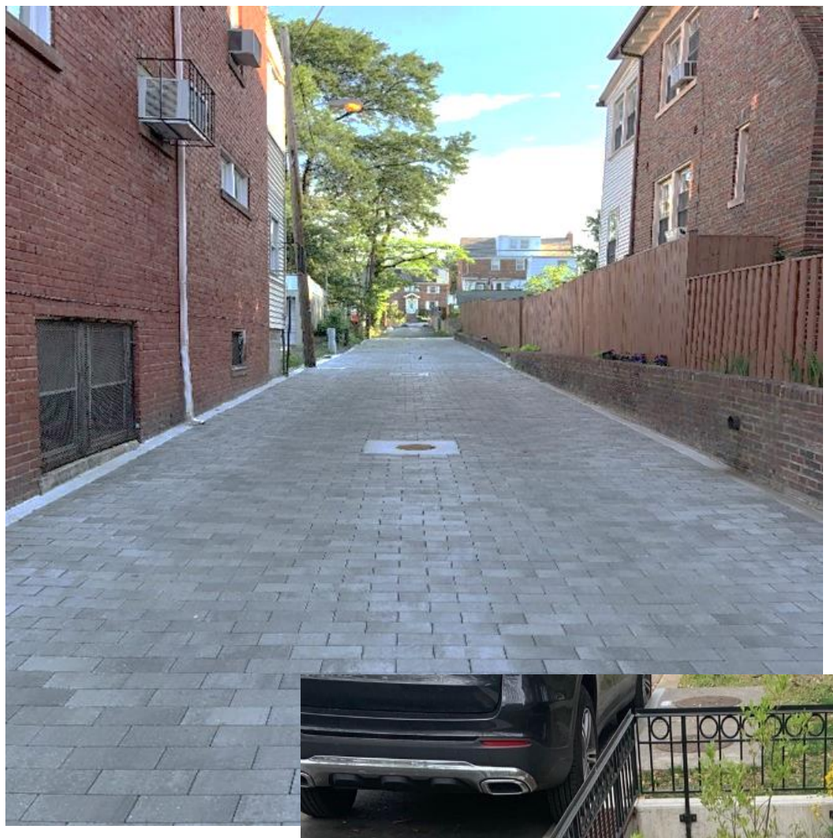
District of Columbia Water and Sewer Authority
David L. Gadis, CEO and General Manager



Briefing on:

DC Clean Rivers Project:

Green Infrastructure: Rock Creek Project B Project Description Meeting #1

April 7, 2021

DCWATER.COM

Virtual Meeting Participation Tips

- Online meetings are subject to your bandwidth limitations. If your connection to the meeting should freeze, please exit and reenter the meeting to refresh your connection.
- All attendees are muted to minimize disruptions.
- The Questions and Answers (Q&A) period will be held at the end of the presentation. Please hold your questions until the Q&A portion of the meeting.
- During the Q&A portion of the meeting, we will acknowledge questions from attendees who are online and on phone.
- **ONLINE PARTICIPANTS:** send your questions to the Panelists by using the Chat mode. You may also click on the hand logo to raise your hand to ask a question.
- **PHONE PARTICIPANTS:** press ***9** to alert us that you want to ask a question. We will unmute you when it's your turn to ask a question.

dc clean RIVERS PROJECT

Agenda

- Introductions
- Clean Rivers Background
- Green Infrastructure Program
- Practicability Evaluation
- Rock Creek Project B
  - Facility Types
  - Proposed Locations
  - Downspout Disconnections
- Comment Period

CLEAN RIVERS BACKGROUND

DC Water Overview: Who We Are

- Serving a regional area of approximately 725 square miles with:
  - Drinking water distribution for the District
  - Wastewater collection and treatment
  - Stormwater collection and conveyance
- Operating the world's largest advanced wastewater treatment plant :
  - Average daily capacity, 384 mgd
  - Peak daily capacity, 780 mgd
  - Serves a population of 2.1 million in the District of Columbia; Montgomery & Prince George's Counties, MD; Fairfax & Loudoun Counties, VA

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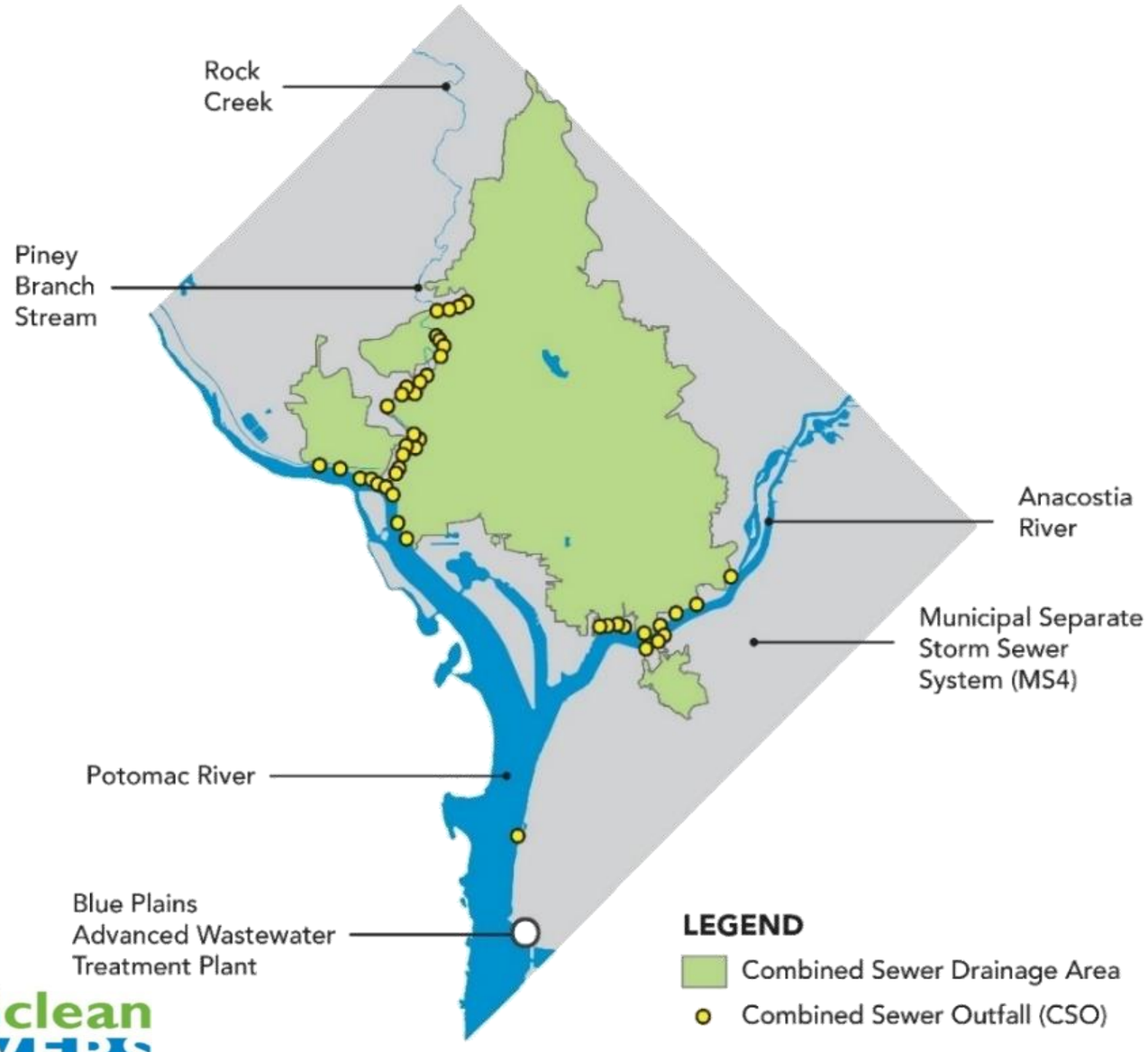
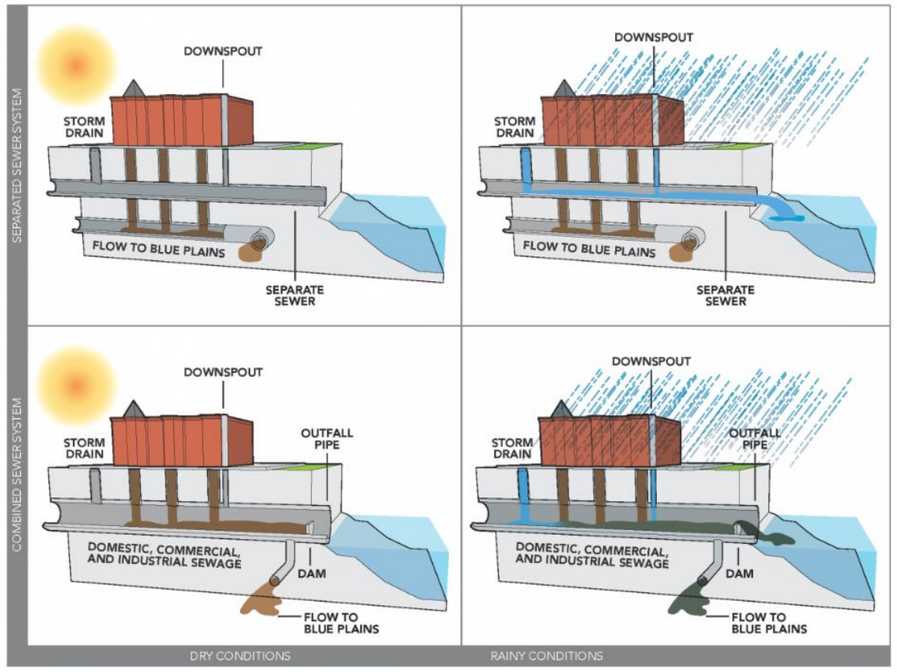
DC Clean Rivers Project Overview: Separate and Combined Sewer Systems





- 1/3 of area within District is served by combined sewers
- 48 active Combined Sewer Overflow (CSO) outfalls
  - 15 to Anacostia River
  - 10 to Potomac River
  - 23 to Rock Creek

