



15th & Walnut Streets

**CSO Separation and GSI Project at
the Urban Artists Exchange**

March 5, 2025

Delaware Resilient and Sustainable Communities League 2025 Summit

Agenda



Bryan Lennon

Assistant Water Division Director
City of Wilmington

bplennon@wilmingtonde.gov



Matthew J. Prusko PE, ENV SP

Senior Project Engineer
Arcadis

Matthew.Prusko@arcadis.com



Annie Vapaa MLA

Landscape Designer
RAS Landscape Architects

avapaa@raslainc.com

1) Introduction

Overview of Speakers and Agenda

2) City of Wilmington

Wilmington's LTCP and Approach to
Green Infrastructure

3) Urban Artists Exchange

A Look Back at Project Site's History

4) SW/GI Approach

SW/GI as an Asset

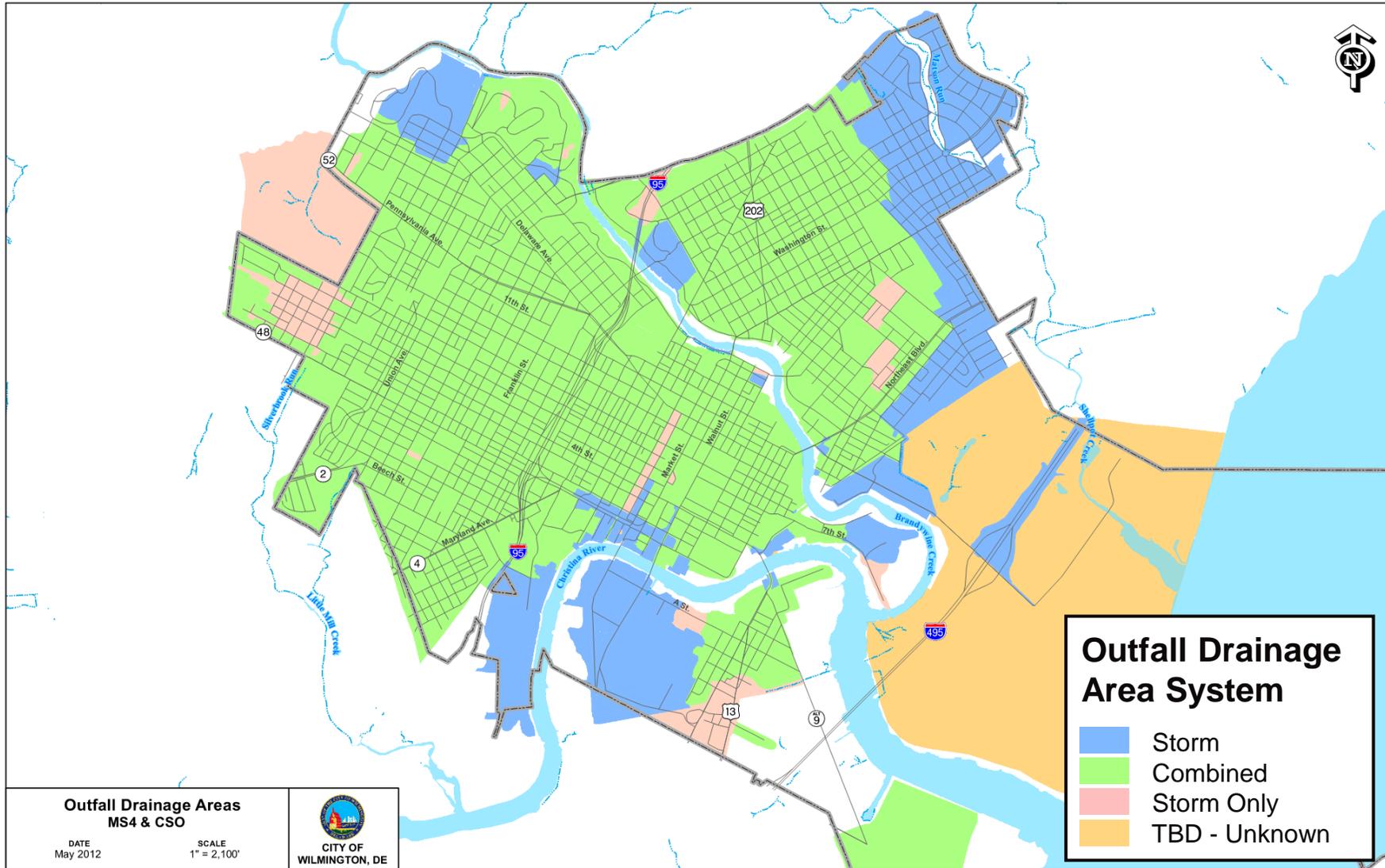
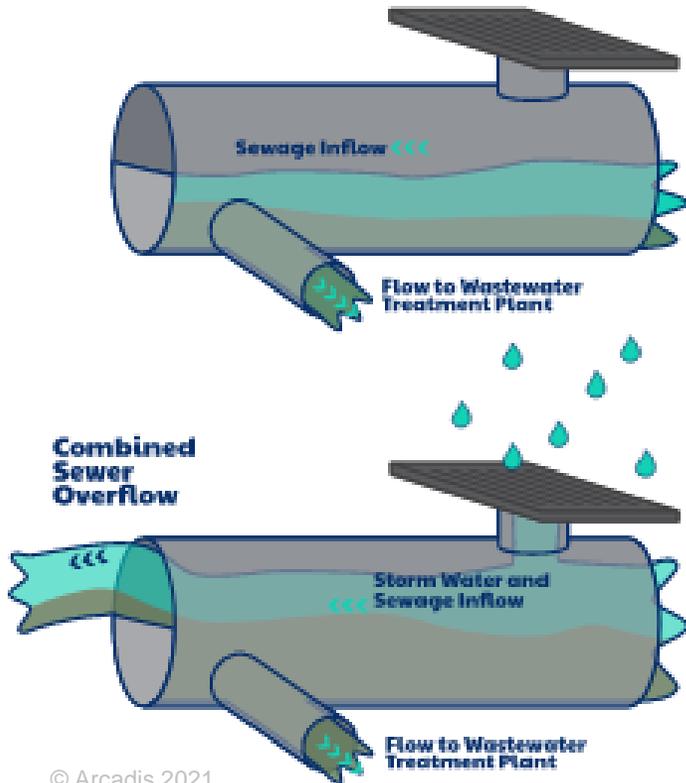
5) Landscape Design

