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: Story Avenue and Spring Street Storage Basin
Minor Project Modification
IOAP Project No. L_SO_MF_130_S_09B_B_A_8
DOJ Case No. 90-5-1-1-08254

Attention Chiefs and Directors:

MSD is requesting approval of a proposed minor project modification to the Story Avenue and Spring Street Storage Basin project (IOAP Project No. L_SO_MF_130_S_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 IOAP project for this basin included the construction of a 0.01 million gallon (MG), off-line underground covered storage basin located south of CSO 130 to be completed by December 31, 2016. The basin would require a small pump station to return stored flow to the interceptor and would control CSO 130 to an eight overflows per typical year level of control.

Proposed Project Modification

The project modifications requested include the construction of a green infrastructure project suite that will achieve the same level of control as the off-line storage basin. The green project suite would have the same eight overflows per typical year level of control and an accelerated project completion date of December 31, 2014. Performance of the green projects will be conducted over the next two years, and the project certified or remedial actions identified by December 31, 2016.

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

As a first step in the design process and in accordance with Louisville MSD's Green Infrastructure Program, MSD performed a detailed study and determined green infrastructure practices, in-lieu of gray infrastructure, would be most effective in reducing overflow volume. Open tree boxes and permeable pavements were chosen to reduce the volume of flow and pollutants to CSO 130.

As part of this process, MSD developed a hydraulic sewer model for CSO 130. The detailed re-calibration of this model caused the volume necessary to maintain the level of control at eight overflows per year to increase from 0.01 MG to 0.08 MG. Green practices were incorporated into the geometry to create a proposed conditions model. This model confirmed that the proposed green infrastructure solutions and a minor outfall modification could reduce the 20 current overflows per year to eight overflows per year. Due to backwater effects from the trunk line, the weir height at CSO 130 will be raised from the current elevation of 426.70 feet to an elevation of 426.95 feet. The green practices will adequately reduce overflows and that the depth in the sewer for the 9^{th} largest storm does not exceed 426.83 feet compared to the minimum CSO overflow elevation new weir height of 426.95 feet.

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: G. Heitzman P. Purifoy

Attachments

MSD

Metropolitan Sewer District

ATTACHMENT A

CSO LTCP
Project Fact Sheet

LTCP Project Number: *L_SO_MF_130_S_09B_B_A_8*

Project Name: Story Avenue and Spring Street Storage Basin

Project Type: Off-Line Storage

Receiving Stream: Lower Beargrass Creek

Project Description: This project includes the construction of a 0.01 MG off-line underground covered storage basin for CSO130 to reduce overflows to 8 overflows per year. The facility will require a small pump station to return the stored flow 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: This project is located within 'Vacant & Undeveloped' & 'General Comm. & Office'. This located is located off of Beargrass Creek

Apparent Utilities Description: No major utilities conflict within the area of the proposed basin

Capital Projects: 2007~Middle Fork Rehabilitation Phase 2; 2013~USI Inspection Program