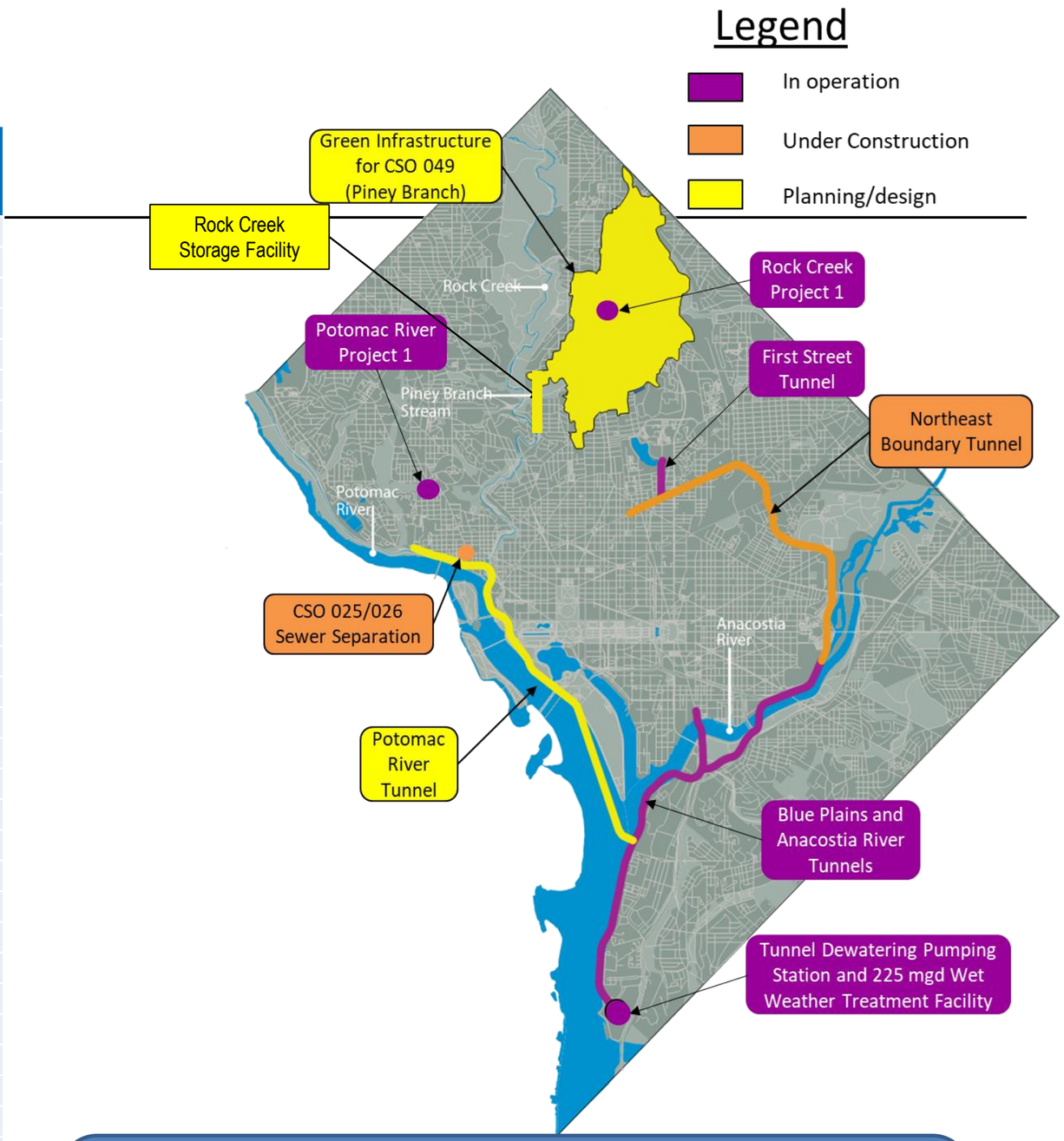
DC Clean Rivers Project Overview:
What is the Purpose of the DC Clean Rivers Project?

- Control combined sewer overflows to the:
  - Potomac River
  - Rock Creek
  - Anacostia River
- Relieve flooding in the Northeast Boundary Area
- Implemented under a Federal Consent Decree :
  - US Environmental Protection Agency (US EPA)
  - US Department of Justice (US DOJ)
  - District of Columbia
  - DC Water
- Significant stipulated penalties for missing schedule deadlines

Fully operational by 2030

DC Clean Rivers Background

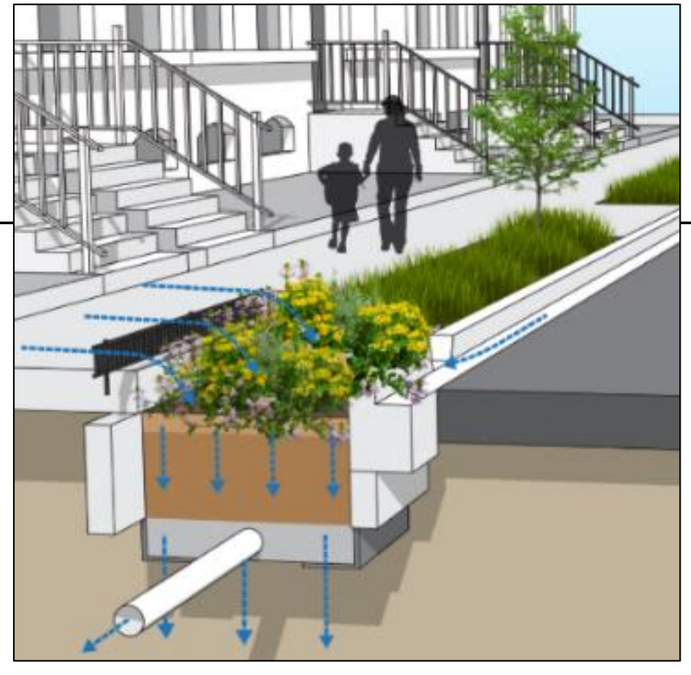
Month	Rainfall, DCA Gauge (in)	Volume Captured by Tunnel (MG)	Measured Overflow (MG)	% captured
March 20 -31, 2018	1.48	20	0	100%
April 2018	3.59	249	10	96.0%
May 2018	8.73	860	13	98.5%
June 2018	5.21	265	47	85.0%
July 2018	9.73	679	260	72.3%
August 2018	5.19	334	14	95.9%
September 2018	9.73	784	116	87.1%
October 2018	3.06	164	0	100%
November 2018	7.57	777	5	99.3%
December 2018	5.82	468	100	82.3%
January 2019	3.30	259	0	100%
February 2019	3.52	74	0	100%
March 2019	4.00	337	46	87.9%
April 2019	2.24	77	0.1	99.9%
May 2019	4.97	311	1	99.7%
June 2019	4.27	134	0.1	100%
July 2019	6.49	339	77	81.4%
August 2019	1.99	186	22	89.3%
September 2019	0.25	19	0	100%
October 2019	6.66	450	18	96.2%
November 2019	1.37	55	0	100%
December 2019	2.80	80	0	100%
January 2020	2.79	150	0	100%
February 2020	3.21	143	0.6	99.6%
March 2020	2.31	38	0	100.0%
April 2020	6.30	338	127	72.7%
May 2020	2.49	169	0	100.0%
June 2020	3.51	205	0	99.9%
July 2020	6.51	265	2	99.2%
August 2020	8.73	463	52	89.8%
September 2020	5.53	267	186	59.0%
October 2020	4.86	264	6	97.6%
November 2020	6.14	456	25	94.7%
December 2020	4.96	430	0	100%
January 2021	1.93	56	0	100%
February 2021	4.66	147	0	100%
March 2021 (DRAFT)	2.18	142	3	100%
Total	**168.08**	**10,450**	**1,133**	**90.2%**



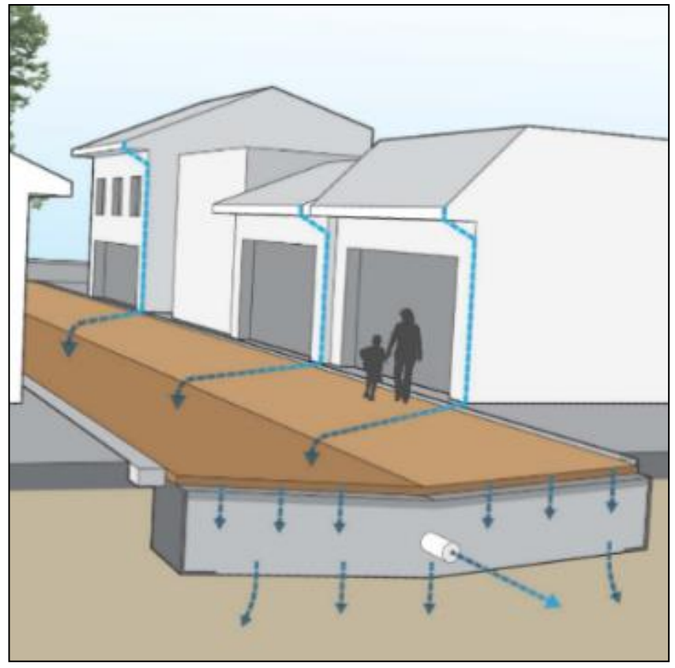
- Over 10 billion gallons captured to date
- Over 4,564 tons of trash, debris, and other solids captured
- Exceeding predicted capture rate (>80%)
- First year in operation (2018) was the wettest year on record for DC

Green Infrastructure: Program Drivers

- Volume Management (Gallons)
  - Control Combined Sewer Overflows
- Cost Effectiveness
  - Responsibility to Rate Payers
- Maintenance/Asset Management
  - Safety
  - Aesthetics
  - Performance
- Outreach
  - Build Public Awareness and Stewardship
- Triple Bottom Line Benefits
  - Deliver Multiple Benefits to the Community



Planter Bioretention



Permeable Alley

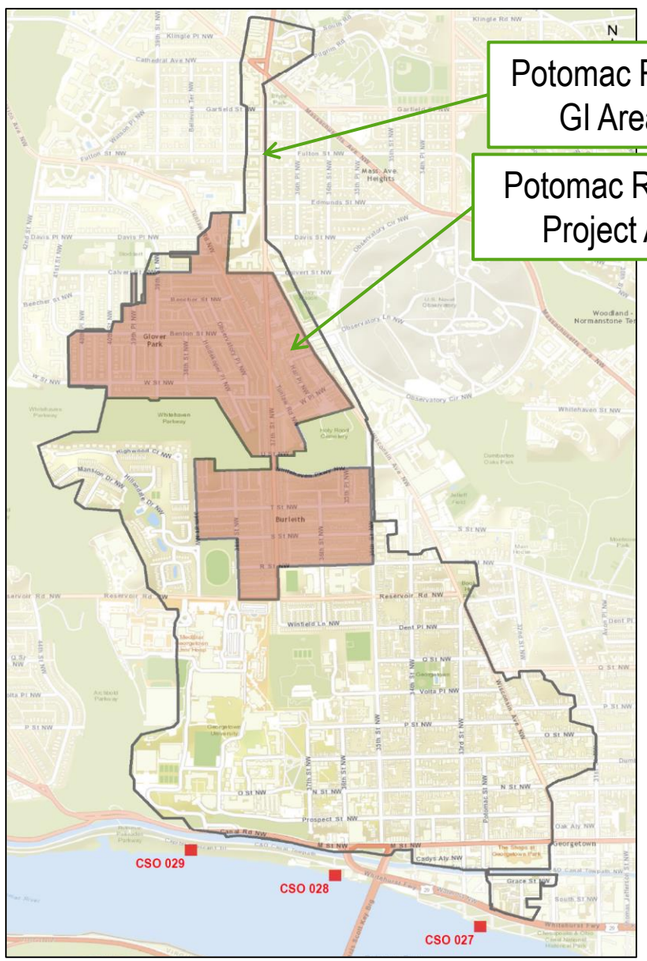
Green Infrastructure:
First Projects are Complete!

