



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

August 17, 2012

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

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

Chief, Water Programs Enforcement Branch
Water Management Program
US EPA Region 4
Atlanta Federal Center
61 Forsyth Street SW
Atlanta, GA 30303

Subject: Algonquin Parkway Storage Basin
Minor Project Modification
IOAP Project No. L_OR_MF_211_M_13_B_A_8
DOJ Case No. 90-5-1-1-08254

Attention Chiefs and Director:

MSD is providing advanced notification of a proposed minor project modification to the Algonquin Parkway Storage Basin project (IOAP Project No. L_OR_MF_211_M_13_B_A_8). This modification is part of an overall adaptive management review of the approved 2009 IOAP that will be documented in proposed 2012 IOAP Modification to be formally submitted in 2013. No action is requested at this time.

2009 IOAP Project Description

The original Algonquin Parkway Storage Basin project included a 4.84 million gallon (MG) storage basin downstream from the Main Diversion Structure and two in-line storage facilities in the Southern Outfall, with a scheduled completion date of December 31, 2018.

Proposed Project Modification

The modifications requested includes the elimination of the 4.84 MG Algonquin Parkway storage basin due to operational strategy revisions at the Morris Forman Water Quality Treatment Center (WQTC) and reduction of pumped flows from the Southwestern Pump Station and increased storage at the planned Paddys Run Wet Weather Treatment Facility. Two new projects have been established to construct two in-line storage facilities in the Southern Outfall that were described in the original project. Project names are the Southern Outfall In-line Storage - 43rd St (SOR1) project and Southern Outfall



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

In-line Storage 12th St & Wilson Ave (SOR2) project. The project schedule is proposed to remain at December 31, 2018. The project will maintain the same level of control at eight overflows in a typical year, based on a revised benefit/cost analysis.

These modifications are part of an overall adaptive management review of the approved 2009 IOAP. Additional sewer system monitoring, hydraulic modeling recalibration and enhancements to the physical representation of the sewer system resulted in a redistribution of the flow in individual sewer lines, thus affecting project approach and sizing in some cases. Each proposed change will be justified in detail through minor modification letters. Detailed benefits, costs and program implementation refinements to the overflow abatement program will be documented in proposed 2012 IOAP Modification to be submitted in 2013. No action is requested at this time.

Technical Justification

The approved 2009 IOAP includes a 4.84 MG storage basin downstream from the Main Diversion Structure (MDS) along with in-line storage at two different locations in the Southern Outfall. The MDS is one of two main routes that deliver combined sewage into the Morris Forman WQTC.

As originally modeled, the MDS allowed up to 225 million gallons per day (MGD) into the Morris Forman WQTC during major rain events. Any flow delivered to the MDS in excess of 225 MGD would overflow from the CSOs connected to the MDS network, (CSOs 016, 210, and 211). The Southwestern Pump Station was originally modeled to deliver an additional 100 MGD to the Morris Forman WQTC, to bring the wet weather flow rate up to 325 MGD, which is the sustainable wet weather capacity of the plant.

During model recalibration, the real time control (RTC) rules controlling flow to the Morris Forman WQTC were reviewed and a decision made to modify those rules to take up to the full 325 MGD of capacity from the gravity-driven MDS, if sufficient flow is available. Pumping from Southwestern Pump Station would only occur during wet weather if treatment capacity were available after all flow from MDS was routed to the Morris Forman WQTC. As a result of this rule change, less CSO volume is discharged from the MDS CSOs, and an equivalent amount more is discharged from the Southwestern Pump Station CSOs (CSO 015 and 191).

As a result of this operational strategy revision, the storage volume needed to control CSOs at the MDS decreased, and the 4.84 MG basin is no longer needed to manage CSOs to the approved level of control. The two in-line storage projects along the Southern Outfall outlined in the original 2009 IOAP, however, are still necessary. The storage volume provided at the Southwestern Pump Station has increased, which is the subject of a separate request for a minor modification to the Paddy's Run Wet Weather Treatment Facility.

For your reference, a copy of the original project fact sheet and map from the 2009 IOAP are in Attachment A. New project fact sheets and maps reflecting the creation of separate projects for the two in-line storage facilities on the Southern Outfall have been provided in Attachment B. Additional documentation on the costs and level of control analysis will be included in the 2012 IOAP Modification.