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): $1,077,000

Capital Cost / Gallon Overflow Removed: $7.98

Weighted Benefit / Cost Ratio (Capital Cost): 63.92

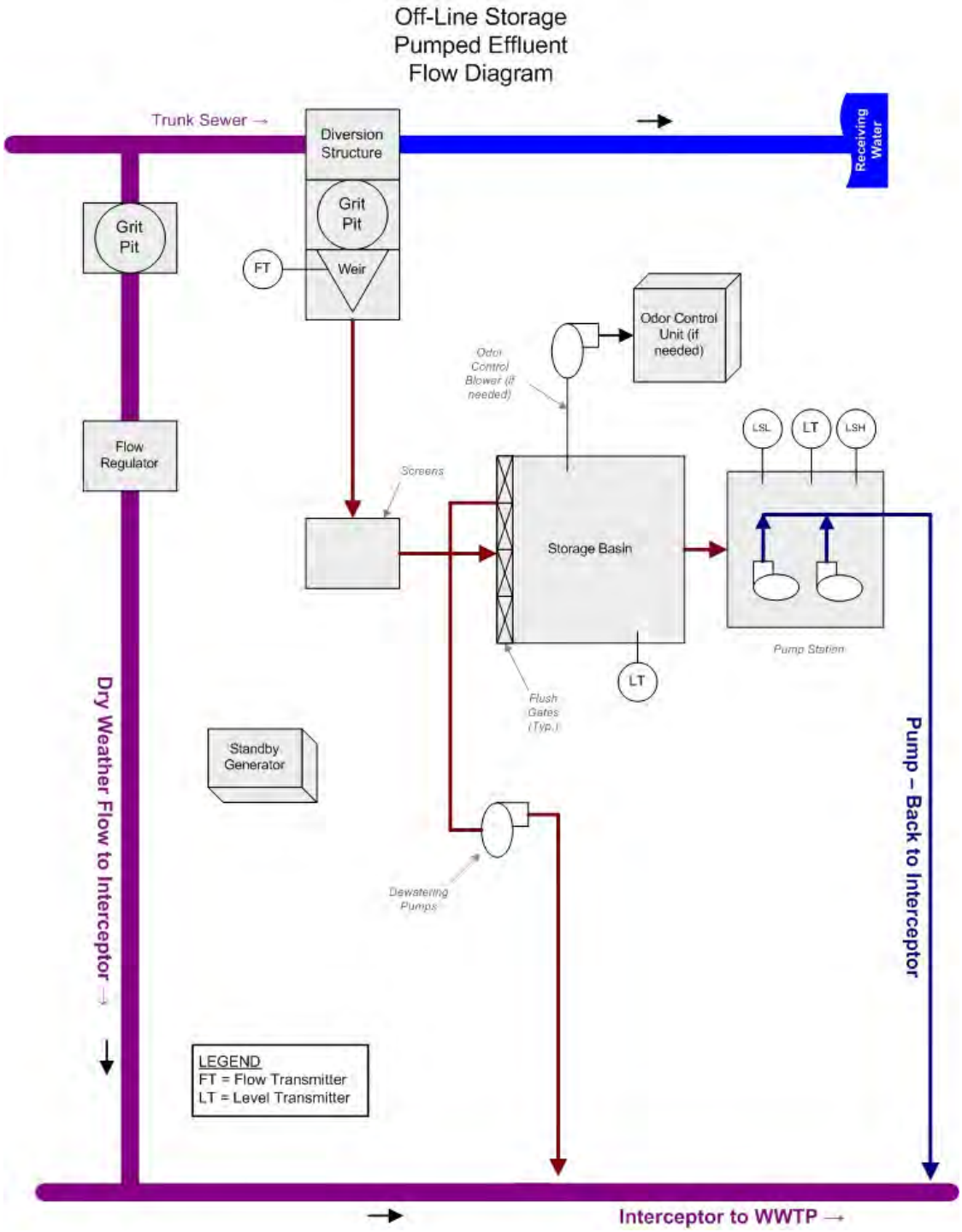
Overflow Points Addressed:

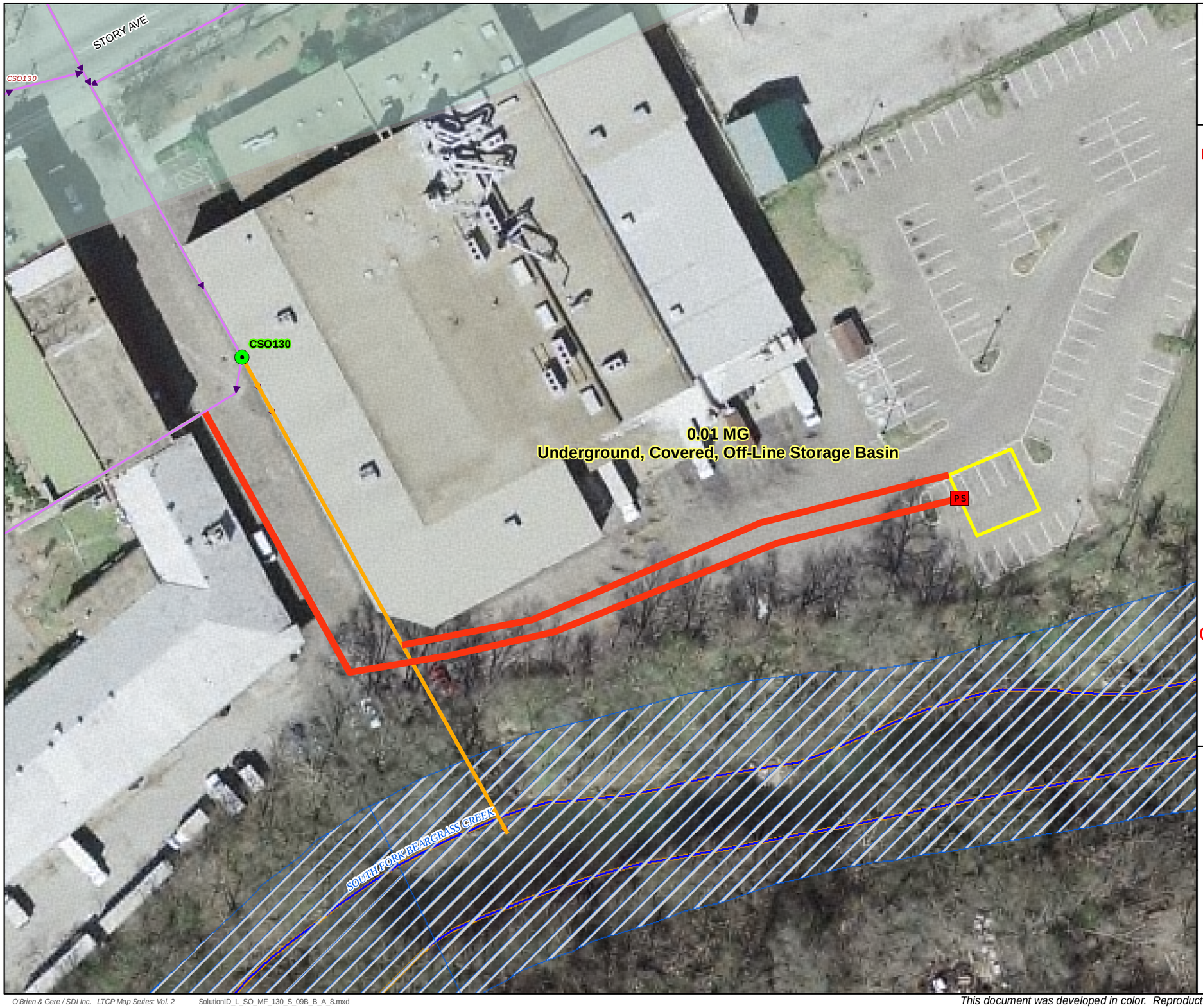
CSO Number	CSO Name	CSO Area (Acres)	2008 AAOV (MG / Yr)	# of Overflows / Yr	Post LTCP AAOV (MG/Yr)	Post LTCP # Overflows / Year
CSO130	Webster Street	28.41	0.84	9	0.67	8

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

CSO LTCP
Project Fact Sheet

LTCP Project Number: *L_SO_MF_130_S_09B_B_A_8*





Integrated Overflow Abatement Plan

Vol. 2 - Final CSO Long Term Control Plan

South Fork Beargrass Creek

SolutionID # L_SO_MF_130_S_09B_B_A_8

Story Av and Spring St 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 50 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

N

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MSD

Metropolitan Sewer District

ATTACHMENT B

Project Name: Story Avenue and Spring Street Green Infrastructure

Project Type: Green Stormwater Infrastructure

Rec Stream: Middle Fork Beargrass Creek

Project Description: This project includes the construction of a suite of green infrastructure practices in the CSO130 contributing drainage area to achieve 0.08 MG in overflow reduction and mitigate the overflow to 8 overflows in a typical year.

Design Assumption: Green practices are designed to contain the 9th overflow event volume, resulting in 8 CSO overflows per typical year.

Capital Cost: $896,000

Capital Benefit/Cost: 131.70

Present Worth Benefit Cost: 125.80

		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
CSO130	WEBSTER STREET	6.87	34	1.96	20

