
Notary ID 423237

# CONSENT DECREE QUARTERLY REPORT NO. 26

April 30, 2014



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

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**LIST OF ACRONYMS AND ABBREVIATIONS**

Cabinet	Kentucky Energy and Environment Cabinet
CSO	Combined Sewer Overflow
CVG	Cincinnati-Northern Kentucky International Airport
EPA	U.S. Environmental Protection Agency
KDOW	Kentucky Division of Water
SD1	Sanitation District No. 1
SSO	Sanitary Sewer Overflow

## SECTION 1. INTRODUCTION

### 1.1 Purpose

This Quarterly Report is submitted to fulfill the requirements of Sanitation District No. 1's (SD1) Consent Decree as entered on April 18, 2007. This 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 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 an effort to improve water quality throughout SD1's service area. Specifically, Section V Reporting Requirements, states that:

**42. Quarterly Reports.** The District shall submit to the Cabinet/EPA a quarterly report that describes the District's progress in complying with this Consent Decree for the previous quarter no later than thirty days after the end of each calendar quarter.

### 1.2 Report Period

Information contained within this report describes SD1's compliance with Consent Decree Case No. 2:05-cv-00199-WOB for the period of January 1, 2014 through March 31, 2014. This report also contains an outlook for the upcoming calendar quarter period of April 1, 2014 through June 30, 2014.

### 1.3 Consent Decree Compliance Schedule

A comprehensive compliance schedule for meeting the requirements of the Consent Decree can be found in Appendix A. Additionally, a more detailed listing of the projects and activities conducted to comply with the requirements of the Consent Decree, including schedules, project updates for the current reporting period, and planned activity for the subsequent quarter can be found in Appendix B. SD1 has also incorporated into Appendix B the status of the projects proposed in the first five years of the final Watershed Plans for Northern Kentucky, submitted on March 31, 2011, approved by a letter from the Cabinet and EPA dated February 14, 2014, and

resubmitted March 14, 2014 with agreed revisions as requested in the February 14, 2014 letter.

### Initial Watershed Projects

As shown in Appendix B, SD1 has completed the initial watershed projects. A request to remove Western Regional – Richwood project C-039-00 was included in the revised Watershed Plan submitted on March 31, 2011. Approval of the request was granted in a letter dated May 13, 2013 from the Cabinet and EPA. SD1 submitted its final Initial Watershed Projects Annual Report on June 7, 2013.

## **SECTION 2. OVERFLOW DATA**

This section of the Quarterly Report presents SD1's estimates of overflow activity in the collection systems.

### Overflow Categories

For reporting and system performance measurement purposes, SD1 has categorized sewer overflows throughout the service area into five distinct categories:

- *SSOs Due to Wet Weather Capacity Issues* – Recurring and inactive overflows from SD1's sanitary sewer system due to a lack of capacity during wet weather. This category includes wet-weather discharges at pump stations that may or may not have a constructed bypass. Overflows are determined to be "recurring" if they have been observed to overflow twice in a running twelve month period. Overflows are determined to be "inactive" until they occur more than once in a running twelve month period. Inactive overflows are generally under investigation as suspected or predicted hydraulic model overflow points in the collection system.
- *SSOs Due to Operational Issues* – Overflows from SD1's sanitary sewer system, including pump stations that are not a result of wet weather capacity issues. Many of these are one-time, dry-weather occurrences caused by temporary system issues that are investigated and corrected as soon as practicable.
- *Wet Weather CSOs* – Wet-weather discharges from the combined sewer system.

- *Dry Weather CSOs* – Dry-weather discharges from the combined sewer system.
- *Building Backups* – The release of raw sewage from a service lateral into a building in SD1's service area. Building backups can be caused by several factors, such as constrained capacity during wet weather or a blockage or collapse in the private service lateral or public main line. Building backups can be determined to be associated with the public sewer system or can be due to other causes beyond the control of SD1.

### Quantitative Estimates

SD1 uses three general methods for developing quantitative overflow estimates:

- Field inspections during or shortly after wet-weather events to identify activations. This inspection program has been in place since 2005 and is expanded as warranted for ongoing reporting and sewer overflow response cleanup. SD1's wet weather crew continues to perform routine inspections before, during and after rain events at prioritized recurring, inactive and suspected SSO locations to understand and verify overflow activity and the need for sewer overflow response cleanup. This is part of SD1's ongoing effort to characterize and verify overflows throughout the collection systems and ensure they are categorized accurately and cleaned up after rain events. Proper characterization of overflows ensures that the hydraulic models that SD1 utilizes are maintained and improved upon, which helps identify the most appropriate and effective solutions.
- Simple hydraulic estimating using Manning's Gravity Flow and Pipe Calculation to report overflows from pump stations with constructed bypasses, and industry standard volume estimations techniques and calculations are used for spills or for any witnessed overflow from a manhole. The only exception to this calculation methodology is at the Lakeview Pump Station, which has a metered bypass pipe. This method has been used historically for reporting purposes, and its results are included in this Quarterly Report.
- SD1's collection systems hydraulic models are used for quarterly activation and volume estimations of wet-weather CSOs and SSOs. SD1 completed a year-long flow monitoring program in 2008, consisting of more than 245 flow meters

and 45 rain gauges installed throughout the combined and separate sewer systems, that was utilized to update the calibration and validation of the system-wide hydraulic models. This calibration was undertaken to provide a model network that could confidently be used as an accurate tool in preparing SD1's Watershed Plans. In addition to the use of the models for planning future capital improvements, the models are also being used to provide information about the current performance of SD1's system. Based on the results of the ongoing verifications, SD1 has developed a highly-calibrated hydraulic model that provides an accurate representation of the sewer system. This tool allows SD1 to have confidence in the results of the overflow volumes from the sewer system and to provide estimates of the overflow locations within the system for quarterly reporting purposes. Additionally, the model is updated on a quarterly and annual basis to incorporate the latest data gathered from ongoing CSO and SSO inspections, targeted flow monitoring, sewer inspections, GPS surveys, discovered infrastructure, and record drawings of completed capital projects and private developments. This process ensures that the model is kept up-to-date and accurately reflects the current state of the collection system. This approach is consistent with SD1's commitment to provide the best available information on overflow activity within these reports.

For this submittal, SD1 has measured rainfall with a series of 21 rain gauges located across the system, and simulated the rainfall that occurred January 1, 2014 through March 31, 2014 within the hydraulic model. The results of the model simulations have been summarized and included as an estimate of the frequency and total volume of the overflow locations within SD1's system for this period. For the modeled locations, these results are not a summary of observed or confirmed activations but are a confident estimate of the overflow statistics based on the calibrated and verified model.

SD1 actively realigns and optimizes field and modeling activities on a continual basis, through regular inspections and flow monitoring to verify model simulations against actual field conditions. Field verifications improve model predictions by correcting and minimizing discrepancies found with observed conditions. The ongoing refinement of SD1's modeling tools provides accurate estimations of overflow location and activity. The model is also frequently updated with record drawings to reflect capital improvements to SD1's collection system. These updates may include post-construction

flow monitoring for calibration. Modeled overflow activity reported in this submittal incorporates the current system improvements, including the Kentucky Aire Pump Station elimination and newly upsized pipes in Lakeside Park.

### Precipitation Data

Rainfall statistics are an important component of overflow reporting, as rainfall conditions represent an uncontrolled variable impacting SD1's wet weather CSO and SSO activity. Quarterly CSO and SSO activations and volumes will constantly vary over time, with or without system improvements, due to natural variations in rainfall patterns and the associated groundwater and antecedent moisture conditions. Over time, SD1 expects system improvements to show a clear trend in reduced overflow activity. However, reviewing overflow reports for any individual quarter relative to the previous quarter also requires careful review of the rainfall associated with each quarter, in order to understand the relative impact of rainfall patterns. For this reason, storm event summaries are included in all overflow reporting submittals. The data in Table 2.1 is from the Cincinnati-Northern Kentucky International Airport (CVG) rain gauge maintained by the National Weather Service.

**Table 2.1 Summary of Storm Events**  
(January 1, 2014 through March 31, 2014)

Month	Approximate # of Storm Events <sup>1</sup>	Rainfall (in)
January	12	2.70
February	12	2.74
March	6	2.41
<b>Total</b>	<b>30</b>	<b>7.85</b>

<sup>1</sup> A storm event is defined as at least 0.01" of rain with a minimum inter-event time of 7 hours.

The remainder of this section reports overflows that occurred throughout SD1's service area during the period of January 1, 2014 through March 31, 2014. Annual comparisons and a cumulative accounting of SD1's overflows from January 2008 through the current reporting period can be found in Appendix C.

## **2.1 SSOs Due to Wet Weather Capacity Issues**

As previously described, this category includes recurring and inactive overflows from SD1's sanitary sewer system due to lack of capacity during wet weather. This includes

wet-weather discharges at pump stations that may or may not have a constructed bypass. Overflows are determined to be “recurring” if they have been observed to overflow twice in a running twelve month period. Overflows are determined to be “inactive” until they have been observed to overflow more than once in a running twelve month period. Inactive overflows are generally under investigation as suspected or predicted hydraulic model overflow points in the collection system.

#### Recurring Wet Weather SSOs

Modeled activation and volume statistics for 158 recurring wet-weather SSO locations for the current reporting period can be found in Appendix D. This list has been revised subsequent to the January 2014 Quarterly Report, based upon a review of field inspections and hydraulic modeling updates for the past two years. As discussed in past reports, the recurring SSO list is updated annually in the April Quarterly Report to reflect the latest information from ongoing system characterization, based upon field inspections, flow monitoring, and hydraulic modeling. A detailed list of structure numbers and transaction descriptions for the revisions made to the Recurring SSO list can be found in Appendix E.

#### Recurring Pump Station Overflows

In addition to the 158 recurring wet weather SSOs, there are also 14 pump stations identified in the Consent Decree that have historically documented recurring wet-weather capacity issues. Table 2.2 lists each of the 14 pump stations identified in Exhibit E of the Consent Decree and demonstrates their wet-weather SSO occurrences during the current reporting period.

Of the 14 pump stations listed in the Consent Decree, only Lakeview Pump Station discharged due to a lack of capacity, during the current reporting period. The single event discharged an estimated overflow volume of 243,200 gallons, after half an inch of rain combined with two inches of snowmelt.

As previously mentioned, SD1 uses the Manning’s Gravity Flow and Pipe Calculation to estimate discharge volumes from pump stations. The only exception to this calculation methodology is at the Lakeview Pump Station, which has a metered bypass pipe.

**Table 2.2 Discharges from Consent Decree Pump Stations Due to Lack of Capacity during Wet Weather**  
(January 1, 2014 through March 31, 2014)

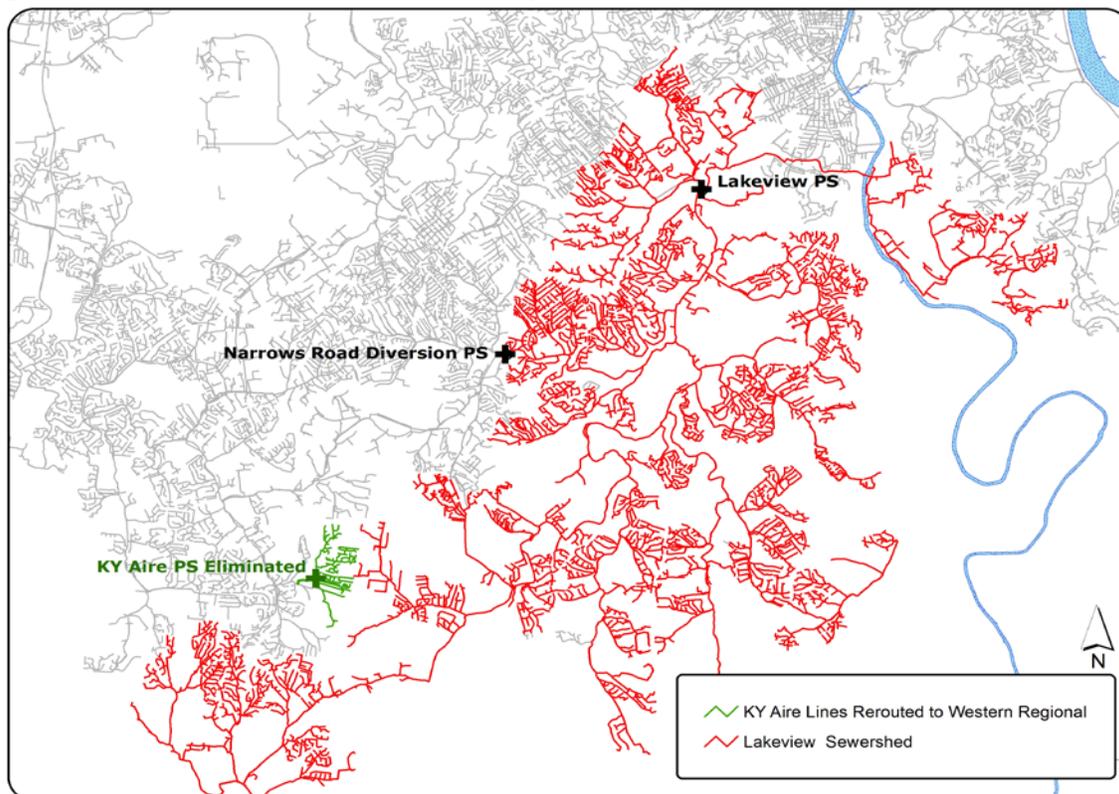
<b>Name of Pump Station</b>	<b>Number of Wet-Weather Related Discharge Occurrences</b>	<b>Total Estimated Volume (gallons)</b>
Allen Fork	0	0
Crestview	0	0
Lakeview	1	243,200
Alex-Licking	0	0
Harrison Harbor	0	0
Highland Acres	0	0
Kentucky Aire	0	0
Riley Road	0	0
Ripple Creek	0	0
South Hampton	0	0
South Park	0	0
Sunset	0	0
Taylorport	0	0
Union	0	0
<b>TOTAL</b>	<b>1</b>	<b>243,200</b>

*Gray denotes where required improvements have been made to pump stations.*

The Kentucky Aire Pump Station elimination project was completed in December of 2013. The area previously served by the eliminated Kentucky Aire Pump Station is now conveyed by gravity to the Western Regional Water Reclamation Facility (WRWRF), instead of the Dry Creek Wastewater Treatment Plant via the Lakeview Pump Station.