Algonquin Parkway Storage Basin
August 17, 2012
Page 3 of 3

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 Ms. Angela Akridge, Project WIN Program Manager, or myself at (502) 540-6000.

Sincerely,



W. Brian Bingham
Regulatory Services Director

cc: Greg Heitzman Paula Purifoy

Attachments

MSD

Metropolitan Sewer District

ATTACHMENT

A



CSO LTCP Project Fact Sheet



LTCP Project Number: L_OR_MF_211_M_13_B_A_8

Project Name: Algonquin Parkway Storage Basin

Project Type: RTC with Storage

Receiving Stream: Ohio River

Project Description: This project includes a 4.84 MG underground open concrete basin and ILS at two locations within the SO for CSO016, 210, and 211 to reduce overflows to 8 overflows per year. The facility will be a gravity in-gravity out operation.

Design Parameters / Assumptions: Available CSS storage capacity is based on June, 2001 BPR RTC Study. Flow Control assumes inflatable dams are available at the time of construction. Down-sized storage basin design with Flow Control assumptions are same as Off-line Storage technology.

Surrounding Area Land Use: The project is located within 'Industrial' property. The project is located approximately 1000' Southeast of CSO211 and 100' North of Gibson Lane near Algonquin Pky.

Apparent Utilities Description: Prim. OH elec. Approx. 23 ft. S. of proposed basin, multi. Lights approx 32 ft. S. of the proposed basin, Secondary OH elec. Located approx. 37 ft. S. of proposed basin

Capital Projects: 2009~FY08/09 CD-1 Drainage Improvement - Awaiting Start; 2007~ORI Flow Meter Installation Project - Under Construction

Advanced Site Restoration: N/A

Estimated Capital Cost (2008): \$17,300,000

Capital Cost / Gallon Overflow Removed: \$0.04

Weighted Benefit / Cost Ratio (Capital Cost): 34.16

Overflow Points Addressed:

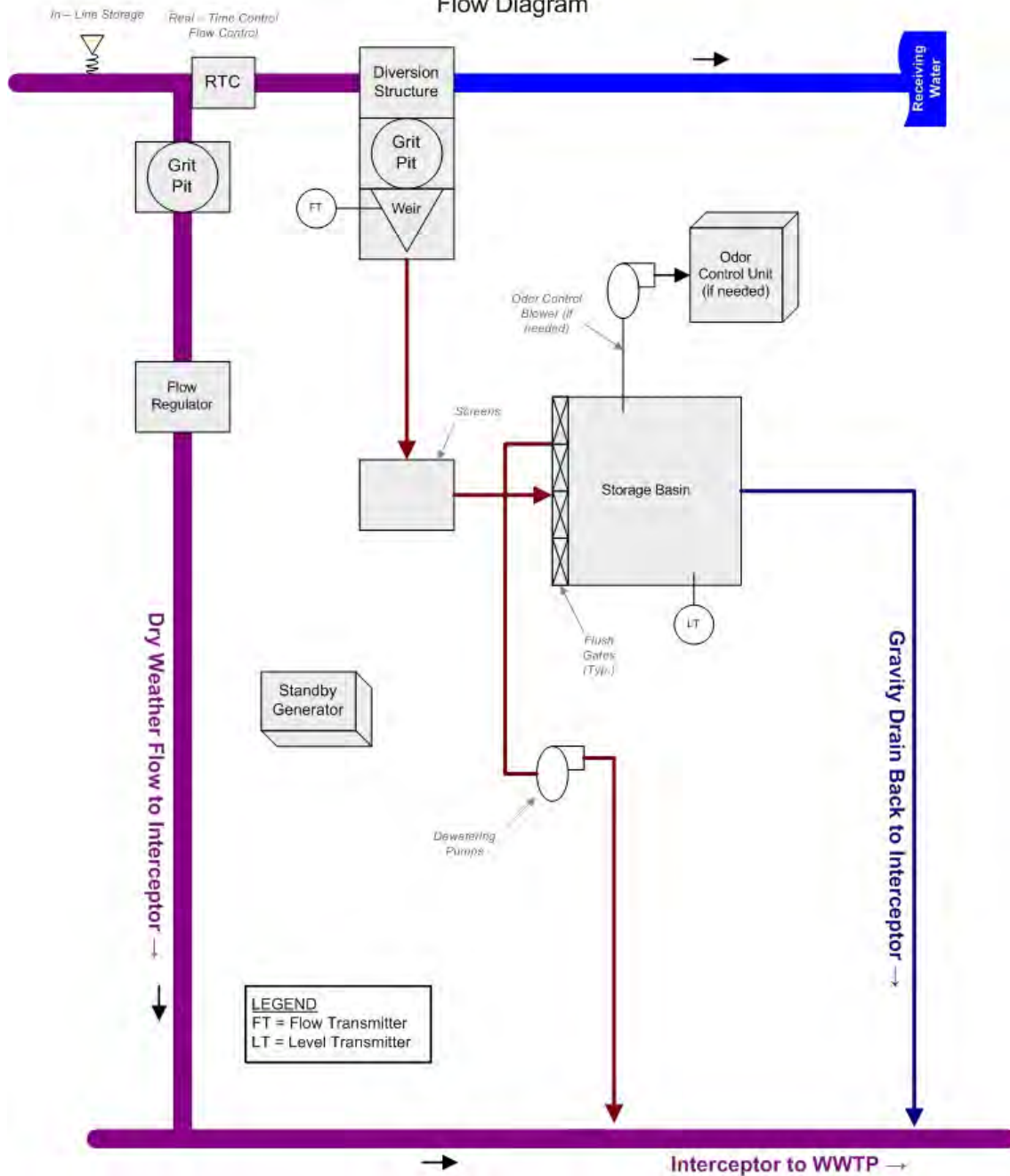
<u>CSO Number</u>	<u>CSO Name</u>	<u>CSO Area (Acres)</u>	<u>2008 AAOV (MG / Yr)</u>	<u># of Overflows / Yr</u>	<u>Post LTCP AAOV (MG/Yr)</u>	<u>Post LTCP # Overflows / Year</u>
CSO016	Miles Park Bypass	0.00	29.65	29	1.92	8
CSO210	45th Street - Greenwood	166.67	195.57	51	42.99	8
CSO211	Main Diversion Structure	3,554.89	373.17	29	7.98	8

NOTE: CSO hydraulic statistics are predicted based on InfoWorks model results.

CSO LTCP Project Fact Sheet

LTCP Project Number: L_OR_MF_211_M_13_B_A_8

Hybrid Technology: Off-Line Storage with Real Time Control Gravity Effluent Flow Diagram



Integrated Overflow Abatement Plan
Volume 2 - Final CSO Long-Term Control Plan

Ohio River
 Solution ID # L_OR_MF_211_M_13_B_A_8
 Algonquin Parkway Storage Basin

Preliminary - For Budget Development Only

Legend

- Active CSO
- Eliminated CSO
- ▲ Proposed Flow Control Solution
- PS Proposed Pump Station Solution
- PS Pump Station
- Proposed Pipe Solution
- Force Main
- Combined Sewer Pipe
- - - Flood Wall
- Proposed Storage Solution
- Floodway
- Metro Parks
- Streams

