



Louisville and Jefferson County Metropolitan Sewer District  
700 West Liberty Street  
Louisville Kentucky 40203-1911  
502-540-6000  
[www.msdlouky.org](http://www.msdlouky.org)

August 17, 2012 (Revised September 20, 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: I-64 and Grinstead Drive Storage Basin  
Minor Project Modification  
IOAP Project No. L\_MI\_MF\_127\_M\_09B\_B\_A\_8  
DOJ Case No. 90-5-1-1-08254

Attention Chiefs and Director:

MSD is requesting approval of a proposed minor project modification to the I-64 and Grinstead Drive Storage Basin project (IOAP Project No. L\_MI\_MF\_127\_M\_09B\_B\_A\_8). This modification is part of an overall adaptive management review of the approved 2009 IOAP that will be documented in the proposed 2012 IOAP Modification to be formally submitted in 2013. Since the project modifications will affect MSD's implementation activities prior formal submittal of the revision documentation, approval of the proposed modification is requested at this time.

#### 2009 IOAP Project Description

The original I-64 & Grinstead Drive Basin project involved the construction of a 2.74 million gallon (MG) storage basin to be completed by December 31, 2014, with an eight overflows per typical year level of control.

#### Proposed Project Modification

The project modification involves the construction of a 15.33 MG storage basin to be completed by December 31, 2020, with a four overflows per typical year level of control. Moving the schedule into 2020 will allow for the proper construction of such a large basin and the incorporation of the green infrastructure within the drainage area of the four combined sewer overflows controlled by the basin. MSD is analyzing potential green infrastructure projects to possibly reduce the size of the storage basin.



Beneficial Use of Louisville's Biosolids  
[www.louisvillegreen.com](http://www.louisvillegreen.com)

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.

#### Technical Justification

Since the last 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. The combined sewer system model was updated with the new survey data and re-calibrated based on the data from the additional flow monitors. The flows in the re-calibrated model differed from the original model and required changes to some of the IOAP projects.

Based on the results of the re-calibration, a level of control analysis was conducted on the I-64 and Grinstead Storage Basin. The level of control analysis showed that the basin size of 15.33 MG would meet a level of control of four overflows per year and provide the highest benefit/cost ratio. Therefore, MSD proposes to change the I-64 and Grinstead Drive Storage Basin solution from a 2.74 MG basin to a 15.33 MG basin.

Additionally, the public has requested that the use of green infrastructure strongly be considered in this area in conjunction with gray infrastructure. Based on this request, MSD is also proposing to evaluate green infrastructure to determine if its use in some areas is cost effective to reduce the basin size. Based on the large drainage area, the large basin size, and the resulting high quantity of stormwater reduction required, significant public and private participating will be necessary to evaluate the potential impacts. Therefore, based on the increased basin size and the desire to further evaluate and implement potential green infrastructure opportunities, MSD is requesting to change the project completion date from December 31, 2014, to December 31, 2020.

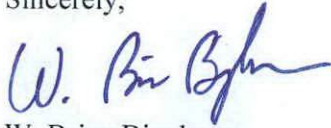
For your reference, a copy of the original project fact sheet and map from the 2009 IOAP are in Attachment A. New project fact sheets and maps have been provided in Attachment B. Additional documentation on the costs and level of control analysis will be included in the 2012 IOAP Modification.

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.

I-64 and Grinstead Drive Storage Basin  
August 17, 2012 (Revised September 20, 2012)  
Page 3 of 3

Sincerely,

A handwritten signature in blue ink that reads "W. Brian Bingham". The signature is fluid and cursive, with the first name "W." and last name "Bingham" clearly legible.