Approximately nine miles of pipe, serving more than 1,600 residential units and 30 commercial properties, have been removed from the Lakeview Pump Station sewershed with this pump station elimination. SD1 estimates that an average of 320,000 gallons per day of dry-weather flow, and wet-weather flow with typical year peak rates of approximately 3,600,000 gallons per day, have been redirected to WRWRF with this elimination.

The green lines shown in Figure 2.1 illustrate the relative size of the collection system previously served by the Kentucky Aire Pump Station, which is no longer tributary to the Lakeview sewershed shown in red.

**Figure 2.1 Service Area Redirected by Kentucky Aire Pump Station Elimination**

### Overflows at Pump Stations Not Listed in Consent Decree due to Lack of Capacity

In addition to tracking the recurring wet-weather SSOs at the pump stations listed in the Consent Decree, SD1 continuously monitors all pump stations throughout the service area for recurring wet-weather capacity issues.

During the current reporting period, the Highland Heights Pump Station was the only pump station not listed in the Consent Decree that experienced recurring wet-weather capacity issues. It discharged six times, for a total estimated volume of 546,100 gallons.

### Inactive Wet Weather SSOs

No inactive wet-weather SSOs were observed during the current reporting period.

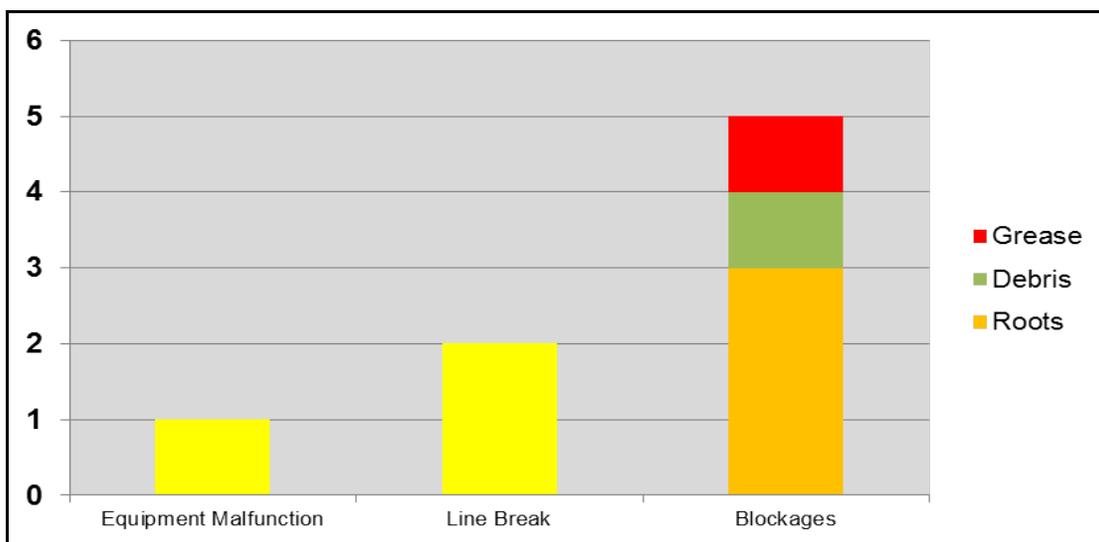
## **2.2 SSOs Due to Operational Issues**

This category of overflows includes discharges from SD1's sanitary sewer system that are not a result of wet-weather capacity issues. Many of these are one-time, dry-

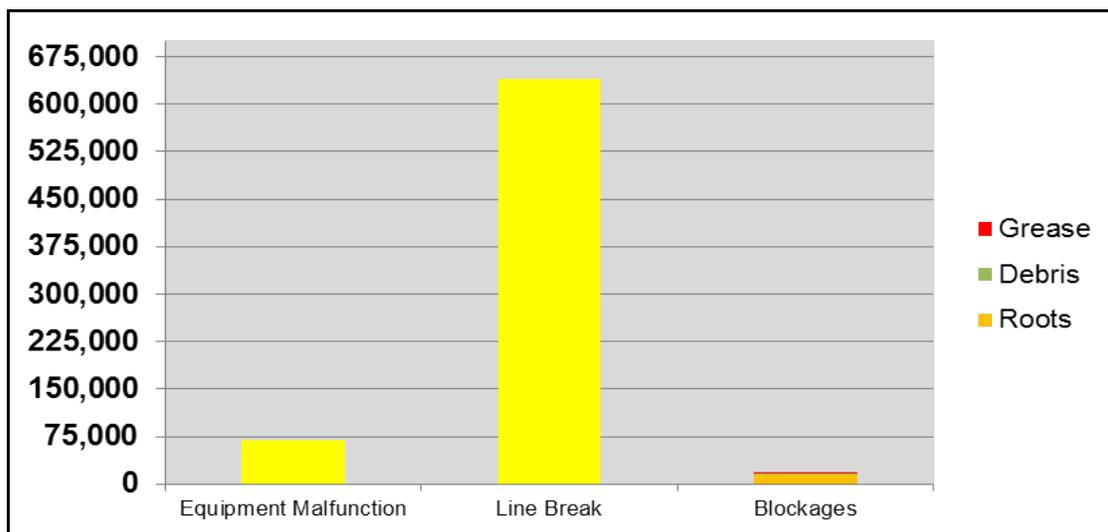
weather occurrences caused by temporary system issues that are investigated and corrected as soon as possible.

During the current reporting period, there were a total of eight SSOs due to operational issues throughout SD1's service area, with a total estimated overflow volume of 727,500 gallons. Figure 2.2 demonstrates the primary causes of the overflows and Figure 2.3 demonstrates the corresponding volumes.

**Figure 2.2 Occurrences of SSO Due to Operational Issues per Cause**  
(January 1, 2014 through March 31, 2014)



**Figure 2.3 Gallons of SSO Due to Operational Issues per Cause**  
(January 1, 2014 through March 31, 2014)



These SSOs were immediately acted upon and the problems repaired. The sewers where blockages occurred were put into the Continuous Sewer Assessment Program (CSAP) to be inspected and cleaned as determined by the CSAP logic, which also provides appropriate next actions to permanently address the cause of the blockages.

On March 28, 2014, a landslide in the City of Ludlow separated the joints of a 60-inch interceptor sewer along the Ohio River. This line break released approximately 639,000 gallons of overflow directly into the Ohio River. SD1 immediately responded, set up bypass pumping, and made a temporary fix to the pipe. Currently, SD1 is conducting a sonar investigation of the interceptor line, and conducting a geotechnical evaluation of the river bank to develop options for a permanent solution.

All overflow events are recorded in Lucity and are periodically reviewed to identify if any trends or localized problem areas (such as past overflows or proximity to recurring SSOs) exist that warrant the need for a larger-scale inspection or rehabilitation project.

### **2.3 Wet Weather CSOs**

Included in Appendix F are the modeled activation and volume statistics for SD1's 95 CSOs. This data was generated from the hydraulic modeling program previously described in Section 2.1.

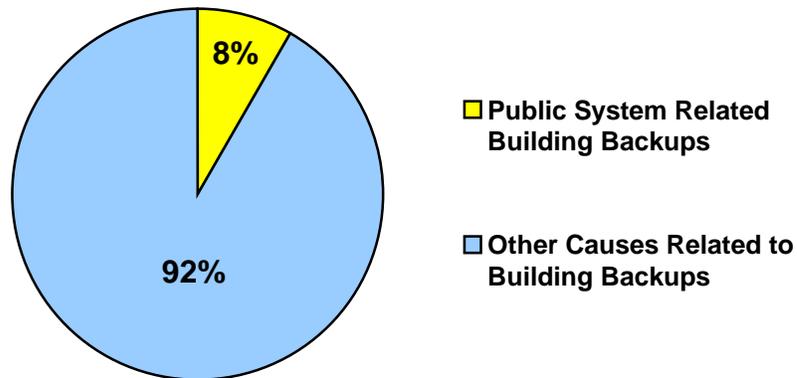
### **2.4 Dry Weather CSOs**

No dry-weather CSOs were observed during the current reporting period.

### **2.5 Building Backups**

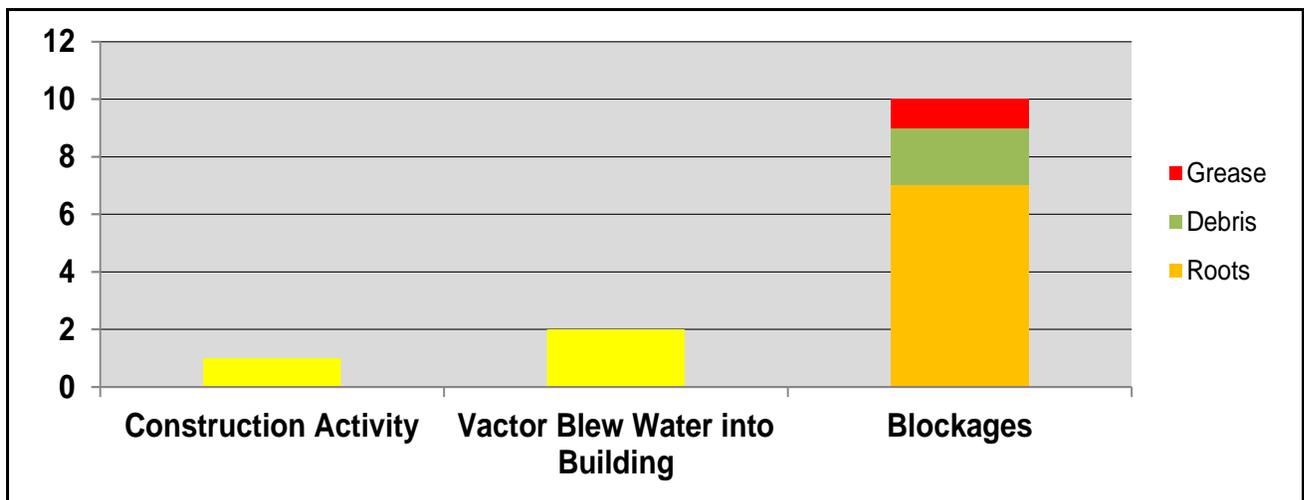
During the first quarter of 2014, there were approximately 154 building backups throughout SD1's service area. Of these 154 backups, approximately 13 were related to the condition or operation of the public sewers and 141 were caused by other issues, as shown in Figure 2.4. The building backups that were not related to the condition or operation of the public sewers were caused by blockages in private service laterals, internal plumbing issues, or were undetermined.

**Figure 2.4 Building Backups: Public System vs. Other Causes**  
(January 1, 2014 through March 31, 2014)



Causes of the approximate 13 building backups determined to be related to the condition or operation of the public sewer lines are detailed in Figure 2.5 below.

**Figure 2.5 Causes of Public System Related Building Backups**  
(January 1, 2014 through March 31, 2014)



The sewers where these blockages occurred were put into or updated in SD1’s CSAP to be inspected and cleaned, as determined by the program logic, which also provides appropriate next actions to permanently address the cause of the blockages.

All building backups are recorded in Lucity and are periodically reviewed to identify if any trends or localized problem areas exist that warrants the need for a larger-scale inspection routine, rehabilitation, or repair project.