Insights into Design Approach and
bridging Project Goals

6) Acknowledgements

City of Wilmington

- Sewage Treatment began in 1954
- LTCP est. 2003
- CSS: ~94% of Service Area



Map Image: "MS4 & CSO Outfall Drainage Area Map" - <https://www.wilmingtonde.gov/government/city-departments/public-works/clean-waterways-wilmington/information-resources>

City of Wilmington

Why GI?

- Reimagine GI/SW management as an asset
- Find Opportunities to Collaborate

City Projects Featuring GI:

- Cool Spring Park
- Rodney Square
- Urban Artists Exchange (Current Location!)



~90% of Storms Result in 1"-2" of Runoff



Utilize GI to manage frequent Storms and minimize impacts to sewers



More information on CSO
<https://cso.wilmingtonde.gov/>



Urban Artists Exchange

Background

- Abandoned City-owned parcel utilized by:
 - Fire Department (previous use)
 - Urban Bike Project
- Surrounding Stakeholder Projects
 - City Fest
 - Walnut Ridge Development
 - Walnut Place Development
 - 15th Street Widening



Photos from: Arcadis Staff; Architectural Alliance; and stories.opengov.com/wilmingtonde

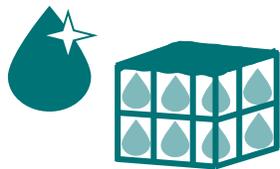
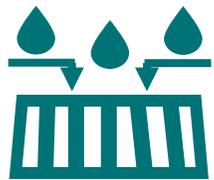
Urban Artists Exchange



Photos by Architectural Alliance

SW/GI Approach

1. Capture / Manage both on & offsite runoff
2. Partner with Stakeholders
3. Complement Site Programming/Uses
4. Provide Aesthetic Public Greenspace
5. Engage/Educate Community



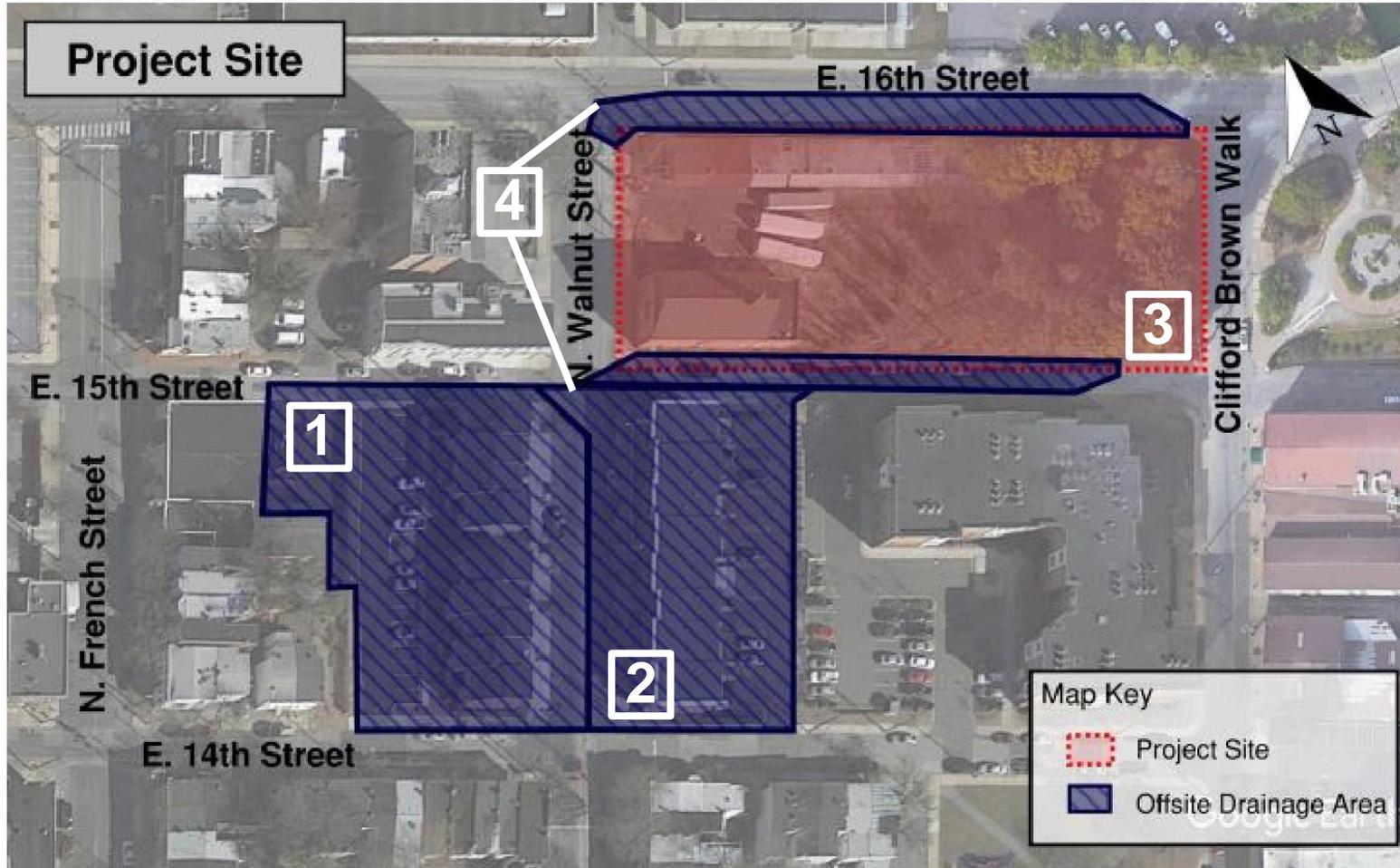
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Wilmington, Delaware



