Sewer Overflow Abatement
“Pardon Our Dust” Meeting

August 14, 2012

Butchertown Green Infrastructure Project

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Overview

- MSD is responsible for clean water in our community
- MSD has an $850 million EPA consent decree obligation
- Green infrastructure is a component of this consent decree
- Green programs are only successful if the entire community is involved

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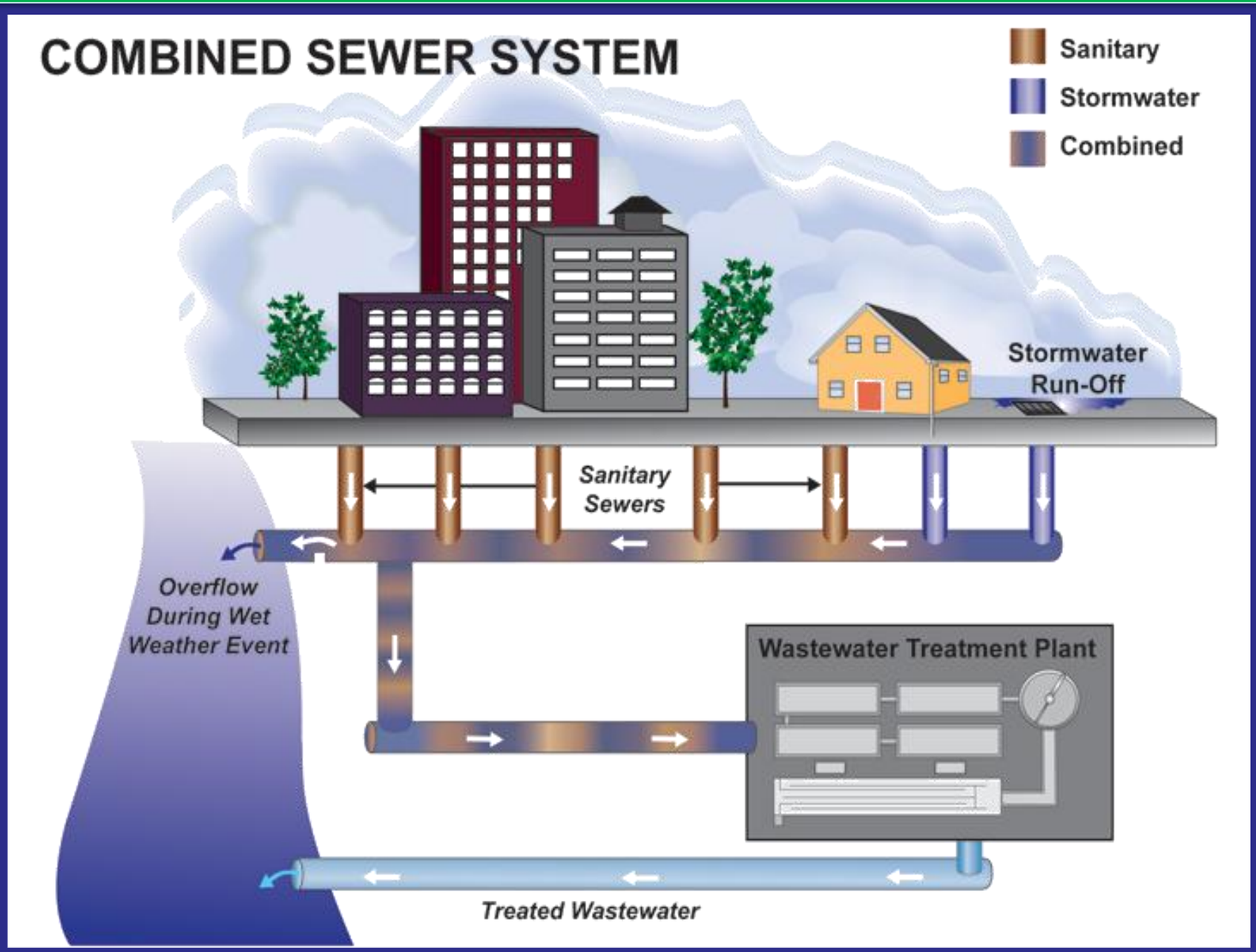
Traditional (Gray) Infrastructure



