



*Louisville and Jefferson County Metropolitan Sewer District*  
*700 West Liberty Street*  
*Louisville Kentucky 40203-1911*  
*502-540-6000*  
*www.msdlouky.org*

August 7, 2015

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

Jeff Cummins, Director  
Division of Enforcement  
Department for Environmental Protection  
300 Fair Oaks Lane  
Frankfort, KY 40601

Chief, NPDES Permitting and Enforcement Branch  
Water Protection Division  
US EPA Region 4  
Atlanta Federal Center  
61 Forsyth Street SW  
Atlanta, GA 30303

Subject: 13<sup>th</sup> Street and Rowan Street Storage Basin  
Minor Project Modification  
IOAP Project No. L\_OR\_MF\_155\_M\_09B\_B\_B\_4  
DOJ Case No. 90-5-1-1-08254

Attention Chiefs and Director:

MSD is requesting approval of a proposed minor project modification to the 13<sup>th</sup> Street and Rowan Street Storage Basin project (IOAP Project No. L\_OR\_MF\_155\_M\_09B\_B\_B\_4). This request is part of the ongoing adaptive management review of the approved Integrated Overflow Abatement Plan (IOAP) dated May 2014.

#### 2009 IOAP Project Description

The original 13<sup>th</sup> Street and Rowan Street Storage Basin project involved the construction of a 14.4 million gallon (MG) storage basin to be completed by December 31, 2020, with a 4 overflows per typical year level of control.

#### 2012 Project Modification

As a result of the system-wide recalibration of the hydraulic model completed in 2010, the overflows connected to the Central Relief Drain (CRD) were removed from this project and a new project created to address CRD overflows through green infrastructure and weir raising. With the CRD overflows removed, the basin size was reduced to 4.37 MG with eight overflows per year level of control. No changes were proposed in the schedule.



*Beneficial Use of Louisville's Biosolids*  
*www.louisvillegreen.com*

### 2015 Project Modification Request

This project modification request includes increasing the 13<sup>th</sup> Street and Rowan Street Storage Basin size from 4.36 MG to 9.8 MG. The level of control is proposed to remain at 8 overflows per year in the typical year. The larger size does not reduce CSO occurrences significantly, but does provide a reduced residual AAOV. No change in project completion date is proposed.

### Technical Justification

Since the 2009 IOAP submittal, additional flow monitors have been installed in the system and on the overflow structures. Detailed topographic surveys were conducted at many of the CSO structures. Furthermore, the drainage boundary and connectivity of the upstream areas was revised and validated using additional desktop features and field reconnaissance.

In 2012 MSD began reviewing and updating the geometric and hydrologic parameters of the InfoWorks Combined Sewer System Model. Additionally, a consistent, standardized procedure was developed for using the enhanced flow monitoring data to calibrate the combined sewer area models.

In 2014, subsequent to the approval of the 2012 IOAP Modification, MSD completed detailed hydrologic reviews for the Southwestern Parkway Storage Basin project. The detailed hydrologic review resulted in the Southwestern Parkway Storage Basin drainage area hydrologic parameters changing substantially. Changing these parameters changed the size and operational parameters for the storage basin and MSD's understanding of how the entire combined sewer system performs.

Because of this significant change in the project size, and per previous direction from EPA/KDEP, MSD conducted a complete level of control analysis for the Southwestern Parkway Storage Basin in accordance with the procedure established in the approved IOAP dated September 2009. The results of that new level of control analysis using new basin sizes for 0, 2, 4, and 8 overflows per year in the typical year resulted in 8 overflows per year being selected as the preferred level of control for the Southwestern Parkway Storage Basin. In order to achieve an overall "no net increase" in the AAOV for these hydraulically connected areas, MSD resized the four upstream CSO basins to collectively mitigate the change in residual AAOV.

MSD recognized that, despite using the approved benefit/cost approach that determined the level of control for all IOAP projects, the proposed level of control change for the Southwestern Parkway Storage Basin considered in isolation could be challenging for regulatory reviewers to approve. MSD decided to voluntarily reconsider the size of several other hydraulically connected projects. This analysis was initiated to optimize the project sizes and provide the same or better overall CSO volume reduction as that resulting from the project sizing in the approved 2012 IOAP Modification. The results of the analysis are documented in our letter of June 22, 2015 with a subject of "Integrated Overflow Abatement Plan Modifications". This requested change in the size of the 13<sup>th</sup> Street and Rowan Street Storage Basin is a direct result of that sizing optimization.

