District of Columbia Water and Sewer Authority
George S. Hawkins, General Manager

Briefing on:

DC Clean Rivers Project
Green Infrastructure Program

Briefing for:

American Water Resources Association
National Capital Region Section

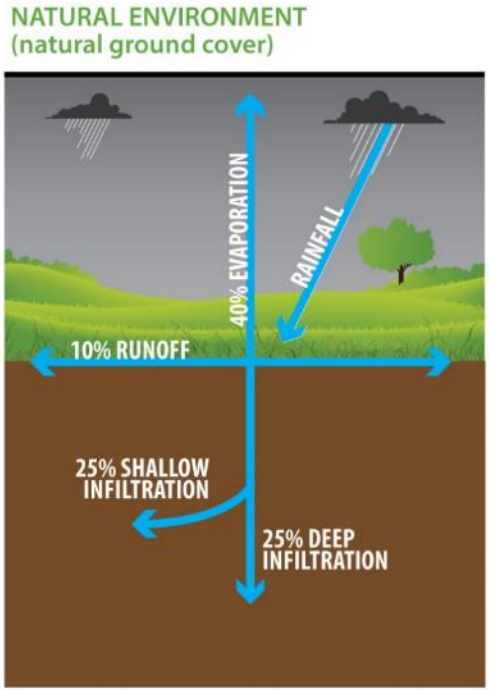
November 12, 2015

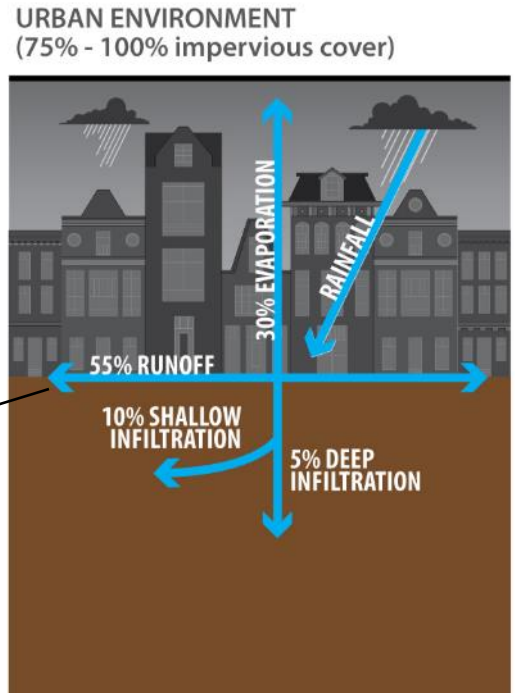
DCWATER.COM

Agenda

- Background
- DC Clean Rivers Project
- Green Infrastructure Implementation
- Drivers for Long-term Success
- Questions

