

SW and Buzzard Point Flood Resilience Strategy

Presentation for MWCOG

July 21, 2023



Regulatory Review Division

Floodplains, Wetlands, and Groundwater Branch

Flood Team

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Resilience Focus Areas Strategy



SW/Buzzard Point Flood Resilience Strategy



Bright ideas.
Sustainable change.

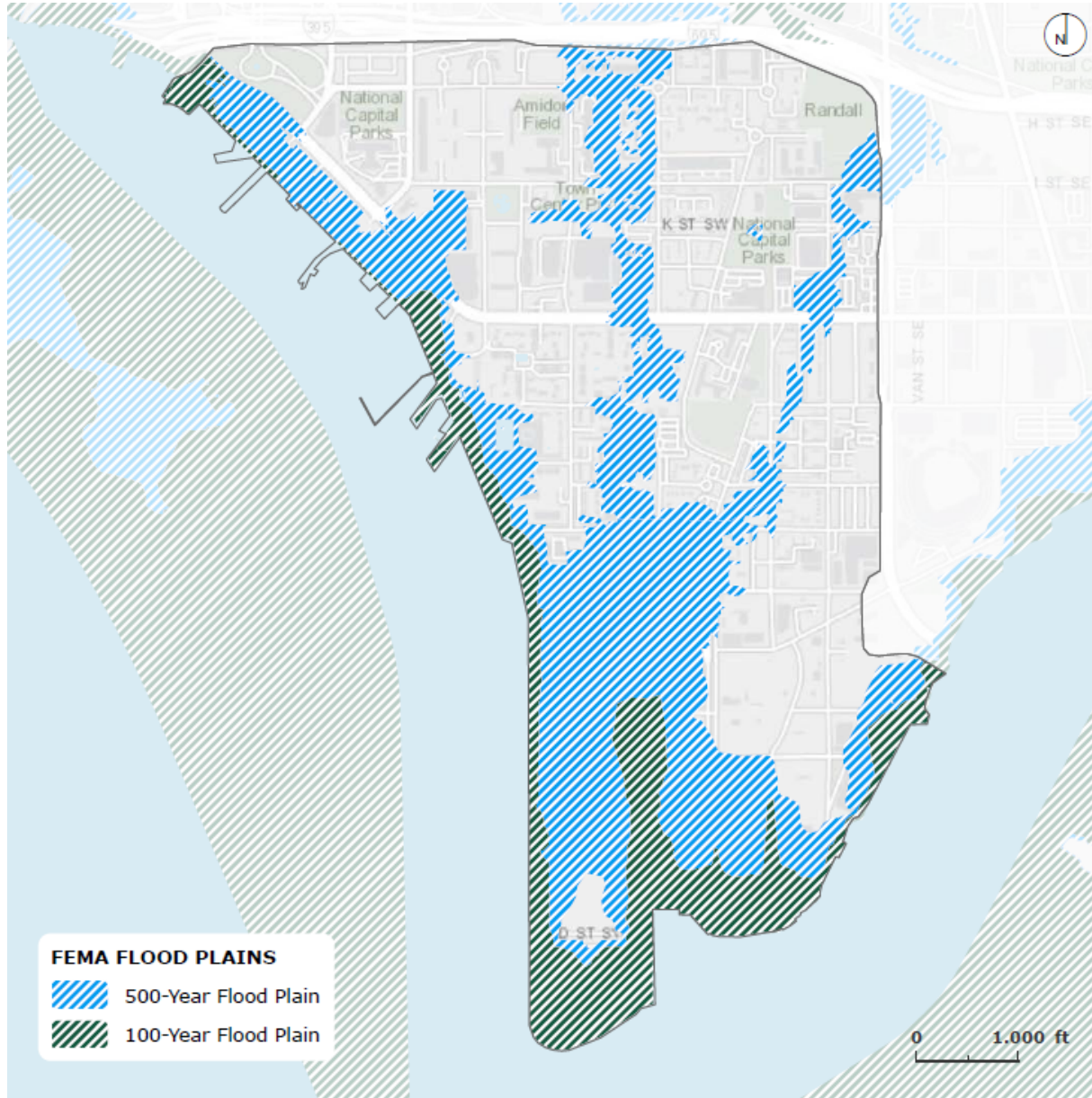


SW/Buzzard Point Flood Resilience Strategy Project Objectives

- **Protect communities** and stakeholders from **interior flooding** events in Southwest and Buzzard Point.
- Design a network of connected and floodable **Blue-Green Infrastructure (BGI)** that can revert to their primary function after flood events.
- **Prioritize** and **phase** projects.
- Design first project with **\$18 million** in **FEMA** funds for **construction + \$6 million local match**.
- Create a blueprint for future BGI projects in the District.
- Leverage strategy as an opportunity to create great spaces for people and nature and other **co-benefits**.