For your reference, a copy of the project fact sheets and maps from the original approved IOAP dated September 2009, and the recently approved 2012 IOAP Modification dated May 2014 are included in

13<sup>th</sup> Street and Rowan Street Storage Basin  
August 7, 2015  
Page 3 of 3

Attachment A. New project fact sheets and maps addressing this new project modification request have been provided in Attachment B.

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.

If you have questions or need additional information, please contact me at (502) 540-6000.

Sincerely,



Angela L. Akridge, PE  
Chief Engineer

cc: G. Heitzman P. Purifoy

Attachments

X:\Data\IOAP\2014 IOAP\2014 Modification\Mod Letters\ 13 and Rowan – Aug 7, 2015.docx

## Appendix A



## CSO Project Fact Sheet

### 2012 IOAP Project Modification



**Project Name:** 13th Street and Rowan Street Storage Basin

**Project Number:** L\_OR\_MF\_155\_M\_09B\_B\_B\_4

**Project Type:** Off-Line Storage

**Rec Stream:** Ohio River

**Project Description:** This project includes a large conveyance line from multiple CSOs and 4.36 MG underground covered concrete basin to reduce overflows to 8 overflows per typical year. This project also includes weir modifications to CSO 023 and 058. Two routes and costs for the conveyance line have been identified. The first route involves micro-tunnelling along Main Street, and the alternate route involves traditional open cut sewer installation along River Road. A right-sizing analysis may be used to potentially reduce the size of the basins or eliminate some of the conveyance lines.

**Design Assumption:** Conveyance line along Main Street will be able to stay under existing utilities and over existing stormwater outfall lines. All CSOs are connected to the conveyance line near the weir, and no overflow pipes are used for conveyance due to the potential of additional direct stormwater runoff.

**Capital Cost:** \$27,863,000

**Capital Benefit/Cost:** 40.71

**Present Worth Benefit Cost:** 51.31

CSO	CSO Name	Existing May 2012 <sup>1</sup>		Baseline May 2012 <sup>2</sup>	
		Avg. Annual Overflow Volume	Avg. Annual Frequency	Avg. Annual Overflow Volume	Avg. Annual Frequency
CSO022	FOURTH ST PS	3.13	7	3.13	7
CSO023	ORI @ 4th ST PS	3.95	6	16.15	15
CSO050	12th STREET	8.58	30	15.13	32
CSO051	11th STREET	1.18	13	1.89	15
CSO052	10th STREET	2.51	18	4.31	25
CSO053	8th STREET	4.62	38	4.62	38
CSO054	7th STREET	0.72	12	1.54	18
CSO055	6th STREET	2.66	14	6.53	21
CSO056	5th STREET	1.41	11	1.96	13
CSO058	PRESTON ST OVFL WEIR	1.29	13	69.55	51
CSO150	8th ST @ COMMON PLACE	0.86	14	1.88	21
CSO155	ROWAN ST @ 12th ST	2.36	38	2.36	38

1. Existing May 2012 conditions reflect existing system operating conditions as of that date.

2. Baseline May 2012 assumes all SSDP projects are complete and critical combined sewer facilities (e.g. Morris Forman WQTC Southwestern Pump Station, Starkey Pump Station) are operating at optimal, sustainable levels.

Wednesday, March 26, 2014



Integrated Overflow Abatement Plan  
Vol. 2 - Final CSO Long Term Control Plan

Ohio River

N 13th St and Rowan St Storage Basin

Preliminary - For Budget Development Only

- Active CSO
- Eliminated CSO
- PS Proposed Pump Station Solution
- PS Pump Stations
- Proposed Pipe Solution
- Combined Sewer Pipe
- Force Main
- Collector < 12"
- Interceptor ≥ 12"
- Drainage Mains
- Proposed Storage Solution
- Streams
- ▨ Floodway
- Jefferson County Boundary

General representation of overflow abatement solutions are for preliminary planning purposes. Alignments and locations may be altered during design.