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

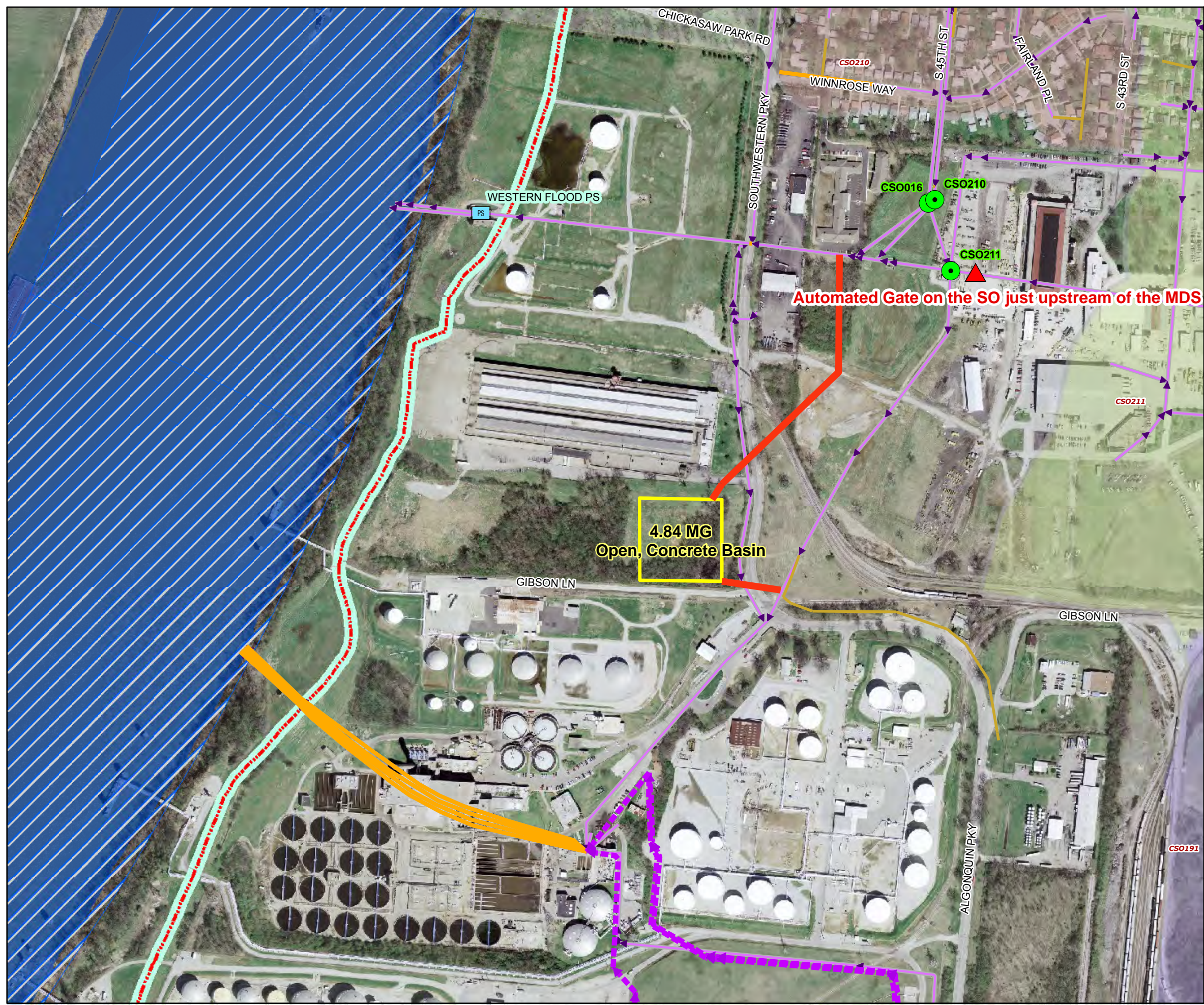
1 inch = 400 feet
 Scaleable when printed on 11"x17" paper



Some boundaries are uniquely symbolized within the map.
 Map Revision
 Mar 13, 2009
 Aerial Date: 2006



Copyright © 2008 LOUISVILLE AND JEFFERSON COUNTY METROPOLITAN SEWER DISTRICT (MSD), LOUISVILLE WATER COMPANY, LOUISVILLE METRO GOVERNMENT, and JEFFERSON COUNTY PROPERTY VALUATION ADMINISTRATOR (PVA). All Rights Reserved.



MSD

Metropolitan Sewer District

ATTACHMENT

B

Project Name: Southern Outfall In-line Storage at 43rd St (SOR1)

Project Type: In-Line Storage

Rec Stream: Ohio River

Project Description: In-line storage using an actuated gate or inflatable dam in the Southern Outfall (11.4 MG) linked to Real Time Control near the end of 43rd Street and the existing Wayne Supply property. Project will reduce overflows to 8 overflows in a typical year.

Design Assumption: Inflatable dam must be available for manufacture at the necessary size.