Why Southwest and Buzzard Point



James Creek Public Housing

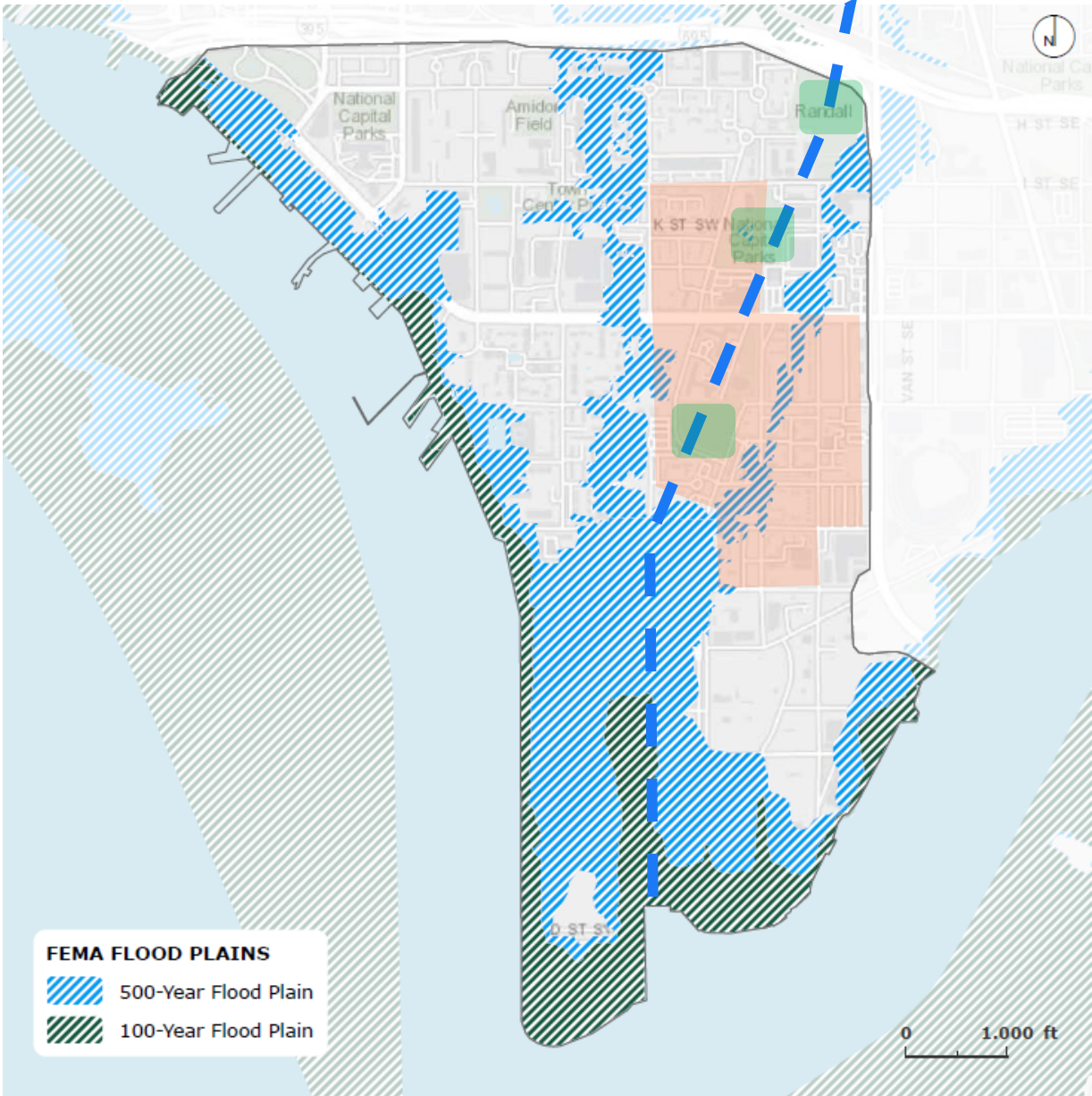


Fort McNair



Emergency Response

Area History and Environmental Justice



Planning Background

Local Plans



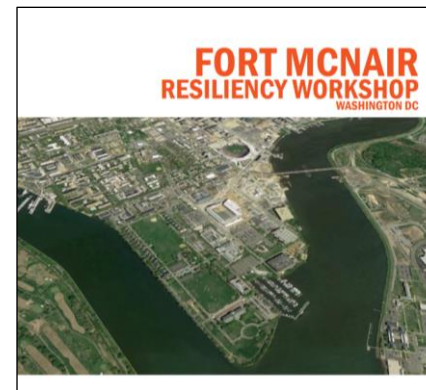
2015



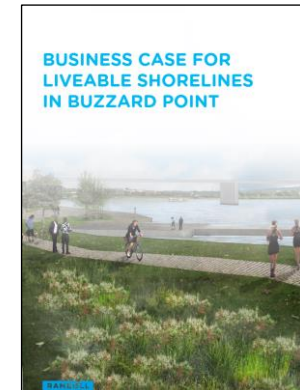
2017



2017

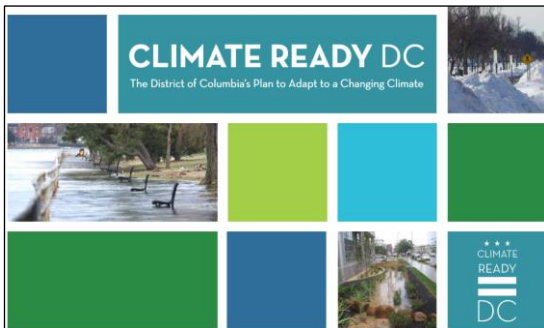


2018

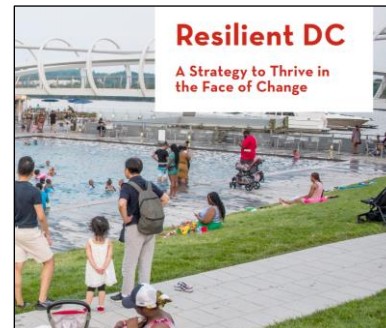


2019

City-wide Plans



2015-16



2018



2020



2022-23



Understanding Project Funding

Study Funding:

- **\$500,000 Local Capital Funds**

Community Engagement:

- **\$98,135: FEMA Advance Assistance Funding**
- **\$32,712 Local**

Implementation Funding (Lansburgh Park and King Green Leaf projects):

- **\$18,612,178: FEMA BRIC Funding**
- **\$6,169,406: Local**

Scope of Work

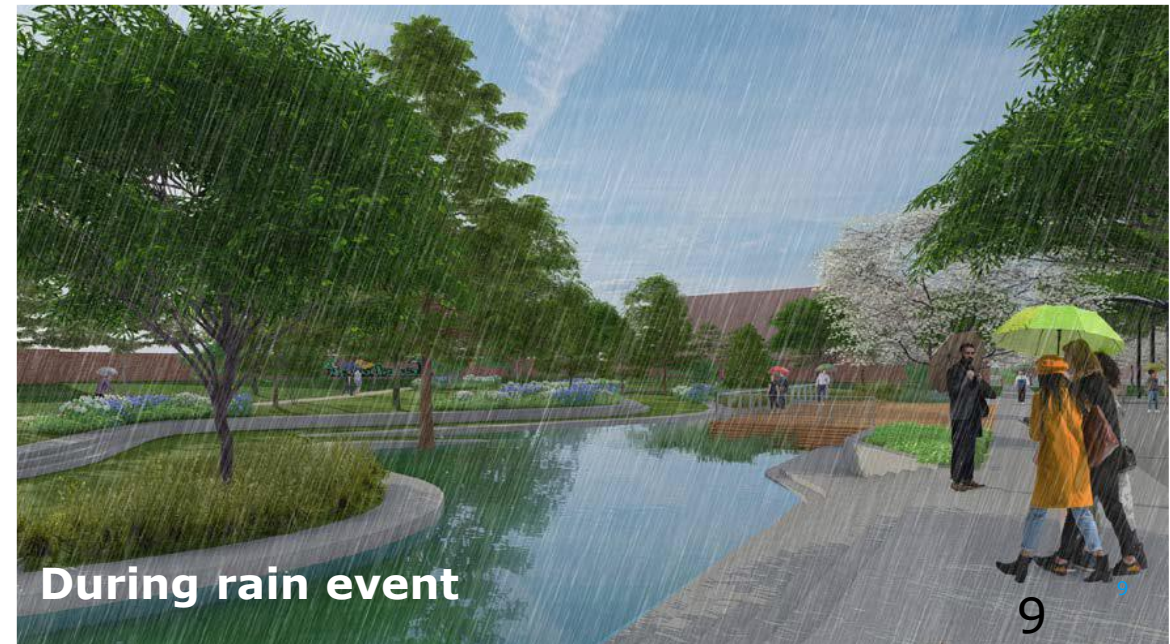
Design a network of connected, floodable, multipurpose projects to accommodate excess stormwater and that can easily revert to their primary function.