1 inch = 400 feet

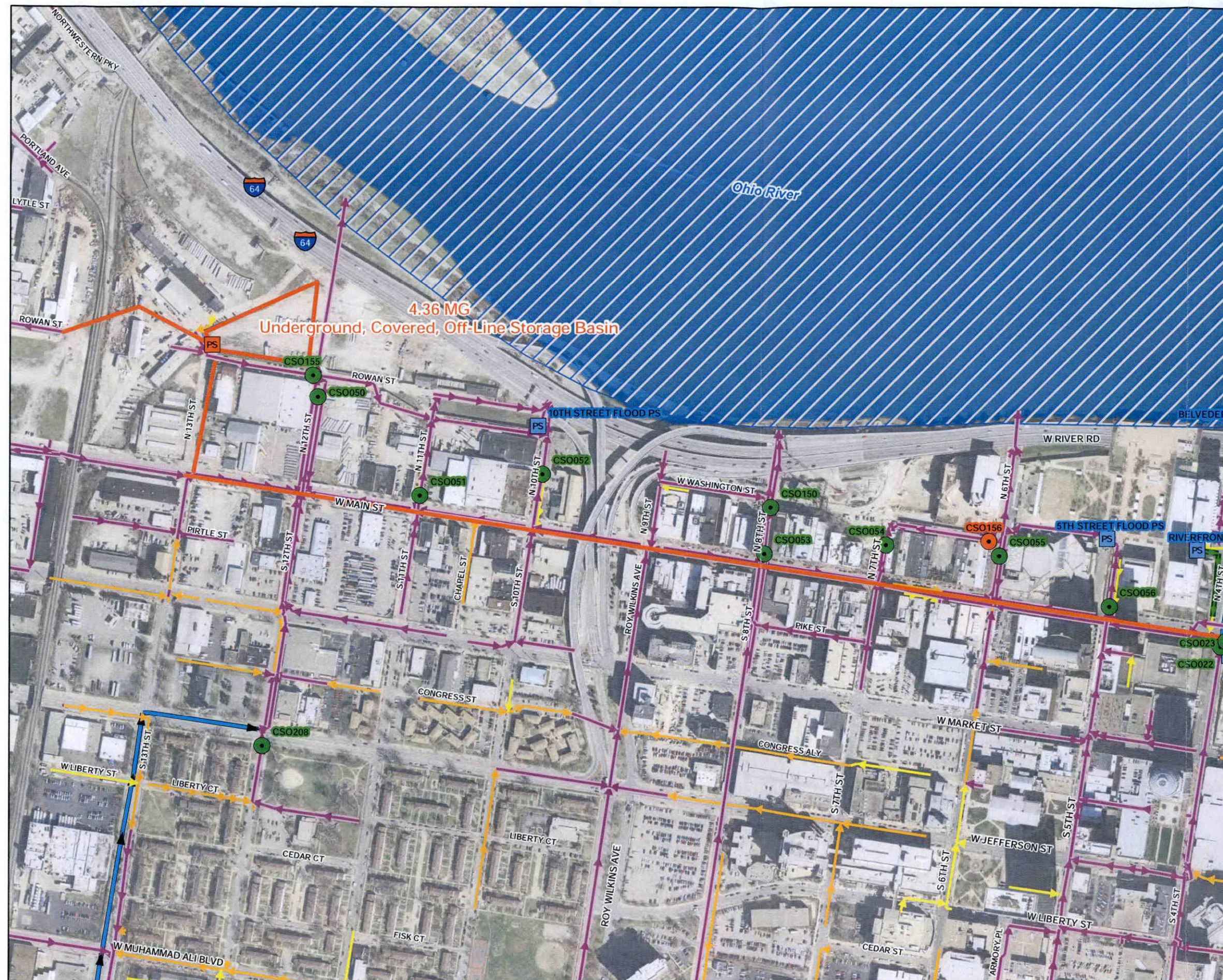


Aerial Date:  
2009

Map Revision:  
April 9, 2012



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## Appendix B

**Project Name:** 13th Street and Rowan Street Storage Basin

**Project Number:** L\_OR\_MF\_155\_M\_09B\_B\_B\_4

**Project Type:** Off-Line Storage

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Monday, August 24, 2015



# Integrated Overflow Abatement Plan Vol. 2 - Final CSO Long Term Control Plan

Ohio River

N 13th St and Rowan St Storage Basin

Preliminary - For Budget Development Only

- Active CSO
- Eliminated CSO
- PS Proposed Pump Station Solution
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- Force Main
- Collector < 12"
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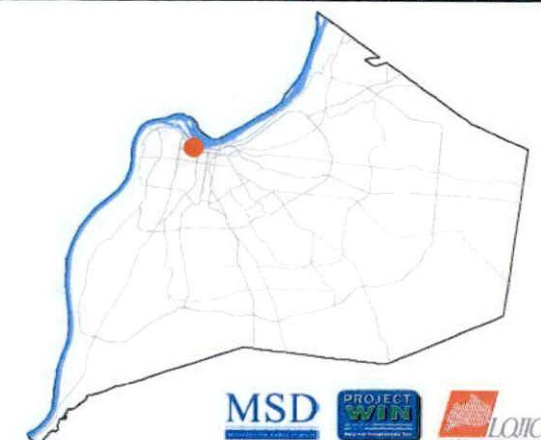
General representation of overflow abatement solutions are for preliminary planning purposes. Alignments and locations may be altered during design.

1 inch = 400 feet



Aerial Date: 2012

Map Revision: June 19, 2015



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