RESILIENCE FOCUS AREA STRATEGY

MWCOG WATER RESOURCES TECHNICAL COMMITTEE (WRTC)

October 30, 2023

DEPARTMENT OF ENERGY & ENVIRONMENT
GOVERNMENT OF THE DISTRICT OF COLUMBIA

ARCADIS

RESILIENCE FOCUS AREAS

The purpose of the Resilience Focus Area Strategy is to identify and prioritize areas where future planning efforts and investments should be targeted to **build resilience to flooding**.

- How should the District prioritize flood resilience planning work city-wide and over dozens of communities?

- What should be the guiding principles to investing limited funds for flood resilience?

- Is risk uniform over floodplains?

Project Timeline:

➢ 2021: DC Comprehensive Plan breaks the 500-year floodplains into 10 study areas called Resilience Focus Areas (RFA)

➢ Early 2022: DOEE updated the RFA boundaries to include 15 study areas

➢ Late 2022: Feedback from DC Silver Jackets and DC Flood Task Force

➢ May 2023: Presented at ASFPM

➢ September 2023: Resiliency Focus Area Strategy released

ABBR	RFA Name
AP	Anacostia Park
CO	C&O Canal
FB	Foggy Bottom
GT	Georgetown
JB	Joint Base Anacostia–Bolling
NA	National Arboretum/Kingman Island
NM	National Mall/Federal Triangle
NY	Navy Yard
OX	Oxon Run
PP	Poplar Point
PT	Potomac Park
RF	RFK Stadium
SE	SE Blvd
SW	SW/Buzzard Point
WB	Kenilworth Park/Watts Branch
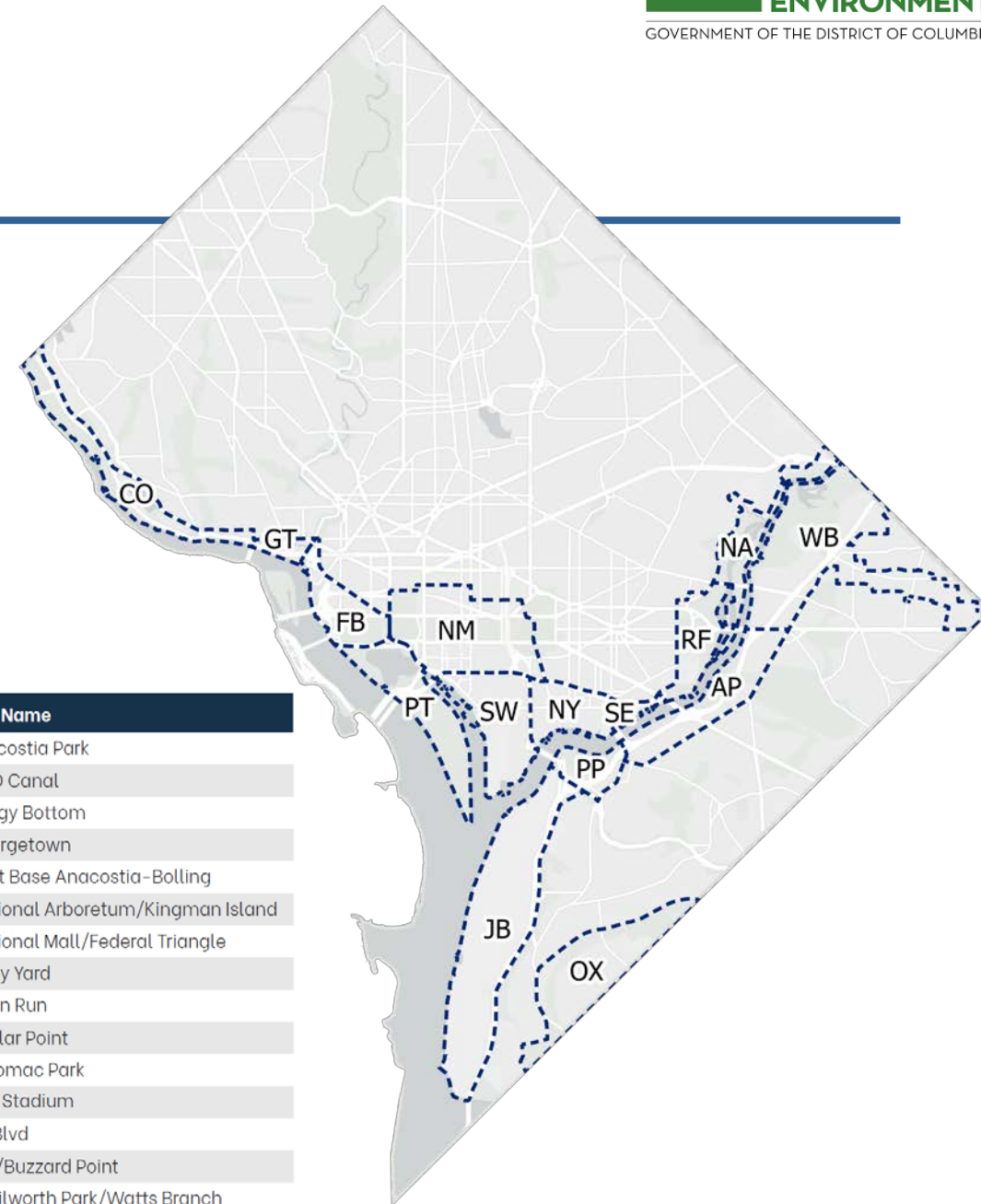
PRIORITIZATION FRAMEWORK