W. Brian Bingham  
Regulatory Services Director

cc: G. Heitzman P. Purifoy

Attachments



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

August 17, 2012 (Revised September 20, 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: I-64 and Grinstead Drive Storage Basin  
Minor Project Modification  
IOAP Project No. L\_MI\_MF\_127\_M\_09B\_B\_A\_8  
DOJ Case No. 90-5-1-1-08254

Attention Chiefs and Director:

MSD is requesting approval of a proposed minor project modification to the I-64 and Grinstead Drive Storage Basin project (IOAP Project No. L\_MI\_MF\_127\_M\_09B\_B\_A\_8). This modification is part of an overall adaptive management review of the approved 2009 IOAP that will be documented in the proposed 2012 IOAP Modification to be formally submitted in 2013. Since the project modifications will affect MSD's implementation activities prior formal submittal of the revision documentation, approval of the proposed modification is requested at this time.

#### 2009 IOAP Project Description

The original I-64 & Grinstead Drive Basin project involved the construction of a 2.74 million gallon (MG) storage basin to be completed by December 31, 2014, with an eight overflows per typical year level of control.

#### Proposed Project Modification

The project modification involves the construction of a 15.3+3 MG storage basin to be completed by December 31, 2020, with a four overflows per typical year level of control. Moving the schedule into 2020 will allow for the proper construction of such a large basin and the incorporation of the green infrastructure within the drainage area of the four combined sewer overflows controlled by the basin. MSD is analyzing potential green infrastructure projects to possibly reduce the size of the storage basin.



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

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.

#### Technical Justification

Since the last 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. The combined sewer system model was updated with the new survey data and re-calibrated based on the data from the additional flow monitors. The flows in the re-calibrated model differed from the original model and required changes to some of the IOAP projects.

Based on the results of the re-calibration, a level of control analysis was conducted on the I-64 and Grinstead Storage Basin. The level of control analysis showed that the basin size of 15.3+3 MG would meet a level of control of four overflows per year and provide the highest benefit/cost ratio. Therefore, MSD proposes to change the I-64 and Grinstead Drive Storage Basin solution from a 2.74 MG basin to a 15.3+3 MG basin.

Additionally, the public has requested that the use of green infrastructure strongly be considered in this area in conjunction with gray infrastructure. Based on this request, MSD is also proposing to evaluate green infrastructure to determine if its use in some areas is cost effective to reduce the basin size. Based on the large drainage area, the large basin size, and the resulting high quantity of stormwater reduction required, significant public and private participating will be necessary to evaluate the potential impacts. Therefore, based on the increased basin size and the desire to further evaluate and implement potential green infrastructure opportunities, MSD is requesting to change the project completion date from December 31, 2014, to December 31, 2020.

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 have been provided in Attachment B. Additional documentation on the costs and level of control analysis will be included in the 2012 IOAP Modification.

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.

I-64 and Grinstead Drive Storage Basin  
August 17, 2012 (Revised September 20, 2012)  
Page 3 of 3

Sincerely,

W. Brian Bingham  
Regulatory Services Director

cc: G. Heitzman P. Purifoy

Attachments

**MSD**

Metropolitan Sewer District

**ATTACHMENT  
A**

# CSO LTCP Project Fact Sheet



**LTCP Project Number:** L\_MI\_MF\_127\_M\_09B\_B\_A\_8

**Project Name:** I-64 and Grinstead Drive Storage Basin

**Project Type:** Off-Line Storage

**Receiving Stream:** Middle Fork Beargrass Creek

**Project Description:** This project is to provide a 2.74 MG off-line storage facility consisting of a covered concrete basin for CSO125, 126, 127 & 166 to reduced overflows to 8 overflows per year. The facility will be a gravity in-gravity out operation.

**Design Parameters / Assumptions:** Basins are designed to the 9th overflow event volume, resulting in 8 CSO overflows/year. The 9th peak flowrate is evaluated to compare gravity vs. pumped conveyance. Design for pump-back is 24 hours. Type of basin based on hydraulics and surroundings.

**Surrounding Area Land Use:** Project is located within ' Vacant and Undeveloped' property, close to the I-64 right of way and pedestrian bike route. Nearby land use includes commercial properties. Project is located North of a parking lot off of Lexington Rd.