**APPENDIX A:**  
***Consent Decree Compliance Schedule***

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### Consent Decree Compliance Schedule

	CONSENT DECREE ACTIVITY	PERCENT COMPLETE	DUE DATE	DATE OF COMPLETION
	<b>ASSESSED STIPULATED PENALTY</b>			
✓	\$14,000 for 9 DWOs, between April 18, 2009 through June 30, 2010	100%	1/9/2011	12/21/2010
	<b>CIVIL PENALTY</b>			
✓	Pay Civil Penalties to EPPC and US EPA	100%	06/18/07	06/18/07
	<b>CMOM PROGRAM REQUIREMENTS – 2007 through 2014</b>			
✓	Submit CMOM Program Self-Assessment	100%	10/18/07	10/17/07
✓	Submit Grease Control Program	100%	10/18/07	09/17/07
✓	Submit Pump Station Backup Power Plan	100%	04/18/08	12/14/07
✓	Submit Sewer Overflow Response Plan (SORP)	100%	10/18/07	10/09/07
	<b>Submit CMOM Annual Report</b>			
✓	CMOM Annual Report 1	100%	12/31/07	12/28/07
✓	CMOM Annual Report 2	100%	12/31/08	12/19/08
✓	CMOM Annual Report 3	100%	12/31/09	12/18/09
✓	CMOM Annual Report 4	100%	12/31/10	12/21/10
✓	CMOM Annual Report 5	100%	12/31/11	12/21/11
✓	CMOM Annual Report 6	100%	12/31/12	12/31/12
✓	CMOM Annual Report 7	100%	12/31/13	12/31/13
	CMOM Annual Report 8	0%	12/31/14	
	<b>Phased Grease Control Implementation</b>			
✓	Phase 1 Tasks	100%	01/08/09	01/08/09
✓	Phase 2 Tasks	100%	01/08/10	01/08/10
✓	Phase 3 Tasks	100%	01/08/11	01/08/11
✓	Phase 4 Tasks / Full Implementation	100%	01/08/12	12/31/11
	<b>Complete Pump Station Backup Power Projects (110 Total)</b>	80%	12/31/2015	
	<b>Complete SORP Annual Review</b>			
✓	SORP Annual Review 1	100%	05/14/09	07/10/09
✓	SORP Annual Review 2	100%	11/10/10	10/01/10
✓	SORP Annual Review 3	100%	11/10/11	11/10/11
✓	SORP Annual Review 4	100%	11/10/12	11/10/12
✓	SORP Annual Review 5	100%	11/10/13	11/08/13
	SORP Annual Review 6	0%	11/10/14	
	<b>INITIAL WATERSHED PROJECTS</b>			
✓	Complete Initial Watershed Projects (51 Total)	100%	12/31/14	06/06/12
	<b>Submit Initial Watershed Projects Annual Report</b>			
✓	Initial Watershed Projects Annual Report 1	100%	04/18/08	04/08/08
✓	Initial Watershed Projects Annual Report 2	100%	06/07/09	06/05/09
✓	Initial Watershed Projects Annual Report 3	100%	06/07/10	06/04/10
✓	Initial Watershed Projects Annual Report 4	100%	06/07/11	06/07/11
✓	Initial Watershed Projects Annual Report 5	100%	06/07/12	06/07/12
✓	Initial Watershed Projects Annual Report 6	100%	06/07/13	06/06/13
	<b>NMC PROGRAM REQUIREMENTS – 2007 through 2014</b>			
✓	Submit NMC Documentation of Compliance	100%	04/18/08	03/12/08
✓	Complete Additional NMC Compliance Activities (51 Total)	100%	04/18/09	4/18/09 <sup>1</sup>
	<b>Submit NMC Annual Report</b>			
✓	NMC Annual Compliance Report 1	100%	09/04/09	05/11/09
✓	NMC Annual Compliance Report 2	100%	09/04/10	06/04/10
✓	NMC Annual Compliance Report 3	100%	09/04/11	06/21/11
✓	NMC Annual Compliance Report 4	100%	09/04/12	07/02/12
✓	NMC Annual Compliance Report 5	100%	09/04/13	09/04/13
	NMC Annual Compliance Report 6	0%	09/04/14	

### Consent Decree Compliance Schedule

	CONSENT DECREE ACTIVITY	PERCENT COMPLETE	DUE DATE	DATE OF COMPLETION
<b>PUBLIC PARTICIPATION</b>				
✓	Watershed Summit	100%	N/A	08/30/07
✓	Watershed Community Council Meeting 1	100%	N/A	11/27/07
✓	Watershed Community Council Meeting 2	100%	N/A	02/26/08
✓	Watershed Community Council Meeting 3	100%	N/A	05/20/08
✓	Watershed Community Council Meeting 4	100%	N/A	08/19/08
✓	Watershed Community Council Meeting 5	100%	N/A	11/18/08
✓	Watershed Community Council Meeting 6	100%	N/A	02/17/09
✓	Watershed Community Council Meeting 7	100%	N/A	05/20/10
✓	Watershed Community Council Meeting 8	100%	N/A	11/03/10
<b>PUMP STATION OVERFLOW ELIMINATION PLAN (PSOEP) – 2007 through 2014</b>				
✓	Submit PSOEP	100%	10/18/07	09/18/07
<b>Submit PSOEP Annual Report</b>				
✓	PSOEP Annual Report 1	100%	05/14/09	05/11/09
✓	PSOEP Annual Report 2	100%	05/14/10	05/14/10
✓	PSOEP Annual Report 3	100%	05/14/11	05/13/11
✓	PSOEP Annual Report 4	100%	05/14/12	05/14/12
✓	PSOEP Annual Report 5	100%	05/14/13	05/14/13
	PSOEP Annual Report 6	25%	05/14/14	
<b>REPORTING – 2007 through 2014</b>				
<b>Submit Quarterly Report</b>				
✓	Submit Quarterly Report 1	100%	01/30/08	01/30/08
✓	Submit Quarterly Report 2	100%	04/30/08	04/30/08
✓	Submit Quarterly Report 3	100%	07/30/08	07/30/08
✓	Submit Quarterly Report 4	100%	10/30/08	10/30/08
✓	Submit Quarterly Report 5	100%	01/30/09	01/30/09
✓	Submit Quarterly Report 6	100%	04/30/09	04/30/09
✓	Submit Quarterly Report 7	100%	07/30/09	07/30/09
✓	Submit Quarterly Report 8	100%	10/30/09	10/30/09
✓	Submit Quarterly Report 9	100%	01/30/10	01/29/10
✓	Submit Quarterly Report 10	100%	04/30/10	04/30/10
✓	Submit Quarterly Report 11	100%	07/30/10	07/30/10
✓	Submit Quarterly Report 12	100%	10/30/10	10/29/10
✓	Submit Quarterly Report 13	100%	01/30/11	01/28/11
✓	Submit Quarterly Report 14	100%	04/30/11	04/29/11
✓	Submit Quarterly Report 15	100%	07/30/11	07/29/11
✓	Submit Quarterly Report 16	100%	10/30/11	10/28/11
✓	Submit Quarterly Report 17	100%	01/30/12	01/30/12
✓	Submit Quarterly Report 18	100%	04/30/12	04/30/12
✓	Submit Quarterly Report 19	100%	07/30/12	07/30/12
✓	Submit Quarterly Report 20	100%	10/30/12	10/30/12
✓	Submit Quarterly Report 21	100%	01/30/13	01/30/13
✓	Submit Quarterly Report 22	100%	04/30/13	04/30/13
✓	Submit Quarterly Report 23	100%	07/30/13	07/30/13
✓	Submit Quarterly Report 24	100%	10/30/13	10/30/13
✓	Submit Quarterly Report 25	100%	01/30/14	01/30/14
✓	Submit Quarterly Report 26	100%	04/30/14	04/30/14
	Submit Quarterly Report 27	0%	07/30/14	
	Submit Quarterly Report 28	0%	10/30/14	

### Consent Decree Compliance Schedule

	CONSENT DECREE ACTIVITY	PERCENT COMPLETE	DUE DATE	DATE OF COMPLETION
<b>STATE ENVIRONMENTAL PROJECTS</b>				
✓	Setup 6 Separate Escrow Accounts	100%	10/18/07	10/18/07
✓	Conservancies	100%	04/18/12	04/18/12
✓	<i>Boone County</i>	100%	04/18/12	03/26/12
✓	<i>Campbell County</i>	100%	04/18/12	02/23/12
✓	<i>Kenton County</i>	100%	04/18/12	04/17/12
✓	Licking River Watershed Watch	100%	04/18/12	09/28/11
✓	Split Rock	100%	04/18/12	12/18/08
✓	Education Programs	100%	04/18/12	08/04/11
✓	State Environmental Project Completion Report	100%	06/17/12	06/15/12
<b>SUPPLEMENTAL PROJECTS</b>				
✓	Supplemental Environmental Projects	100%	04/18/12	04/12/12
✓	SEP Completion Reports	100%	06/17/12	06/15/12
<b>WATERSHED PLANS</b>				
<b>Framework for Developing Watershed Plans</b>				
✓	Obtain Public Input on Framework for Watershed Plans	100%	04/09/08	04/09/08
✓	Submit Framework for Watershed Plans	100%	04/18/08	04/17/08
<b>First Round Watershed Plans</b>				
✓	Obtain Public Input on First Round of Watershed Plans	100%	06/27/09	06/08/09
✓	<i>Public Comment Period (5/7/09-6/8/09)</i>	100%	06/08/09	06/08/09
✓	<i>Boone County Public Meeting</i>	100%	N/A	05/14/09
✓	<i>Campbell County Public Meeting</i>	100%	N/A	05/19/09
✓	<i>Kenton County Public Meeting</i>	100%	N/A	05/21/09
✓	Submit First Round of Watershed Plans	100%	06/30/09	06/30/09
✓	Resubmit First Round of Watershed Plans	100%	03/31/11	03/31/11
✓	Resubmit First Round of Watershed Plans - Revision	100%	10/03/13	10/01/13
✓	Final Submission of First Round of Watershed Plans	100%	03/15/14	03/14/14
<b>Second Round Watershed Plans</b>				
	Obtain Public Input on Second Round of Watershed Plans	0%	To Be Determined <sup>2</sup>	
	Submit Second Round of Watershed Plans	0%	To Be Determined <sup>2</sup>	
<b>Third Round Watershed Plans</b>				
	Obtain Public Input on Third Round of Watershed Plans	0%	To Be Determined <sup>2</sup>	
	Submit Third Round of Watershed Plans	0%	To Be Determined <sup>2</sup>	
<b>Consent Decree Compliance</b>				
	Complete all Consent Decree Compliance Measures	39%	12/31/25	

<sup>1</sup> Project schedules for three of the 51 projects were extended beyond 4/18/2009, as described in the 2009 NMC Annual Report. The three projects were complete as of December 2009.

<sup>2</sup> Deadline is dependent on the approval date of each Watershed Plan.

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**APPENDIX B:**  
***Watershed Improvement Program***

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## Initial Watershed Projects

CIP Title	Basin	Scheduled Completion Date	Actual Completion Date	Status
<b>Initial Watershed Projects</b>				
Strawberry PS Elimination	North	2006	2005	Complete
Beechwood Outfall Sewer Replacement	North	2007	2007	Complete
Eastern Regional - Contract 1--Pond Creek Force Main and Gravity Sewer to Eastern Regional WRF	East	2008	2007	Complete
Eastern Regional - Contract 2--Kahn's Gravity Sewer and Gravity Sewer to the Pond Creek PS	East	2008	2007	Complete
US 27 at Summit Assessment	East	2008	2006	Complete
Eastern Regional - Contract 4--Alex-Licking Gravity Sewer & Force Main to Contract 1	East	2009	2008	Complete
Eastern Regional - Contract 6--Pond Creek PS	East	2008	2007	Complete
Eastern Regional - Contract 8A--Alex-Licking PS	East	2009	2009	Complete
Parkside PS Relocation	East	2008	2007	Complete
Eastern Regional Water Reclamation Facility	East	2008	2008	Complete
Highland Heights PS Study	East	2006	2006	Complete
Wilson/Waterworks Road Relief Sewer Study	East	2008	2007	Complete
Pinehill/Skyview Terrace Sewer	East	2006	2005	Complete
Eastern Regional - Contract 7--Riley Road #2 PS	East	2009	2009	Complete
Eastern Regional - Contract 3--Riley Force Main and Gravity Sewer to the ERWRF	East	2009	2010	Complete
Western Regional - KDOT - Turkeyfoot Road Force Main	West	2006	2005	Complete
Western Regional - Union Sewer (North and South)	West	2013	2008	Complete
American Sign PS Rehabilitation	West	2008	2008	Complete
Allen Fork Collection System - Phase I Improvements	West	2009	2007	Complete
Duncan Drive Assessment Project	West	2007	2006	Complete
Western Regional - Sunnybrook Sewer	West	2013	2010	Complete
Western Regional - Gunpowder Interceptor Sewer	West	2013	2010	Complete
Banklick PS Screening Facility	Central	2006	2005	Complete
Stevenson Road Relief Sewer Project Phase II	Central	2006	2006	Complete
Latonia Combined Sewer Separation	Central	2009	2007	Complete
Licking River Sewer Crossing Study	Central	2007	2007	Complete
McMillan PS Removal	Central	2006	2005	Complete
Meyer Road PS Rehabilitation	Central	2008	2008	Complete
Macke PS Rehabilitation	Central	2008	2008	Complete

## Initial Watershed Projects

CIP Title	Basin	Scheduled Completion Date	Actual Completion Date	Status
<b>Initial Watershed Projects</b>				
Richwood PS Improvements	Central	2006	2005	Complete
Patton Street Sewer Study	Central	2006	2006	Complete
South Hills Outfall	Central	2008	2007	Complete
Grit Chamber Projects	Multiple	2010	2008	Complete
Fort Wright Illicit Discharge Removal	Multiple	2007	2006	Complete
Fort Wright Sanitary Sewer Rehabilitation Phase 1	Multiple	2007	2006	Complete
Fort Wright Outfall Sewer - Phase II	Multiple	2006	2006	Complete
Dry Creek Treatment Plant - Grit Removal Modifications	Multiple	2006	2005	Complete
Large Diameter Sewer Assessment Program - Phase III	Multiple	2007	2006	Complete
Brookwood Subdivision SSES Study	Multiple	2006	2006	Complete
Southern Kenton Drainage Study	Multiple	2007	2006	Complete
Wilson Road Sewer Assessment Project	Multiple	2006	2005	Complete
Apple Drive Sewer Outfall	Multiple	2006	2006	Complete
Bluegrass Swim Club Sewer Separation	Multiple	2008	2007	Complete
Eastern Regional – Sunset Pump Station and Force Main Improvements	East	2010	2010	Complete
Western Regional Conveyance System to Western Regional WRF	West	2013	2012	Complete
Western Regional Water Reclamation Facility	West	2013	2012	Complete
Western Regional - Narrows Road Diversion PS	West	2013	2012	Complete
Western Regional - Frogtown Interceptor Sewer (from Sunnybrook Dr. to Frogtown Rd.)	West	2014	2012	Complete
Western Regional - South Fork Gunpowder Interceptor Sewer and Rosetta Sewer	West	2013	2012	Complete
Western Regional - Turkeyfoot Industrial Road Force Main	West	2013	2012	Complete
Western Regional - Richwood Sewer and Force Main	West	Removed from Initial Watershed Projects. Approved in letter from Cabinet dated May 13, 2013.		