Background:
Why Stormwater is a Problem in DC and Other Cities





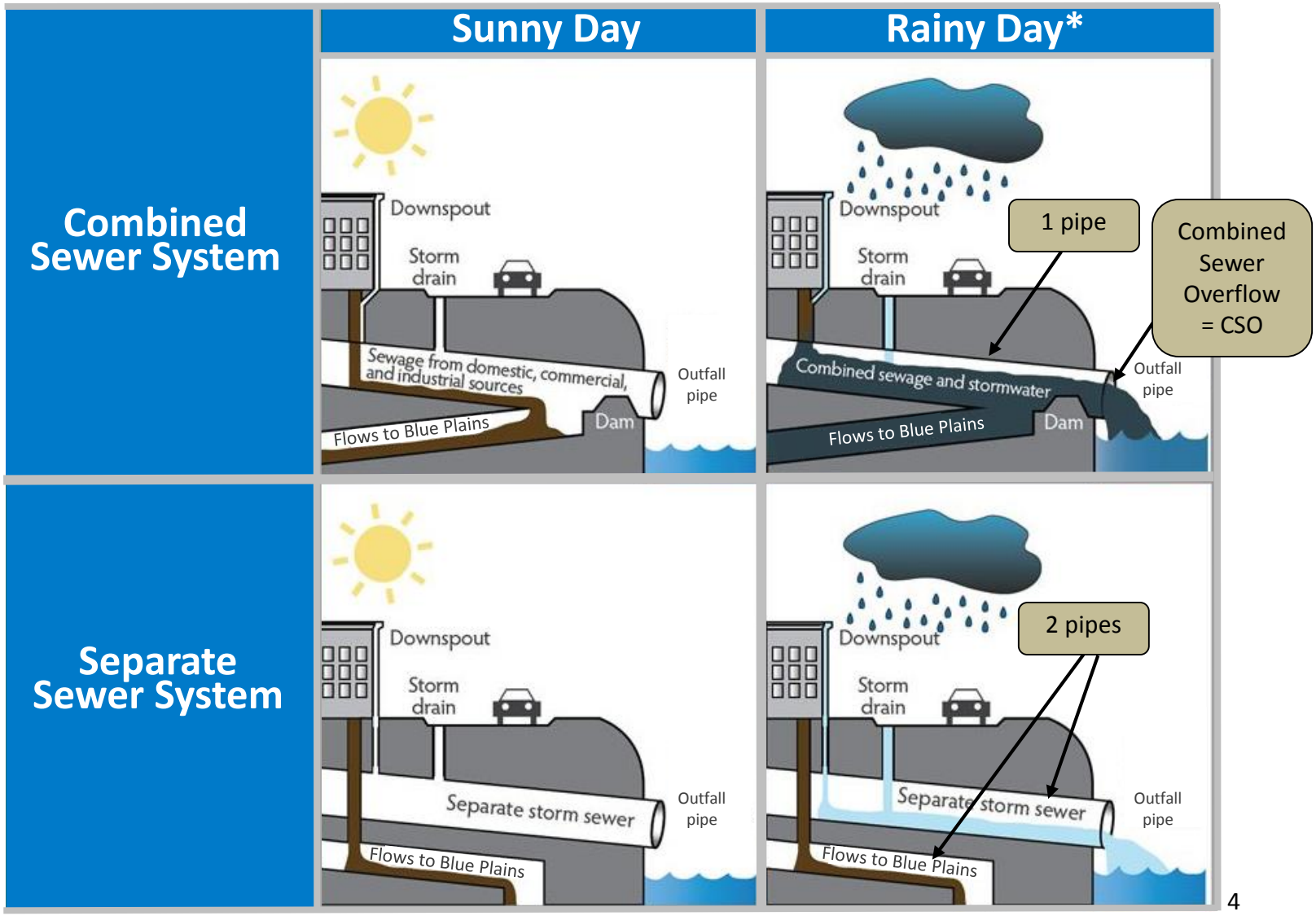
Natural Environment:

0% Impervious Surface

Built Environment:

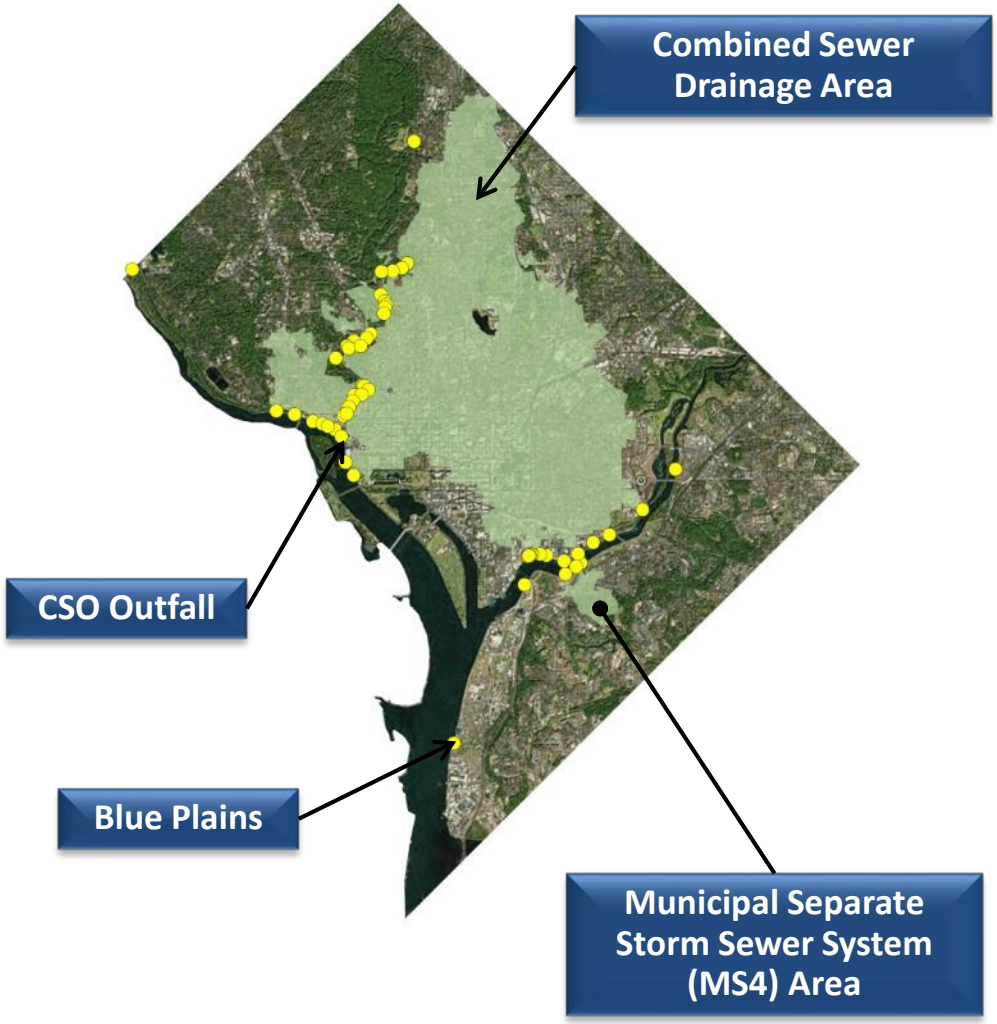
75-100% Impervious Surface

Background:
Sewer Systems in DC



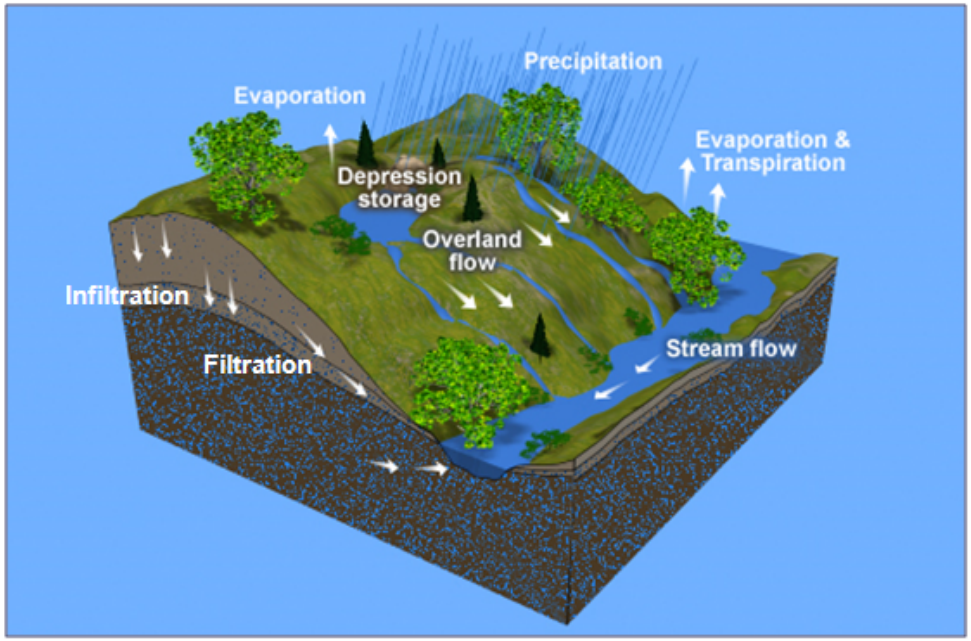
*Discharge occurs when pipe's capacity is exceeded

Background:
Where are Combined Sewers Located?



- 1/3 area is combined (12,478 acres)
- 47 Active CSO outfalls
  - 13 to Anacostia
  - 10 to Potomac
  - 24 to Rock Creek
- Three receiving waters
  - Anacostia River
  - Potomac River
  - Rock Creek

Background:
What is Green Infrastructure (GI)?