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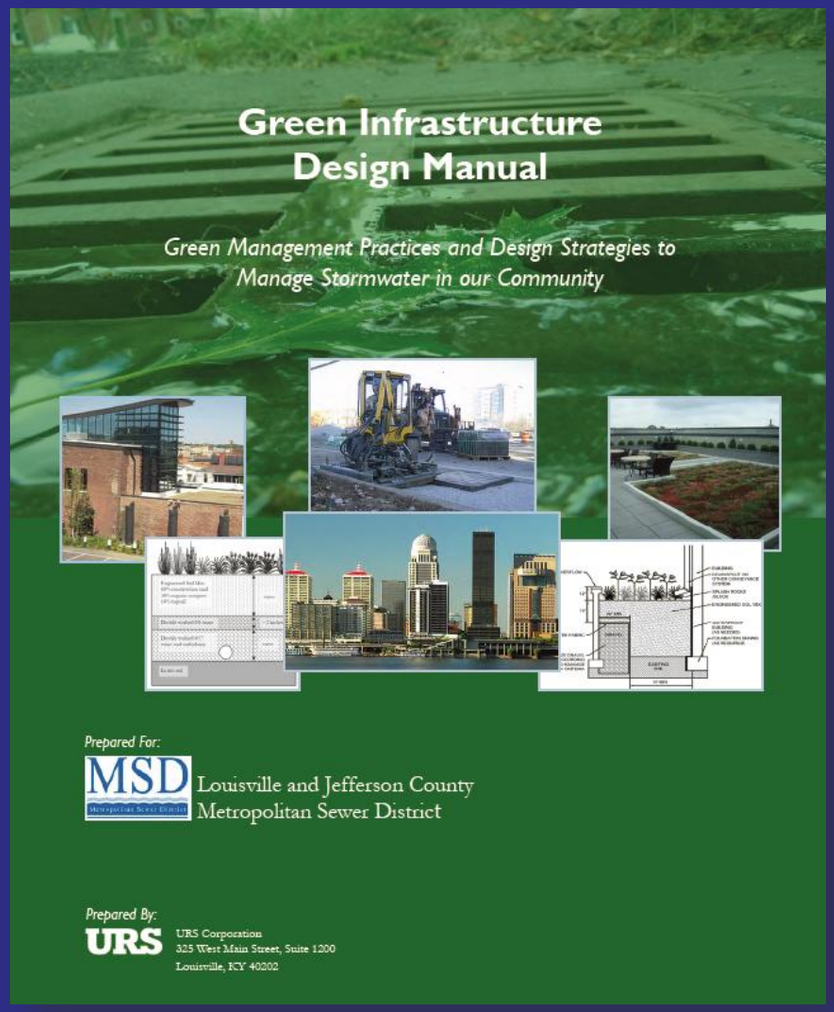
Green Stormwater Technology

Practice Types:

- Downspout disconnection
- Permeable pavement strips
- Tree boxes
- Infiltration trenches
- Bioswales
- Rain gardens
- Urban reforestation
- Underground infiltration/ storage



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MSD Green Management Approach

- Comprehensive community wide planning
- Practice selection for type and location
- Detailed modeling to determine effectiveness
- State of the art design and construction
- Extensive monitoring of the practice and the system

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Green Impact Collaboration – *Answering the Green Infrastructure Questions*

First EPA Partnered Community

- Multi-year effort
- EPA monitoring of green management practices
- Evaluate and establish long term trends
- Standardize Design and Maintenance Criteria
- Other Community Benefits
- Partner with University of Louisville

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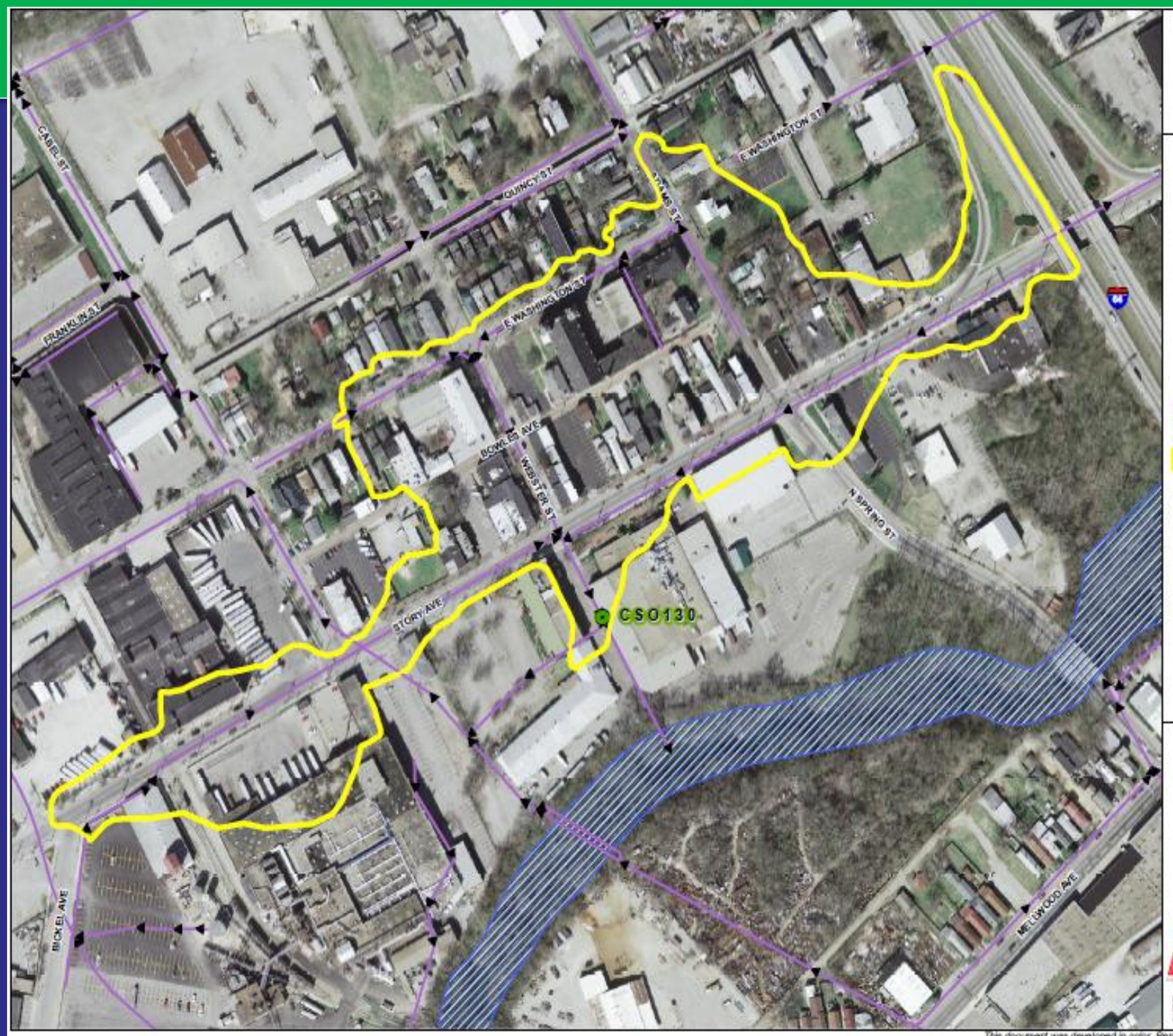