- **Existing Conditions Analysis**
- **Flood Modeling**
- **Typologies and Design Guidelines for Parks and Rights-of-Way**
- **Community-wide Blue-Green Infrastructure Plan**
- **Cost-Benefit Analysis and Financing Strategy**
- **Concept Design for a pilot area “Phase One” of the Network (Lansburgh Park Design)**

Project Summary

Mitigation Opportunities

- The BGI Strategy will reshape open spaces in the neighborhood to reduce rainwater-driven flooding.
- Upgrading physical infrastructure goes hand in hand with increasing the quality of urban spaces



BGI Principles

Transfer (Convey) Water

- Conveyance paths on terrain are designed for conveyance of water through the public realm
- Conveyance paths can vary from small temporary streams to large channels depending on necessary capacity



Store (Detain) Water

- Detention areas are urban spaces designed to reduce peak stormwater flow
- Detention areas can be in the form of permanent waterbodies or designed for temporary storage during extreme wet weather events



Types of BGI

Rights-of-Way

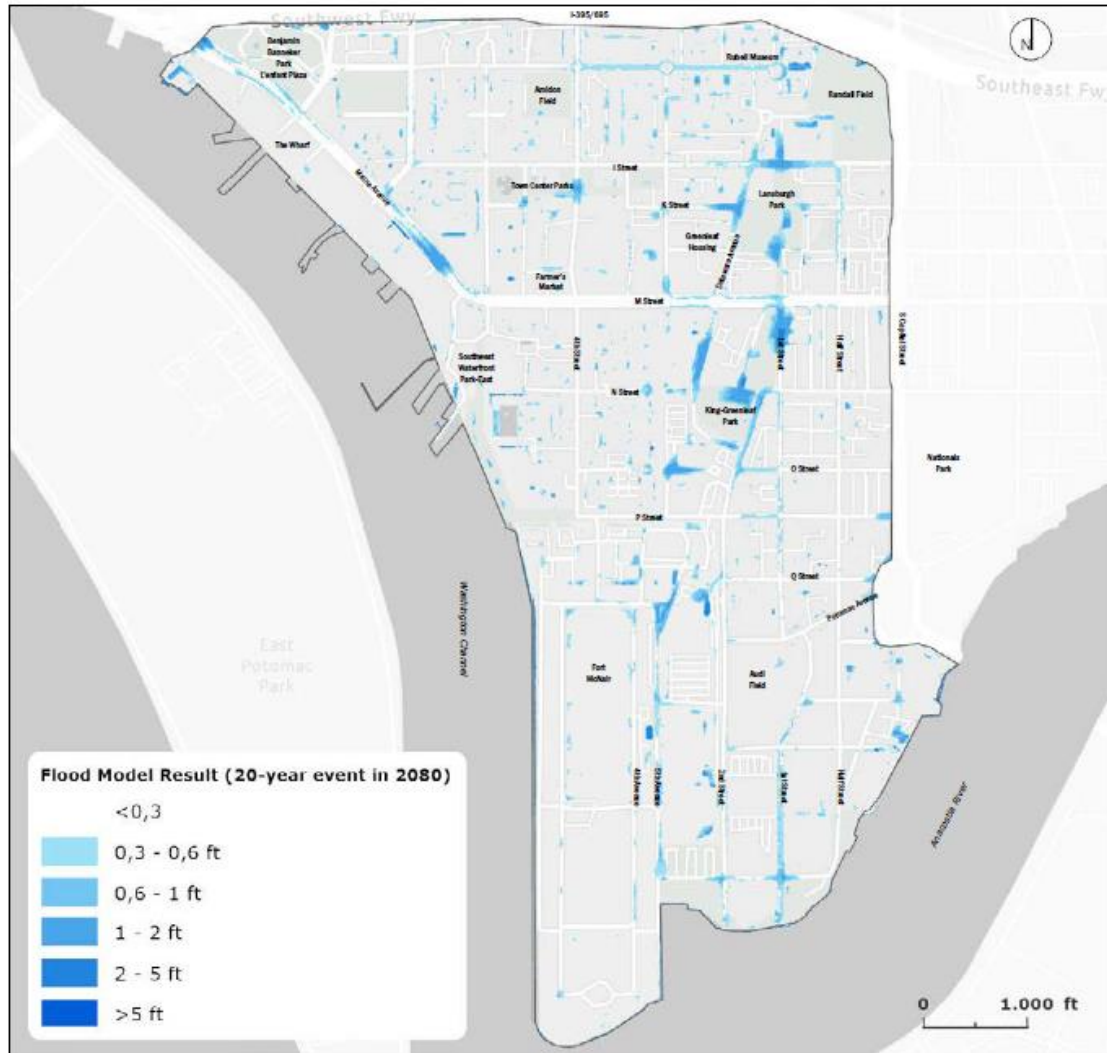


Parks

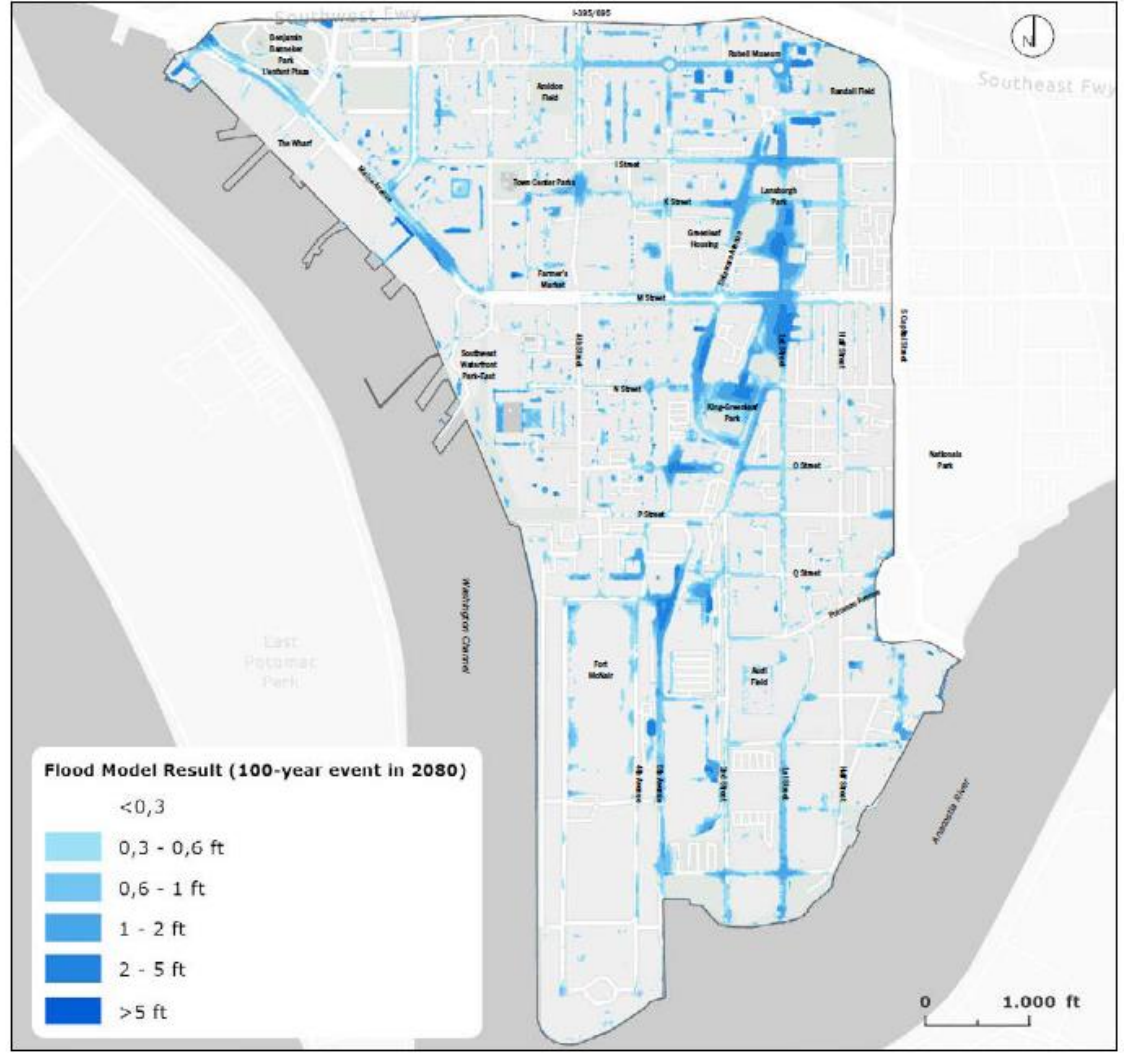


BGI Masterplan and modeling

20-year Rain Event in 2080



100-year Rain Event in 2080



BGI Masterplan

Project ID	Project Name	Typology	Water Volume (cf)	Cost Estimate
ROW-1	G-street (from 4th Pl to 3rd St)	Green Stormwater Street	57,510	\$7,020,000
ROW-2	H St (Delaware Ave to Randall Field)	Cloudburst Conveyance Road	10,128	\$1,550,000
ROW-2a	1st St (6th St to Delaware Ave)	Green Stormwater Street	55,173	\$6,640,000
ROW-2b	Delaware Ave (1st st to H St)	Green Stormwater Street	9,945	\$1,280,000
ROW-3	Delaware Ave (from I St to K St)	Green Stormwater Street	7,134	\$970,000
ROW-4	Delaware Ave (from K St to M St)	Cloudburst Conveyance Road	23,317	\$3,570,000
ROW-5	Delaware Ave (from M St to Canal St)	Green Stormwater Street	20,336	\$2,760,000
ROW-6	Town Center Parks Walkway	Green Stormwater Street	25,634	\$2,960,000
ROW-7	M St (from 4th St to 6th St)	Stormwater Detention Boulevard	17,759	\$2,900,000