Bioretention and Rain Gardens


Permeable Pavement


Rain Barrels and Cisterns


Vegetated Swales

Native Landscaping

Green Roofs

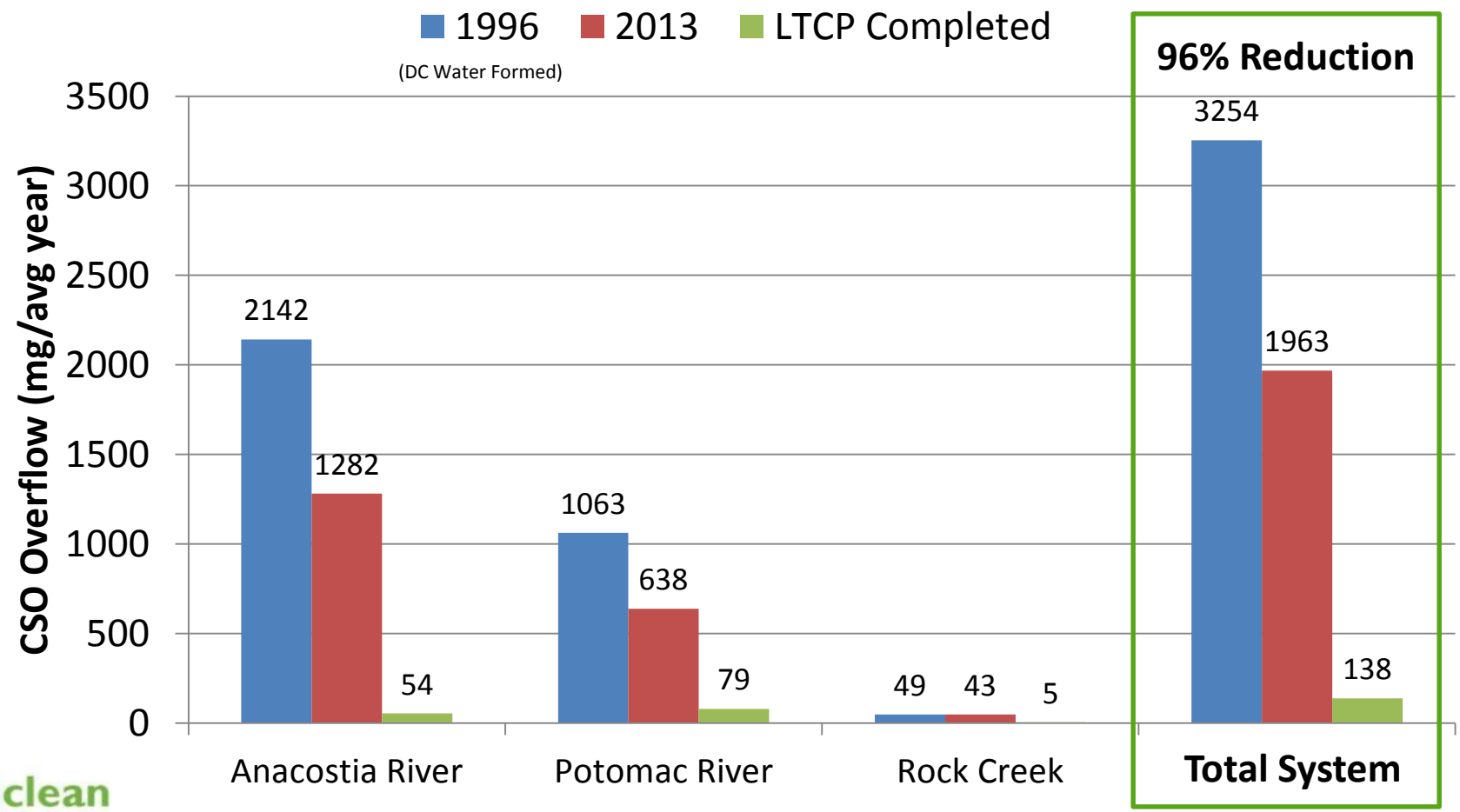

Background:
Examples of Green Infrastructure in Cities