CSO 130
Project Area Map

Legend

- Active CSO
- Combined Sewer Pipe
- Floodway
- CSO 130 Drainage Boundary

1 inch = 175 feet
Scalable when printed on 11" X 17" paper

Some boundaries are uniquely symbolized within the map.

Map Revision
November 1, 2011

Aerial Date: 2007

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Butchertown Neighborhood Results

OPTION APPROACH	OVERFLOW VOLUME	NUMBER OF OVERFLOWS PER YEAR	20-YR LIFECYCLE COST
Gray Only	0.67 MG	8	$1,717,653
Green Only	0.28 MG	8	$938,000

20-yr life cycle costs include: planning, design, construction, treatment, and maintenance over a 20-yr period.

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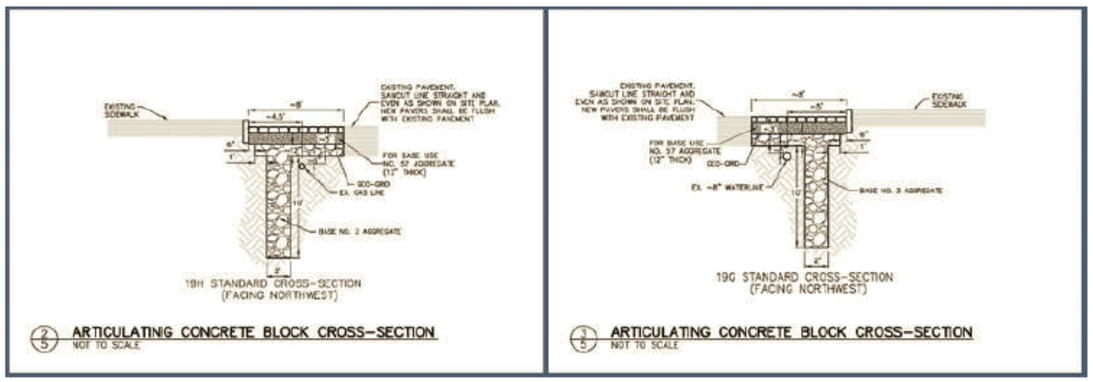
Green Technology Selection

Within CSO 130, permeable pavement is the preferred technique .

The limited publically-owned property and generally narrow sidewalks forced the controls into the streets.

Off-center trenches were installed to access soil with higher hydraulic conductivity and avoid existing utilities.