ROW-8	M St (from 4th St to Delaware Av)	Stormwater Detention Boulevard	43,923	\$7,180,000
ROW-9	M St (from Capital St to 1st St Walk)	Stormwater Detention Boulevard	28,029	\$4,580,000
ROW-9a	M st (from 1st st walk to Delaware Ave)	Stormwater Detention Boulevard	9,976	\$2,360,000
ROW-10	Canal St (from N St to P St)	Cloudburst Conveyance Road	33,423	\$4,920,000
ROW-11	P St (from 2nd St to 4th St)	Green Stormwater Street	11,612	\$2,350,000
ROW-11a	3rd St (from P St to O St)	Green Stormwater Street	10,885	\$1,260,000
ROW-12	2nd St (from P St to R St)	Green Stormwater Street	27,351	\$3,530,000
ROW-13	2nd St (from R St to T St)	Green Stormwater Street	8,226	\$3,160,000
ROW-14	2nd St (from T St to V St)	Cloudburst Conveyance Road	31,603	\$4,470,000
ROW-15	1st (from S St SW to river)	Cloudburst Conveyance Road	57,177	\$7,390,000
ROW-16	5th Ave (Fort McNair)	Cloudburst Conveyance Road	72,557	\$10,240,000
Park-1a	Lansburgh Park West	Floodable Athletic Field	124,618	\$5,180,000
Park-1b	Lansburgh Park East	Floodable Passive Park	68,840	\$2,860,000
Park-2	Randall Field	Floodable Athletic Field	176,296	\$7,240,000
Park-3	Jefferson Field	Floodable Athletic Field	44,230	\$1,970,000
Park-4a	King Greenleaf Park South	Floodable Athletic Field	262,119	\$4,480,000
Park-4b	King Greenleaf Park North	Floodable Athletic Field	27,976	\$3,320,000
Park-5	James Creek Marina	Floodable Parking Lot	172,749	\$8,580,000
Park-6	Southwest Library Playground	Floodable Playground	34,055	\$1,450,000
Park-7	Parking lot on Delaware Ave	Floodable Parking Lot	50,641	\$3,930,000
Park-8	Green space b/w G St and Delaware Ave	Floodable Playground	19,411	\$670,000
Pipe-1	Park-1 to system	Pipe discharge		
Pipe-2	Park-2 to system	Pipe discharge		
Pipe-3	Park-2 to Pipe-2	Pipe discharge		
Pipe-4	Park-3 to system	Pipe discharge		
Pipe-5	Park-5 to river	Pipe discharge		
Pipe-6	Park-8 to ROW-2	Pipe discharge		



BGI Masterplan and Project Phasing

PROJECTS WILL BE PHASED ACCORDING TO PLACEMENT IN THE CATCHMENT AND OTHER PLANNED CONSTRUCTION.