Bioretention along Streets

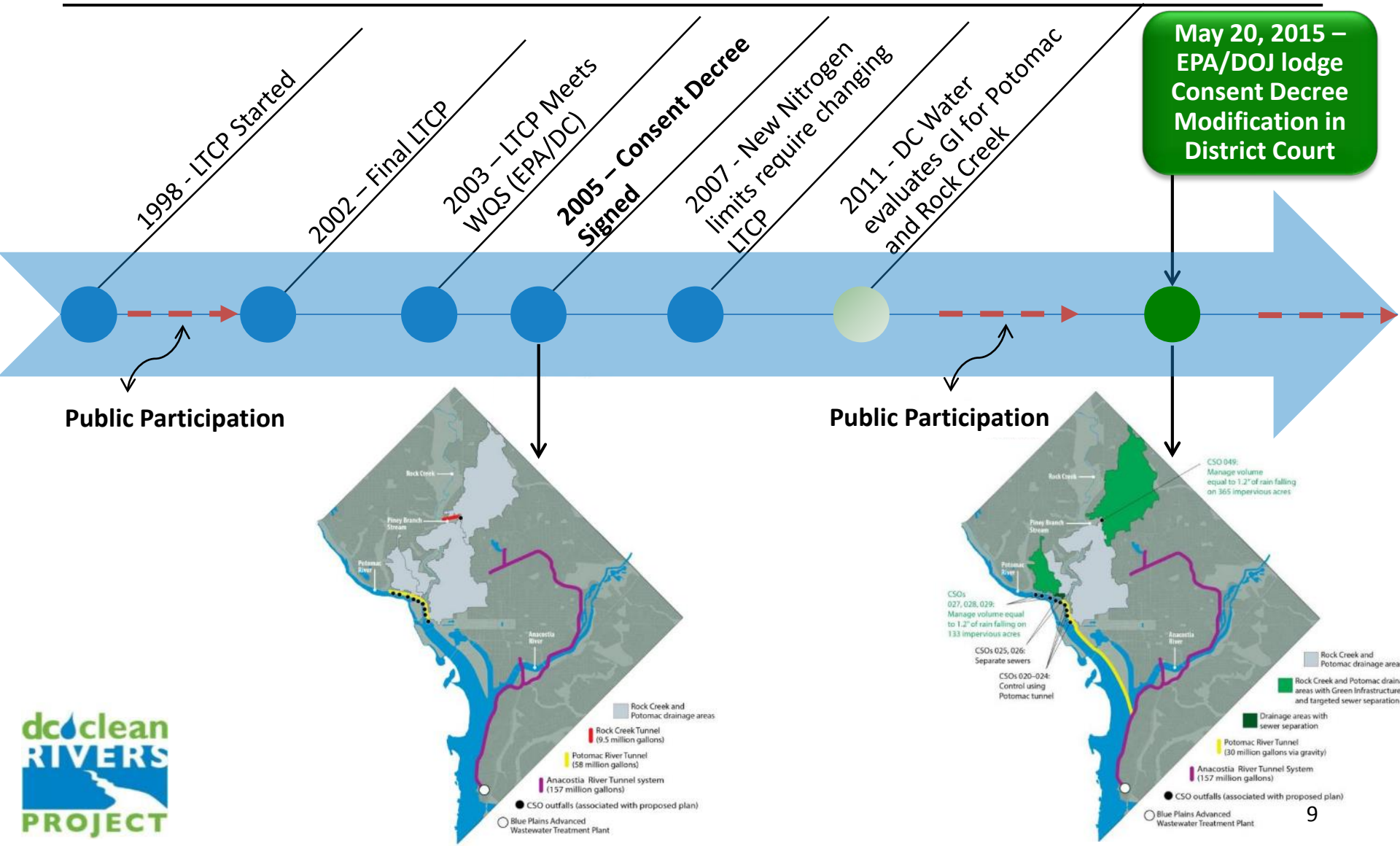
Permeable Pavement along Streets and in Alleys

Other potential GI could include: Rain barrels, Cisterns, Green Roofs, etc.

