



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: Clifton Heights Storage Basin
Minor Project Modification
IOAP Project No. L_MU_MF_154_M_09B_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 Clifton Heights Storage Basin project (IOAP Project No. L_MU_MF_154_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. No action is requested at this time.

2009 IOAP Project Description

The Clifton Heights Storage Basin project originally involved the construction of a 6.55 million gallon (MG) storage basin to be completed by December 31, 2018, with an eight overflow per typical year level of control.

Proposed Project Modification

MSD proposes to change the Clifton Heights Storage Basin solution from a 6.55 MG basin to a 4.28 MG basin, and revise the level of control from eight overflows per typical year to four overflows per typical year.

These changes are part of an overall adaptive management review of the IOAP that resulted in several changes that are being documented in a on-going revisions to the 2009 IOAP that will be submitted for regulatory consideration. Each proposed change will be justified in detail through minor modification letters like this. Detailed benefits, costs and program implementation refinements to the overflow



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abatement program will be documented in the proposed 2012 IOAP Modification to be submitted in the first quarter of 2013. No action is requested at this time.

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 Clifton Heights Storage Basin. The level of control analysis showed that the basin size of 4.28 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 Clifton Heights Storage Basin solution from a 6.55 MG basin to a 4.28 MG basin. These improvements will maintain the same completion date of December 31, 2018, as the original solution.

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.

Sincerely,



W. Brian Bingham
Regulatory Services Director

cc: Greg Heitzman Paula Purifoy

Attachments



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Based on the results of the re-calibration, a level of control analysis was conducted on the Clifton Heights Storage Basin. The level of control analysis showed that the basin size of ~~4.283.28~~ MG would meet a level of control of ~~four~~eight overflows per year and provide the highest benefit/cost ratio. Therefore, MSD proposes to change the Clifton Heights Storage Basin solution from a 6.55 MG basin to a ~~3.284.28~~ MG basin. These improvements will maintain the same completion date of December 31, 2018, as the original solution.

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.

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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_MU_MF_154_M_09B_B_A_8

Project Name: Clifton Heights Storage Basin

Project Type: Off-Line Storage

Receiving Stream: Muddy Fork Beargrass Creek

Project Description: This project includes a 6.55 MG underground covered storage basin for CSO132, 154 and 167 to reduced overflows to reduce overflows to eight overflows per year. The facility will require a 6.55 MGD PS to return the stored flow back to the interceptor.

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 & Undeveloped' property East of Mellwood Ave, and is approximately 40' East of CSO154. Adjacent property includes 'Multi Family Residential', 'Industrial' and 'Single Family Residential'.

Apparent Utilities Description: Prim. UG elec. In. < 25 ft. from NE corner of basin, Secondary UG elec. In. <4 ft. from NE corner of basin, Secondary OH elec. In. < 2 ft. from NW corner of basin

Capital Projects: 2007~East Region Automation FY05-06 & Solids & Floatables Project - In progress; 2007~East Region PS Modification - Under Construction; 2011~RTC @ CSO154 - Awaiting Start

Advanced Site Restoration: MSD will work with Neighborhood council to select and plant native Kentucky species during restoration.

Estimated Capital Cost (2008): \$13,870,000

Capital Cost / Gallon Overflow Removed: \$0.15

Weighted Benefit / Cost Ratio (Capital Cost): 29.46

Overflow Points Addressed:

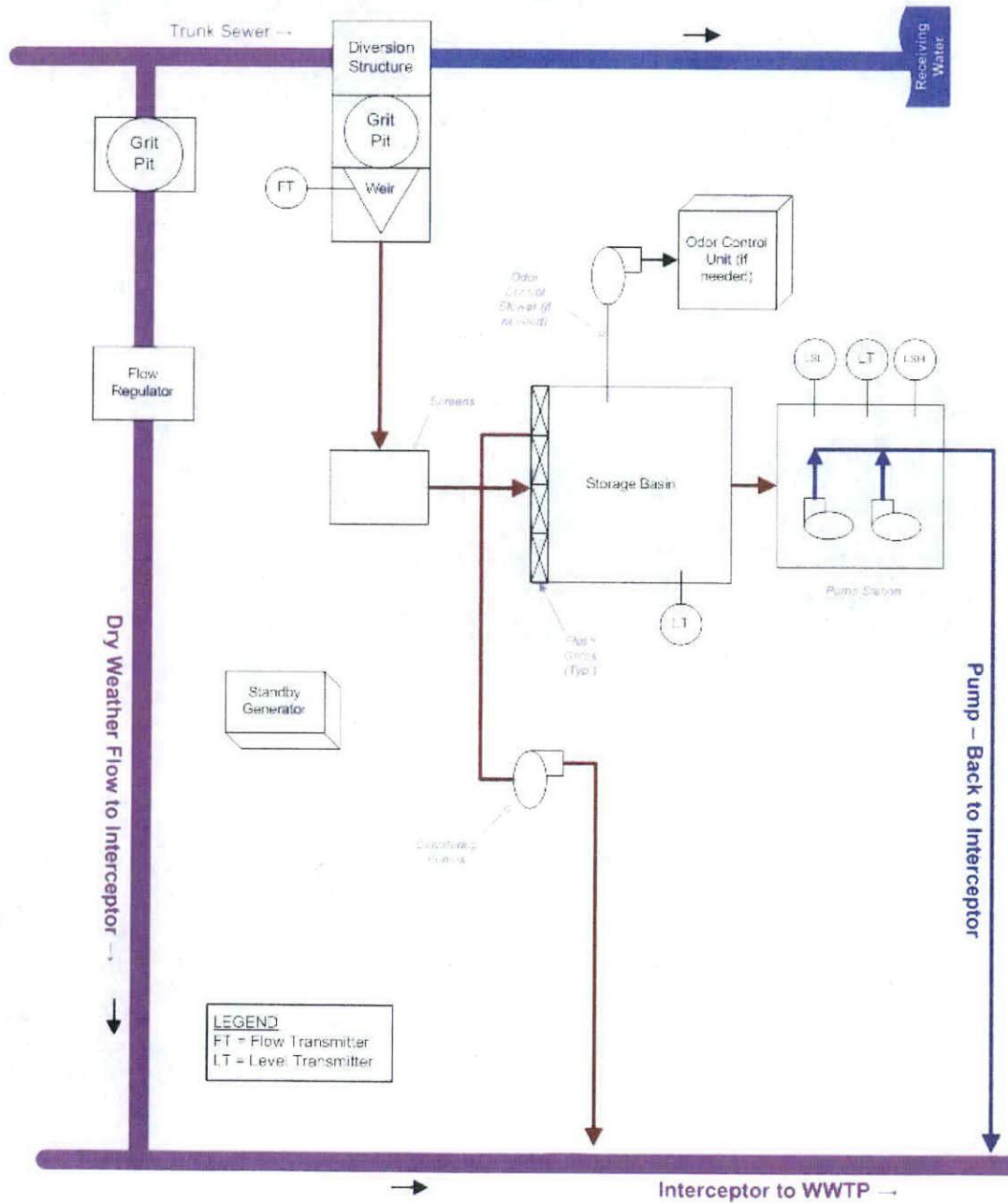
<u>CSO Number</u>	<u>CSO Name</u>	<u>CSO Area (Acres)</u>	<u>2008 AAOV (MG / Yr)</u>	<u># of Overflows / Yr</u>	<u>Post LTCP AAOV (MG/Yr)</u>	<u>Post LTCP # Overflows / Year</u>
CSO132	Regulator Number 35 - Brownsboro	674.01	149.77	56	15.91	8
CSO154	Mellwood Avenue @ Schoeffle	31.02	1.92	15	0.83	8
CSO167	Brownsboro Lat Number 2	11.00	0.96	12	0.83	8

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

CSO LTCP Project Fact Sheet

LTCP Project Number: L_MU_MF_154_M_09B_B_A_8

Off-Line Storage
Pumped Effluent
Flow Diagram



LEGEND
FT = Flow Transmitter
LT = Level Transmitter















Integrated Overflow Abatement Plan

Volume 2 - Final CSO Long-Term Control Plan

Muddy Fork Beargrass Creek
Solution ID # L_MU_MF_154_M_09B_B_A_8
Clifton Heights Storage Basin

Preliminary - For Budget Development Only

Legend

-  Active CSO
-  Eliminated CSO
-  Proposed Pump Station Solution
-  Pump Station
-  Proposed Pipe Solution
-  Force Main
-  Collector < 12"
-  Interceptor => 12"
-  Combined Sewer Pipe
-  Flood Wall
-  Proposed Storage Solution
-  Floodway
-  Metro Parks
-  Streams

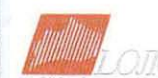
General representation of overflow abatement solutions are for preliminary planning purposes. Alignments and locations may be altered during design.

1 inch = 100 feet
Scaleable when printed on 11"x17" paper

Some boundaries are uniquely symbolized within the map.

Map Revision
Mar 13, 2009

Aerial Date: 2006



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MSD

Metropolitan Sewer District

ATTACHMENT B

Project Name: Clifton Heights Storage Basin

Project Type: Off-Line Storage

Rec Stream: Middle Fork Beargrass Creek

Project Description: This project includes a 3.28 MG storage basin and conveyance from each CSO to achieve 8 overflows in a typical year.

Design Assumption: Basin is designed to the 5th Overflow volume. Portions of the existing overflow pipe from CSO 132 may be used for CSO conveyance depending on potential direct stormwater contributions.

Capital Cost: \$15,331,000

Capital Benefit/Cost: 68.88

Present Worth Benefit Cost: 76.85

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
CSO088	MELLWOOD AVE INT	21.25	38	19.36	36
CSO131	REG NO 33 - MELWD & FRANKFORT	2.42	20	2.42	20
CSO132	REG NO 35 - BROWNSBORO	30.97	36	25.41	34
CSO154	MELLWOOD @ SCHOEFFEL	26.33	40	27.32	38
CSO167	BROWNSBORO LAT NO 2	0.00	1	0.00	0

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**

Muddy Fork Beargrass Creek
Clifton Heights 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 = 102 feet Aerial Date: 2009 Map Revision: April 9, 2012



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