**Watershed Plan Projects: Five Year Program**

**System-wide Programs**

CIP Title	Basin	Project Description	Target Project Benefit	Scheduled Completion Date	Actual Completion Date	Past Activity for 1/01/2014 to 3/31/2014	Planned Activity for 4/01/2014 to 6/30/2014
<i>(Schedules listed in this section are subject to change based on the approval of SD1's Watershed Plans.)</i>							
<b>Priority Inflow and Infiltration Source Identification &amp; Removal Program</b>							
Lakeview I/I Source Identification & Removal	Central	SSES activities and I/I removal in areas where found to be cost effective and feasible upstream of the Lakeview Pump Station	Reduce I/I and SSOs in Lakeview PS service area	Beyond 2014	n/a	Initial Design	Initial Design
Licking River Siphon Source Identification and Removal	Central	SSES activities and I/I removal in areas where found to be cost effective and feasible upstream of the Licking River Siphon	Reduce I/I and SSOs in Licking River Siphon area	Beyond 2014	n/a	Initial Design	Initial Design
Taylor Creek Source Identification and Removal	East	SSES activities and I/I removal in areas where found to be cost effective and feasible in the Taylor Creek area	Reduce I/I and SSOs in Taylor Creek area	Beyond 2014	n/a	Initial Design	Initial Design
<b>Green Programs (DRIP &amp; GrIPP)</b>							
Boone Woods YMCA Detention Model	North	Partnership with Northern Kentucky University Center for Applied Ecology to retrofit a detention basin on Boone Woods YMCA property	Improve Water Quality	2010	2010	Complete	
City of Covington: 12th Street Bioswale	North	Partnership with City of Covington to install street planters leading to a bioswale and rain garden along 12th Street	Reduce CSO volume	2011	2011	Complete	
City of Covington: Main Strasse Gateway Biofiltration Swale	North	Partnership with City of Covington and Transit Authority of Northern Kentucky to install biofiltration swales on city property at the Bakewell parking lot	Reduce CSO volume	2012	2013	Complete	
Notre Dame Academy Basin Retrofit	North	Partnership with Notre Dame Academy to retrofit an existing detention basin on school property	Reduce CSO volume	2009	2009	Complete	
City of Ft. Thomas: Rossford Park Rain Garden	East	Partnership with City of Ft. Thomas to install rain gardens at Rossford Park	Improve Water Quality	2012	2012	Complete	
City of Ft. Thomas: Memorial Parkway Bioswale	East	Partnership with City of Ft. Thomas to install a bioswale at the Northern Kentucky Water District property located along Memorial Parkway.	Improve Water Quality	2010	2010	Complete	
Kenton County School District: Turkeyfoot Middle School	Central	Partnership with Kenton County School District to install rain garden at Turkeyfoot Middle School	Improve Water Quality	2010	2010	Complete	
City of Covington: Madison Ave. Rain Garden	North	Partnership with City of Covington to install two rain gardens or street planters within the right-of-way along Madison Avenue	Reduce CSO volume	2013	2013	Complete	
Kenton County Public Library: Mary Ann Morgan Branch	North	Partnership with Kenton County Library to install rain gardens and permeable pavers on site at the Mary Ann Mongan Branch	Reduce CSO volume	2013	2013	Complete	
<b>Demonstration Projects (Pilot Projects &amp; Innovative Technology Testing)</b>							
St. Elizabeth Detention Basin Retrofit	North	Modification of an existing dry detention basin located on property owned by St. Elizabeth Medical Center.	Reduce CSO volume in the Willow Run Sewershed	2009	2009	Post-Construction Monitoring	
Prisoner's Lake Rainwater Harvesting	North	Construction of a small storm water pumping station and force main to capture storm water runoff from Prisoner's Lake that will be re-used in an irrigation pond for a small public golf course.	Manage storm water entering the CSS	2010	2010	Complete	
Terraced Reforestation	North	Construction of a series of vegetated, terraced berms within the I-71/75 right-of-way in the City of Covington.	Manage storm water entering the CSS	2010	2011	Post-Construction Monitoring	
<b>Watershed Controls Pilot Projects - Regional and Decentralized Controls</b>							
Regional Project: Banklick Regional Wetlands	Central	Constructed wetland that treats flow diverted from Banklick Creek to reduce bacteria concentrations.	Improve water quality of Banklick Creek	2011	2011	Post-Construction Monitoring	
Decentralized Control Project	Central	Storm water control measures such as wetlands, biofiltration basins, and enhanced retention serving upstream drainage areas smaller than one square mile, but typically greater than five acres	Improve water quality of local streams	Beyond 2014	n/a	Initial Design	Initial Design

**Watershed Plan Projects: Five Year Program**

**Specific Basin Projects**

CIP Title	Basin	Project Description	Target Project Benefit	Scheduled Completion Date	Actual Completion Date	Past Activity for 1/01/2014 to 3/31/2014	Planned Activity for 4/01/2014 to 6/30/2014
<i>(Schedules listed in this section are subject to change based on the approval of SD1's Watershed Plans.)</i>							
Van Deren Sanitary Sewer Improvements	North	Sanitary and storm sewer improvements in a 100 home area to separate common manholes and remove illicit connections and I/I	Reduce SSOs and illicit discharges in Lakeside Park	2011	2011	Complete	
Avon Drive Sanitary Sewer Improvements	North	Replacement of 570 LF of 12-inch sewer with 24-inch pipe and installation of new storm sewer	Reduce SSOs in Lakeside Park	2010	2010	Complete	
Willow Run Direct Entry Point Bar Racks	North	Installed bar racks on 10 direct entry points where open storm channels discharge into sewer system	Reduce debris entry into system, maintain capacity and reduce blockages	2009	2010	Complete	
KYTC Basin - Green Infrastructure Retrofit	North	Conversion of traditional detention basin near I-75 to provide greater detention and infiltration by modifying the outlet structure and other improvements	CSO reduction, informs future green infrastructure design	2012	2011	Post-Construction Monitoring	
Lakeview PS Pump Replacement	Central	Replacement of 8 pumps at the Lakeview pump station along with piping and electrical improvements to provide a reliable peak capacity of 22.5 MGD	Reduce SSOs at Lakeview PS and increase PS reliability	2014	2013	Complete	
Church Street (gray, green, and watershed controls) Phase 1	Central	Disconnection of downspouts from approximately 130 homes, the separation of street load on six streets, new biofiltration basin and installation of approximately 1,300 linear feet of new 72-inch sewer	Reduce CSO frequency and volume into Banklick Creek and improve structural integrity of sewer infrastructure.	2014	n/a	Construction	Construction
Vernon Lane – Public & Private Source I/I Removal	Central	Combination of private I/I removal, sewer rehabilitation, manhole lining, and stormwater BMPs in area	Eliminate Vernon Ln. SSO and improve water quality	Beyond 2014	Ph 1 - 2014 Ph 2 - n/a	Ph 1 Complete Ph 2 Final Design	
Ash Street PS and Forcemain	East	Construction of a new approximately 7 MGD pump station in Silver Grove and new force main to the Riley Rd. Pump Station in Alexandria Also includes new force main to redirect flow from the Silver Grove PS to the Ash St. PS	Reduce overflows from Silver Grove CSO and SSO reduction in the Highland Heights PS and Silver Grove PS service areas.	2015	n/a	Final Design	Final Design
Riviera Sewer Replacement	East	Replacement of approximately 4,100 LF of deteriorated 24-inch pipe in the Taylor Creek area	Reduce CSOs into Taylor Creek and address structural issues	Beyond 2014	n/a	None	None
Lakeside Park – Public Sewer Rehab and Private Source Removal	North	Combination of private I/I removal, sewer rehabilitation/replacement and manhole lining, and stormwater BMPs where feasible in Lakeside Park	Eliminate SSOs in Lakeside Park	Beyond 2014	n/a	In Progress	In Progress
Willow Run Dynamic Control Facility	North	Construction of a dynamic weir facility at the Willow Run overflow diversion to provide in-line storage	CSO reduction using in-line storage	2015	n/a	None	None

**Other Committed Projects**

CIP Title	Basin	Project Description	Target Project Benefit	Scheduled Completion Date	Actual Completion Date	Past Activity for 1/01/2014 to 3/31/2014	Planned Activity for 4/01/2014 to 6/30/2014
<i>(Schedules listed in this section are subject to change based on the approval of SD1's Watershed Plans.)</i>							
Donnemeyer Improvements, Newport Pavilion Improvements, Bellevue Relief Sewer, Wilson/Waterworks Road, Covert Run	East	Multiple sewer projects including replacement with larger 18-30 -inch diameter sewers in the Taylor Creek area. Also included private source removal	Reduce CSO and SSO in Taylor Creek area and address basement flooding	2011	2011	Complete	
Dry Creek WWTP Headworks Improvements	North	Construction of a new 110 MGD headworks facility at the Dry Creek WWTP	Increase reliability and wet weather treatment capacity at Dry Creek WWTP	2013	2013	Complete	

## Pump Station Backup Power Plan

CIP Title	Basin	Original Proposed Solution	Updated Proposed Solution	Scheduled Completion Date	Actual Completion Date	Status as of April 2014
<b>Category 1 Projects (4 total projects)</b>						
Alex Licking	East	Permanent Generator	n/a	2008	2008	Complete
American Sign	West	Permanent Generator	n/a	2008	2008	Complete
Riley Road	East	Permanent Generator	n/a	2009	2009	Complete
Sunset	East	Permanent Generator	Backup Dry Prime Pump with a Diesel	2010	2010	Complete
CIP Title	Basin	Original Proposed Solution	Updated Proposed Solution	Scheduled Completion Date	Actual Completion Date	Status as of April 2014
<b>Category 2 Projects (21 total projects)</b>						
Kahns	East	PS Elimination	n/a	2007	2007	Complete
Meadow Hill	Central	PS Elimination Study	PS Elimination	Study - 2008 2012 - 2015	2008 2010	Complete
Riley Road No. 1	East	PS Elimination	n/a	2009	2009	Complete
Riley Road No. 2						
Riverwatch PS	North	PS Elimination Study	PS Elimination	Study - 2008 2012 - 2015	2008 2008	Complete Complete
South Park Industrial	North	PS Elimination Study	Backup Dry Prime Pump with a Diesel	Study - 2008 2012 - 2015	2008 2010	Complete Complete
Wedgewood Dr	Central	PS Elimination Study	Evaluating Solutions	Study - 2008 2015	2008 n/a	Complete Evaluating Solutions
Willow Bend No. 2	West	PS Elimination Study	PS Elimination	Study - 2008 2013	2008 2013	Complete Complete
Army Reserve	East	PS Elimination Study	Electrical hook up for portable generator	Study - 2008 2013-2014	2008 2014	Complete Complete
Eagles Landing	West	PS Elimination Study	Electrical hook up for portable generator	Study - 2008 2013-2014	2008 2014	Complete Complete
Evergreen	Central	PS Elimination Study	Electrical hook up for portable generator	Study - 2008 2014	2008 2014	Complete Complete
Lamphill	East	PS Elimination Study	Electrical hook up for portable generator	Study - 2008 2011	2008 2011	Complete Complete
Mill House Crossing	Central	PS Elimination Study	Backup Dry Prime Pump with a Diesel	Study - 2008 2012	2008 2012	Complete Complete
Ridgefield	North	PS Elimination Study	Backup Dry Prime Pump with a Diesel	Study - 2008 2014	2008 n/a	Complete In Progress
War Admiral	West	PS Elimination Study	PS Elimination	Study - 2008 2012 - 2015	2008 2011	Complete Complete
Blackstone	West	PS Elimination Study	Evaluating Solutions	Study - 2008 2015	2008 n/a	Complete Evaluating Solutions
Dublin Green No. 1	West	PS Elimination Study	PS Elimination	Study - 2008 2015	2008 2012	Complete Complete
Fowler Creek	West	PS Elimination	These stations will be eliminated after the Western Regional collection system is operational.	2013	2011	Complete
Gammon Calmet	West	PS Elimination		2013	2012	Complete
Gunpowder	West	PS Elimination		2013	2012	Complete
Union	West	PS Elimination		2013	2012	Complete