cityfestwilmd
Wilmington, Delaware



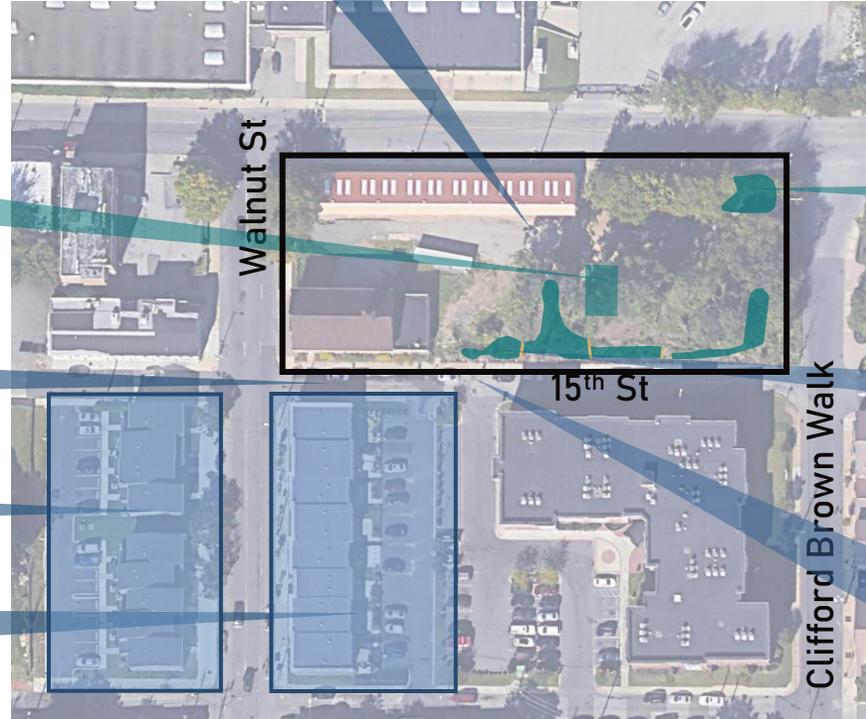
SW/GI Approach



1. Runoff from Walnut Ridge housing
2. Runoff from Walnut Place housing
3. Runoff from impervious surfaces onsite
4. Runoff from 15th & 16th St.