5 YEARS

10 YEARS

SHORT

MEDIUM

LONG

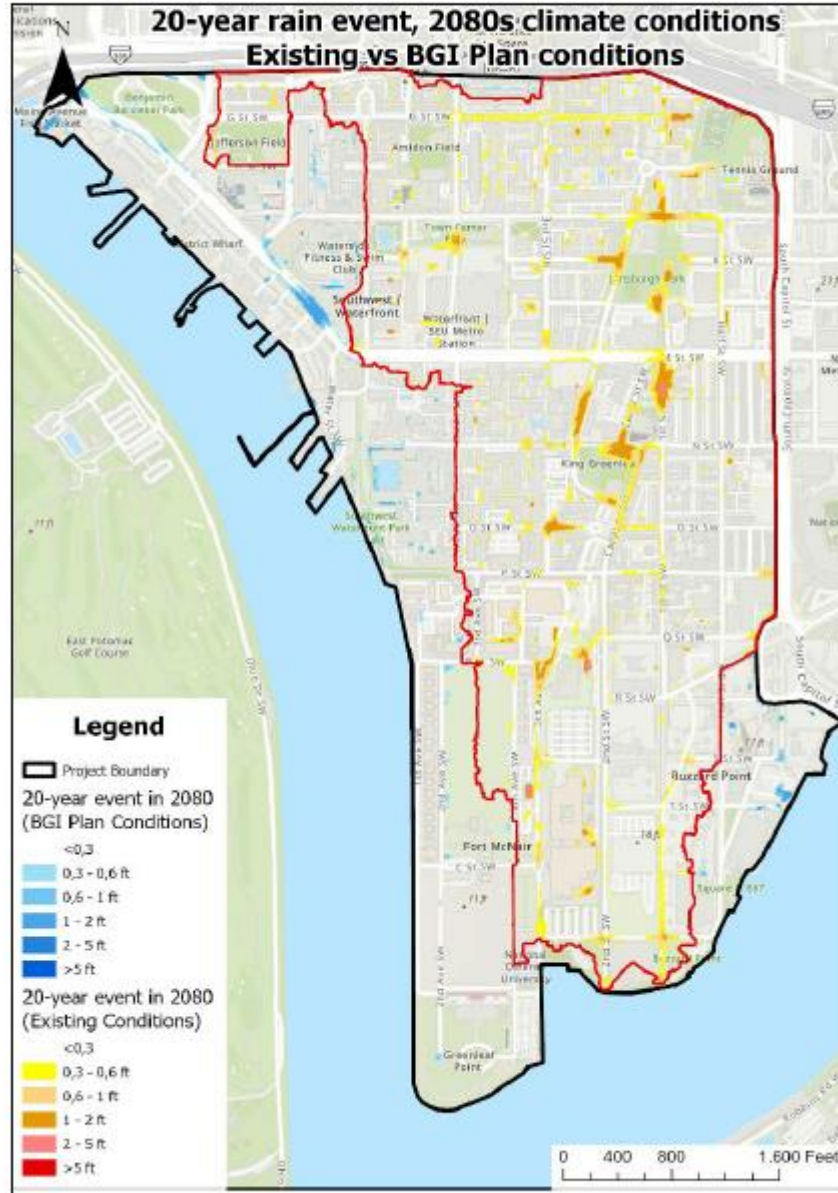
Downstream floodable multi-functional space typologies, stand-alone projects, and high-risk area.

Projects immediate upstream from constructed floodable multi-functional space typologies.

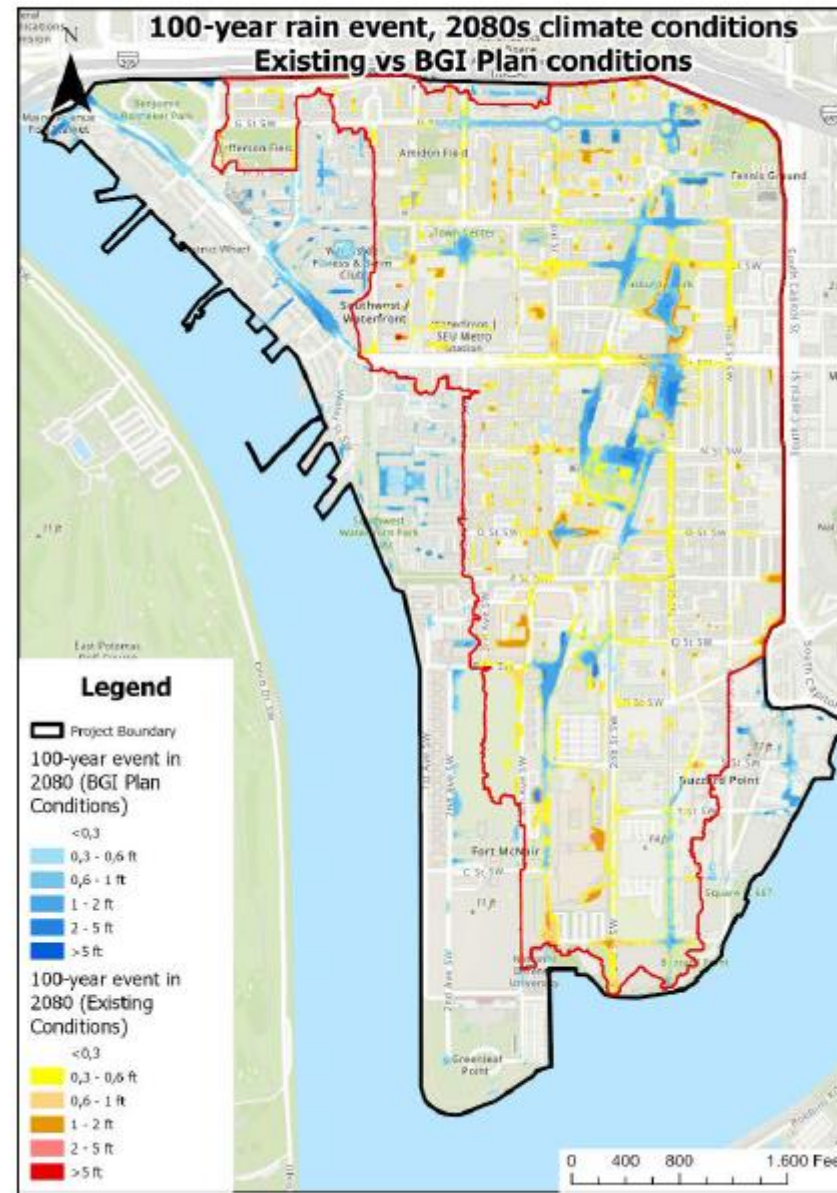
Upstream projects and lower risk areas.



20-year Rain Event in 2080
Existing vs. BGI Plan Conditions



100-year Rain Event in 2080
Existing vs. BGI Plan Conditions

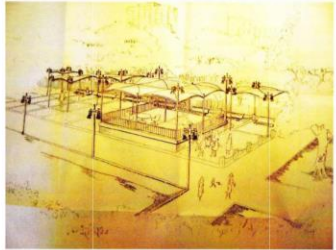


Yellow/orange represents flooding that has been removed after implementation of the BGI plan