DC Clean Rivers Project:
Magnitude of the Problem, DC Water's Solution



DC Clean Rivers Project:
Long Term Control Plan Timeline



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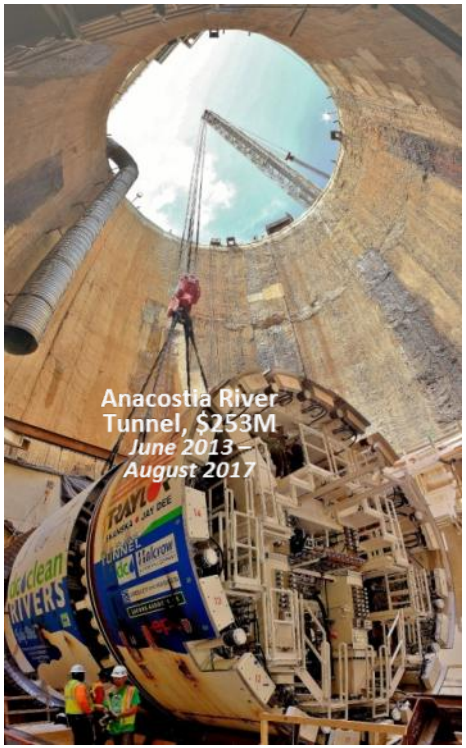
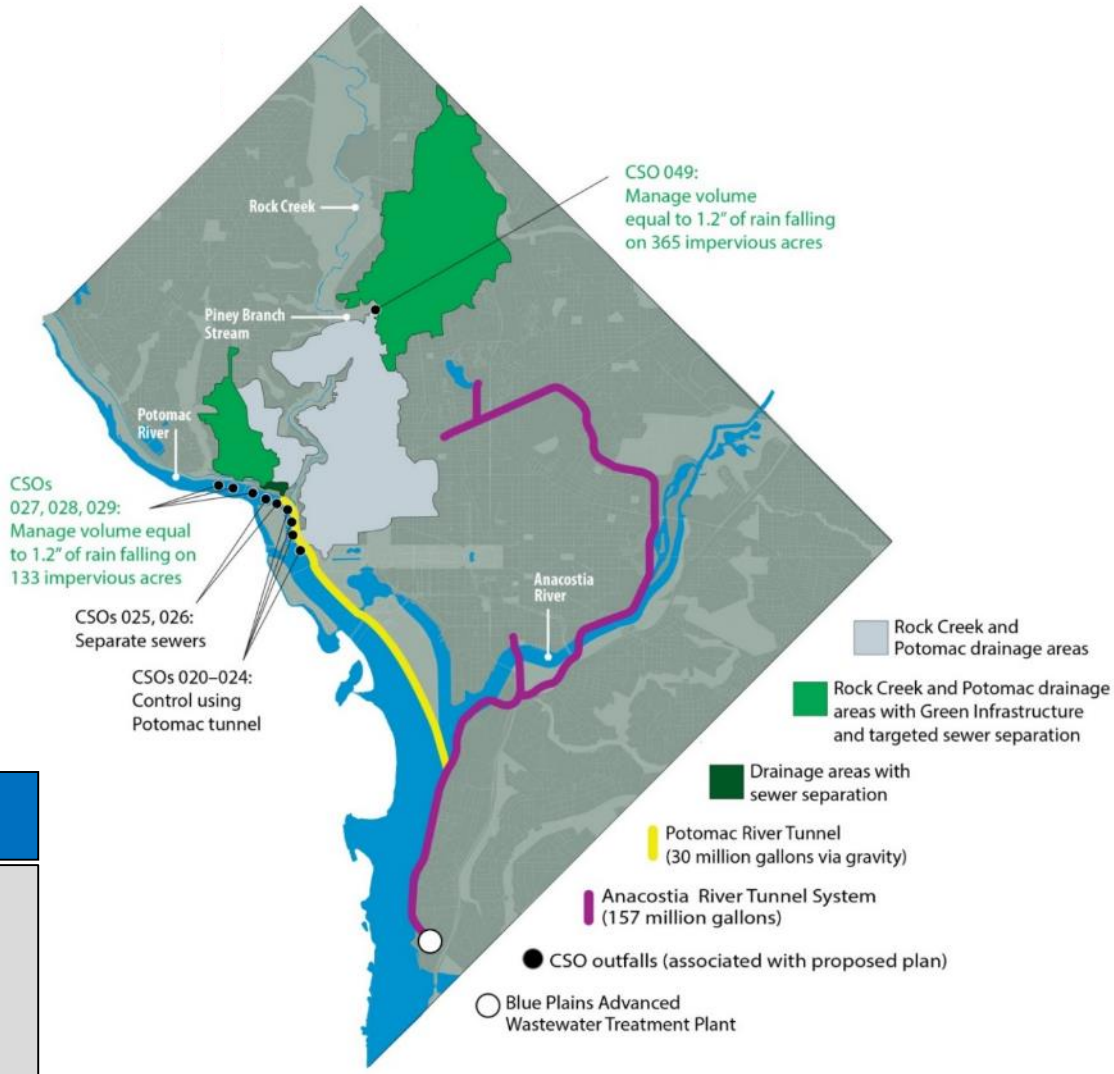
DC Clean Rivers Project:
Progress on Tunnels