SW/GI Approach

UAE
Redevelopment



15th Street
Re-paving

Walnut Ridge
and Walnut
Place Housing
Developments



HOUSING SW
SEPARATION

STABLES DESIGN CONS

PAVING DESIGN CONS

AMPHITHEATER DESIGN CONSTRUCTION

GI PLANNING GI DESIGN CONSTRUCTION

2015-2017 2018 2019 2020 2021 2022-2023

Stakeholder Engagement + Combined Vision & Resources = Greater Results

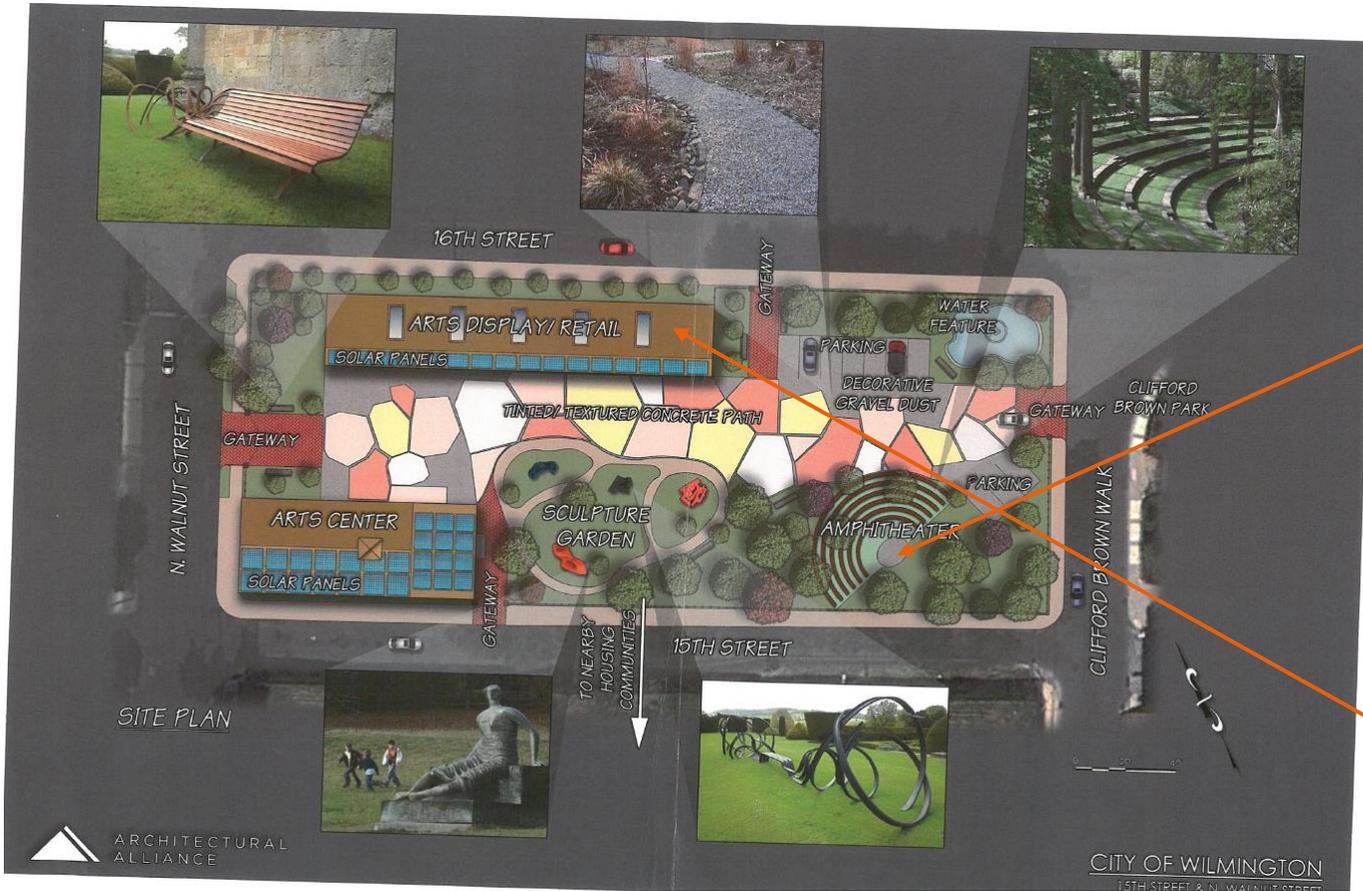


Exhibit developed by Architectural Alliance

Stakeholder Engagement + Combined Vision & Resources = Greater Results

- EPA Grant Funding
- CWSRF Financing
- Private Fundraising

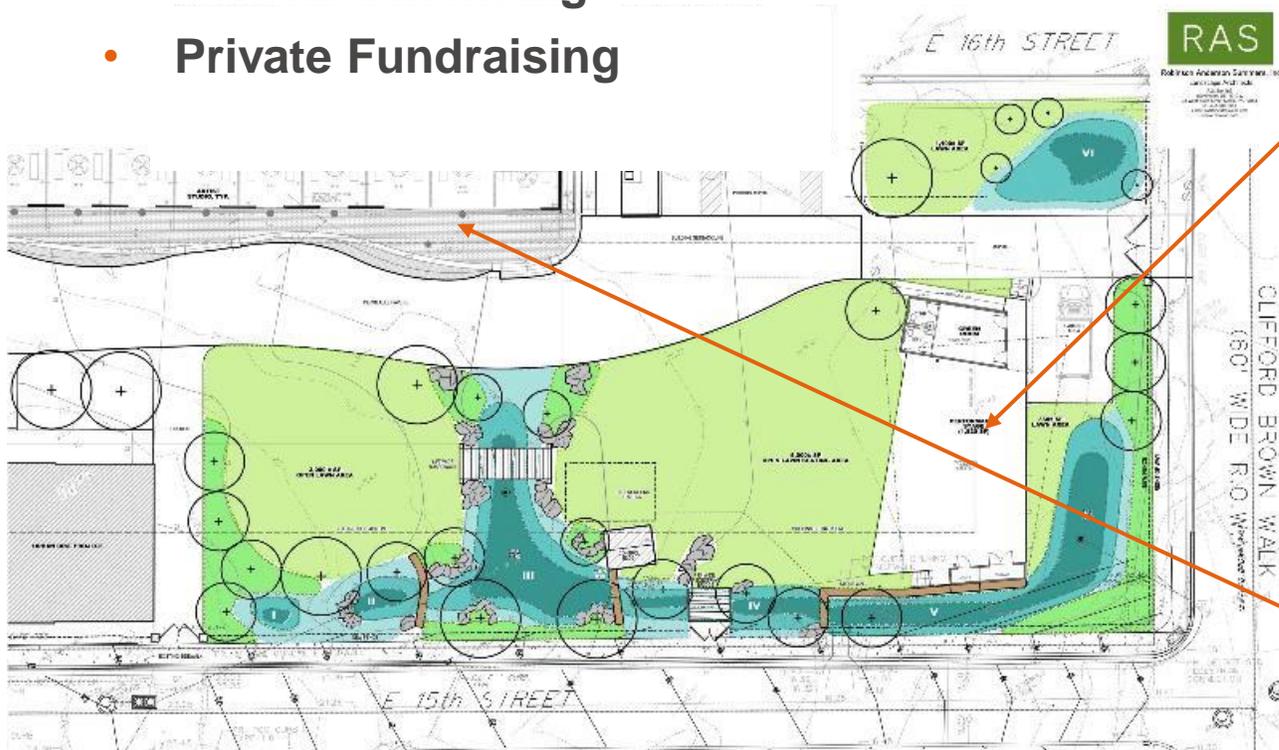
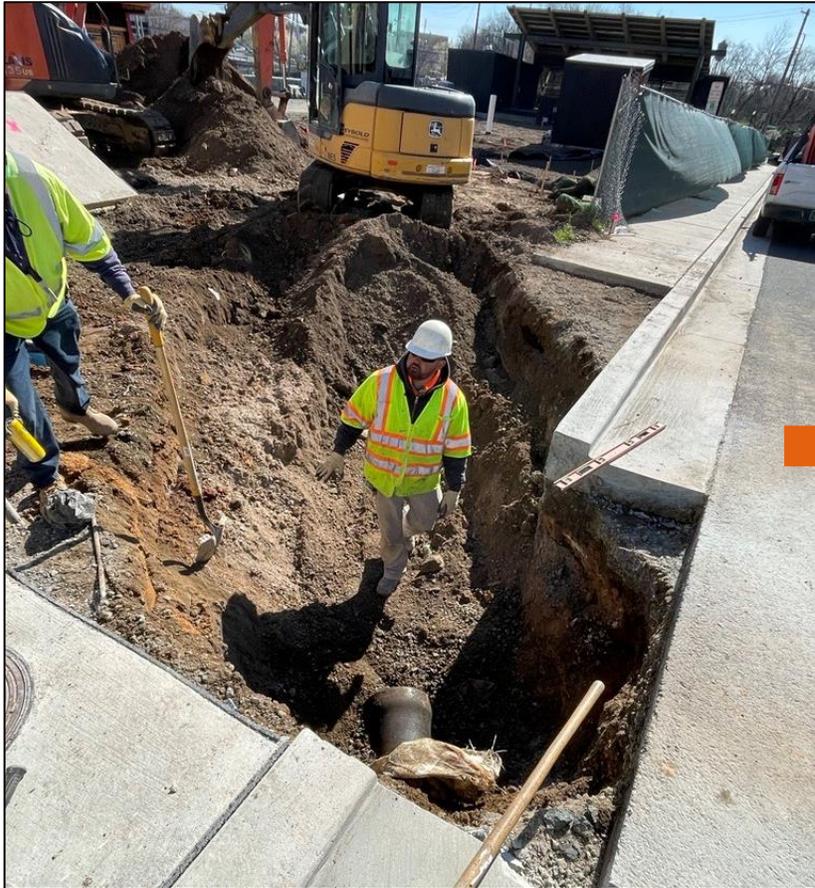