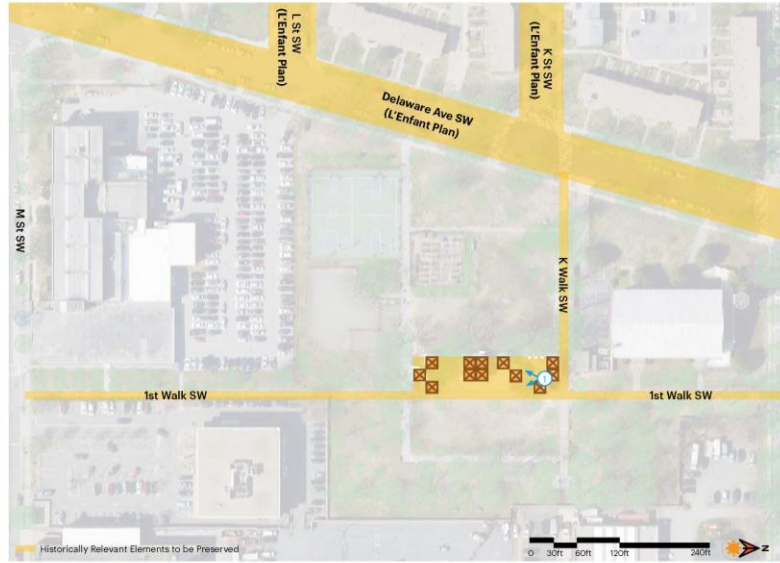
Lansburgh Park Project



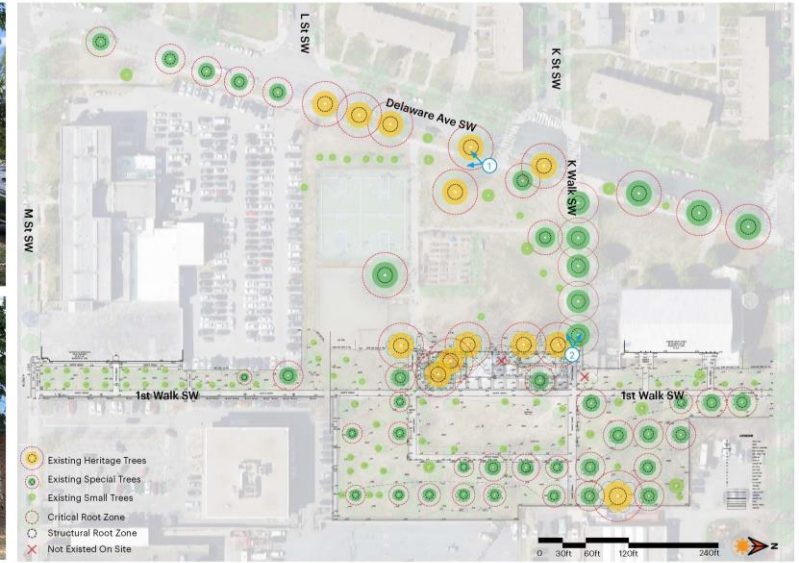
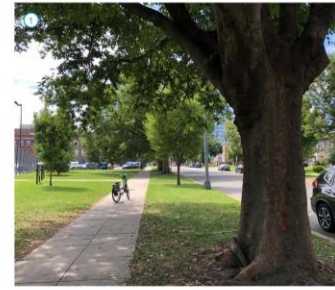
HISTORICALLY RELEVANT ELEMENTS TO BE PRESERVED



Skillman's drawing of the Lansburgh pavilion (at NARA; see note 57)



EXISTING HERITAGE AND SPECIAL TREES



Existing base map overlaid with partial civil survey

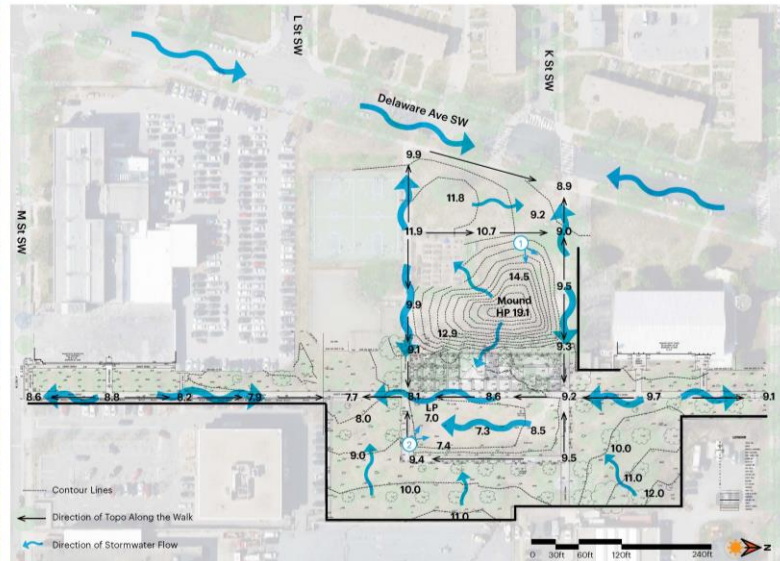
EXISTING TOPOGRAPHY AND SPOT GRADES



Existing topography blocks entrance views to the park

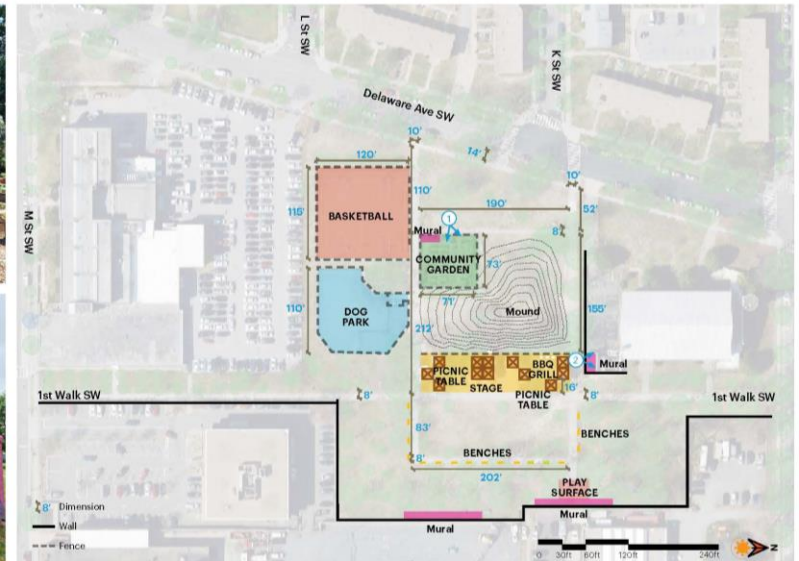


Existing topography results in flooding during storms



Partial Civil Survey overlaid with site spot grade documentation

EXISTING PARK PROGRAM AND FACILITY



COMMUNITY FEEDBACK AND ON-SITE INTERVIEWS

Kiela - Resident across the street:

No matter what you design, **please don't forget the community.** They changed the kids playground to a dog park. It is good for the dogs, but the existing kids playground is too small. It would be great to have **more places for kids.**



Andica - Nearby Resident:

I really enjoy the **peacefulness** here. I can always hear **birds singing.** **We come here to grill.** But that **stage we do not use much.**

I like the dog park here. **I also love the fruits trees and blackberry vines on the community garden.**



John - Nearby Resident:

It is a nice park. Benches are good. A lot of people come for parties and play music under the trellis. I have seen the **lawn get flooded and very mushy several times.**



Community Engagement Feedback :