DC Clean Rivers Project has let more than <u>$1.2 Billion</u> in Construction & Engineering Contracts



DC Clean Rivers Project:
Updated Plan



DC CLEAN RIVERS PROJECT AND NITROGEN REMOVAL PROGRAMS

- **DC Clean Rivers Project: $2.6 Billion**
- **Nitrogen Removal: $950 Million**
- **Total > $ 3.5 Billion**
- **25 yr implementation (2005 – 2030)**
- **96% reduction in CSOs & flood relief in Northeast Boundary**
- **Approx 1 million lbs/yr nitrogen reduction predicted**

DC Clean Rivers Project:
Environmental, Social and Economic GI Benefits

Environmental

- Reduce runoff
- Improve air quality
- Reduce summer temperatures
- Reduce energy usage
- Offset climate change
- Habitat improvement

Social

- Enhance aesthetics
- Improve livability through green space
- Reduce scope and duration of disruption during construction

Economic

- Create green jobs
- Enhance property values
- Improve quality of life

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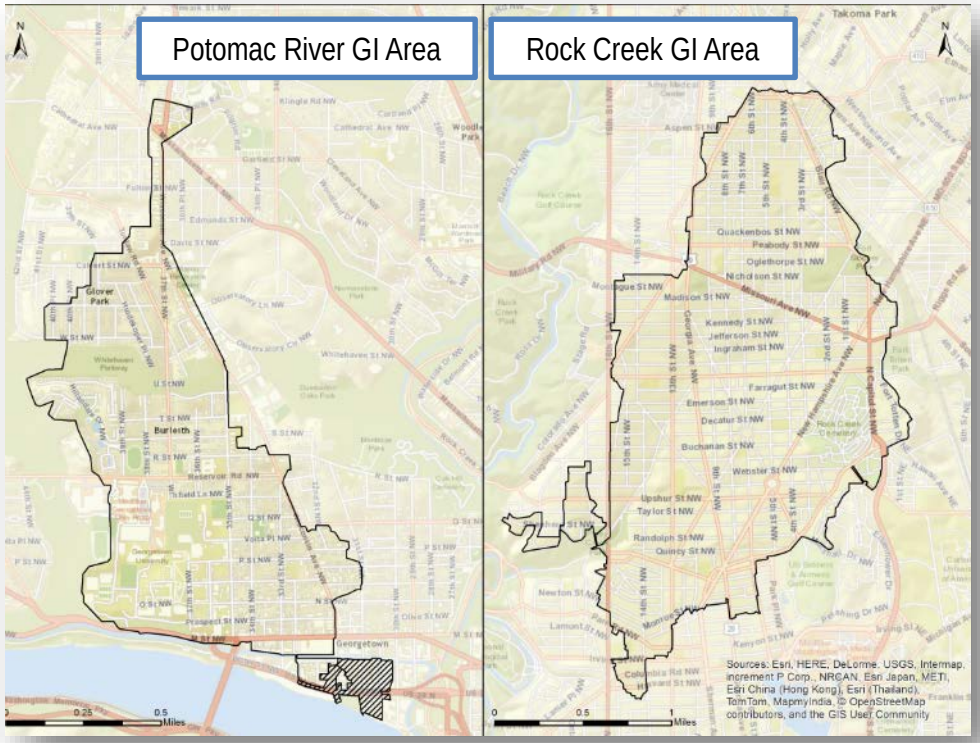
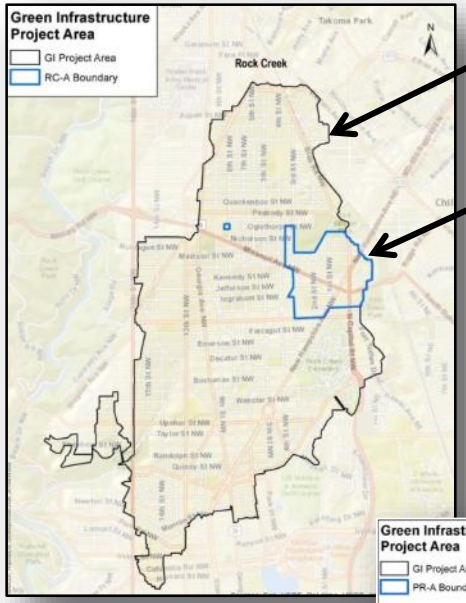
Green Infrastructure Implementation:
Rock Creek and Potomac River Project