## Pump Station Backup Power Plan

CIP Title	Basin	Original Proposed Solution	Updated Proposed Solution	Scheduled Completion Date	Actual Completion Date	Status as of April 2014
<b>Category 3 Projects (24 total projects)</b>						
Airport Exchange Ind Park	North	Permanent Generator	n/a	2009	2009	Complete
Barrs Branch	East	Permanent Generator	Portable Generator	2009	2009	Complete
Cedar Point	East	Permanent Generator	n/a	2009	2009	Complete
Bullitsville	North	Permanent Generator	n/a	2008	2008	Complete
Catalpa	Central	Permanent Generator	n/a	2009	2009	Complete
Centerplex	East	Permanent Generator	n/a	2008	2008	Complete
Hempsteade	West	Permanent Generator	n/a	2009	2009	Complete
Highland Heights	East	Portable Generator	n/a	2009	2009	Complete
Dublin Green No. 2	West	Permanent Generator	n/a	2009	2009	Complete
Brookwood	East	Permanent Generator	n/a	2009	2009	Complete
Ky Aire	West	Permanent Generator	n/a	2008	2007	Complete
Levi	West	Permanent Generator	n/a	2008	2007	Complete
Maple Ave	Central	Permanent Generator	n/a	2009	2009	Complete
Sand Run	North	Permanent Generator	n/a	2008	2008	Complete
Saturn	West	Permanent Generator	n/a	2009	2009	Complete
Second Street	Central	Permanent Generator	n/a	2009	2009	Complete
Skyport	North	Permanent Generator	n/a	2008	2008	Complete
South Hampton	West	Permanent Generator	n/a	2008	2007	Complete
Thornwilde	North	Permanent Generator	n/a	2008	2008	Complete
Bunning Lane	East	PS Elimination Study	Evaluating Solutions	2015	n/a	Evaluating Solutions
Kees	East	Permanent Generator	Backup Dry Prime Pump with a Diesel	2011	2011	Complete
Overlook	East	Permanent Generator	Evaluating Solutions	2015	n/a	Evaluating Solutions
Riverview Farms	North	Permanent Generator	Evaluating Solutions	2015	n/a	Evaluating Solutions
Stillwater	East	Permanent Generator	Evaluating Solutions	2015	n/a	Evaluating Solutions

## Pump Station Backup Power Plan

CIP Title	Basin	Original Proposed Solution	Updated Proposed Solution	Scheduled Completion Date	Actual Completion Date	Status as of April 2014
<b>Category 4 Projects (50 total projects)</b>						
Banklick	Central	Permanent Generator	n/a	2009-2014	2009	Complete
Cedar	Central	Permanent Generator	n/a	2009-2014	2009	Complete
Fowler Ridge	Central	Permanent Generator	Backup Dry Prime Pump with a Diesel	2009-2014	2010	Complete
Lassing Green	West	Permanent Generator	n/a	2009-2014	2009	Complete
Leathers Rd	Central	Permanent Generator	Backup Dry Prime Pump with a Diesel	2009-2014	2010	Complete
Marshall Rd	Central	Permanent Generator	n/a	2009-2014	2010	Complete
Mineola Pike	North	Permanent Generator	Backup Dry Prime Pump with a Diesel	2009-2014	2010	Complete
Newport Steel Mill	East	Permanent Generator	n/a	2009-2014	2009	Complete
Paul Rd	East	Permanent Generator	Portable Generator	2009-2014	2010	Complete
Rosewood Lane	East	Permanent Generator	Backup Dry Prime Pump with a Diesel	2009-2014	2010	Complete
Shadow Lake	East	Permanent Generator	Backup Dry Prime Pump with a Diesel	2009-2014	2009	Complete
Wolf Rd	Central	Permanent Generator	Backup Dry Prime Pump with a Diesel	2009-2014	2009	Complete
Air Park West	North	Permanent Generator	Backup Dry Prime Pump with a Diesel	2009-2014	2011	Complete
Arbortech	North	Permanent Generator	Backup Dry Prime Pump with a Diesel	2012	2012	Complete
Arborwood	North	Permanent Generator	Backup Dry Prime Pump with a Diesel	2014	n/a	In Progress
Brandtly Ridge	Central	Permanent Generator	Backup Dry Prime Pump with a Diesel	2012	2012	Complete
Brentwood	North	Permanent Generator	Electrical hook up for portable generator	2015	2014	Complete
Brushup Lane	West	Permanent Generator	PS Elimination	2012	2012	Complete
Carlisle Ave	East	Permanent Generator	Backup Dry Prime Pump with a Diesel	2014	n/a	In Progress
Cinnamon Ridge	West	Permanent Generator	Backup Dry Prime Pump with a Diesel	2012	2012	Complete
Cold Spring Crossing	East	Permanent Generator	Permanent Generator	2014	n/a	In Progress
Cold Spring Plaza	East	Permanent Generator	Backup Dry Prime Pump with a Diesel	2012	2012	Complete
Darma Ct	East	Permanent Generator	Electrical hook up for portable generator	2013-2014	n/a	In Progress
Deer Creek No. 1	North	Permanent Generator	Backup Dry Prime Pump with a Diesel	2009-2014	2011	Complete
Deer Creek No. 2	North	Permanent Generator	Backup Dry Prime Pump with a Diesel	2009-2014	2011	Complete
Eighth Street	Central	Connect to Grid Power	Evaluating Solutions	2015	n/a	Evaluating Solutions
Gerrard Ave	East	Permanent Generator	Portable Generator	2009-2014	2011	Complete
Golf Course	Central	Permanent Generator	Electrical hook up for portable generator	2012	2012	Complete
Hampton Ridge	West	Permanent Generator	Evaluating Solutions	2015	n/a	Evaluating Solutions
Harrison Harbor	East	Permanent Generator	Portable Generator	2009-2014	2011	Complete

## Pump Station Backup Power Plan

CIP Title	Basin	Original Proposed Solution	Updated Proposed Solution	Scheduled Completion Date	Actual Completion Date	Status as of April 2014
<b>Category 4 Projects (continued)</b>						
Harvest Hill	Central	Permanent Generator	Backup Dry Prime Pump with a Diesel	2014	n/a	In Progress
ICH	Central	Permanent Generator	Electrical hook up for portable generator	2011	2011	Complete
IDI	North	Permanent Generator	Electrical hook up for portable generator	2012	2012	Complete
Independence Station Rd	Central	Permanent Generator	Backup Dry Prime Pump with a Diesel	2009-2014	2011	Complete
Jefferson Ave	East	Permanent Generator	Portable Generator	2009-2014	2011	Complete
Jericho Rd	Central	Permanent Generator	Electrical hook up for portable generator	2011	2011	Complete
Jonathan	West	Permanent Generator	Evaluating Solutions	2015	n/a	Evaluating Solutions
Litton	North	Permanent Generator	Electrical hook up for portable generator	2012	2012	Complete
Ohio Ave	East	Permanent Generator	Portable Generator	2009-2014	2011	Complete
Orchard Estates	West	Permanent Generator	Backup Dry Prime Pump with a Diesel	2014	n/a	In Progress
Parkside No. 2	East	Permanent Generator	Electrical hook up for portable generator	2012	2012	Complete
Patton Street	Central	Dual Utility Power Feed	Permanent Generator	2015	2014	Complete
Ria Vista	North	Permanent Generator	Electrical hook up for portable generator	2011	2011	Complete
Silver Grove	East	Permanent Generator	Evaluating Solutions	2015	n/a	Evaluating Solutions
St Annes	East	Permanent Generator	Backup Dry Prime Pump with a Diesel	2014	n/a	In Progress
Sycamore	West	Permanent Generator	PS Elimination	2015	2012	Complete
Taylor Mill Rd	Central	Permanent Generator	Electrical hook up for portable generator	2011	2011	Complete
Wilder	East	Permanent Generator	Backup Dry Prime Pump with a Diesel	2014	n/a	In Progress
Wyndemere	North	Permanent Generator	Electrical hook up for portable generator	2012	2012	Complete
Youell Rd	West	Permanent Generator	Electrical hook up for portable generator	2012	2012	Complete

## Pump Station Backup Power Plan

CIP Title	Basin	Original Proposed Solution	Updated Proposed Solution	Scheduled Completion Date	Actual Completion Date	Status as of April 2014
<b>Category 5 Projects (6 total projects)</b>						
Keavy	Central	Permanent Generator	Backup Dry Prime Pump with a Diesel	2010-2015	2010	Complete
Meadow Lane	Central	Permanent Generator	Backup Dry Prime Pump with a Diesel	2010-2015	2009	Complete
Cardinal Cove	North	Permanent Generator	Permanent Generator	2015	2013	Complete
Crestview	East	Permanent Generator	Evaluating Solutions	2015	n/a	Evaluating Solutions
Ripple Creek	East	PS Elimination Study	PS Elimination	2010-2015	2010	Complete
Winters Lane No. 2	East	Permanent Generator	Electrical hook up for portable generator	2014	n/a	In Progress
CIP Title	Basin	Original Proposed Solution	Updated Proposed Solution	Scheduled Completion Date	Actual Completion Date	Status as of April 2014
<b>Category 6 Projects (5 total projects)</b>						
Enzweiler	East	Permanent Generator	n/a	2012-2015	2009	Complete
Mafred	Central	Permanent Generator	Backup Dry Prime Pump with a Diesel	2012-2015	2009	Complete
Ridgeway	Central	Permanent Generator	Backup Dry Prime Pump with a Diesel	2012-2015	2009	Complete
Richwood	West	Permanent Generator	Backup Dry Prime Pump with a Diesel	2012	2012	Complete
Twin Lakes	Central	Permanent Generator	Backup Dry Prime Pump with a Diesel	2014	n/a	In Progress

Progress Summary	Number
2007 Complete Projects	4
2008 Complete Projects	8
2009 Complete Projects	24
2010 Complete Projects	11
2011 Complete Projects	16
2012 Complete Projects	18
2013 Complete Projects	2
2014 Complete Projects	5
<b>Total Complete</b>	<b>88</b>
2014 Active Projects	11
<b>Total Project Activity</b>	<b>99</b>

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## Pump Station Overflow Elimination Plan

CIP Title	Basin	Scheduled Completion Date	Actual Completion Date	Activity for 1/01/2014 to 3/31/2014	Planned Activity for 4/01/2014 to 6/30/2014
<b>Pump Station Overflow Elimination Projects</b>					
Alex-Licking	East	12/31/2010	2008	Complete	Complete
Harrison Harbor			*See PS Overflow Elimination Annual Report May 11, 2009		
	East	12/31/2010		Complete	Complete
Highland Acres	West	12/31/2010	2010	Complete	Complete
Kentucky Aire	West	12/31/2013	n/a	Complete	Complete
Riley Road No.1	East	12/31/2010	2009	Complete	Complete
Ripple Creek	Central	12/31/2010	2010	Complete	Complete
South Hampton	West	3/31/2013	2012	Complete	Complete
South Park	North	12/31/2010	2010	Complete	Complete
Sunset	Central	12/31/2010	2010	Complete	Complete
TaylorSPORT	North	12/31/2010	2004	Complete	Complete
Union	West	3/31/2013	2012	Complete	Complete
Allen Fork	North	12/31/2015	n/a	In-Progress	In-Progress
Crestview	East	12/31/2015	n/a	Phase 1 - Sewer and MH rehab is complete. Private service rehab is under evaluation. Pump station improvement is in Final Design.	
Lakeview	Central	12/31/2023 <sup>1</sup>	n/a	In-Progress	In-Progress

<sup>1</sup> Revised deadline approved in letter from Cabinet dated May 13, 2013.