The mound **block the view corridor** and create some **safety concerns.** **The entry along the 1st walk is too hidden.** People would not know there is a park from south and north entry point. **The gateway from Delaware Ave is also not open and welcoming enough.**



Lansburgh Park Draft Final Design:



Lansburgh Park Draft Final Design:



Lansburgh Park Draft Final Design:

Floodable Play Lawn



Dry Conditions



Estimated Mid-Capacity Storage



Estimated Maximum Capacity Storage



Dry Conditions



Storm Conditions

King Green Leaf Park Project

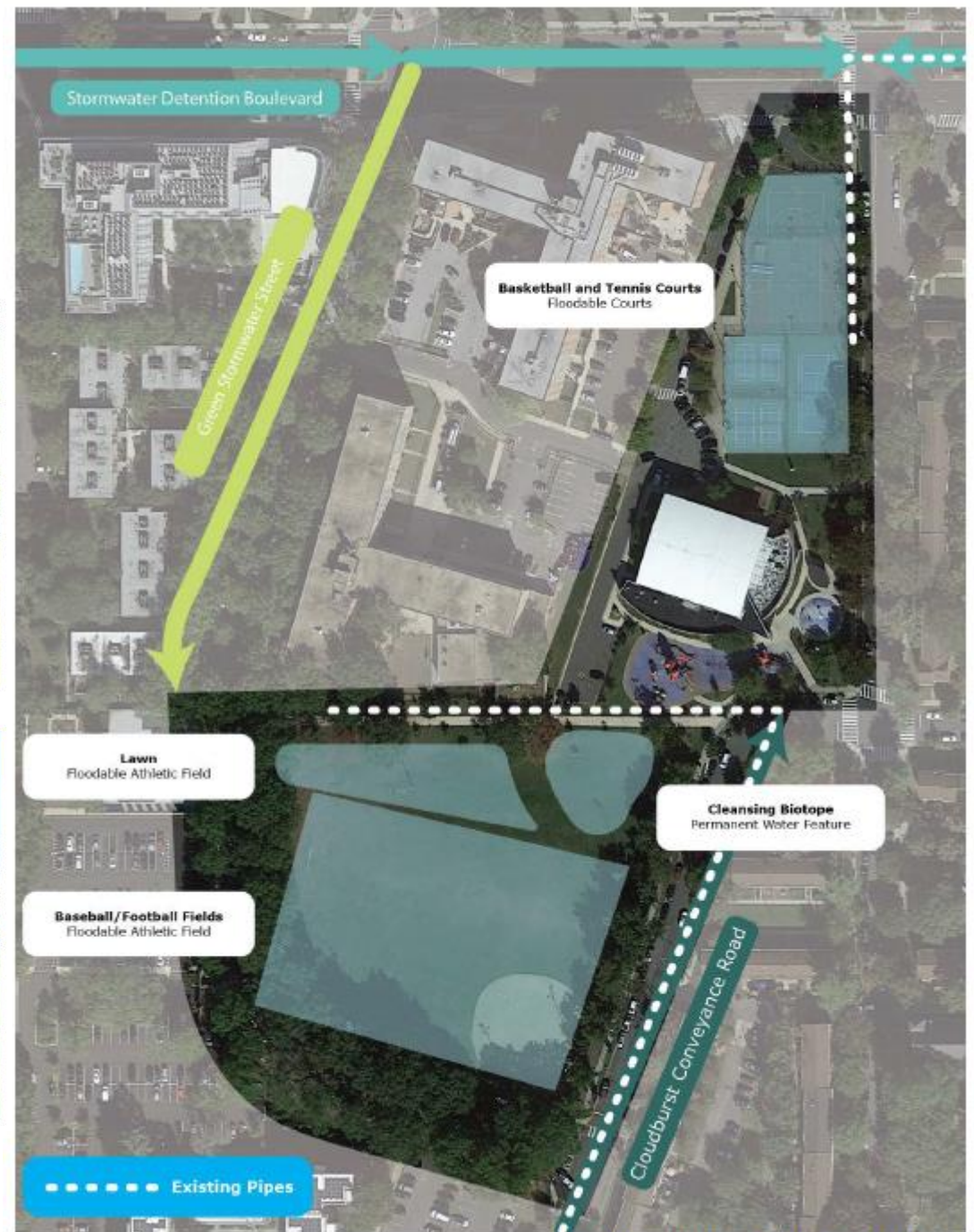
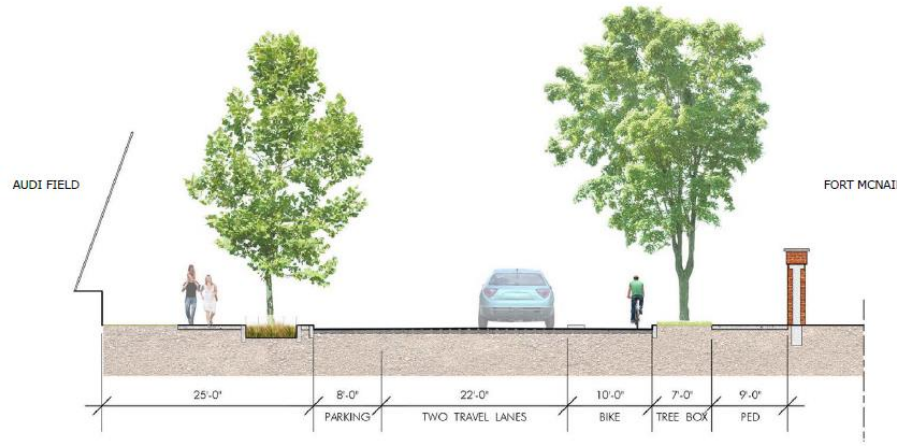