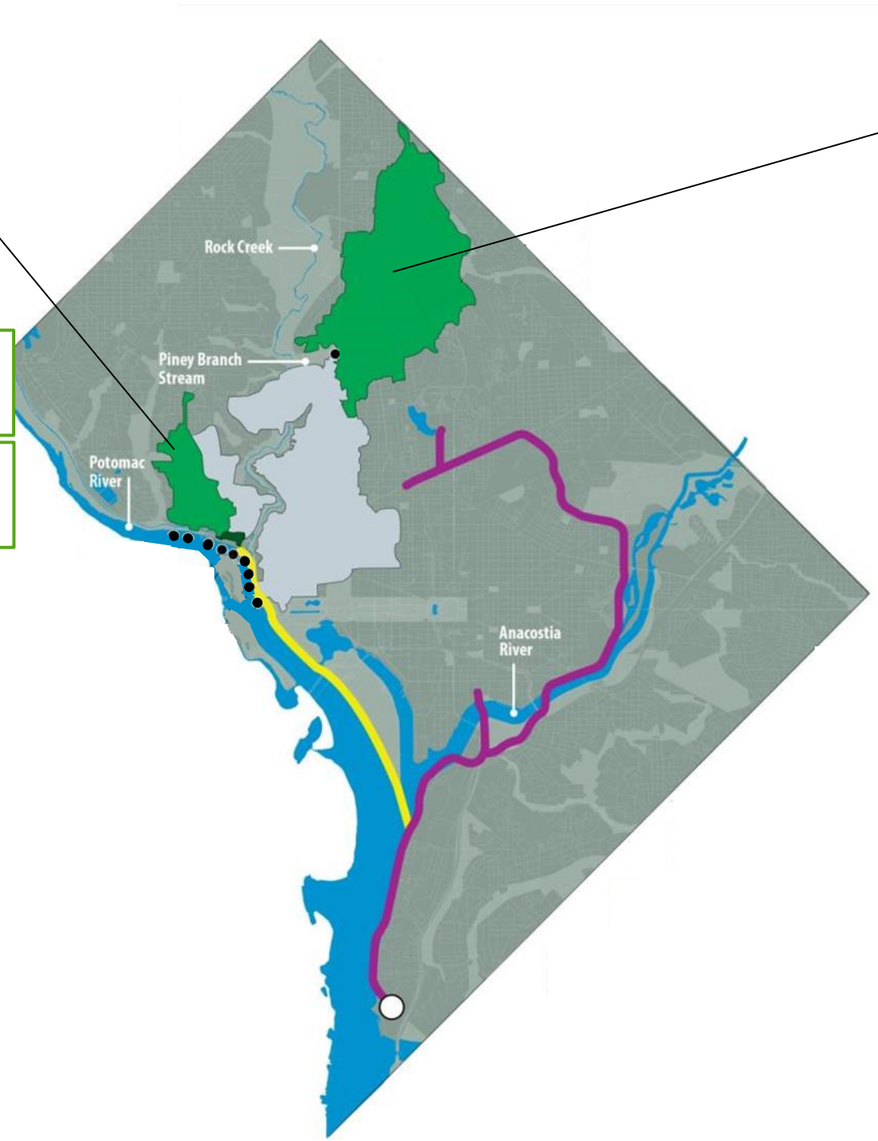
Potomac River Project A (PR-A):

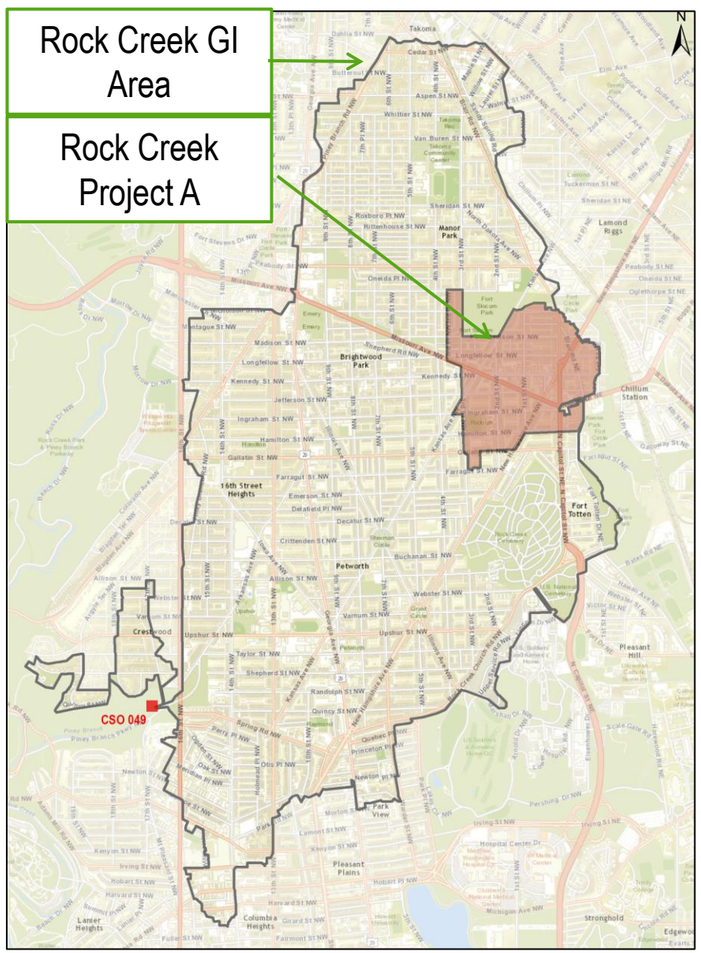
- Manages 44 Impervious Acres
- Construction Start: 2018
- Construction Completed: 2019

Rock Creek Project A **(RC-A):**

- Manages 20 Impervious Acres
- Construction Start: 2017
- Construction Completed: 2019