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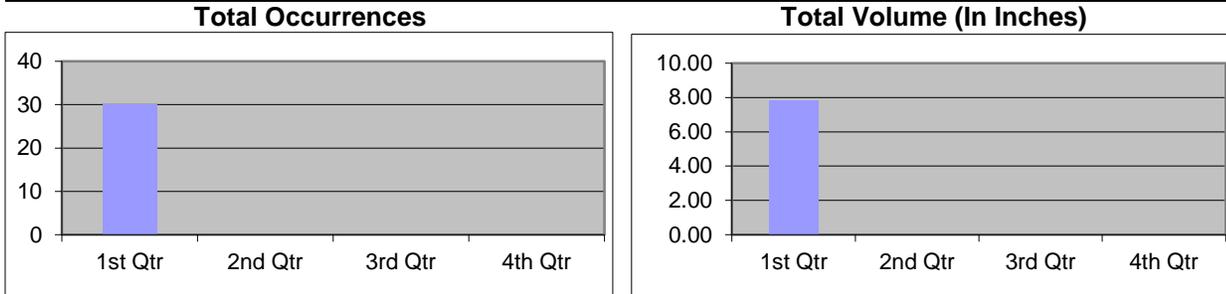
## **APPENDIX C:**

### ***Cumulative and Annual Overflow Data***

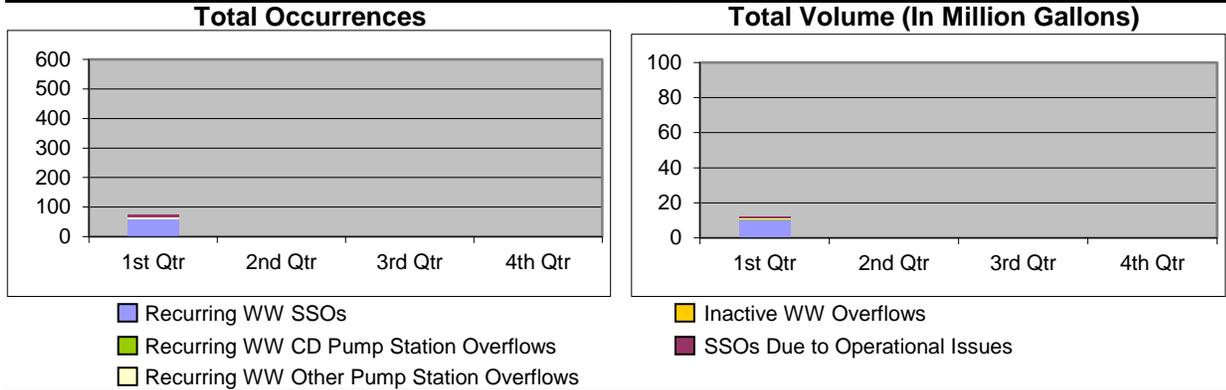
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**Cumulative Overflow Data**  
**January 1, 2014 through March 31, 2014**

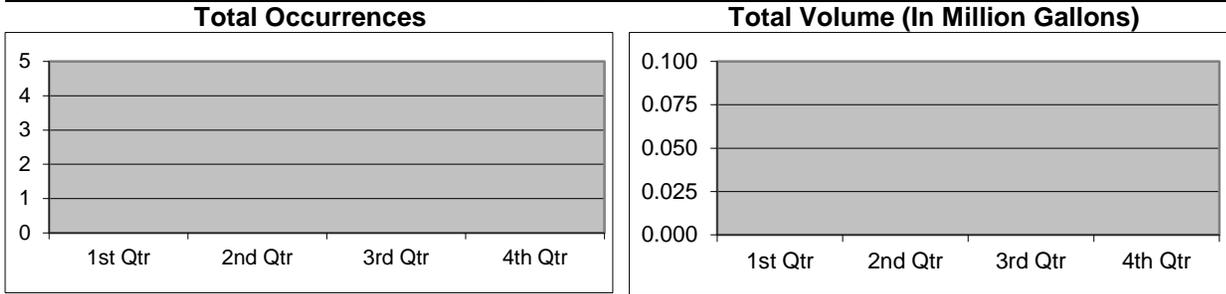
**Rainfall**



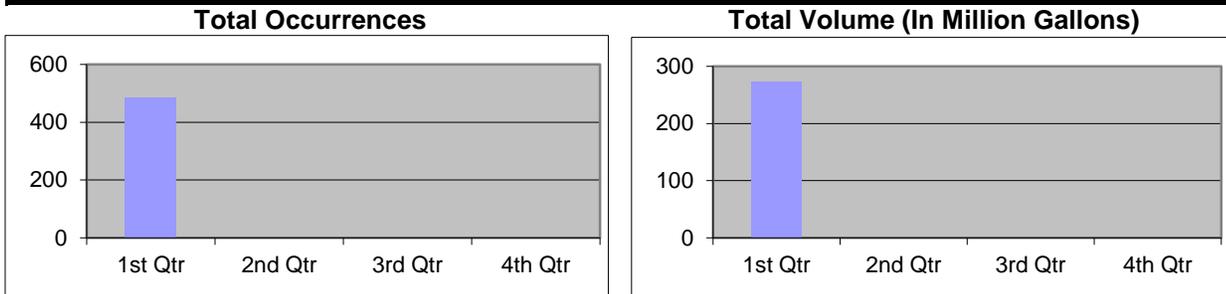
**SSOs - Due to Wet Weather (WW) and Operational Issues**



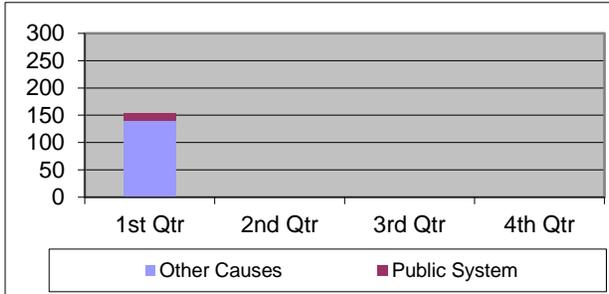
**Dry Weather CSOs**



**Wet Weather CSOs**



**Building Backups**

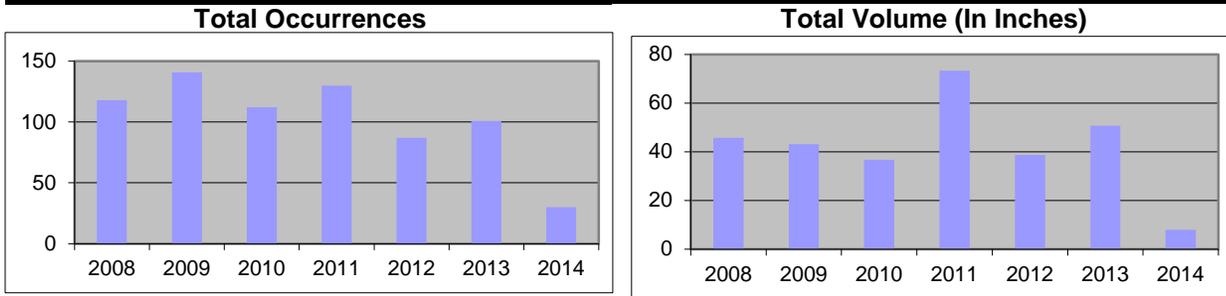


**2014 Overflow Summary**

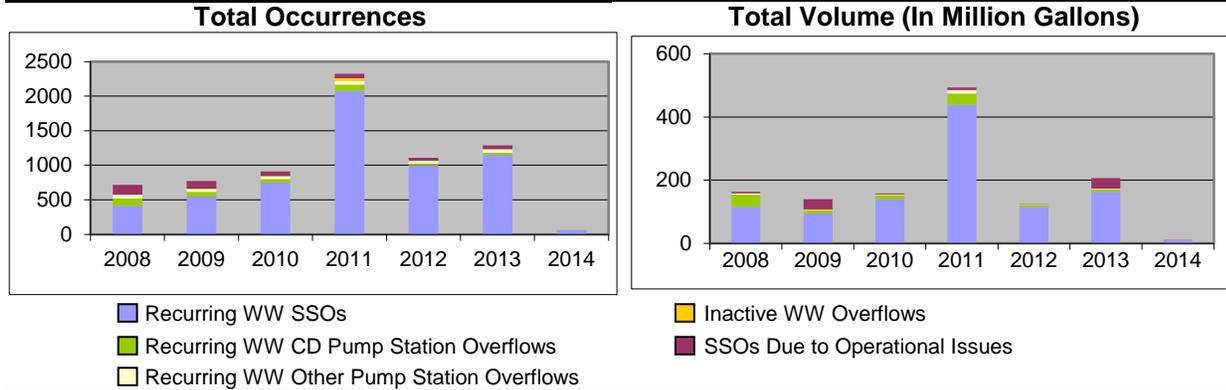
	Occurrences	Volume
<b>Rainfall</b>	30	7.850 inches
<b>Recurring WW SSOs</b>	1234	11.039 MG
<b>Inactive WW SSOs</b>	0	0.000 MG
<b>Operational SSOs</b>	8	0.728 MG
<b>Dry Weather CSOs</b>	0	0.000 MG
<b>Wet Weather CSOs</b>	484	272.830 MG
<b>Building Backups (Other Causes)</b>		
	141	
<b>Building Backups (Public System)</b>		
	13	

## Annual Cumulative Overflow Data 2008 through 2014

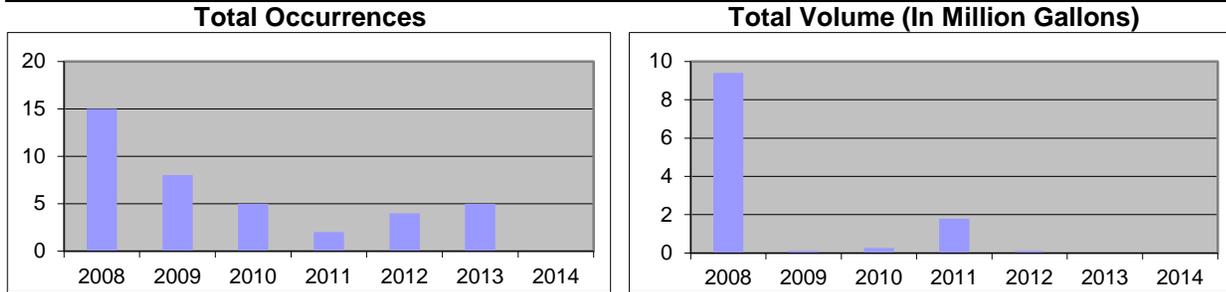
### Rainfall



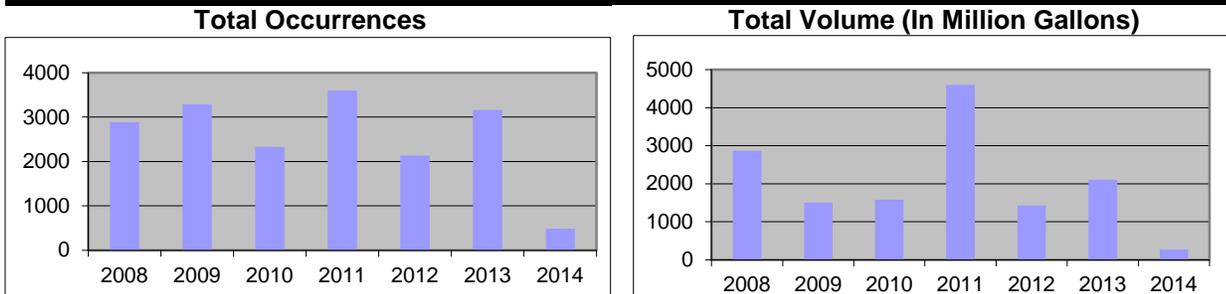
### SSOs - Due to Wet Weather (WW) and Operational Issues



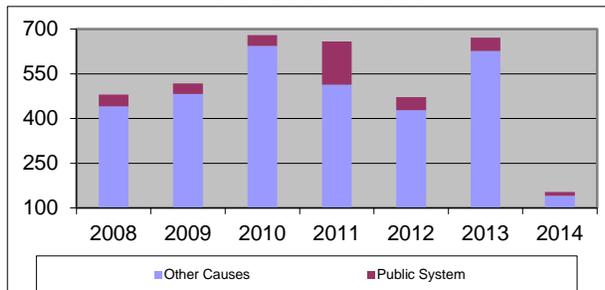
### Dry Weather CSOs



### Wet Weather CSOs



### Building Backups



### Change from Q1 2013 to Q1 2014

	Occurrences	Volume
Rainfall	2	-1.46 inches
Recurring WW SSOs	-66	-11.560 MG
Inactive WW SSOs	0	0.000 MG
Operational SSOs	2	0.594 MG
Dry Weather CSOs	-3	-0.015 MG
Wet Weather CSOs	104	-198.15 MG
<b>Building Backups (Other Causes)</b>		
		-22
<b>Building Backups (Public System)</b>		
		-1

**APPENDIX D:**  
***Recurring Wet Weather SSOs***

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### Recurring Wet Weather SSOs