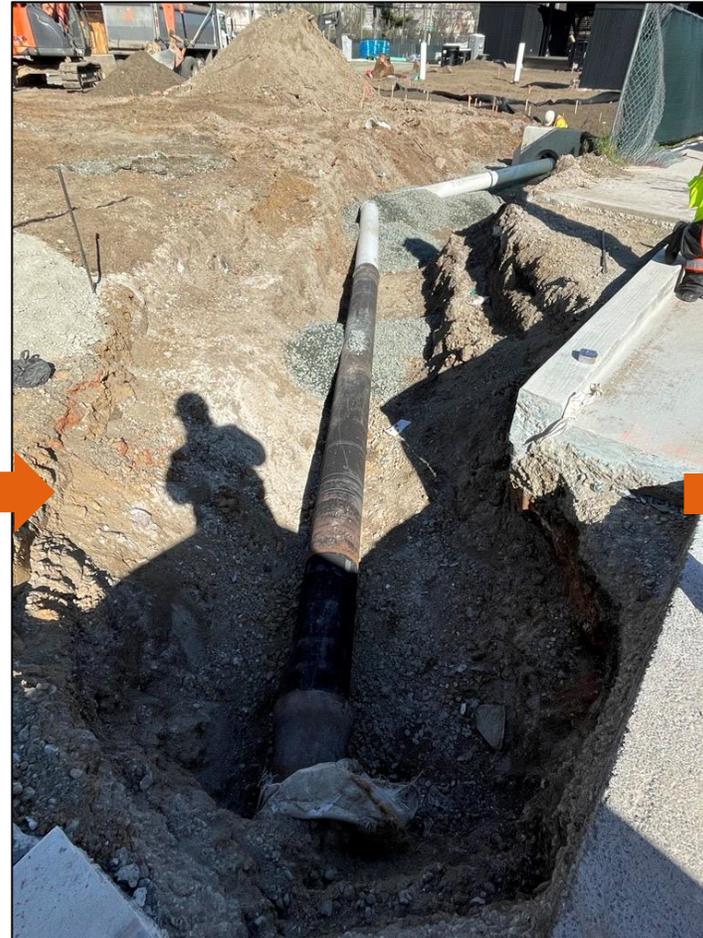
Exhibit developed by RAS Landscape Architects