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Installation Techniques

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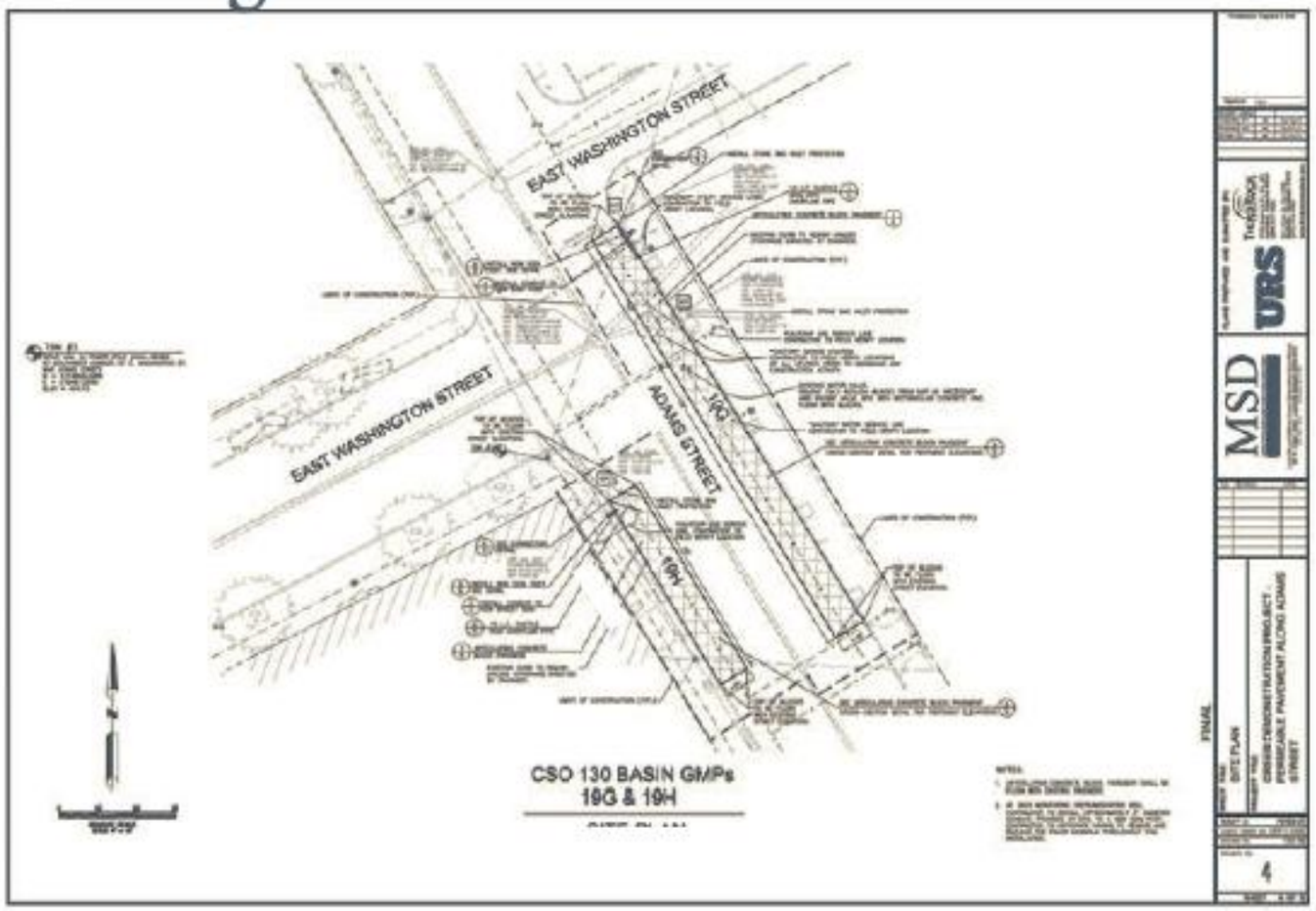
Adams Street Demonstration Project

Two articulated paver strips were installed at the corner of East Washington and Adams Streets in Louisville, KY, during Dec. 2011.



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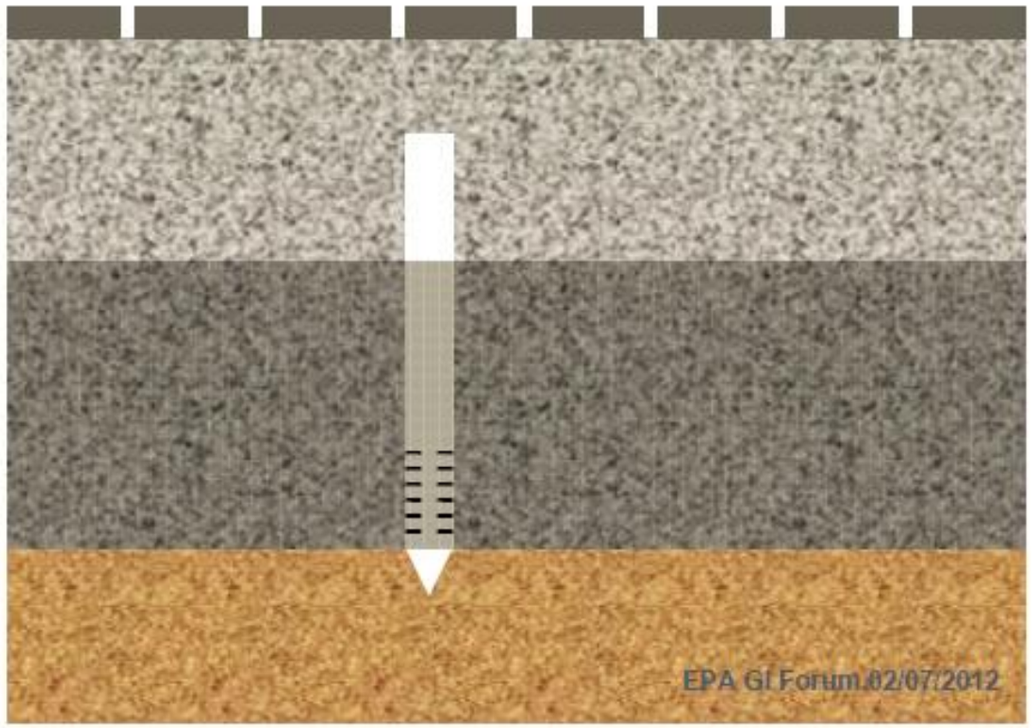
Installation Equipment