No.	MHID	City	County	Model Predicted Overflow Activations	Model Predicted Overflow Volume (MG)
1	0020006	Silver Grove	Campbell	8	1.52
2	0020007	Silver Grove	Campbell	6	0.09
3	0020008	Unicorp Campbell County	Campbell	4	0.06
4	0020032	Unicorp Campbell County	Campbell	0	0.00
5	0040003	Fort Thomas	Campbell	0	0.00
6	0050022	Fort Thomas	Campbell	0	0.00
7	0060001	Unicorp Campbell County	Campbell	1	0.00
8	0060002	Unicorp Campbell County	Campbell	0	0.00
9	0060004	Unicorp Campbell County	Campbell	0	0.00
10	0110002	Fort Thomas	Campbell	0	0.00
11	0110010	Highland Heights	Campbell	2	0.03
12	0120018	Highland Heights	Campbell	0	0.00
13	0150009	Wilder	Campbell	0	0.00
14	0150063	Wilder	Campbell	0	0.00
15	0150064	Wilder	Campbell	0	0.00
16	0150065	Wilder	Campbell	0	0.00
17	0150085	Fort Thomas	Campbell	0	0.00
18	0150086	Fort Thomas	Campbell	3	0.09
19	0150087	Fort Thomas	Campbell	0	0.00
20	0150356	Southgate	Campbell	0	0.00
21	0150399	Wilder	Campbell	4	0.11
22	0200003	Fort Thomas	Campbell	0	0.00
23	0220056	Fort Thomas	Campbell	0	0.00
24	0220058	Fort Thomas	Campbell	0	0.00
25	0220086	Southgate	Campbell	0	0.00
26	0230011	Fort Thomas	Campbell	0	0.00
27	0230016	Fort Thomas	Campbell	0	0.00
28	0260001	Fort Thomas	Campbell	0	0.00
29	0270020	Fort Thomas	Campbell	0	0.00
30	0270026	Fort Thomas	Campbell	0	0.00
31	0270062	Fort Thomas	Campbell	0	0.00
32	0270103	Fort Thomas	Campbell	0	0.00
33	0280001	Fort Thomas	Campbell	0	0.00
34	0280073	Fort Thomas	Campbell	0	0.00
35	0300035	Fort Thomas	Campbell	0	0.00
36	0330005	Fort Thomas	Campbell	0	0.00
37	0360004	Dayton	Campbell	0	0.00
38	0370001	Fort Thomas	Campbell	0	0.00
39	0370009	Fort Thomas	Campbell	0	0.00
40	0380005	Fort Thomas	Campbell	0	0.00
41	0390007	Fort Thomas	Campbell	0	0.00
42	0400002	Fort Thomas	Campbell	1	0.00
43	0400017	Fort Thomas	Campbell	0	0.00
44	0400034	Fort Thomas	Campbell	0	0.00
45	0410010	Fort Thomas	Campbell	0	0.00

### Recurring Wet Weather SSOs

No.	MHID	City	County	Model Predicted Overflow Activations	Model Predicted Overflow Volume (MG)
46	0410019	Fort Thomas	Campbell	0	0.00
47	0410036	Fort Thomas	Campbell	0	0.00
48	0430006	Newport	Campbell	0	0.00
49	0440074	Fort Thomas	Campbell	0	0.00
50	0490039	Newport	Campbell	0	0.00
51	0490073	Newport	Campbell	0	0.00
52	0500047	Newport	Campbell	0	0.00
53	0530083	Newport	Campbell	1	0.00
54	0860001	Wilder	Campbell	12	7.91
55	0860003	Wilder	Campbell	0	0.00
56	0860016	Wilder	Campbell	0	0.00
57	1010002	Fort Thomas	Campbell	0	0.00
58	1010027	Fort Thomas	Campbell	0	0.00
59	1090069	Edgewood	Kenton	0	0.00
60	1110025	Erlanger	Kenton	0	0.00
61	1110067	Erlanger	Kenton	1	0.00
62	1110161	Erlanger	Kenton	0	0.00
63	1110164	Erlanger	Kenton	0	0.00
64	1110174	Elsmere	Kenton	0	0.00
65	1110226	Elsmere	Kenton	0	0.00
66	1110275	Elsmere	Kenton	0	0.00
67	1110294	Erlanger	Kenton	0	0.00
68	1190001	Erlanger	Kenton	0	0.00
69	1190012	Erlanger	Kenton	1	0.00
70	1210018	Erlanger	Kenton	0	0.00
71	1220016	Erlanger	Kenton	0	0.00
72	1220054	Erlanger	Kenton	1	0.00
73	1230019	Erlanger	Kenton	0	0.00
74	1230036	Erlanger	Kenton	0	0.00
75	1240008	Erlanger	Kenton	2	0.02
76	1240012	Erlanger	Kenton	0	0.00
77	1330022	Park Hills	Kenton	0	0.00
78	1550036	Fort Mitchell	Kenton	0	0.00
79	1550053	Fort Mitchell	Kenton	0	0.00
80	1560016	Fort Mitchell	Kenton	0	0.00
81	1560019	Fort Mitchell	Kenton	0	0.00
82	1560074	Fort Mitchell	Kenton	0	0.00
83	1560092	Fort Mitchell	Kenton	0	0.00
84	1560121	Fort Mitchell	Kenton	0	0.00
85	1600029	Lakeside Park	Kenton	0	0.00
86	1610053	Fort Mitchell	Kenton	0	0.00
87	1610054	Fort Mitchell	Kenton	0	0.00
88	1690043	Fort Wright	Kenton	0	0.00
89	1690072	Fort Wright	Kenton	0	0.00
90	1700006	Ludlow	Kenton	0	0.00
91	1700025	Park Hills	Kenton	0	0.00
92	1730086	Unicorp Kenton County	Kenton	0	0.00
93	1730100	Crescent Springs	Kenton	0	0.00
94	1730103	Fort Mitchell	Kenton	0	0.00

### Recurring Wet Weather SSOs

No.	MHID	City	County	Model Predicted Overflow Activations	Model Predicted Overflow Volume (MG)
95	1760047	Edgewood	Kenton	2	0.01
96	1760048	Edgewood	Kenton	0	0.00
97	1770062	Erlanger	Kenton	0	0.00
98	1790003	Crescent Springs	Kenton	0	0.00
99	1830020	Unicorp Boone County	Boone	0	0.00
100	1830067	Unicorp Boone County	Boone	0	0.00
101	1850140	Covington	Kenton	0	0.00
102	1850141	Covington	Kenton	4	0.04
103	1860108	Taylor Mill	Kenton	0	0.00
104	1870013	Covington	Kenton	0	0.00
105	1870014	Covington	Kenton	0	0.00
106	1920086	Cold Spring	Campbell	0	0.00
107	1920097	Cold Spring	Campbell	0	0.00
108	1940006	Fort Wright	Kenton	0	0.00
109	1950014	Fort Wright	Kenton	0	0.00
110	1950232	Fort Wright	Kenton	0	0.00
111	1960002	Fort Wright	Kenton	0	0.00
112	1990018	Covington	Kenton	0	0.00
113	1990028	Covington	Kenton	0	0.00
114	1990032	Unicorp Kenton County	Kenton	0	0.00
115	2020203	Covington	Kenton	0	0.00
116	2040040	Edgewood	Kenton	0	0.00
117	2070019	Elsmere	Kenton	0	0.00
118	2090008	Elsmere	Kenton	1	0.01
119	2090063	Elsmere	Kenton	0	0.00
120	2100002	Elsmere	Kenton	0	0.00
121	2100007	Elsmere	Kenton	0	0.00
122	2100036	Elsmere	Kenton	0	0.00
123	2100037	Elsmere	Kenton	0	0.00
124	2100057	Elsmere	Kenton	0	0.00
125	2100106	Elsmere	Kenton	0	0.00
126	2100126	Elsmere	Kenton	0	0.00
127	2100128	Elsmere	Kenton	0	0.00
128	2100129	Elsmere	Kenton	2	0.03
129	2110001	Elsmere	Kenton	1	0.00
130	2110002	Elsmere	Kenton	0	0.00
131	2110006	Elsmere	Kenton	0	0.00
132	2120001	Elsmere	Kenton	0	0.00
133	2120041	Elsmere	Kenton	0	0.00
134	2130026	Erlanger	Kenton	0	0.00
135	2130027	Erlanger	Kenton	0	0.00
136	2130028	Erlanger	Kenton	0	0.00
137	2130286	Erlanger	Kenton	0	0.00
138	2150050	Crestview Hills	Kenton	0	0.00
139	2160004	Fort Mitchell	Kenton	0	0.00
140	2160005	Fort Mitchell	Kenton	0	0.00
141	2160006	Fort Mitchell	Kenton	0	0.00
142	2170006	Crestview Hills	Kenton	0	0.00
143	2170008	Crestview Hills	Kenton	0	0.00
144	2170013	Lakeside Park	Kenton	0	0.00

### Recurring Wet Weather SSOs

No.	MHID	City	County	Model Predicted Overflow Activations	Model Predicted Overflow Volume (MG)
145	2170097	Crestview Hills	Kenton	0	0.00
146	2280010	Unicorp Kenton County	Kenton	0	0.00
147	2280011	Unicorp Kenton County	Kenton	0	0.00
148	2280016	Independence	Kenton	0	0.00
149	2290001	Crescent Springs	Kenton	0	0.00
150	2300016	Erlanger	Kenton	0	0.00
151	2300019	Erlanger	Kenton	0	0.00
152	2300121	Independence	Kenton	1	0.07
153	2300123	Unicorp Kenton County	Kenton	0	0.00
154	2301219	Erlanger	Kenton	1	0.26
155	2301274	Erlanger	Kenton	0	0.00
156	2370003	Unicorp Boone County	Boone	0	0.00
157	2390002	Unicorp Boone County	Boone	0	0.00
158	2400001	Unicorp Boone County	Boone	0	0.00
			<b>TOTAL</b>	59	10.25

**Threshold for model activation is 0.01 MGD and 0.001 MG**

**APPENDIX E:**

***Recurring Wet Weather SSO  
Locations Revision Transaction***

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**Recurring Wet Weather SSO Locations - Revision Transactions**

<b>MHID</b>	<b>City</b>	<b>County</b>	<b>Revision</b>	<b>Comments</b>
0020006	Silver Grove	Campbell		
0020007	Silver Grove	Campbell		
0020008	Unicorp Campbell County	Campbell		
0020031	Unicorp Campbell County	Campbell	Removed	Eliminated based on lack of field inspection overflow evidence in a 2-year period
0020032	Unicorp Campbell County	Campbell		
0040003	Fort Thomas	Campbell		
0050022	Fort Thomas	Campbell		
0060001	Unicorp Campbell County	Campbell		
0060002	Unicorp Campbell County	Campbell		
0060004	Unicorp Campbell County	Campbell		
0070044	Highland Heights	Campbell	Removed	Eliminated based on lack of field inspection overflow evidence in a 2-year period
0100002	Highland Heights	Campbell	Removed	Eliminated based on lack of field inspection overflow evidence in a 2-year period
0100003	Highland Heights	Campbell	Removed	Eliminated based on lack of field inspection overflow evidence in a 2-year period
0110002	Fort Thomas	Campbell		
0110010	Highland Heights	Campbell		
0120018	Highland Heights	Campbell	Added	Identified as a recurring SSO based on field inspections
0120019	Highland Heights	Campbell	Removed	Eliminated based on lack of field inspection overflow evidence in a 2-year period
0150009	Wilder	Campbell		
0150024	Southgate	Campbell	Removed	Eliminated based on lack of field inspection overflow evidence in a 2-year period
0150063	Wilder	Campbell		
0150064	Wilder	Campbell		
0150065	Wilder	Campbell		
0150085	Fort Thomas	Campbell		
0150086	Fort Thomas	Campbell		
0150087	Fort Thomas	Campbell		
0150356	Southgate	Campbell		
0150399	Wilder	Campbell		
0200003	Fort Thomas	Campbell		
0220035	Southgate	Campbell	Removed	Eliminated based on lack of field inspection overflow evidence in a 2-year period
0220056	Fort Thomas	Campbell		
0220058	Fort Thomas	Campbell		
0220086	Southgate	Campbell		
0230011	Fort Thomas	Campbell		
0230016	Fort Thomas	Campbell		
0250002	Fort Thomas	Campbell	Removed	Eliminated based on lack of field inspection overflow evidence in a 2-year period
0260001	Fort Thomas	Campbell		
0270020	Fort Thomas	Campbell		
0270026	Fort Thomas	Campbell		
0270062	Fort Thomas	Campbell		
0270103	Fort Thomas	Campbell		
0280001	Fort Thomas	Campbell		
0280073	Fort Thomas	Campbell		
0300035	Fort Thomas	Campbell		
0330005	Fort Thomas	Campbell		
0360004	Dayton	Campbell		
0360074	Dayton	Campbell	Removed	Eliminated based on lack of field inspection overflow evidence in a 2-year period
0370001	Fort Thomas	Campbell		
0370009	Fort Thomas	Campbell		
0380005	Fort Thomas	Campbell		
0390007	Fort Thomas	Campbell		
0400002	Fort Thomas	Campbell		
0400017	Fort Thomas	Campbell		
0400034	Fort Thomas	Campbell		