- Development of Program Plan (or Facility Plan)
- Identification of first two GI projects under modified consent decree (Rock Creek Project A and Potomac River Project A)
  - Maximized Volume Capture
  - Feasibility of Design and Construction
  - Synergy with DC Agencies (DDOT, DOEE)
  - Maximizing Triple Bottom Line Benefits
  - Pre- and Post- Construction Monitoring
  - Facilitation of Maintenance
  - Minimized Cost
  - Compatibility with neighborhood needs and aesthetics



Green Infrastructure Implementation:
Rock Creek and Potomac River Projects Schedules

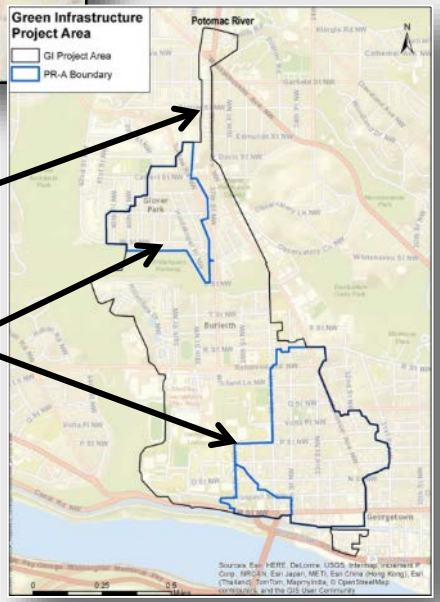
- Rock Creek Project A:
  - RFP Development:
    2015 – mid 2016
  - Procurement:
    mid 2016 – early 2017
  - Design-Build:
    early 2017 - 2019
  - Monitoring:
    2019 – 2020
- Potomac River Project A:
  - RFP Development:
    2015 - late 2016
  - Procurement:
    late 2016 – mid 2017
  - Design-Build:
    mid 2017 - 2019
  - Monitoring:
    2019 - 2020



Rock Creek GI Area

Rock Creek Project A

Complete GI Program Schedule Available at: dcwater.com/green ('Resources' Section)



Potomac River GI Area

Potomac River Project A

Green Infrastructure Implementation:
Coordination with Agencies & Organizations

Examples:

- District Department of Transportation (DDOT)
  - Infrastructure coordination and synergies
- Department of Energy and the Environment (DOEE)
  - Environmental protection
- District of Columbia Historical Preservation Office (DC SHPO)
  - Historic and archeologic sites identification
- U.S. Commission of Fine Arts (CFA)
  - Preserving the character of the District
- Old Georgetown Board (OGB)
  - Preserving the character of Georgetown

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Drivers for Long-term Success:
Green Jobs Program in the District

- Green Jobs Memorandum of Agreement (MOA) created with District of Columbia and DC Water
- Overall Goal:
  - 51% of new jobs created by contracts or procurements entered into by DC Water with third parties to implement GI required by modified decree are filled by District residents
- Applies to:
  - Professional services
  - Construction
  - Inspection and maintenance activities

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Drivers for Long-term Success:
DC Water Maintenance Program Goals

- Green Infrastructure is maintained and managed just as gray infrastructure assets
- DCCR's Green Infrastructure Maintenance Program goals:
  - Function
    - Ensure GI function to meet performance requirements.
  - Safety
    - Ensure public and maintenance crew safety.
  - Aesthetics
    - Ensure GI maintains the original project aesthetic goal.

Questions?

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PARK(ing) Day, 2014