We installed the pressure transducers in the piezometers to measure the accumulation and infiltration (rise and fall) of captured water

The fill rate is controlled by rainfall intensity while drain is controlled by saturated infiltration rate.

Depth (volume) is controlled by depth of rainfall and porosity (and infiltration during event and dimensions).



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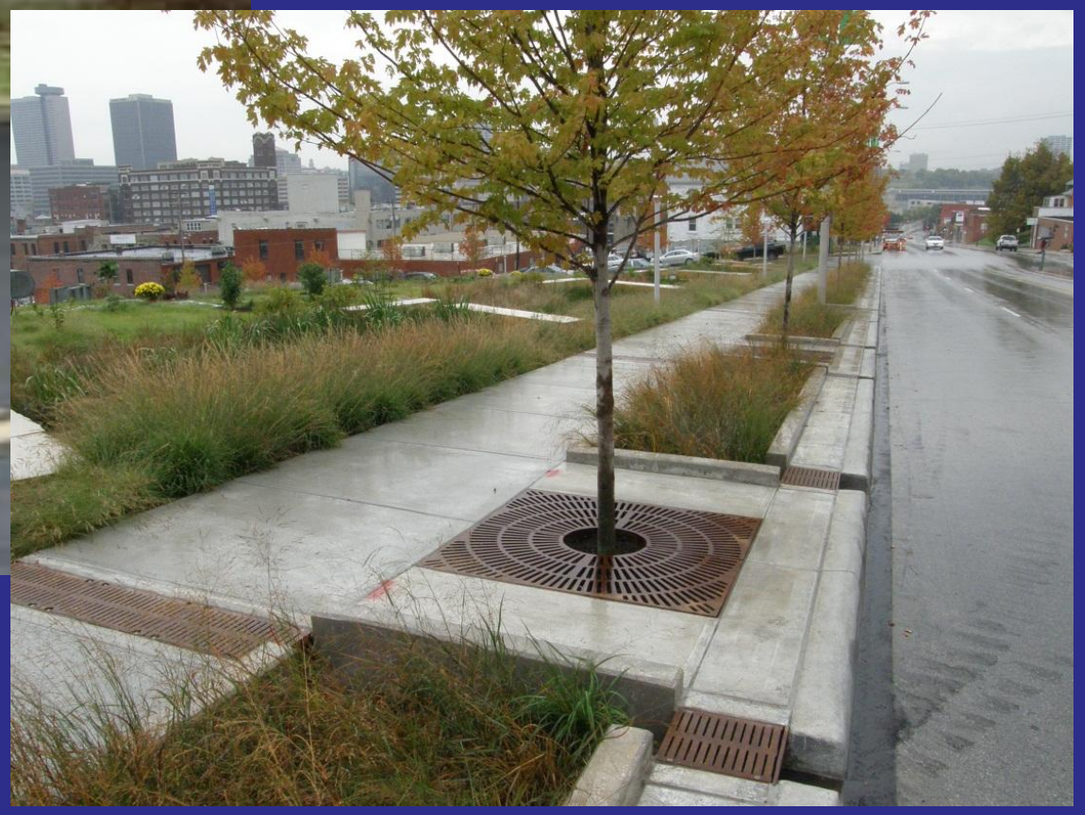
Tree Boxes