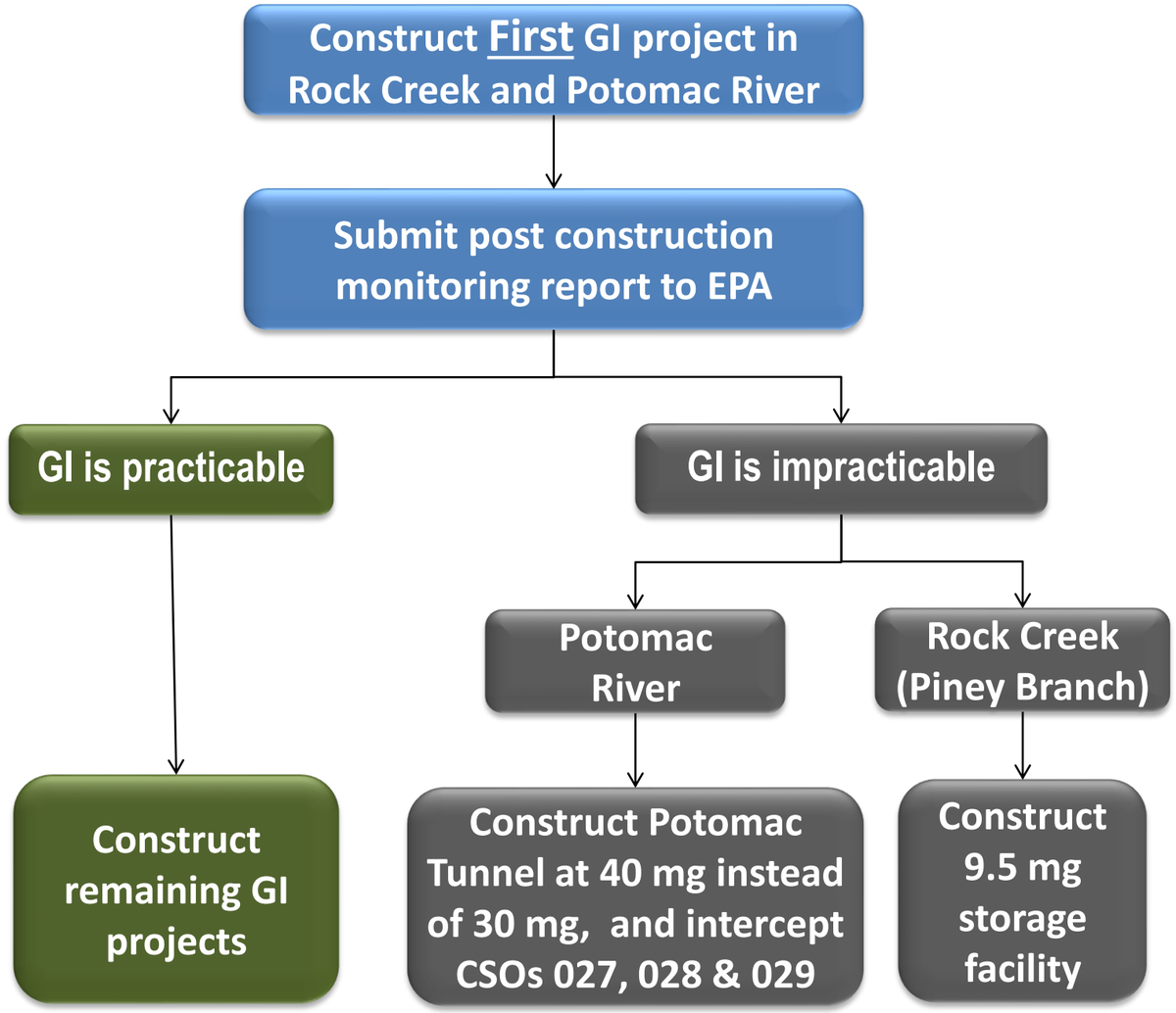




GREEN INFRASTRUCTURE PRACTICABILITY ASSESSMENT: Rock Creek Sewershed

2016 Consent Decree Change for Green Infrastructure
Rock Creek Sewershed

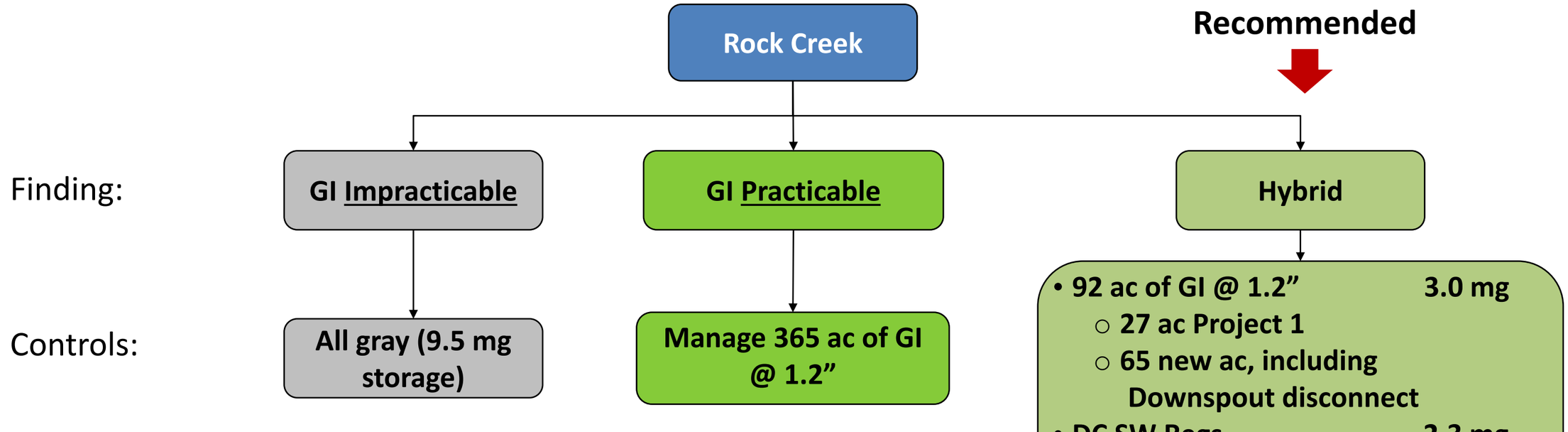
Project	Impervious Acres Managed @ 1.2”	Place in Operation Deadline
Rock Creek Project 1	**20**	**2019**
Practicability Assessment – June 15, 2020		
Rock Creek Project 2	75	2024
Rock Creek Project 3	90	2027
Rock Creek Project 4	90	2029
Rock Creek Project 5	90	2030
Total	**365**	



Rock Creek Qualitative Assessment of GI

Criteria	Assessment	Basis
Constructability	Good	• Projects are constructible with normal construction practices
Public Acceptance	Good	• Survey conducted of homes in project area • Survey results: 64% of residents would like more GI in their neighborhood
Efficacy	Good	• Can be designed and constructed to perform as predicted • Lessons learned can be applied going forward
Operability	Moderate	• Maintenance is simple, but is essential to assure performance • If not maintained adequately, performance can suffer
Cost Effectiveness • Targeted GI	Good	• Cost can be competitive with tunnel construction (gray)
Cost Effectiveness • Retrofit Public Space	Negative	• Costs much higher than gray
Other – Triple Bottom Line and Economic Benefits	Good	• Community and economic benefits substantially higher with Green Infrastructure
Other – Protection of future infrastructure (GI MOU)	Moderate	• Agreement with District not reached on GI MOU

EPA Accepted DC Water's Recommended Approach for Rock Creek December 2020



Degree of CSO Control:	Same as LTCP	Same as LTCP	Same as LTCP
Technologies:	Same as LTCP	Same as LTCP	Same as LTCP
Schedule:	Same as 2016 Amended Decree, by 3/23/2030	Same as 2016 Amended Decree, by 3/23/2030	Same as 2016 Amended Decree, by 3/23/2030

2020 Joint Stipulation of Non-Material Modification to Consent Decree

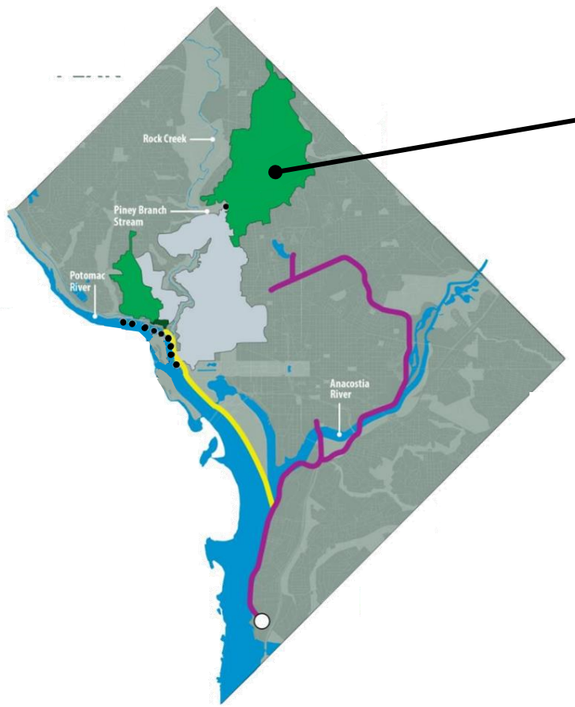
Project	Impervious Acres Managed @ 1.2”	Place in Operation Deadline
Rock Creek Project 1	20	2019
Rock Creek Project B	**22**	**2024**
Rock Creek Project C	25	2027
Rock Creek Project D	25	2029
Total	**92**	

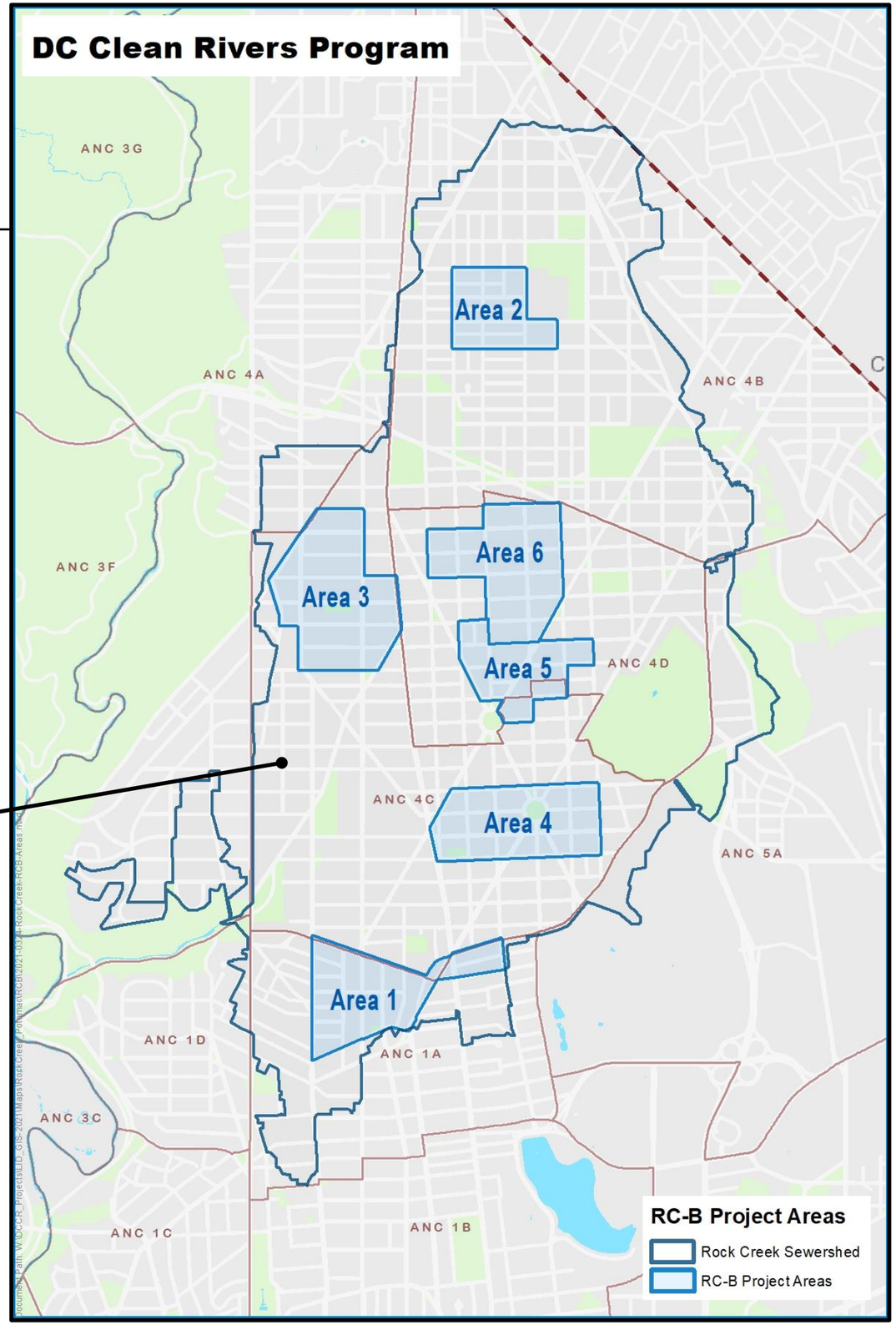
4.2-million-gallon storage to be constructed by 2030

Rock Creek GI Project B (RC-B)

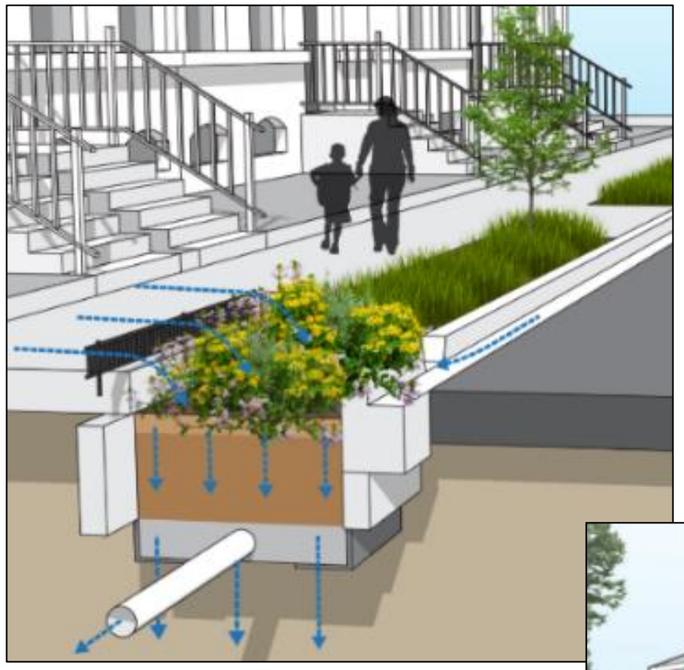
Green Infrastructure: Rock Creek Project B (RC-B)