15th and Walnut CSO Separation Green Infrastructure Installation

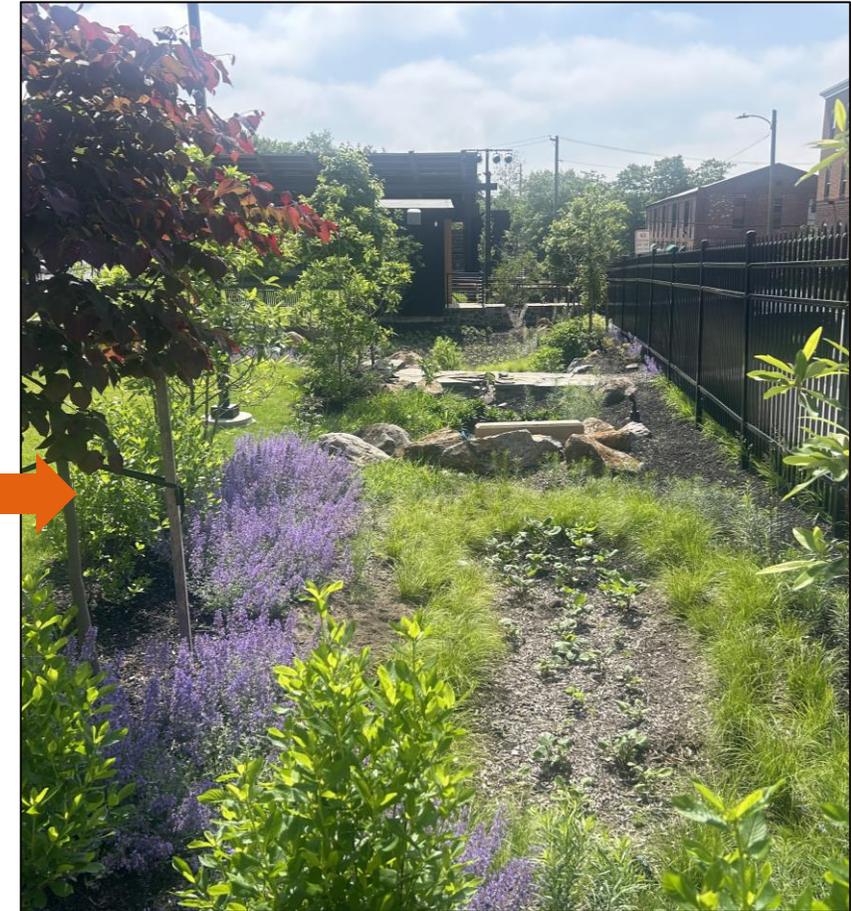
15th Street Pipe Diversion



1: Pipe stub diverting offsite flow to park area



2: Pipe installation entering park area through rain garden 1 to headwall



3: Rain gardens 1 and 2 backfilled with bio-soil and plantings

15th and Walnut CSO Separation Storm Sewer Installation

15th & Walnut St. Storm Sewer Piping & Structures



1: Inlets to capture runoff on Walnut St.



2: Inlet to capture runoff on 15th St.



3: Storm sewer installation to connect these inlets to the existing pipe stub entering park.

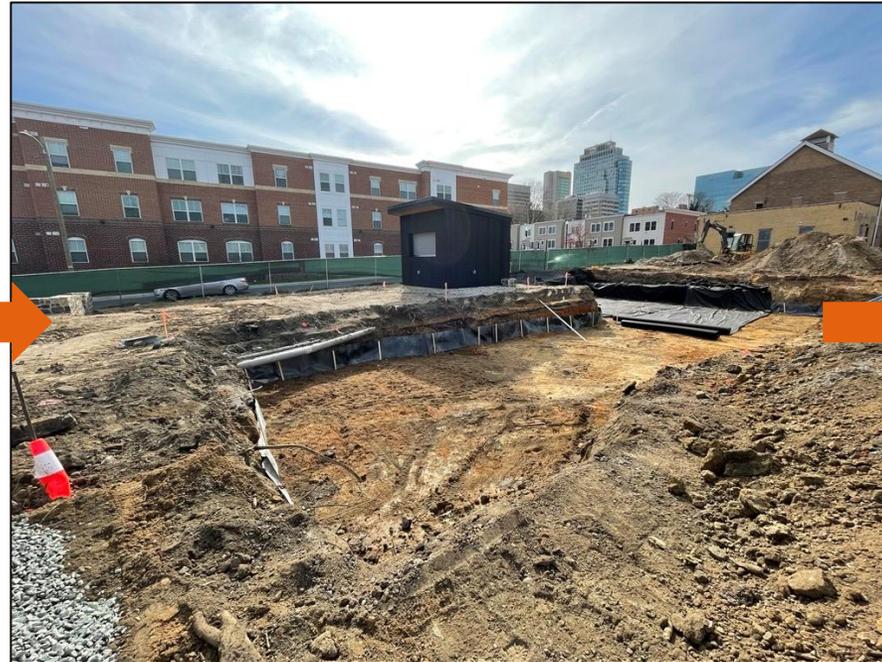
15th and Walnut CSO Separation Green Infrastructure Installation

R-Tanks



1: Designated R-tank location

2: Excavation



3: Installation of R-tanks

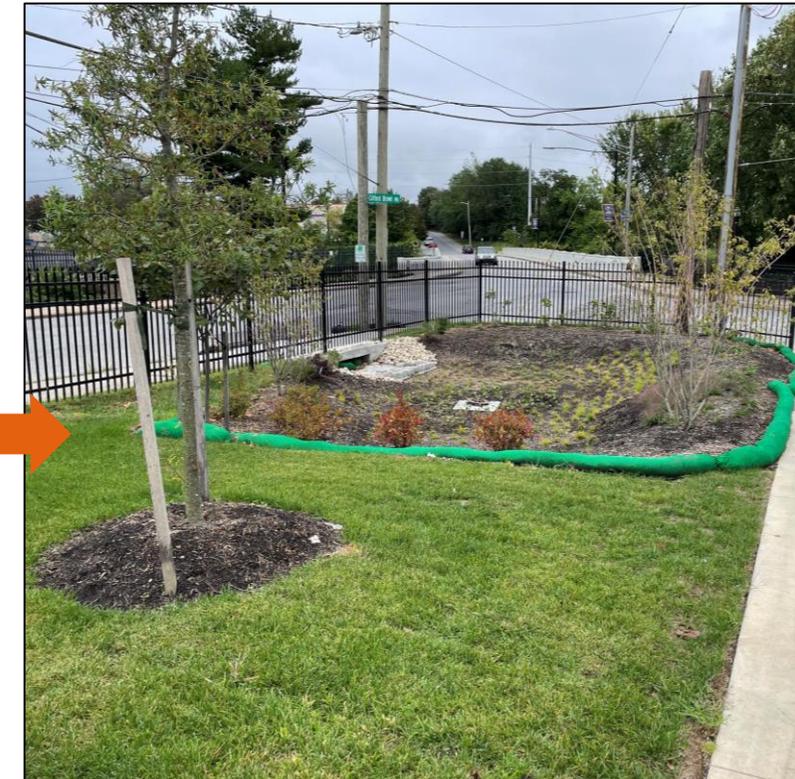
15th and Walnut CSO Separation Green Infrastructure Installation