Capital Cost: \$3,898,500

Capital Benefit/Cost: 109.27

Present Worth Benefit Cost: 113.96

CSO	CSO Name	Existing May 2012 ¹		Baseline May 2012 ²	
		Avg. Annual Overflow Volume	Avg. Annual Frequency	Avg. Annual Overflow Volume	Avg. Annual Frequency
CSO016	MILES PARK BYPASS	47.90	28	13.86	29
CSO210	45th STREET-GREENWOOD	71.45	50	61.89	50
CSO211	MAIN DIVERSION STRUCTURE	348.50	24	283.12	22

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.

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

Ohio River

Southern Outfall In-line Storage - 43rd St (SOR1)

Preliminary - For Budget Development Only

- Active CSO
- Eliminated CSO
- ▲ Proposed Flow Control Solution
- PS Pump Stations
- MSD
- Proposed Pipe Solution
- Southern Outfall
- Combined Sewer Pipe
- Force Main
- Collector < 12"
- Interceptor >= 12"
- Proposed Off-line Storage
- Streams
- Floodway
- Flood Wall
- Jefferson County Boundary

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

1 inch = 300 feet



Aerial Date: 2009

Map Revision: April 9, 2012



Copyright © 2012 LOUISVILLE AND JEFFERSON COUNTY METROPOLITAN SEWER DISTRICT (MSD), LOUISVILLE WATER COMPANY, LOUISVILLE METRO GOVERNMENT, and JEFFERSON COUNTY PROPERTY VALUATION ADMINISTRATOR (PVA). All Rights Reserved.



Project Name: Southern Outfall In-line Storage at 12th St & Wilson Ave (SOR2)

Project Type: In-Line Storage

Rec Stream: Ohio River

Project Description: In-line storage using an actuated gate or inflatable dam in the Southern Outfall (4.7 MG) linked to Real Time Control near the intersection of 12th Street and Wilson Avenue. Project will reduce overflows to 8 overflows in a typical year.

Design Assumption: Inflatable dam must be available for manufacture at the necessary size.

Capital Cost: \$3,898,500

Capital Benefit/Cost: 109.27

Present Worth Benefit Cost: 113.96

CSO	CSO Name	Existing May 2012 ¹		Baseline May 2012 ²	
		Avg. Annual Overflow Volume	Avg. Annual Frequency	Avg. Annual Overflow Volume	Avg. Annual Frequency
CSO016	MILES PARK BYPASS	47.90	28	13.86	29
CSO210	45th STREET-GREENWOOD	71.45	50	61.89	50
CSO211	MAIN DIVERSION STRUCTURE	348.50	24	283.12	22