- Manage 22 impervious acres
- Facilities can be anywhere in drainage area
  - Locations selected based on constructability, cost to construct, and limited neighborhood disruption
- Construction Completion: **January 23, 2024**
- Construction Cost Estimate: **$15-$22M**

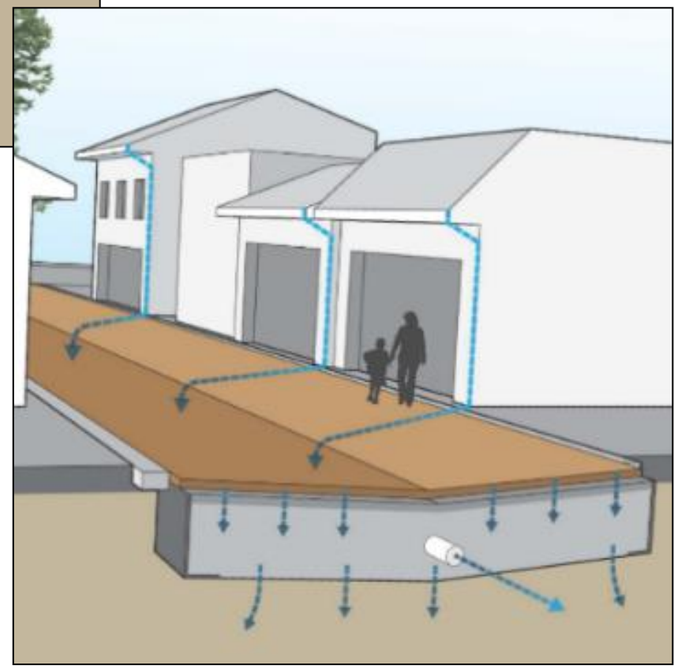




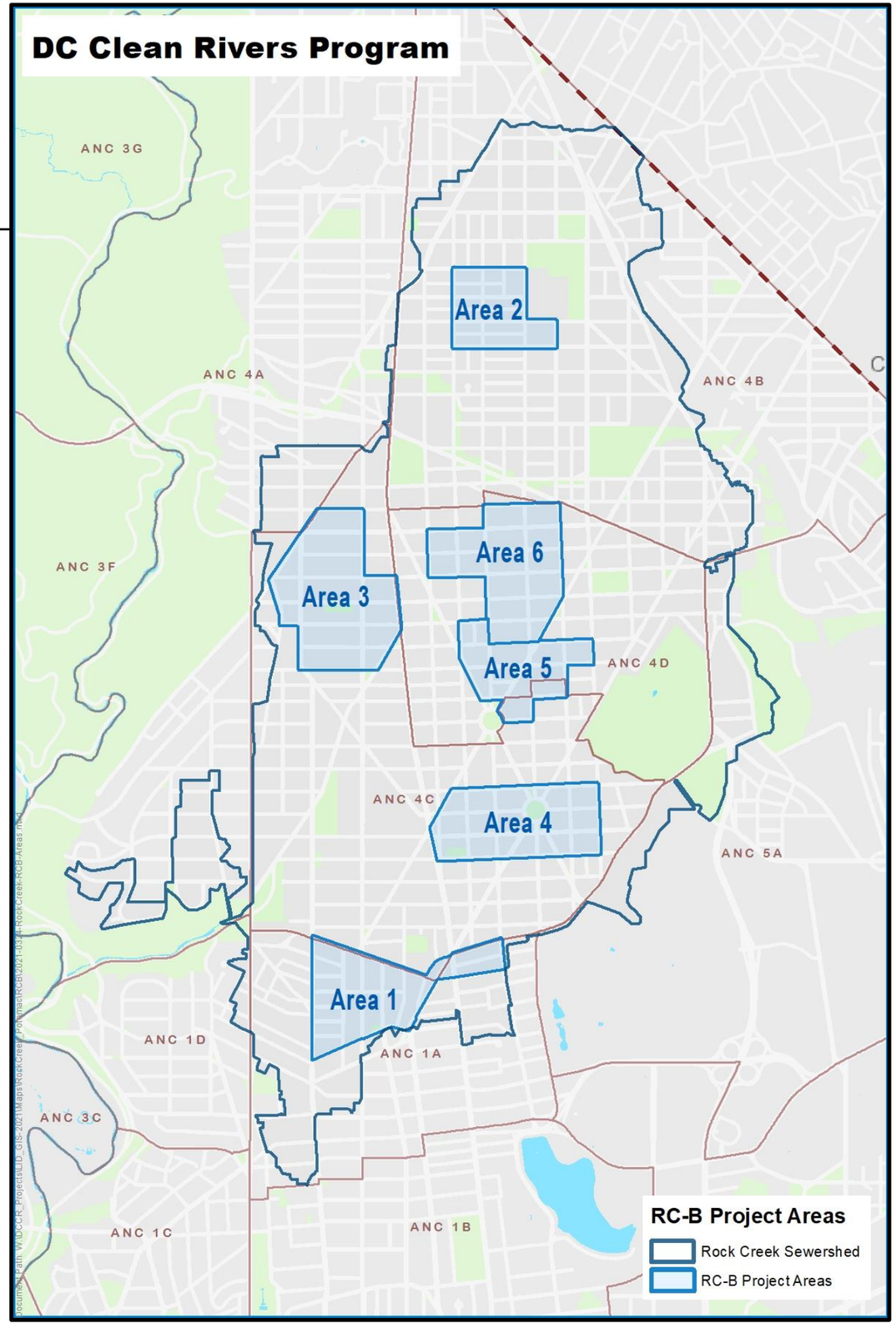
Green Infrastructure:
Rock Creek Project B (RC-B)



Planter Bioretention

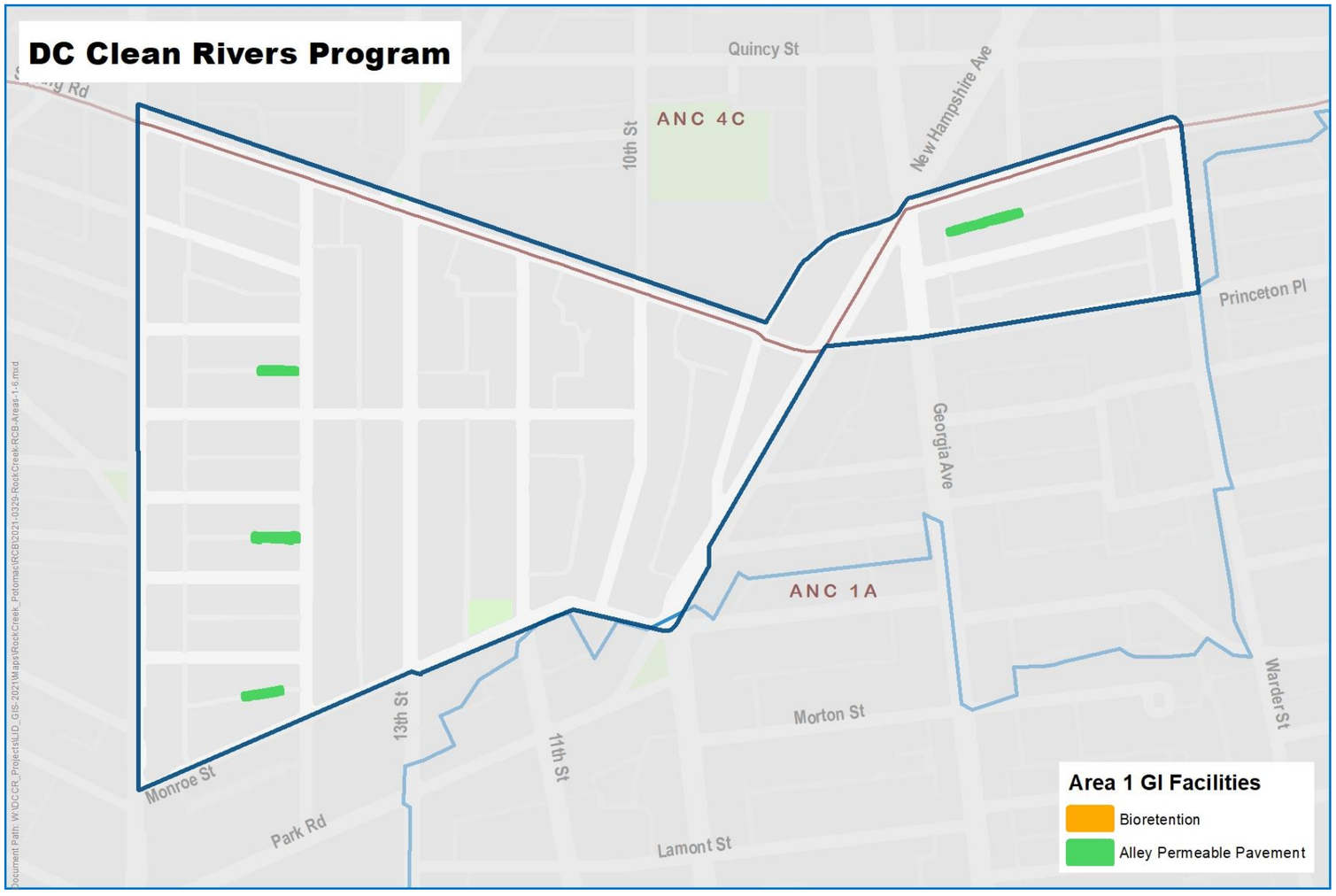


Permeable Alley



Rock Creek Project B (RC-B):
Project Area 1

- ANC 1A
- Columbia Heights
- Mixture of residential row houses and low-density commercial properties