**Apparent Utilities Description:** Prim. OH elec. In. passes through the SW corner of the proposed basin, secondary OH elec. In. < 60 ft. W of proposed basin

**Capital Projects:** 2007~Central Region Automation FY05-06 - In progress; 2007~Central Region PS Modification - Under Construction; 2007~Middle Fork Rehab Phase 2 & 2013~RTC @ CSO125, 126, 127, & 140 - Awaiting Start

**Advanced Site Restoration:** The area of the proposed tank is undeveloped green space. Current and previous public use or development proposals for these areas have identified potential environmental mitigations. The project budget includes a site restoration allowance.

**Estimated Capital Cost (2008):** \$12,950,000

**Capital Cost / Gallon Overflow Removed:** \$0.24

**Weighted Benefit / Cost Ratio (Capital Cost):** 36.26

**Overflow Points Addressed:**

CSO Number	CSO Name	CSO Area (Acres)	2008 AAOV (MG / Yr)	# of Overflows / Yr	Post LTCP AAOV (MG/Yr)	Post LTCP # Overflows / Year
CSO125	Regulator Number 24 - Grinstead Drive	391.03	48.38	54	7.63	8
CSO126	Regulator Number 26 - Raymod Avenue	35.29	0.58	13	0.56	8
CSO127	Etley Avenue	192.26	4.62	21	1.07	8
CSO166	Beals Branch Sanitary Diversion	696.65	10.12	19	3.32	8

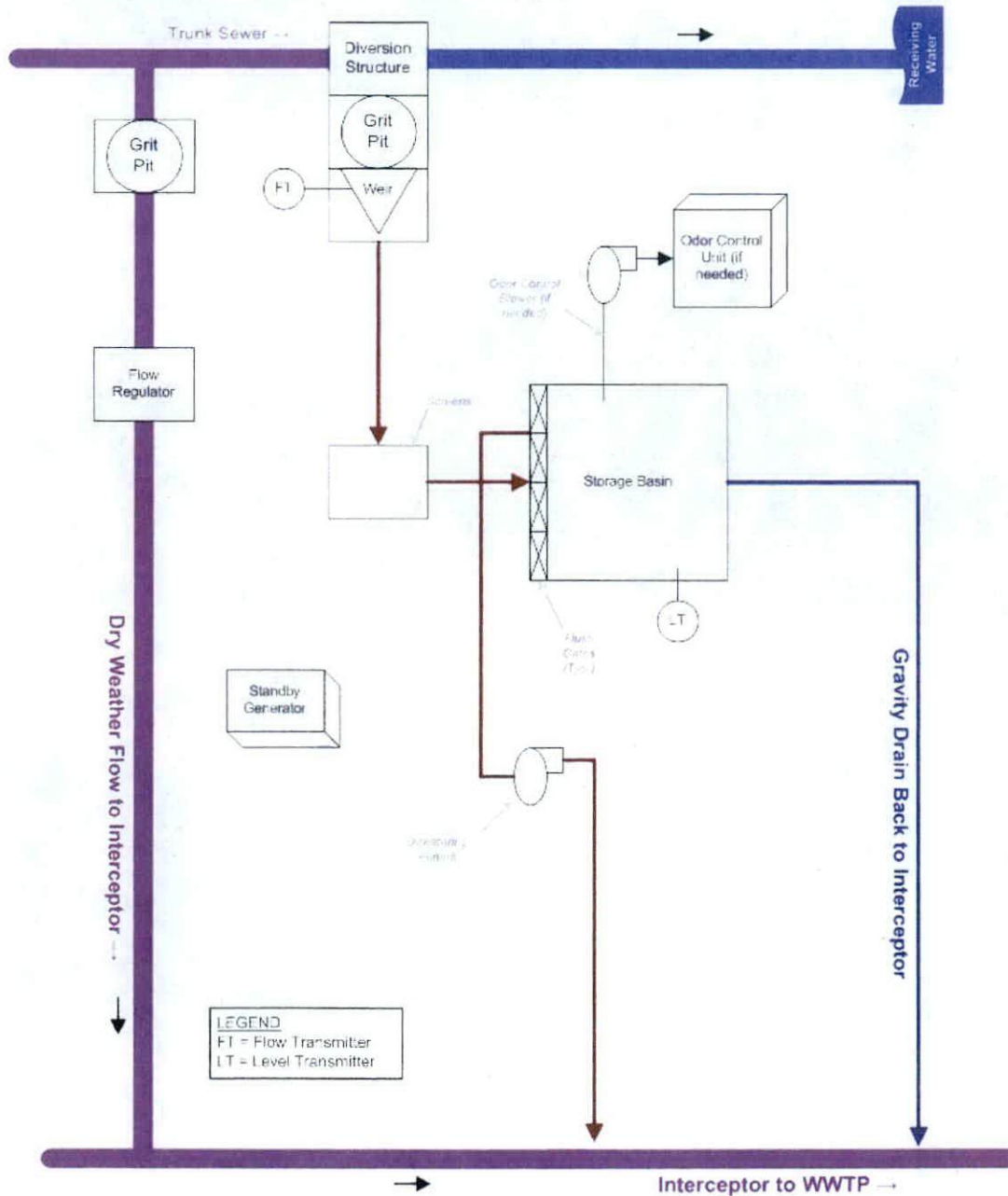
*NOTE: CSO hydraulic statistics are predicted based on InfoWorks model results.*