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EPA Installation

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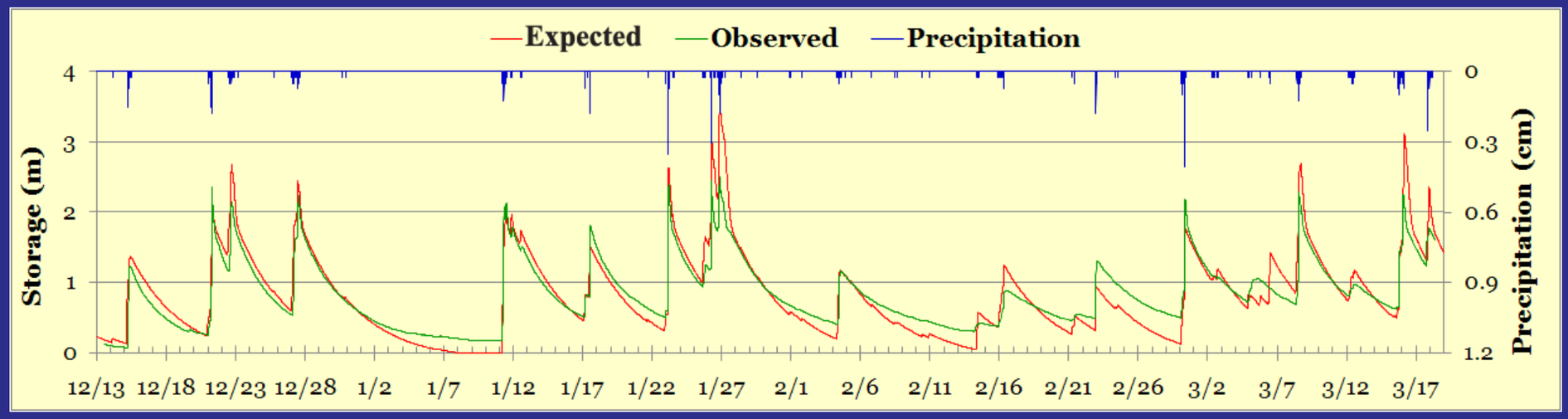
Monitoring

Green Management Practices are working as expected and are in good agreement with modeled performance



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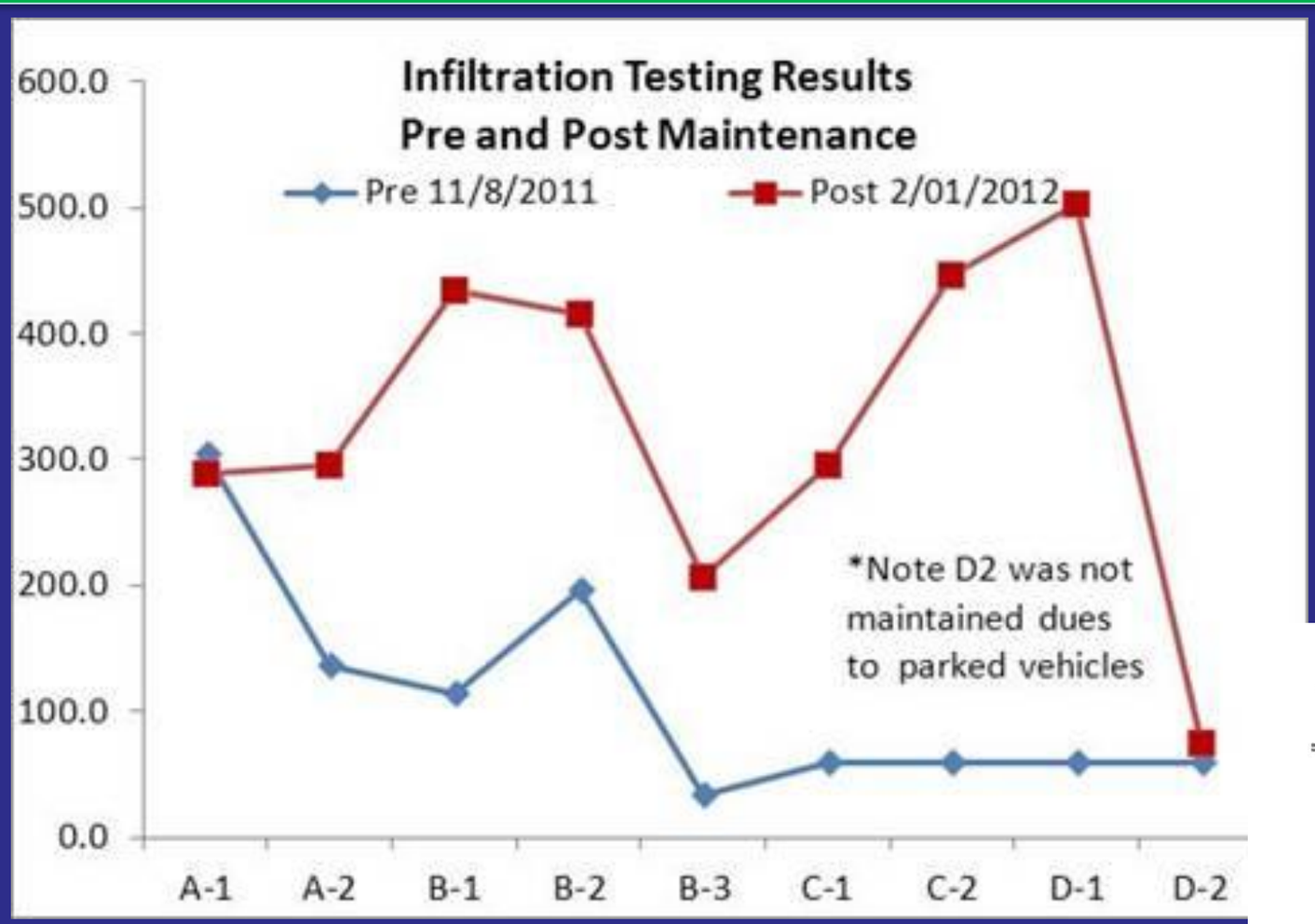
Maintenance Results