Rain Gardens



1: Unused region selected as rain garden 6 location

2: During construction



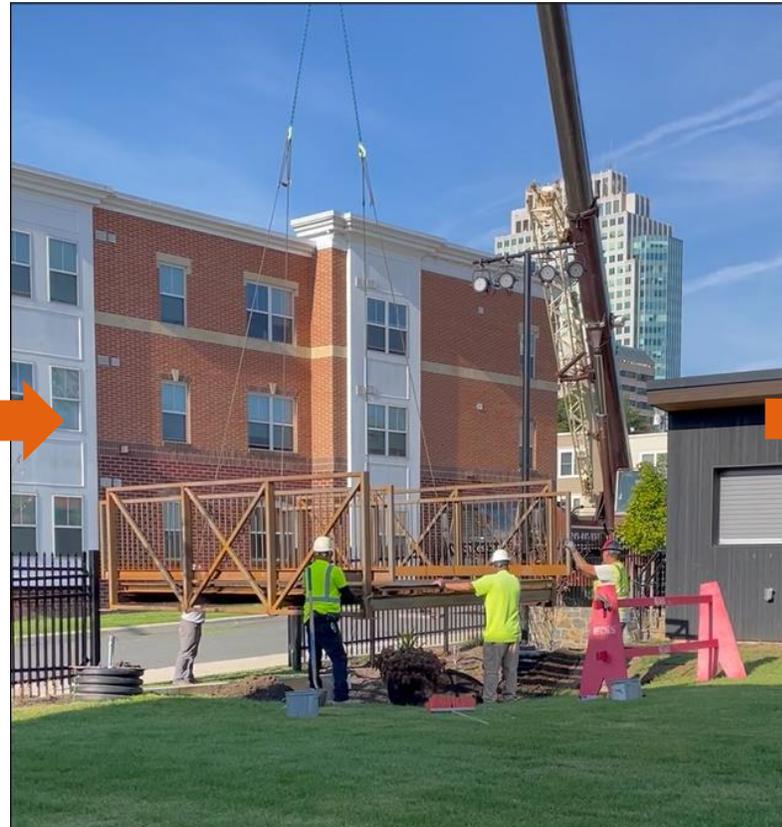
3: Completed Rain Garden 6 with sod and finished plantings.

15th and Walnut CSO Separation Green Infrastructure Installation

Pedestrian bridge & boardwalk



1: Installation of bridge & boardwalk foundations



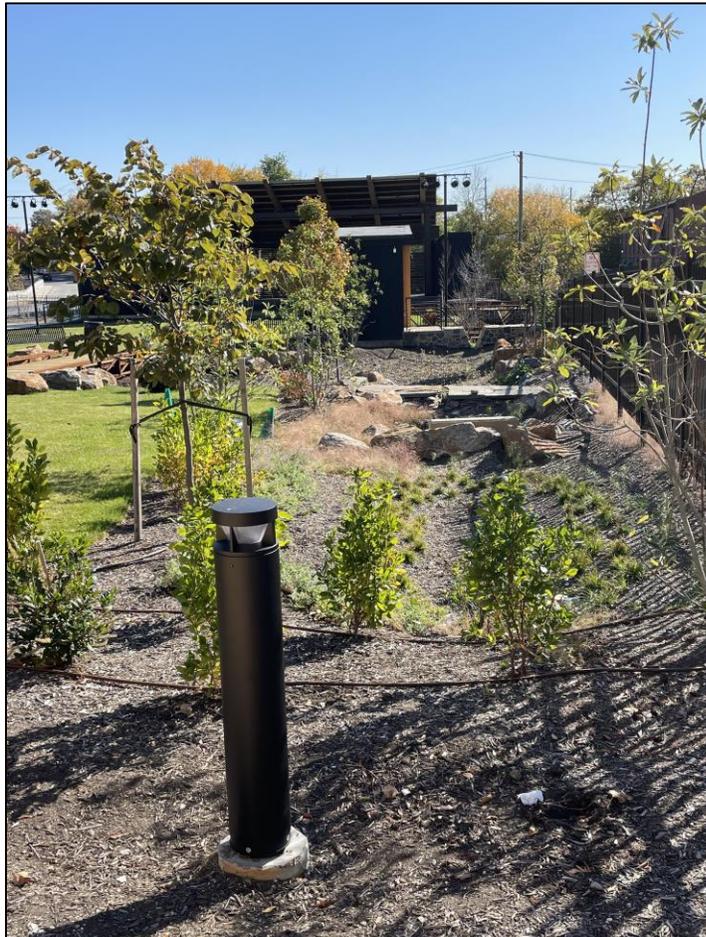
2: Installing the bridge via crane.



3: Installed bridge & boardwalk with finished plantings.