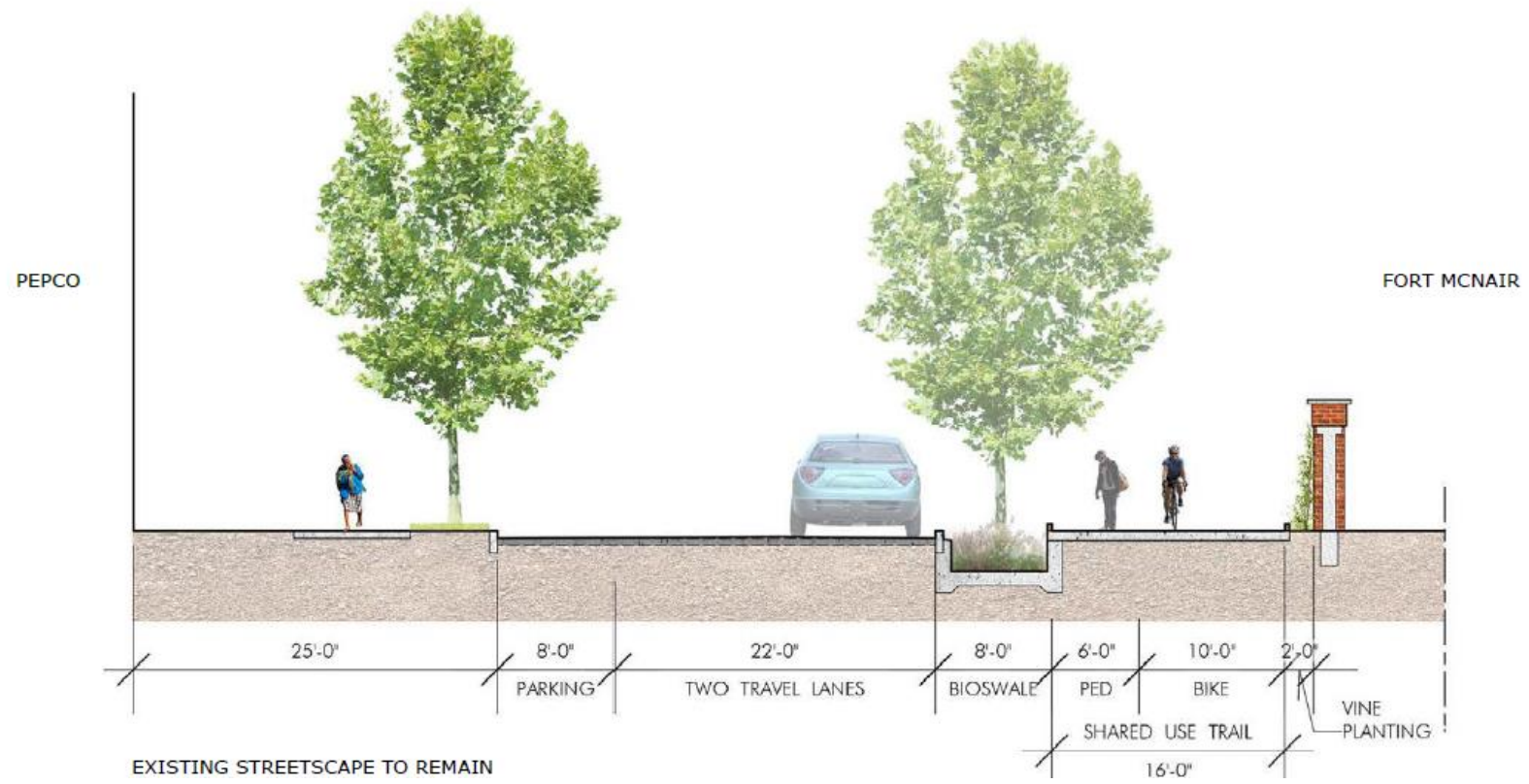
Figure 54: King Greenleaf Park Conceptual Site Plan

Second Street SW

Existing Conditions



2nd Street Proposed Trail Section



Community Engagement

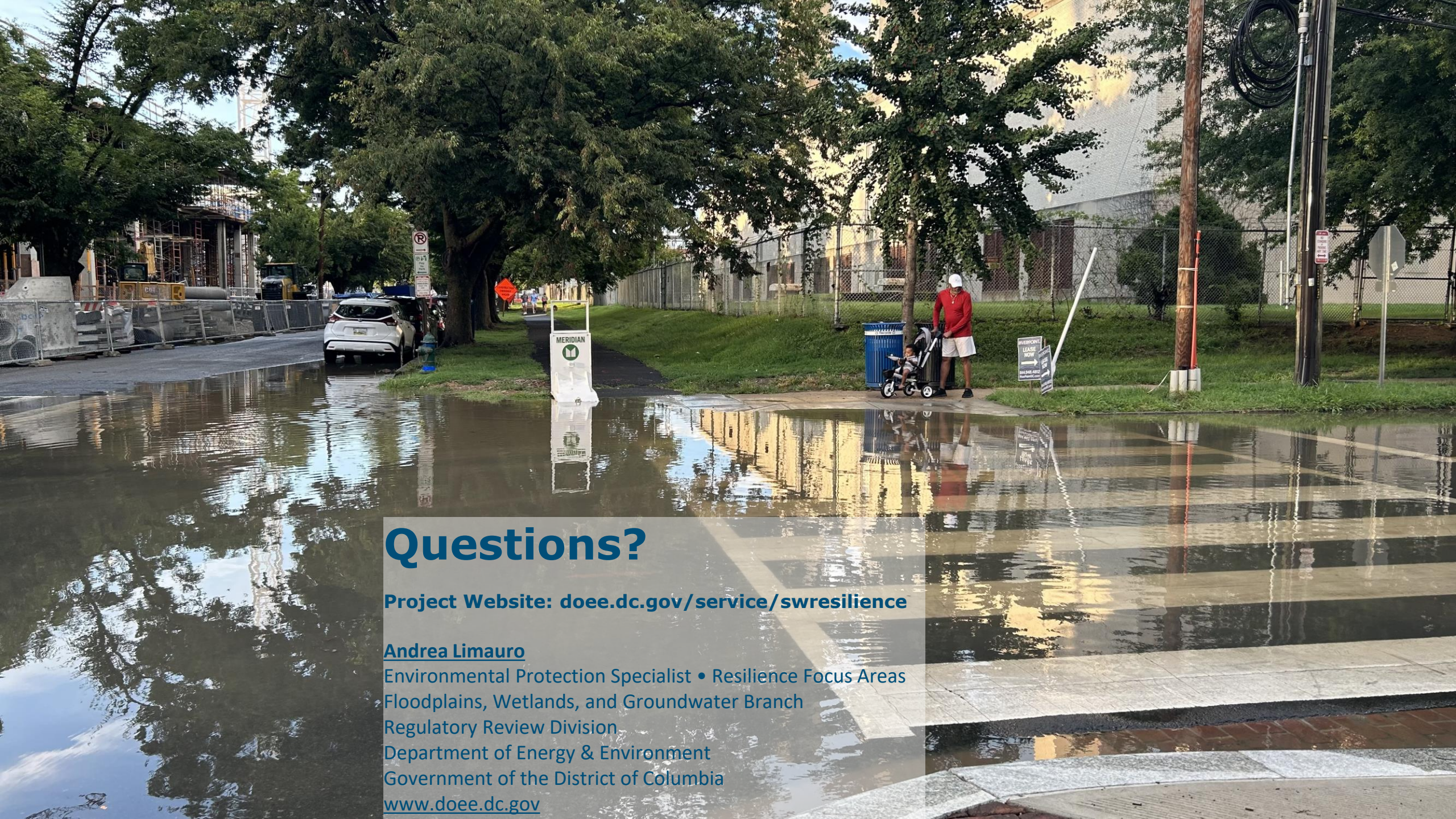


Above Below Water



SW Block Party





Questions?

Project Website: doee.dc.gov/service/swresilience

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Regulatory Review Division

Department of Energy & Environment

Government of the District of Columbia

www.doee.dc.gov