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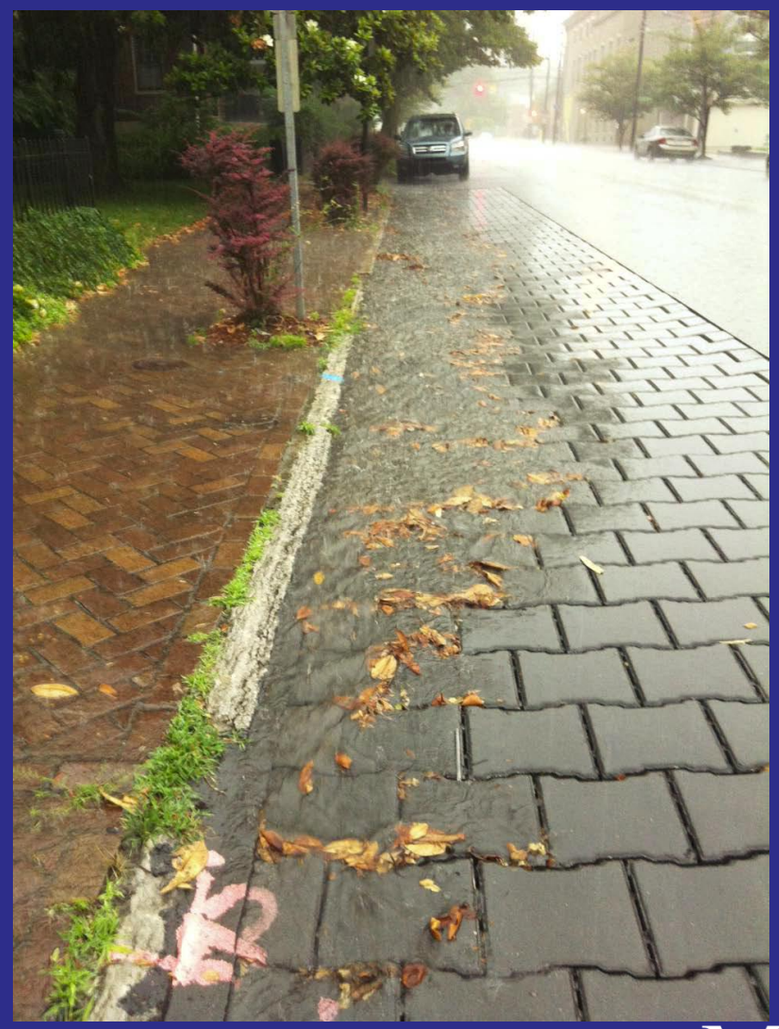
Project Details

- Suite of 20 Green Infrastructure Practices Throughout the Neighborhood
  - Pervious Pavers
  - Tree Wells
  - Instrumentation
- Probable Working Hours: 8 AM to 5PM