15th and Walnut CSO Separation Green Infrastructure Installation

Cascading rain gardens adjacent to amphitheater, pedestrian walkways



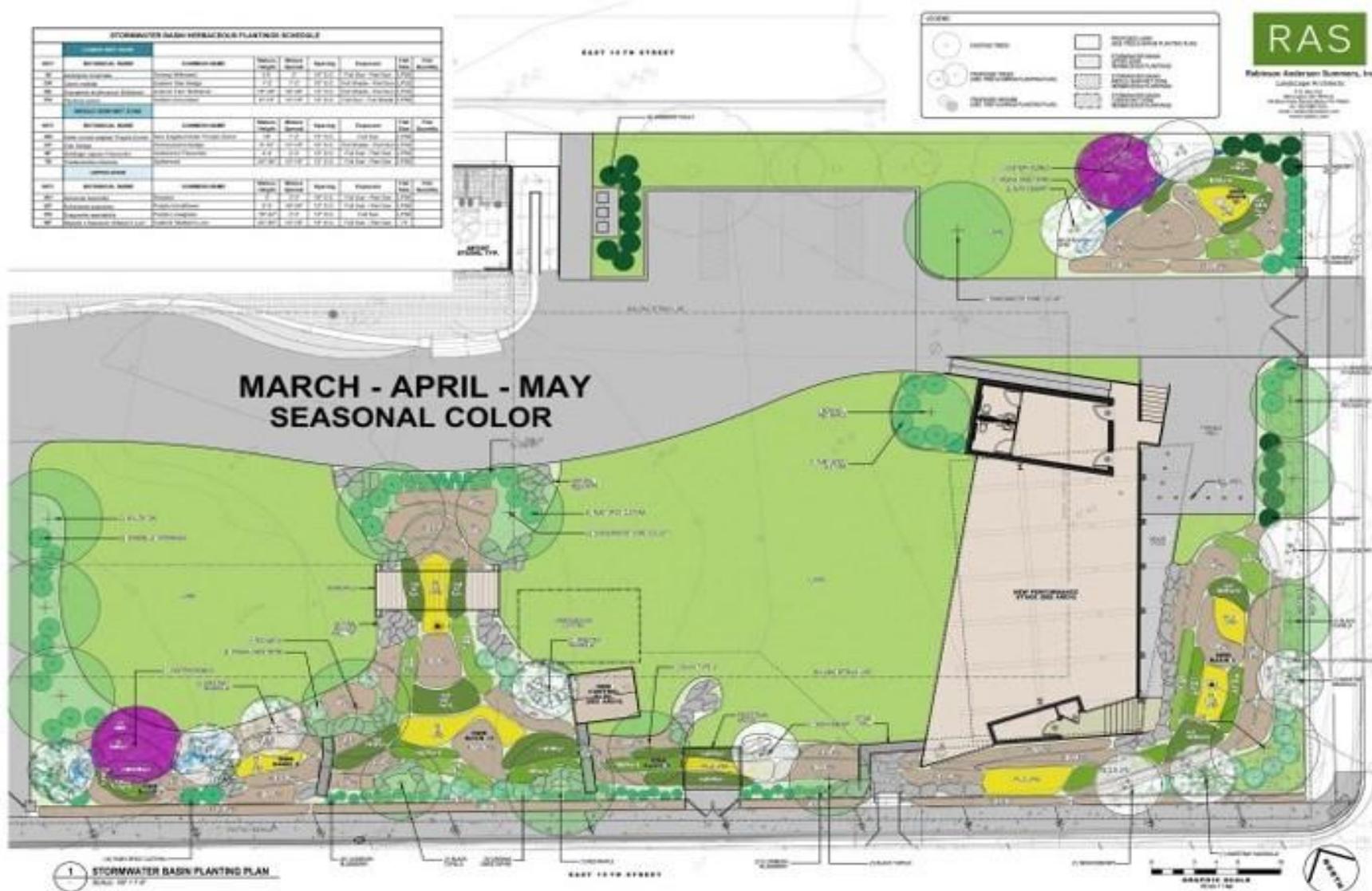
Landscape Design



Landscape Design



Landscape Design



Landscape Design

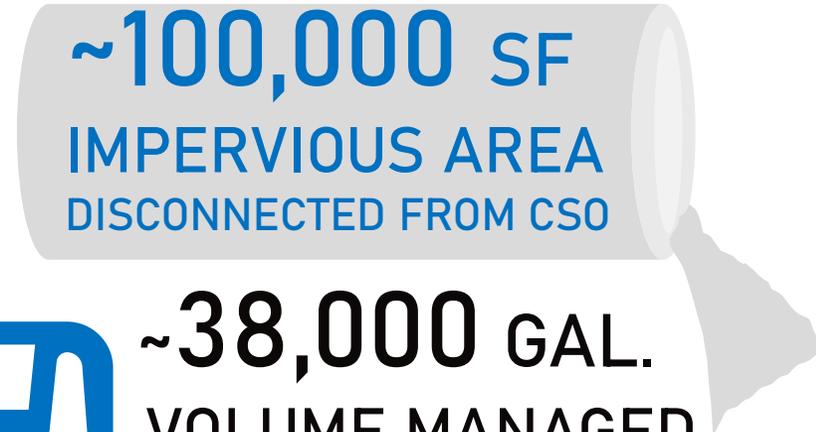


SW/GI Approach

PROJECT NUMBERS AT-A-GLANCE



~123,000 SF
TOTAL MANAGED
DRAINAGE AREA



~100,000 SF
IMPERVIOUS AREA
DISCONNECTED FROM CSO



~38,000 GAL.
VOLUME MANAGED
FROM 1" STORM

6 RAIN GARDENS
1 SUBSURFACE STORAGE



Acknowledgements

Thank you to RASCL for Showcasing the Urban Artists Exchange!!!



DELAWARE DEPARTMENT OF
**NATURAL RESOURCES AND
ENVIRONMENTAL CONTROL**



GSI PARTNERS
REIMAGINING STORMWATER

A Sustainable Business Network of Greater Philadelphia Initiative



CHALLENGE
PROGRAM



AND MORE....