MSD
Metropolitan Sewer District

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: CSO160 Sewer Separation
Project Modification
IOAP Project No. L_OR_MF_160_S_08_A_A_0
DOJ Case No. 90-5-1-1-08254

Attention Chiefs and Director:

MSD is requesting approval of a proposed minor project modification to the CSO160 Sewer Separation project (IOAP Project No. L_OR_MF_160_S_08_A_A_0). 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 CSO160 Sewer Separation project included the separation of 425 linear feet of combined sewer line, with a completion date of December 31, 2015.

Proposed Project Modification

The project modification involves the creation of in-line storage provided by a combination of raising the existing overflow weir and installing 88 feet of 72-inch diameter pipe. Based on benefit/cost analysis, the level of control will remain at zero CSO events in a typical year. Note also that the original sewer separation project would have allowed "first flush" urban stormwater runoff to reach the Waters of the US with virtually every rain event. It is likely that capturing first flush stormwater runoff represents an

improvement in capture of contaminant loadings as compared to sewer separation, even if the level of control appears to be the same.

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.

Further investigation indicated that in-line storage can be provided by a combination of raising the existing weir and installing 88 feet of 72-inch diameter pipe. This proves to be a more cost effective alternative to mitigate the overflows at CSO160 in comparison to completing a full CSO separation project. This solution also provides the best benefit/cost ratio.

MSD also intends to incorporate green infrastructure components in the sewershed to account for any potential future model re-calibrations as additional flow monitoring data is obtained. Green infrastructure may also be used to potentially reduce the size of the project. The project will be renamed 'CSO160 In-Line Storage & Green Infrastructure' and will maintain a December 31, 2015, completion date as previously submitted.

For your reference, a copy of the original project fact sheet and map from the IOAP in Attachment A are attached. 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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Proposed Project Modification

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represents an improvement in capture of contaminant loadings as compared to sewer separation, even if the level of control appears to be the same.

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.

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W. Brian Bingham
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Attachments

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ATTACHMENT A

CSO LTCP
Project Fact Sheet

LTCP Project Number: L_OR_MF_160_S_08_A_A_0

Project Name: CSO160 Sewer Separation

Project Type: Sewer Separation

Receiving Stream: Ohio River

Project Description: This project includes the construction of a new storm water system consisting of 425 LF of 15" pipe in street.

Design Parameters / Assumptions: There's approx. 15 properties impacted by this project. The design flow would be developed in accordance with the MSD Design Manual.

Surrounding Area Land Use: This project is located within 'General Comm. and Office' property at CSO160 in the alley behind the White Castle at 1st and Market St. Adjacent land is 'Industrial'

Apparent Utilities Description: Proposed piping passes over gas, electric, and water lines