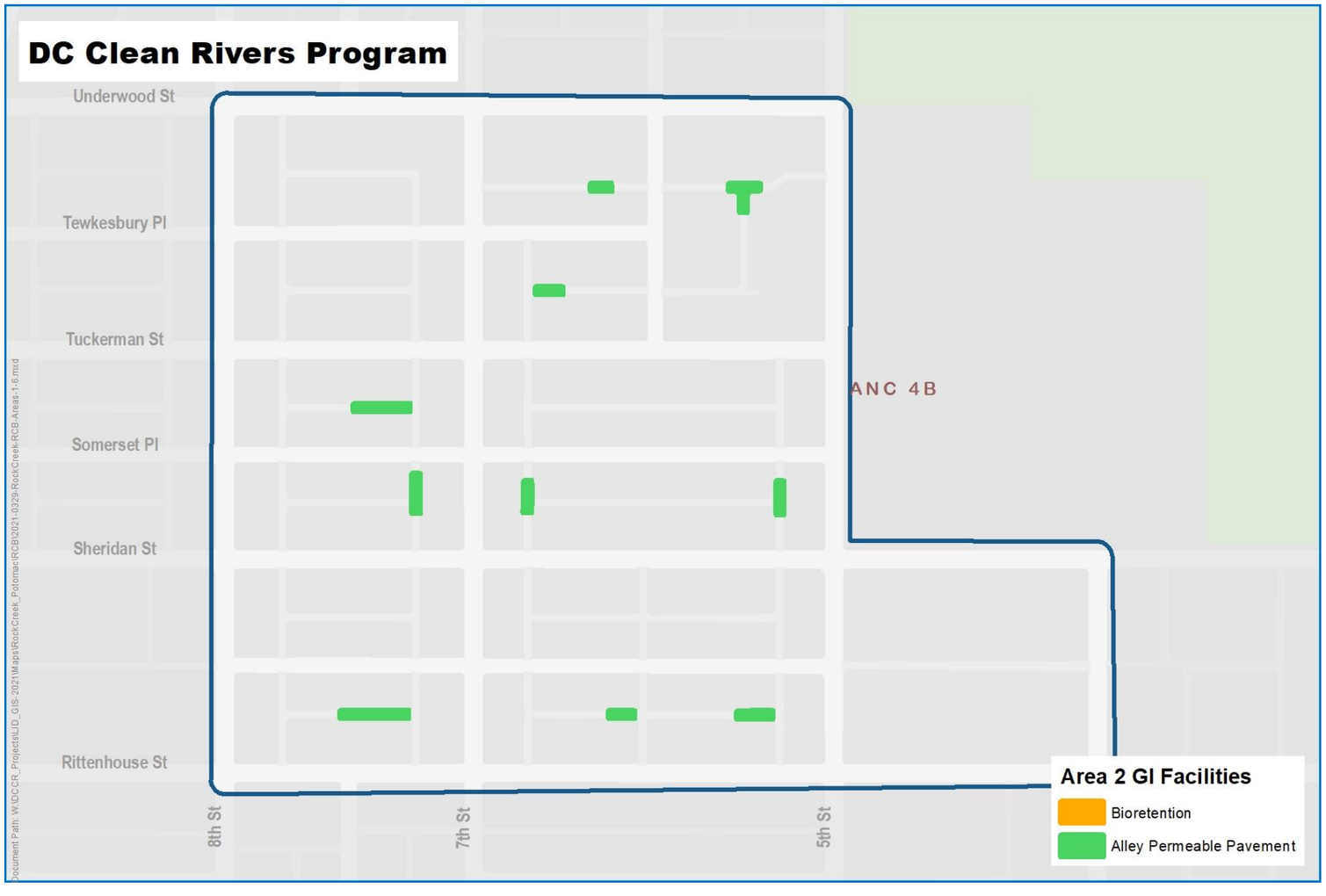
Proposed Green Infrastructure:

- Four (4) Permeable Alleys

Project Area 1: 76 acres

Rock Creek Project B (RC-B):
Project Area 2

- ANC 4B
- Takoma
- Mostly residential row houses



Proposed Green Infrastructure:

- Eleven (11) Permeable Alleys

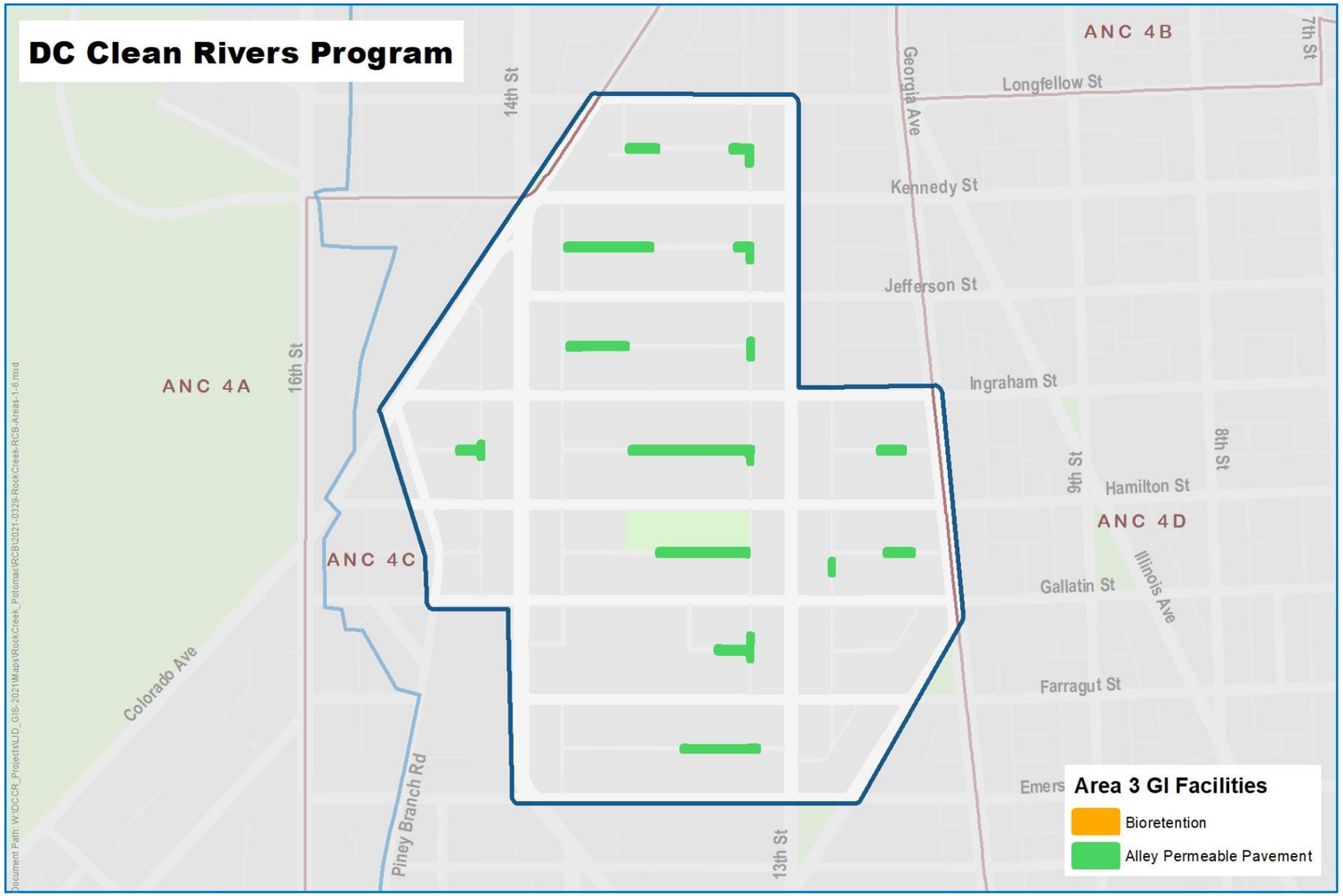
Project Area 2: 43 acres

Rock Creek Project B (RC-B):
Project Area 3

- ANC 4C
- Sixteen Street Heights
- Mostly single family detached houses

Proposed Green Infrastructure:

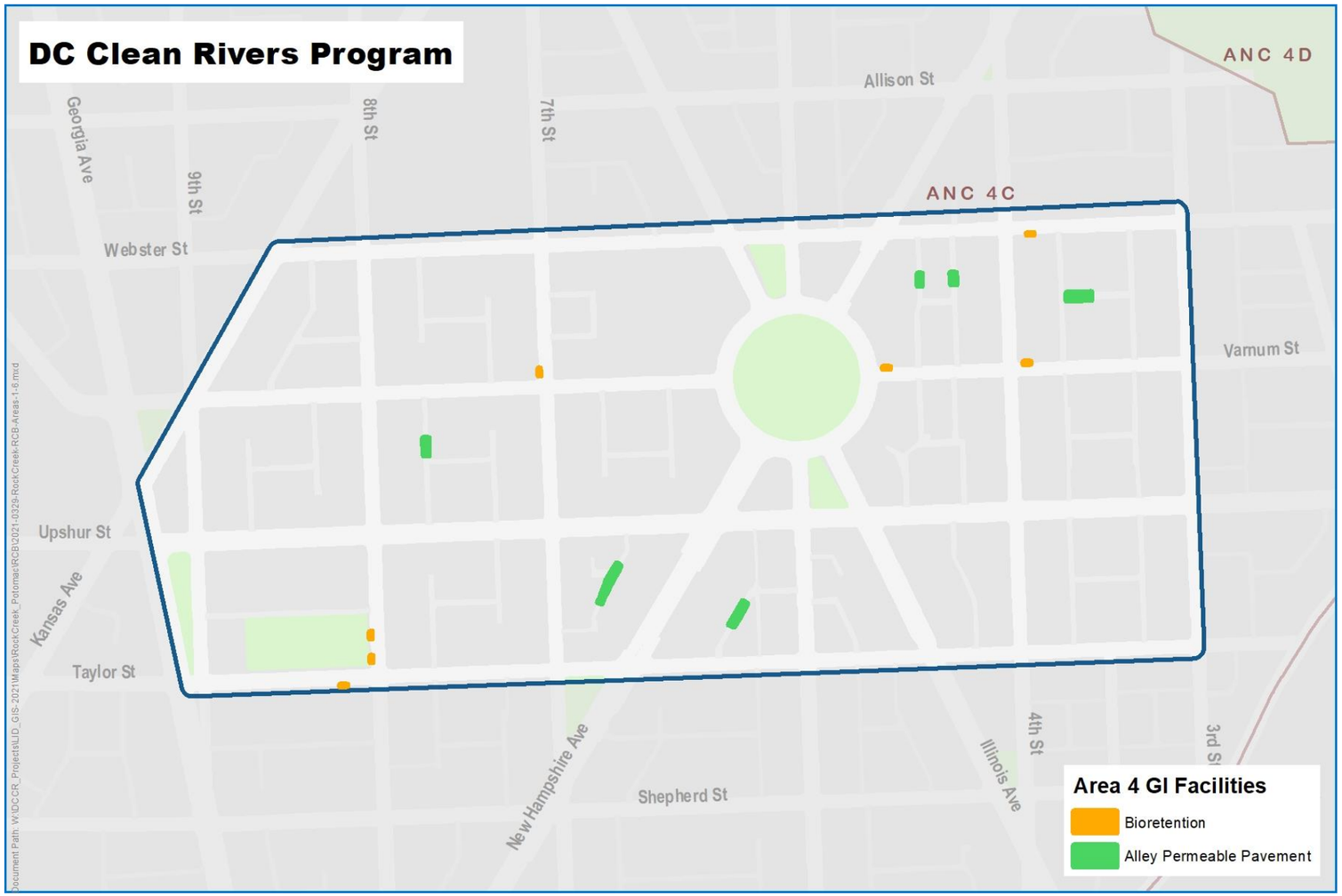
- Ten (10) Permeable Alleys



Project Area 3: 93 acres

Rock Creek Project B (RC-B):
Project Area 4

- ANC 4C
- Grant Circle
- Mostly residential row houses



Project Area 4: 75 acres

Proposed Green Infrastructure:

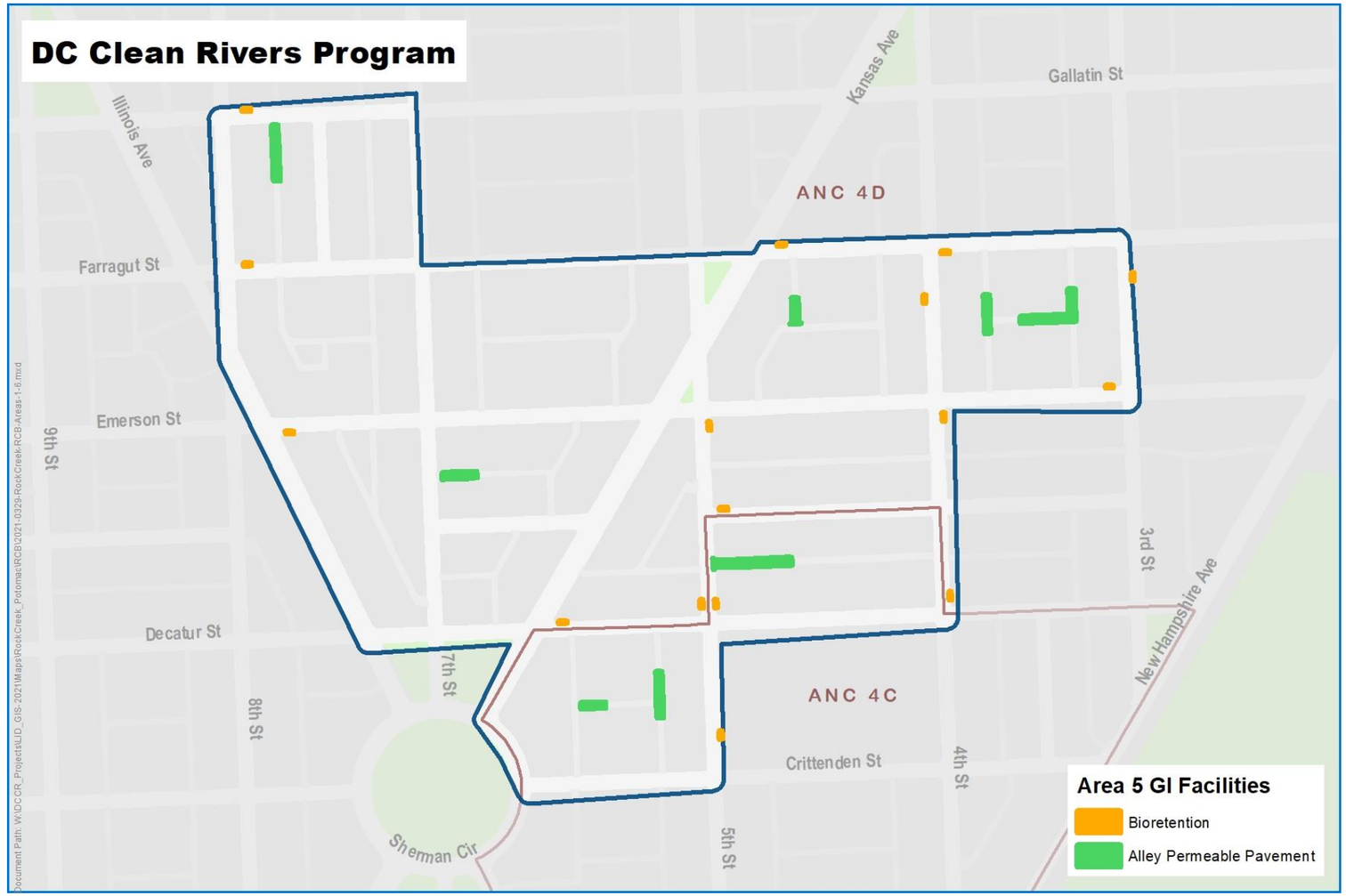
- Six (6) Permeable Alleys
- Seven (7) Planter Bioretentions

Rock Creek Project B (RC-B):
Project Area 5

- ANC 4C & 4D
- Sherman Circle
- Mostly residential row houses

Proposed Green Infrastructure:

- Eight (8) Permeable Alleys
- Fourteen (14) Planter Bioretentions



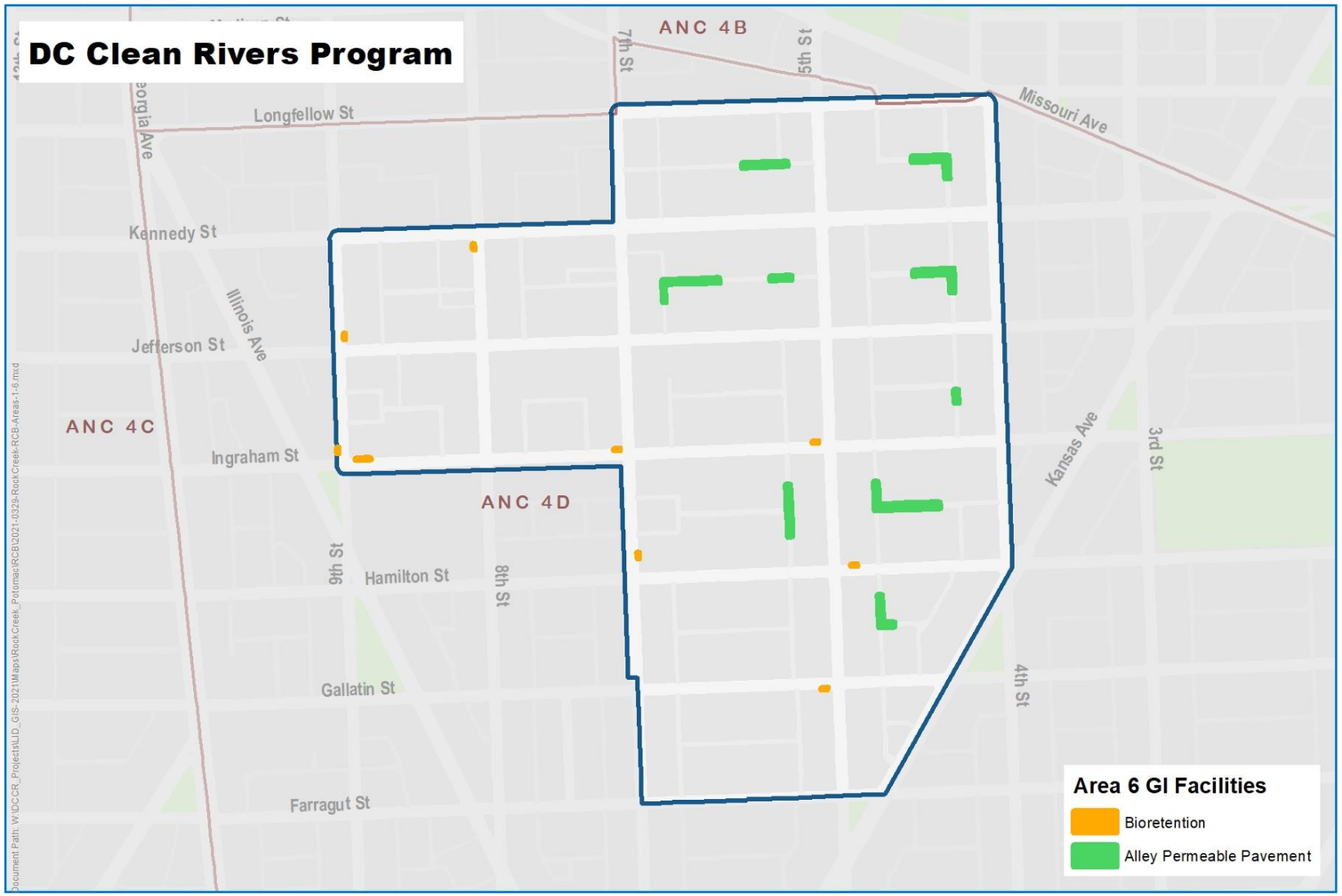
Project Area 5: 42 acres

Rock Creek Project B (RC-B):
Project Area 6

- ANC 4D
- Brightwood Park
- Mostly residential row houses

Proposed Green Infrastructure:

- Nine (9) Permeable Alleys
- Seven (7) Planter Bioretentions



Project Area 6: 82 acres

Construction Process
General Construction

- 24/7 Project Hotline
- Work Hours
  - Anticipated Weekdays: 7:00am – 7:00pm
  - Weekend work may be considered
- Water and sewer services
  - Continued service anticipated
- Site conditions
  - Site secured at the end of each workday
  - Site restored in kind per DDOT requirements at construction completion
- Site Security
  - Signage
  - Barriers or fencing
- Vibration and noise monitoring and mitigation, dust control, and rodent control will be in place throughout project.
- Access for garbage collection, other contractors, handicap access, home health care needs, etc. to be provided as needed
- Tree Protection
  - Tree protection will be provided as necessary and as required by Urban Forestry Administration permit

Outreach Efforts and Agency Coordination

- DC Water will present at meetings to inform residents and stakeholders about the upcoming project.
  - Mayor's Office (Wards 1 & 4 MOCRs)
  - Councilmember's Office (Wards 1 & 4 Representatives)
  - ANCs 1A, 4B, 4C, 4D
  - Local businesses and residents
- DC Water will provide project information to properties adjacent to sites.
- DC Water will analyze potential impacts due to construction and coordinate appropriate mitigation requirements with:
  - DDOT – Traffic, Pedestrian and Bicycle Impacts
  - WMATA – Transit Impacts
  - DOEE – Environmental Impacts
  - FEMS – Fire and Emergency Services
  - DPW – Garbage Collection
- DC Water will notify the community and post signage regarding any alley closures, traffic, pedestrian, bike and scooter, parking, and public transport impacts.