# CSO LTCP Project Fact Sheet

**LTCP Project Number:** L\_MI\_MF\_127\_M\_09B\_B\_A\_8

Off-Line Storage  
Gravity Effluent  
Flow Diagram



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

Middle Fork Beargrass Creek  
SolutionID # L\_MI\_MF\_127\_M\_09B\_B\_A\_8  
I-64 and Grinstead Drive Storage Basin

**Preliminary - For Budget Development Only  
Legend**

- PS Proposed Pump Station Solution
- Active CSO
- Eliminated CSO
- PS Pump Station
- Proposed Pipe Solution
- Force Main
- Collector < 12"
- Interceptor => 12"
- Combined Sewer Pipe
- ~ Streams
- Proposed Storage Solution
- ▨ Floodway
- Metro Parks
- County Boundary

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

1 inch equals 200 feet  
Scalable when printed on 11" X 17" paper

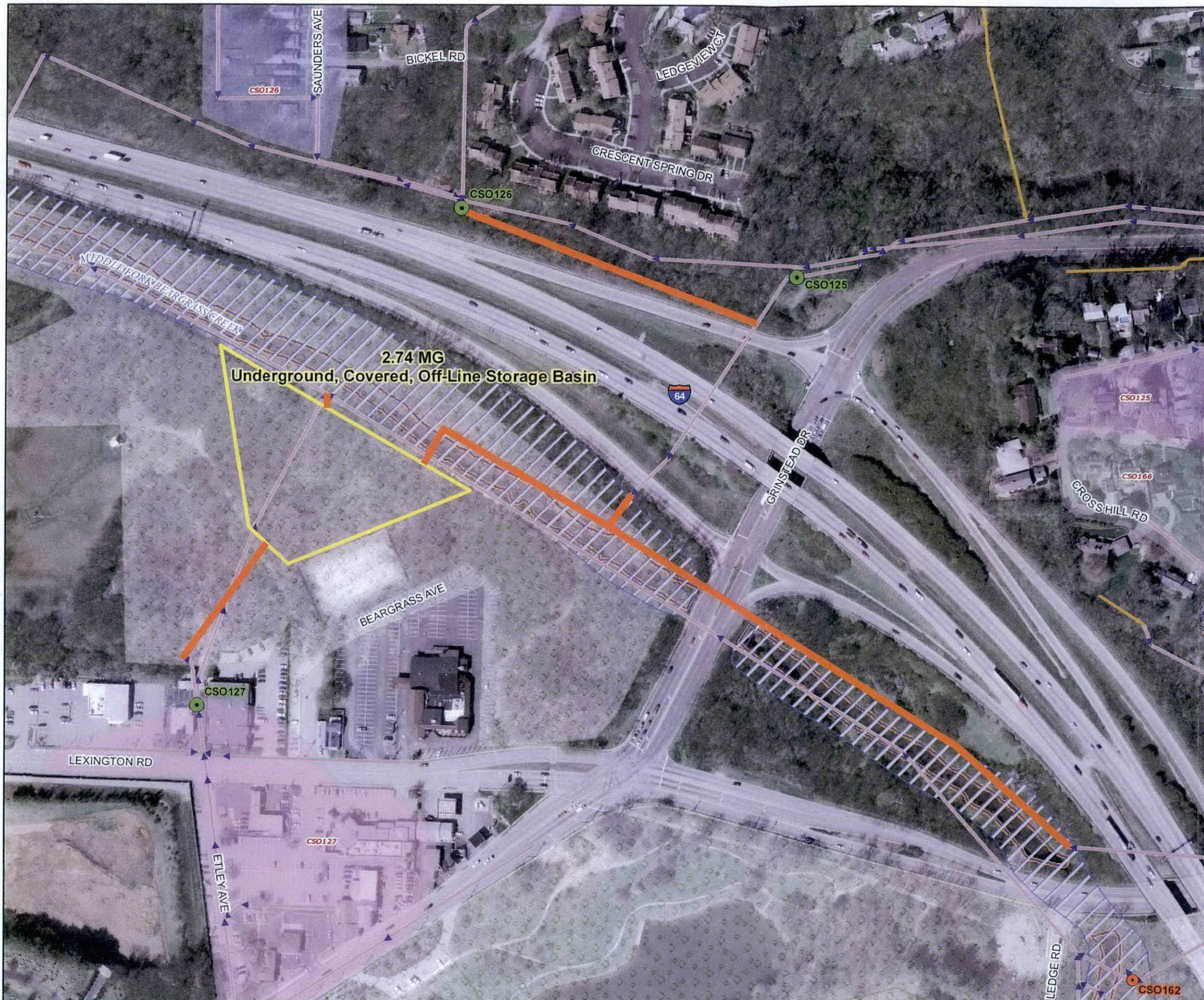
Some boundaries are uniquely symbolized within the map.

Map Revision  
December 3, 2008

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:** I-64 and Grinstead Drive Storage Basin

**Project Type:** Off-Line Storage

**Rec Stream:** Middle Fork Beargrass Creek

**Project Description:** This project is to provide a 15.13 MG off-line storage facility consisting of a covered concrete basin for CSO125, 126, 127 & 166 to reduced overflows to 4 overflows per typical year. The facility will be a gravity in-pump out operation.

**Design Assumption:** No backflow from Beargrass Creek is accounted for in model. Flapgates may need to be analyzed. Direct runoff from I-64 into outfall pipes is currently included in basin size. Separation may reduce basin size if cost effective. CSO 126 likely will be conveyed directly under I-64.

**Capital Cost:** \$52,002,000

**Capital Benefit/Cost:** 17.73

**Present Worth Benefit Cost:** 19.25

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
CSO125	REG NO 24 - GRINSTEAD DR	201.71	57	200.36	57
CSO126	REG NO 26 - RAYMOND AVE	5.55	27	3.93	24
CSO127	ETLEY AVENUE	9.71	30	9.40	30
CSO166	BEALS BRANCH SAN DIV	64.66	36	62.36	36

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**

Middle Fork Beargrass Creek  
I-64 and Grinstead Drive 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"
- Streams
- Proposed Storage Solution
- 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 = 200 feet           Aerial Date: 2009      Map Revision: April 9, 2012



MSD PROJECT WIN LJC  
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.