Capital Projects: 2007~ORI Flow Meter Installation Project - Under Construction

Advanced Site Restoration: N/A

Estimated Capital Cost (2008): $237,000

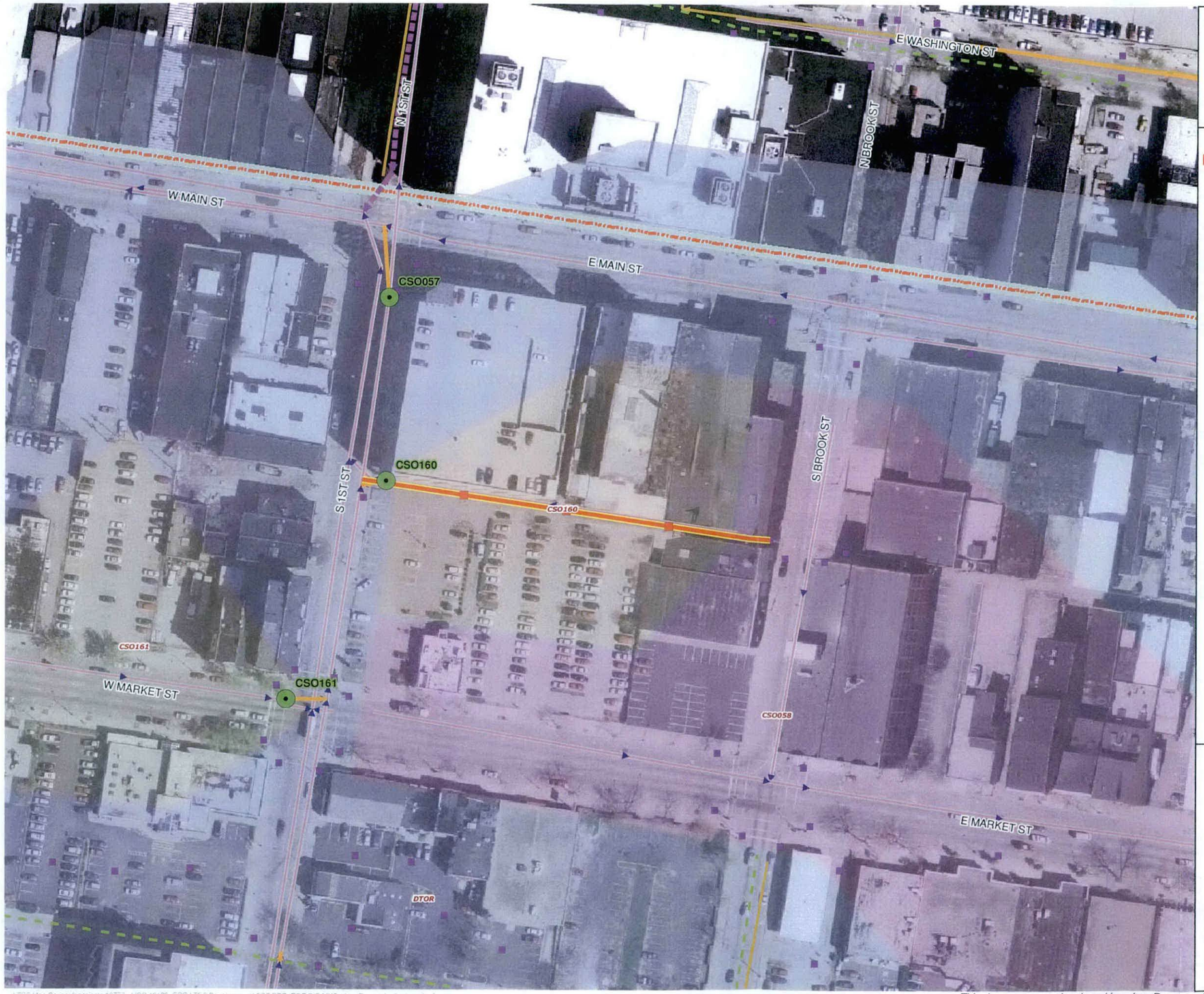
Capital Cost / Gallon Overflow Removed: $1.19

Weighted Benefit / Cost Ratio (Capital Cost): -246.15

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
CSO160	Sewer in Alley Sanitary Diversion	1.98	0.28	28	0	0

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



Integrated Overflow Abatement Plan

Volume 2 - Final CSO Long-Term Control Plan

Ohio River
Solution ID # L_OR_MF_160_S_08_A_A
CSO160 Sewer Separation

Preliminary - For Budget Development Only

Legend

- Active CSO
- Eliminated CSO
- Proposed Storm Catch Basin
- Proposed Storm Manhole
- Existing Catch Basin
- Pump Station
- Proposed Storm Pipe Solution
- Force Main
- Existing Drainage Line
- Collector < 12"
- Interceptor => 12"
- Combined Sewer Pipe
- Flood Wall
- 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

N

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Metropolitan Sewer District

ATTACHMENT B

Project Name: CSO160 In-Line Storage

Project Type: In-Line Storage

Rec Stream: Ohio River

Project Description: The CSO structure is being rebuilt, and the conveyance pipe to the 30" interceptor is being increased in size from 6" to 18" in diameter in order to increase flow to the treatment center.

Design Assumption:

Capital Cost: $231,000

Capital Benefit/Cost: 554.11

Present Worth Benefit Cost: 684.49

		Existing May 2012[1]		Baseline May 2012[2]	
CSO	CSO Name	Avg. Annual Overflow Volume	Avg. Annual Frequency	Avg. Annual Overflow Volume	Avg. Annual Frequency
CSO160	SEWER IN ALLEY SAN DIV	0.07	2	0.09	4

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

CSO160 Inline/Offline Storage

Preliminary - For Budget Development Only

- Active CSO
- Eliminated CSO
- Haulop Locations
- Proposed Pump Station Solution
- Pump Stations
- MSD
- Proposed Pipe Solution
- Combined Sewer Pipe
- Force Main
- Collector < 12"
- Interceptor >= 12"
- Proposed Off-line Storage
- 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 = 100 feet	N	Aerial Date: 2009	Map Revision: April 9, 2012

J:\msd\SharedMaps\IOAP\2012 Revision\MXD\CSO160_SewerSeparation.mxd

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