GI Maintenance:
Typical Maintenance Activities

dc water is life® dc clean RIVERS PROJECT
Green Infrastructure Program
BIORETENTION
report issues: 202-354-3600 or custserv@dcwater.com
learn more: dcwater.com/green
BR000

dc water is life® dc clean RIVERS PROJECT
Green Infrastructure Program
PERMEABLE PAVEMENT
report issues: 202-354-3600 or custserv@dcwater.com
learn more: dcwater.com/green
PP0000

- DC Water is responsible for maintenance of all DC Water GI facilities.
- Bioretention
  - Monthly removal of trash, leaves, weeds, debris, sediment and animal waste
  - Other activities may include (as needed):
    - Cleaning of system and inspections
    - Inspections for disease/pests and treatment
    - Trimming of vegetation and plants
    - Watering of vegetation
    - Replacement of mulch, rocks and gravel
- Permeable Pavement
  - Vacuum sweeping- once per month (March-December)
  - Other activities may include (as needed):
    - Removal of leaves, weeds and sediments
    - Cleaning of underdrains and inspections

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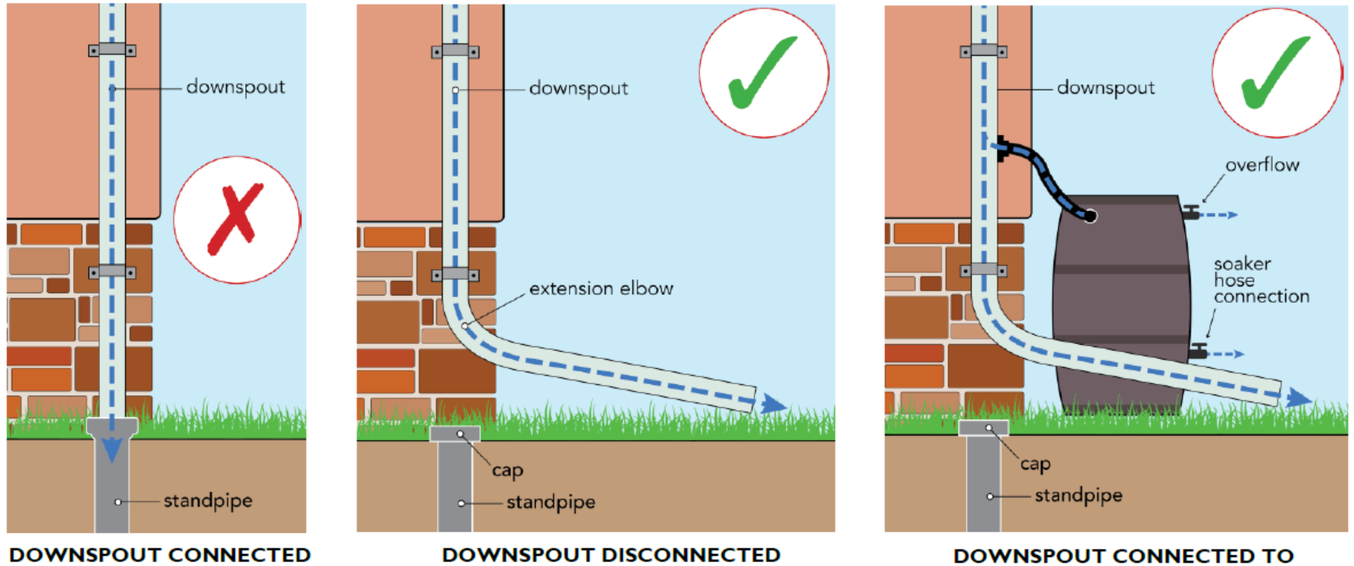
Downspout Disconnection Program:
DC Water's GI for Private Property

- Implemented to complement the GI projects and outreach efforts in the right-of-way
  - Accepted GI practice in the reduction of rainfall runoff contributions to the combined sewer system
  - Quick, convenient, cost-effective
  - Engages community
- **Voluntary** program providing free downspout disconnection and option for a free rain barrel for eligible participants
- Follows criteria in the District's Department of Energy & Environment Stormwater Guidebook



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Downspout Disconnection Program:
Process

Outreach → Canvassing/ Downspout Audit/ Enrollment → Disconnection → Verification & Preservation → Coordination with Incentive Programs

Downspout Connected to Combined Sewer System

Disconnected Downspout

Downspout Connected to Rain Barrel

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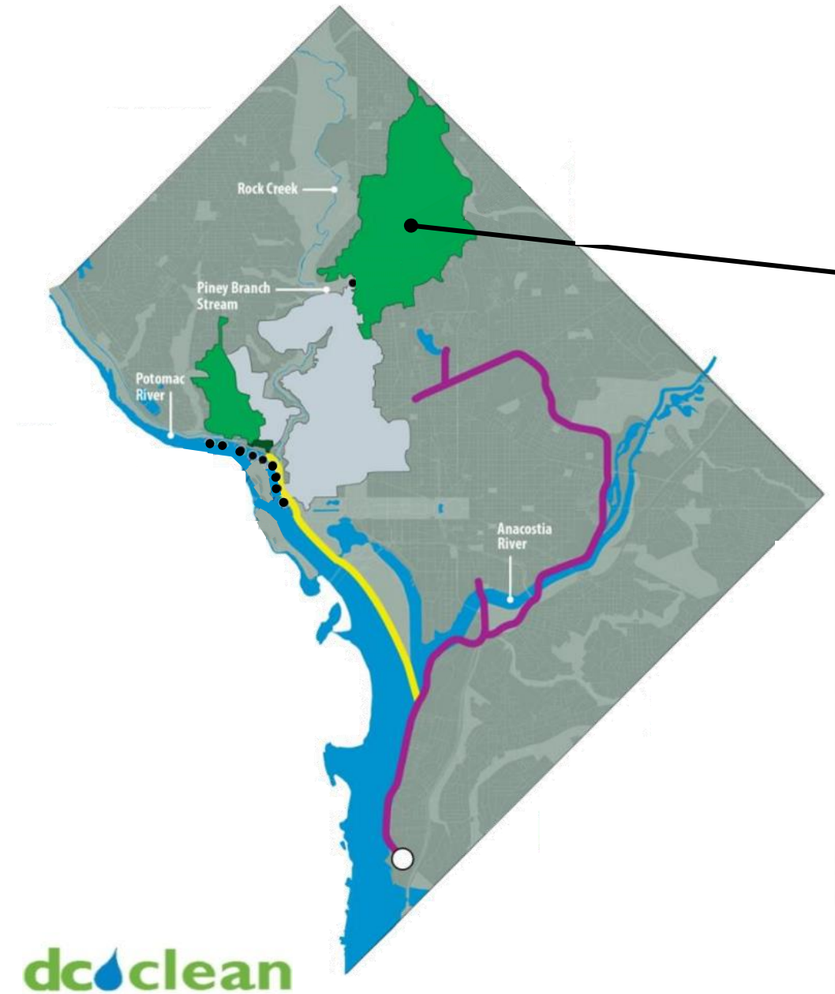
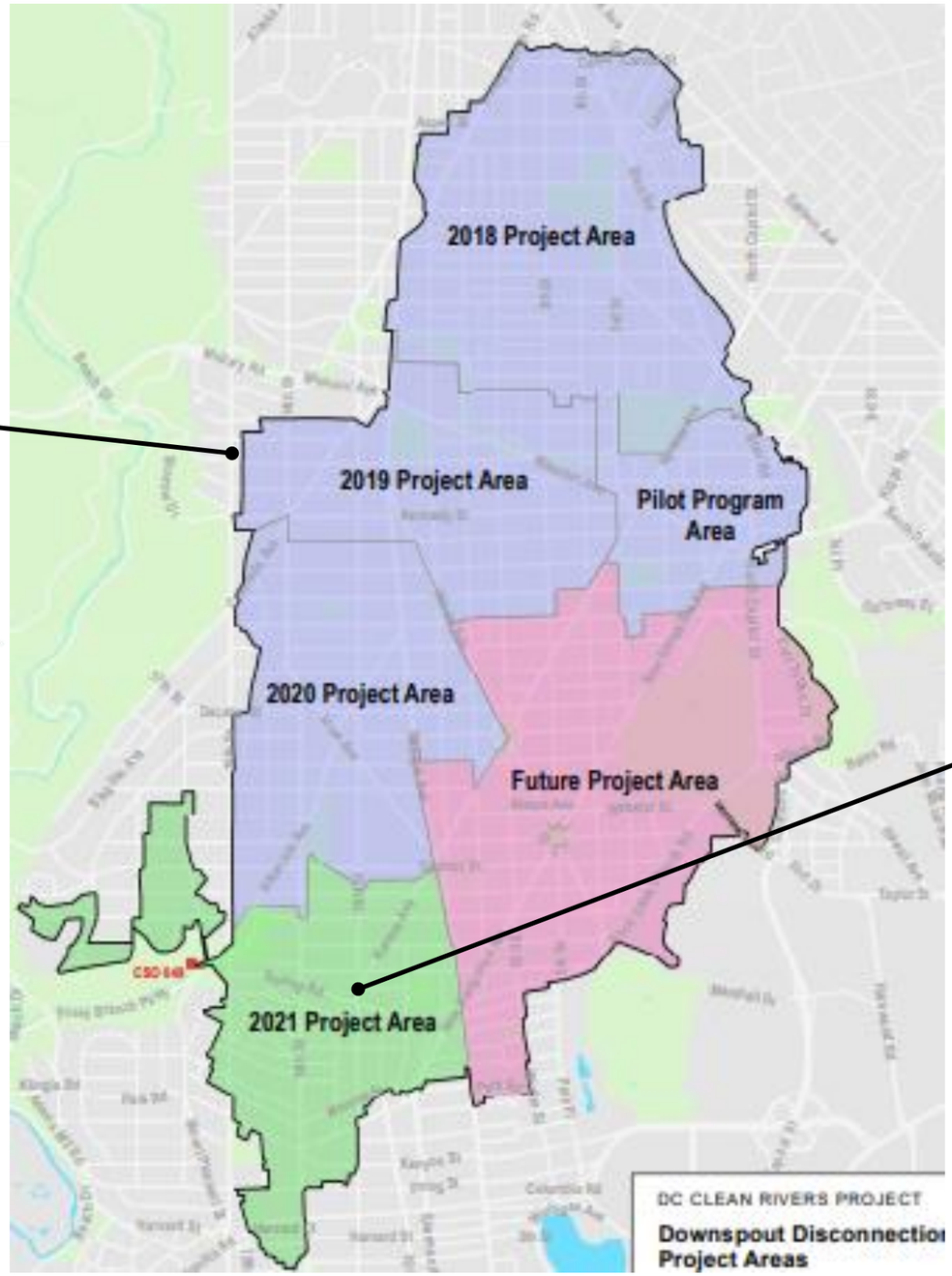
Downspout Disconnection Program:
Rock Creek Project Areas





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THANK YOU!

- Draft Project Description Rock Creek Project B published on March 29, 2021
- Public Comment Period closes on May 7, 2021
- Draft Project Description for RC-B is available on DC Water's website: https://www.dcwater.com/green-infrastructure
- Comments can be sent by e-mail to: cleanriversgi@dcwater.com