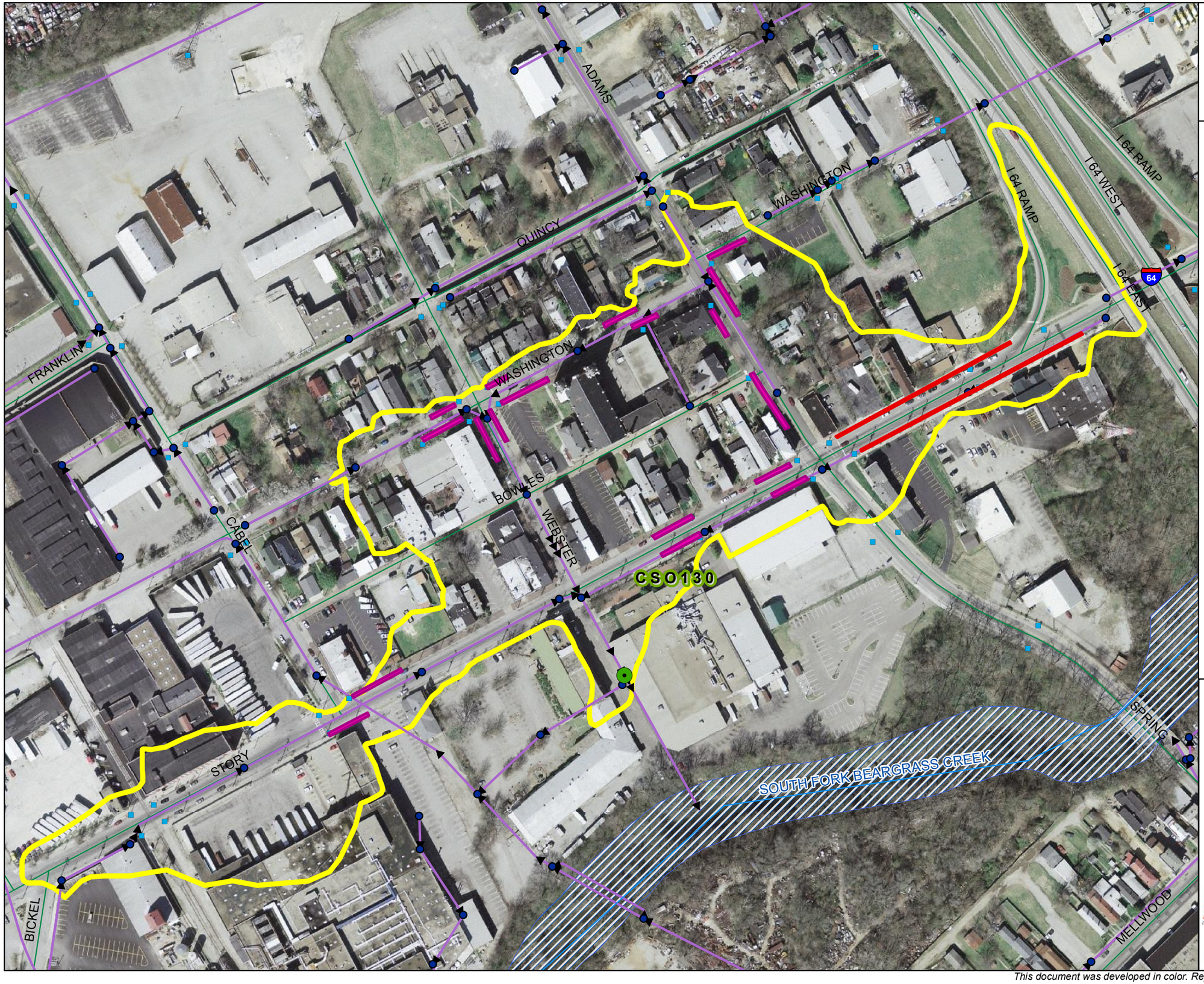
1. Existing May 2012 conditions reflect existing system operating conditions as of that date.

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

CSO 130
Green Infrastructure Solution



Legend

- Active CSO
- Existing Manhole
- Existing Catch Basin
- Streams
- Combined Sewer Pipe
- Floodway
- CSO 130 Drainage Boundary

CSO 130 Practices

Proposed Green Infrastructure Solutions

- Pervious Pavers
- Tree Boxes

General Representation of overflow abatement solutions are currently out for bid and may be altered during the construction process.

1 inch = 166 feet
Scalable when printed on 11" X 17" paper

Some boundaries are uniquely symbolized within the map.

Map Revision
May 18, 2012

Aerial Date: 2007

N

LOJIC Louisville/Jefferson County Information Consortium

MSD Metropolitan Sewer District

PROJECT WIN Waterway Improvements Now

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