**Recurring Wet Weather SSO Locations - Revision Transactions**

MHID	City	County	Revision	Comments
0410010	Fort Thomas	Campbell		
0410019	Fort Thomas	Campbell		
0410036	Fort Thomas	Campbell		
0430006	Newport	Campbell		
0440074	Fort Thomas	Campbell		
0490039	Newport	Campbell		
0490073	Newport	Campbell	Added	Identified as a recurring SSO based on field inspections
0500047	Newport	Campbell		
0530083	Newport	Campbell		
0860001	Wilder	Campbell		
0860003	Wilder	Campbell		
0860016	Wilder	Campbell		
0870037	Covington	Kenton	Removed	Eliminated based on lack of field inspection overflow evidence in a 2-year period
1010002	Fort Thomas	Campbell		
1010025	Fort Thomas	Campbell	Removed	Eliminated based on lack of field inspection overflow evidence in a 2-year period
1010027	Fort Thomas	Campbell		
1040060	Independence	Kenton	Removed	Eliminated based on lack of field inspection overflow evidence in a 2-year period
1090069	Edgewood	Kenton		
1110025	Erlanger	Kenton		
1110051	Erlanger	Kenton	Removed	Eliminated based on lack of field inspection overflow evidence in a 2-year period
1110067	Erlanger	Kenton		
1110161	Erlanger	Kenton		
1110164	Erlanger	Kenton		
1110174	Elsmere	Kenton		
1110226	Elsmere	Kenton		
1110275	Elsmere	Kenton		
1110294	Erlanger	Kenton		
1120029	Erlanger	Kenton	Removed	Eliminated based on lack of field inspection overflow evidence in a 2-year period
1190001	Erlanger	Kenton		
1190012	Erlanger	Kenton		
1210018	Erlanger	Kenton		
1220016	Erlanger	Kenton		
1220054	Erlanger	Kenton		
1230019	Erlanger	Kenton		
1230036	Erlanger	Kenton		
1240008	Erlanger	Kenton		
1240012	Erlanger	Kenton		
1330022	Park Hills	Kenton	Added	Identified as a recurring SSO based on field inspections
1550036	Fort Mitchell	Kenton	Added	Identified as a recurring SSO based on field inspections
1550053	Fort Mitchell	Kenton		
1560016	Fort Mitchell	Kenton		
1560019	Fort Mitchell	Kenton		
1560074	Fort Mitchell	Kenton		
1560092	Fort Mitchell	Kenton		
1560102	Fort Mitchell	Kenton	Removed	Eliminated based on lack of field inspection overflow evidence in a 2-year period
1560121	Fort Mitchell	Kenton	Added	Identified as a recurring SSO based on field inspections
1570025	Fort Mitchell	Kenton	Removed	Eliminated based on lack of field inspection overflow evidence in a 2-year period
1600029	Lakeside Park	Kenton		
1600050	Lakeside Park	Kenton	Removed	Eliminated as part of Hudson Phase I Sewer Improvements
1610053	Fort Mitchell	Kenton		
1610054	Fort Mitchell	Kenton		
1610102	Fort Mitchell	Kenton	Removed	Eliminated as part of Hudson Phase II Sewer Improvements
1690043	Fort Wright	Kenton		
1690072	Fort Wright	Kenton		
1700006	Ludlow	Kenton		
1700008	Covington	Kenton	Removed	Eliminated based on lack of field inspection overflow evidence in a 2-year period

### Recurring Wet Weather SSO Locations - Revision Transactions

MHID	City	County	Revision	Comments
1700025	Park Hills	Kenton		
1730086	Unicorp Kenton County	Kenton	Added	Identified as a recurring SSO based on field inspections
1730100	Crescent Springs	Kenton		
1730103	Fort Mitchell	Kenton		
1750076	Independence	Kenton	Removed	Eliminated based on lack of field inspection overflow evidence in a 2-year period
1760047	Edgewood	Kenton		
1760048	Edgewood	Kenton		
1770062	Erlanger	Kenton		
1790003	Crescent Springs	Kenton		
1830020	Unicorp Boone County	Boone		
1830067	Unicorp Boone County	Boone		
1850140	Covington	Kenton		
1850141	Covington	Kenton		
1860108	Taylor Mill	Kenton		
1870013	Covington	Kenton		
1870014	Covington	Kenton		
1920086	Cold Spring	Campbell		
1920097	Cold Spring	Campbell		
1930007	Southgate	Campbell	Removed	Eliminated based on lack of field inspection overflow evidence in a 2-year period
1940006	Fort Wright	Kenton		
1950014	Fort Wright	Kenton		
1950232	Fort Wright	Kenton		
1960002	Fort Wright	Kenton		
1990018	Covington	Kenton		
1990028	Covington	Kenton		
1990032	Unicorp Kenton County	Kenton		
2020035	Taylor Mill	Kenton	Removed	Eliminated based on lack of field inspection overflow evidence in a 2-year period
2020203	Covington	Kenton		
2040040	Edgewood	Kenton		
2070019	Elsmere	Kenton		
2090008	Elsmere	Kenton		
2090063	Elsmere	Kenton		
2100002	Elsmere	Kenton		
2100007	Elsmere	Kenton		
2100036	Elsmere	Kenton		
2100037	Elsmere	Kenton		
2100057	Elsmere	Kenton		
2100106	Elsmere	Kenton		
2100126	Elsmere	Kenton		
2100128	Elsmere	Kenton		
2100129	Elsmere	Kenton		
2110001	Elsmere	Kenton		
2110002	Elsmere	Kenton		
2110006	Elsmere	Kenton		
2120001	Elsmere	Kenton		
2120041	Elsmere	Kenton		
2130026	Erlanger	Kenton		
2130027	Erlanger	Kenton		
2130028	Erlanger	Kenton		
2130286	Erlanger	Kenton		
2150050	Crestview Hills	Kenton		
2150090	Crestview	Campbell	Removed	Eliminated based on lack of field inspection overflow evidence in a 2-year period
2160004	Fort Mitchell	Kenton		
2160005	Fort Mitchell	Kenton		
2160006	Fort Mitchell	Kenton		
2170006	Crestview Hills	Kenton		
2170008	Crestview Hills	Kenton		
2170013	Lakeside Park	Kenton		
2170097	Crestview Hills	Kenton		
2280010	Unicorp Kenton County	Kenton		
2280011	Unicorp Kenton County	Kenton		
2280016	Independence	Kenton		
2290001	Crescent Springs	Kenton		

Recurring Wet Weather SSO Locations - Revision Transactions				
MHID	City	County	Revision	Comments
2300016	Erlanger	Kenton		
2300019	Erlanger	Kenton		
2300121	Independence	Kenton		
2300123	Unicorp Kenton County	Kenton		
2301219	Erlanger	Kenton		
2301274	Erlanger	Kenton		
2350173	Unicorp Kenton County	Kenton	Removed	Eliminated based on lack of field inspection overflow evidence in a 2-year period
2360024	Unicorp Boone County	Boone	Removed	Eliminated based on lack of field inspection overflow evidence in a 2-year period
2370003	Unicorp Boone County	Boone		
2390002	Unicorp Boone County	Boone		
2400001	Unicorp Boone County	Boone		
2410387	Unicorp Boone County	Boone	Removed	Eliminated based on lack of field inspection overflow evidence in a 2-year period
2450001	Alexandria	Campbell	Removed	Eliminated based on lack of field inspection overflow evidence in a 2-year period

**Total SSO Locations Added= 6**

**Total SSO Locations Removed = 27**

**Total Recurring SSO Locations after Revisions = 158**

**APPENDIX F:**  
***Wet Weather CSOs***

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<b>Wet Weather CSOs</b>				
<b>No.</b>	<b>CSO ID</b>	<b>KPDES Permit #</b>	<b>Model Predicted Activations</b>	<b>Model Predicted Overflow Volume (MG)</b>
1	0010220	To Be Permitted	3	0.14
2	0030031	KY0021466 - Outfall 10	0	0.00
3	0200069	KY0021466 - Outfall 11	5	0.02
4	0330100	KY0021466 - Outfall 12	0	0.00
5	0340050	KY0021466 - Outfall 14	1	0.00
6	0340051	KY0021466 - Outfall 13	1	0.00
7	0360079	To Be Permitted	0	0.00
8	0540009	To Be Permitted	8	0.06
9	0540044	To Be Permitted	7	0.06
10	0540158	To Be Permitted	0	0.00
11	0550134	To Be Permitted	0	0.00
12	0570089	KY0021466 - Outfall 16	0	0.00
13	0570090	KY0021466 - Outfall 17	0	0.00
14	0600094	KY0021466 - Outfall 18	5	0.06
15	0600096	To Be Permitted	1	0.00
16	0600097	KY0021466 - Outfall 19	6	0.08
17	0600104	To Be Permitted	0	0.00
18	0610071	KY0021466 - Outfall 21	8	2.63
19	0610072	KY0021466 - Outfall 20	1	0.00
20	0620075	KY0021466 - Outfall 23	8	0.64
21	0620077	KY0021466 - Outfall 22	2	0.01
22	0630054	To Be Permitted	0	0.00
23	0630061	KY0021466 - Outfall 83	5	0.06
24	0640090	KY0021466 - Outfall 24	12	55.60
25	0650054	To Be Permitted	0	0.00
26	0650090	KY0021466 - Outfall 26	5	0.18
27	0650098	To Be Permitted	5	0.62
28	0650100	KY0021466 - Outfall 25	1	0.00
29	0660085	To Be Permitted	0	0.00
30	0690059	To Be Permitted	0	0.00
31	0690067	To Be Permitted	0	0.00
32	0730129	To Be Permitted	14	0.17
33	0770096	KY0021466 - Outfall 28	5	0.11
34	0790084	KY0021466 - Outfall 31	15	1.85
35	0790086	KY0021466 - Outfall 29	12	5.78
36	0840111	To Be Permitted	0	0.00
37	0840112	To Be Permitted	9	0.44
38	0840116	KY0021466 - Outfall 27	15	0.37
39	0870078	KY0021466 - Outfall 33	0	0.00
40	0870079	KY0021466 - Outfall 34	24	4.97
41	0880081	KY0021466 - Outfall 36	26	4.48
42	0880082	KY0021466 - Outfall 35	0	0.00
43	0890081	To Be Permitted	0	0.00
44	0910065	KY0021466 - Outfall 38	20	50.89
45	0910066	To Be Permitted	0	0.00
46	0910068	KY0021466 - Outfall 37	10	6.65
47	0910084	To Be Permitted	0	0.00
48	0930102	KY0021466 - Outfall 43	0	0.00
49	0930103	KY0021466 - Outfall 42	0	0.00
50	0930104	KY0021466 - Outfall 40	0	0.00
51	0930105	KY0021466 - Outfall 41	12	3.90

<b>Wet Weather CSOs</b>				
<b>No.</b>	<b>CSO ID</b>	<b>KPDES Permit #</b>	<b>Model Predicted Activations</b>	<b>Model Predicted Overflow Volume (MG)</b>
52	0930106	KY0021466 - Outfall 39	0	0.00
53	0960063	KY0021466 - Outfall 45	2	0.02
54	0960064	KY0021466 - Outfall 44	0	0.00
55	0980073	KY0021466 - Outfall 46	2	0.00
56	0980080	KY0021466 - Outfall 47	0	0.00
57	0980081	KY0021466 - Outfall 48	17	6.93
58	1320112	To Be Permitted	0	0.00
59	1350155	KY0021466 - Outfall 49	0	0.00
60	1380132	To Be Permitted	0	0.00
61	1380146	To Be Permitted	0	0.00
62	1420141	KY0021466 - Outfall 50	8	0.05
63	1420142	KY0021466 - Outfall 51	17	19.78
64	1420144	KY0021466 - Outfall 52	0	0.00
65	1420145	KY0021466 - Outfall 53	0	0.00
66	1420146	KY0021466 - Outfall 54	0	0.00
67	1420147	KY0021466 - Outfall 55	1	0.06
68	1440204	KY0021466 - Outfall 59	1	0.00
69	1440206	KY0021466 - Outfall 61	11	0.24
70	1440207	To Be Permitted	0	0.00
71	1440209	KY0021466 - Outfall 56	31	13.94
72	1440508	KY0021466 - Outfall 60	2	0.03
73	1470089	KY0021466 - Outfall 62	0	0.00
74	1470093	KY0021466 - Outfall 63	11	8.31
75	1480185	To Be Permitted	5	0.06
76	1480187	KY0021466 - Outfall 30	17	62.59
77	1490132	KY0021466 - Outfall 65	1	0.01
78	1490172	KY0021466 - Outfall 64	0	0.00
79	1500131	KY0021466 - Outfall 66	11	0.71
80	1510133	To Be Permitted	0	0.00
81	1710114	KY0021466 - Outfall 69	1	0.01
82	1710116	KY0021466 - Outfall 68	10	1.66
83	1710119	KY0021466 - Outfall 70	6	0.66
84	1710121	KY0021466 - Outfall 71	5	0.10
85	1710124	KY0021466 - Outfall 72	5	0.15
86	1720109	KY0021466 - Outfall 73	10	2.87
87	1730259	KY0021466 - Outfall 75	8	0.26
88	1730262	To Be Permitted	0	0.00
89	1730263	KY0021466 - Outfall 74	9	0.37
90	1840130	To Be Permitted	5	0.03
91	1850158	KY0021466 - Outfall 76	28	13.51
92	1870193	KY0021466 - Outfall 78	7	0.27
93	1870194	KY0021466 - Outfall 79	0	0.00
94	1880090	KY0021466 - Outfall 81	7	0.46
95	1880091	KY0021466 - Outfall 80	0	0.00
		<b>TOTAL</b>	<b>484</b>	<b>272.83</b>

**Threshold for model activation is 0.01 MGD and 0.001 MG**