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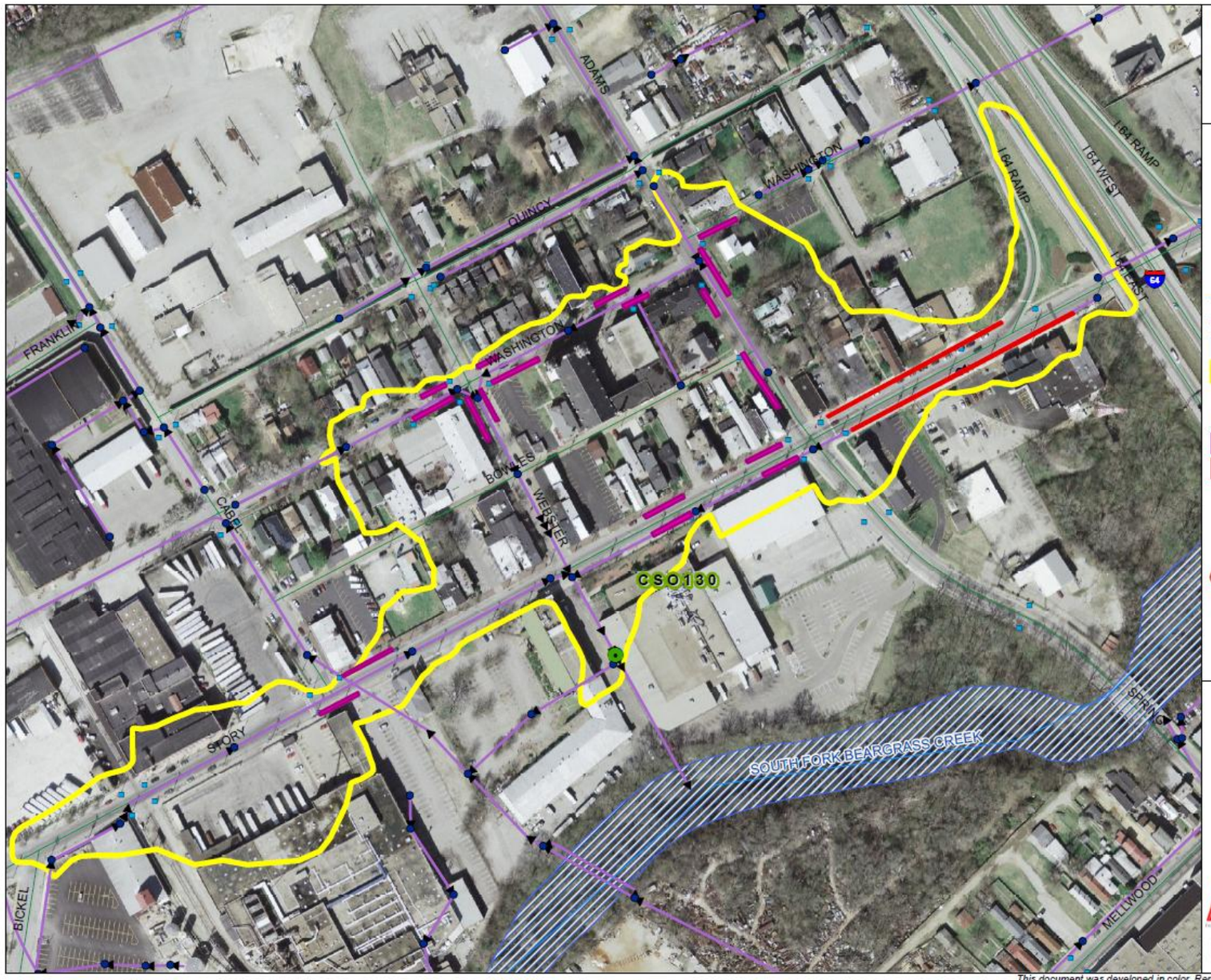
Green Practices



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

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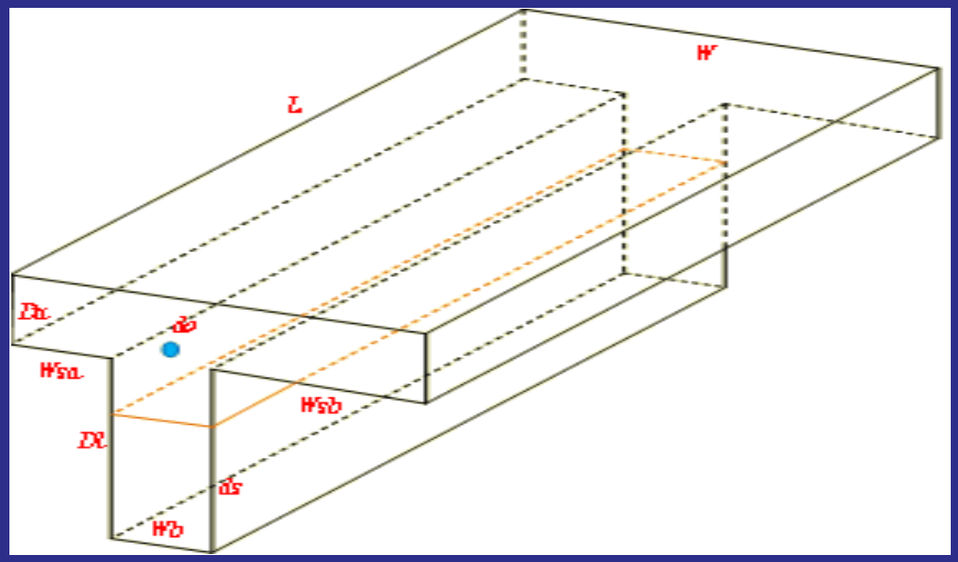
Neighborhood Impacts

- No Holiday Work Planned
- Total Construction Expected to Take 5 Months
- Work Hours to be set by Metro Permit
- Potentially Multiple Phases at Once
- Parking to be Displaced During the Construction of Practices



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Project Schedule

- Planned Start: September 1, 2012
- Overall Completion Date: March 31, 2013
- Each Individual Project Will Take Approximately 2 Weeks
- Project Replaces a Basin Committed in the Consent Decree

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Project Contacts

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- Questions?

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