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

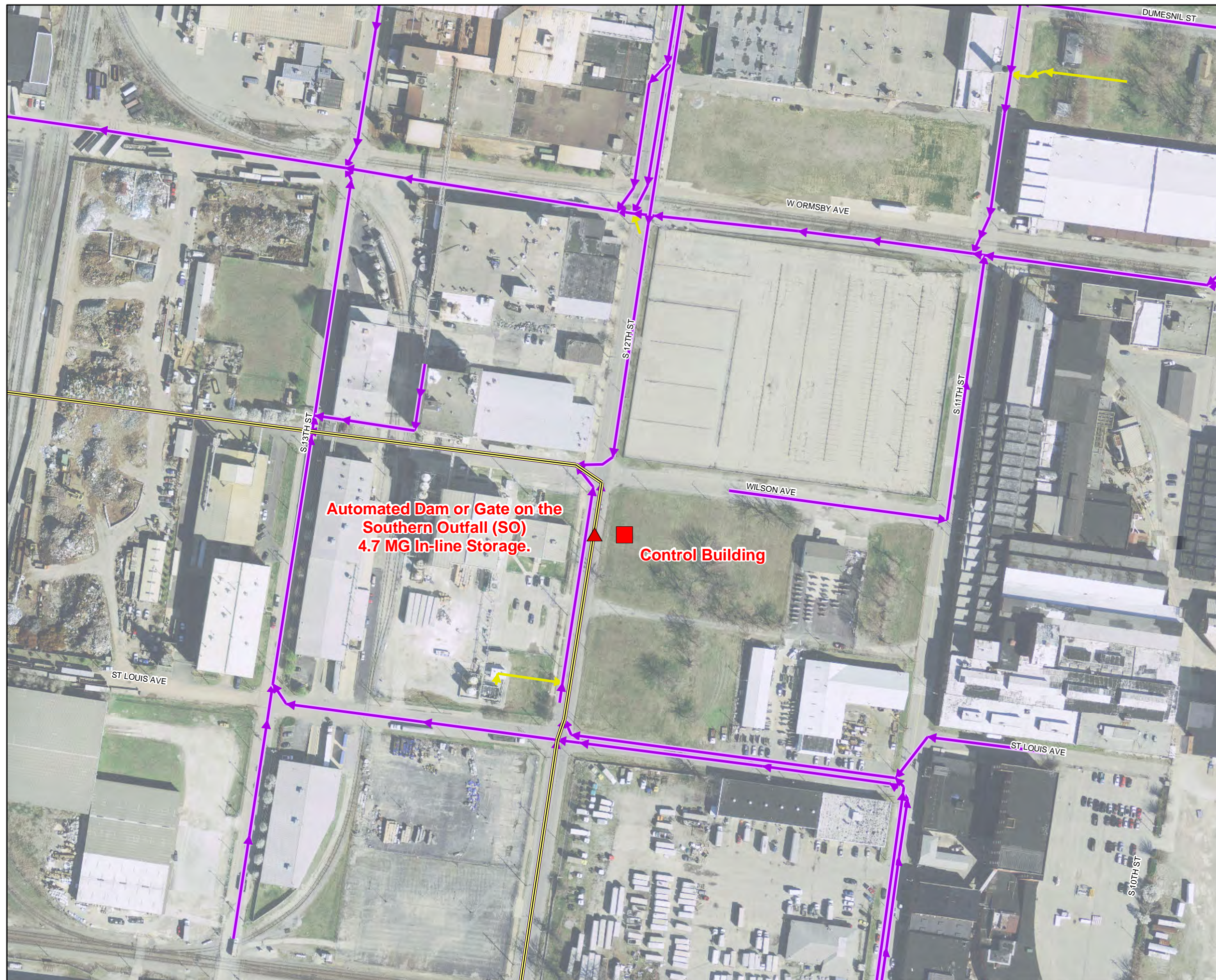
2. Baseline May 2012 assumes all SSDP projects are complete and critical combined sewer facilities (e.g. Morris Forman WQTC Southwestern Pump Station, Starkey Pump Station) are operating at optimal, sustainable levels.

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

Ohio River

**Southern Outfall In-line Storage
12th St & Wilson Ave (SOR2)**

Preliminary - For Budget Development Only



**Automated Dam or Gate on the
Southern Outfall (SO)
4.7 MG In-line Storage.**

Control Building

- Active CSO
- Eliminated CSO
- ▲ Proposed Flow Control Solution
- PS Pump Stations
- MSD
- Proposed Pipe Solution
- Southern outfall
- Combined Sewer Pipe
- Force Main
- Collector < 12"
- Interceptor >= 12"
- Proposed Off-line Storage
- Streams
- Floodway
- Flood Wall
- Jefferson County Boundary

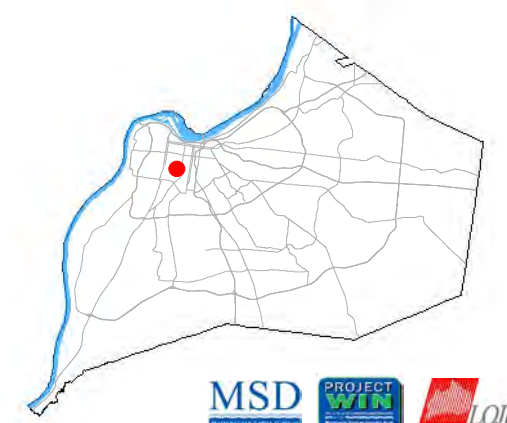
General representation of overflow abatement solutions are for preliminary planning purposes. Alignments and locations may be altered during design.

1 inch = 157 feet



Aerial Date: 2009

Map Revision: April 9, 2012



Copyright © 2012 LOUISVILLE AND JEFFERSON COUNTY METROPOLITAN SEWER DISTRICT (MSD), LOUISVILLE WATER COMPANY, LOUISVILLE METRO GOVERNMENT, and JEFFERSON COUNTY PROPERTY VALUATION ADMINISTRATOR (PVA). All Rights Reserved.