How do we determine which RFAs should be prioritized for investments in flood resilience?

Step 1.
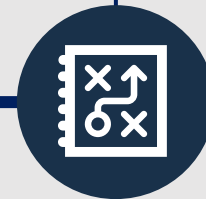**Existing Conditions Analysis**
Analyze existing conditions within each RFA.

Step 2.
Planning Prioritization
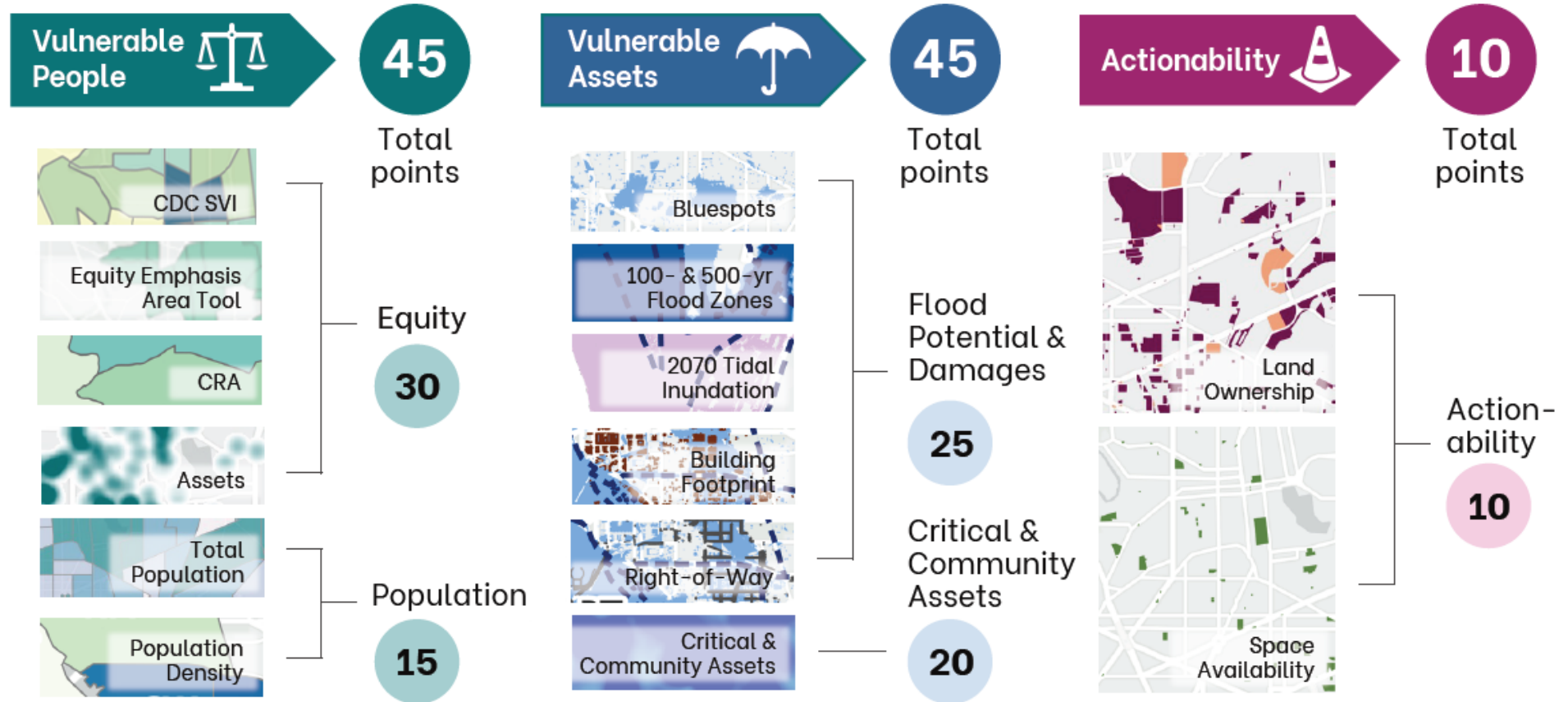Build prioritization framework to summarize existing conditions.
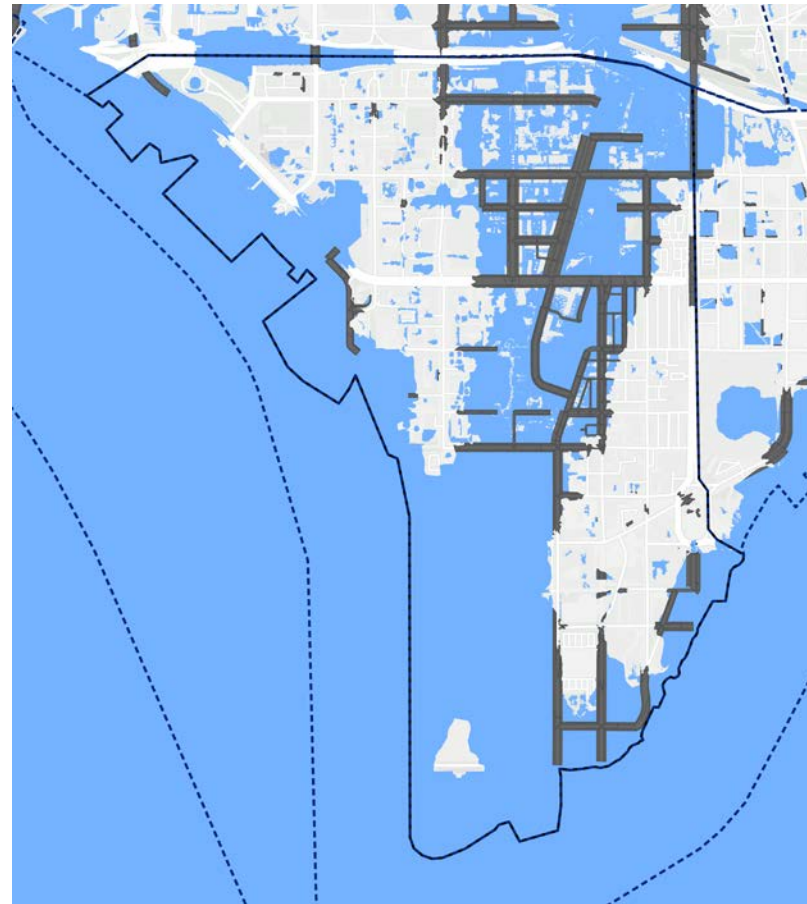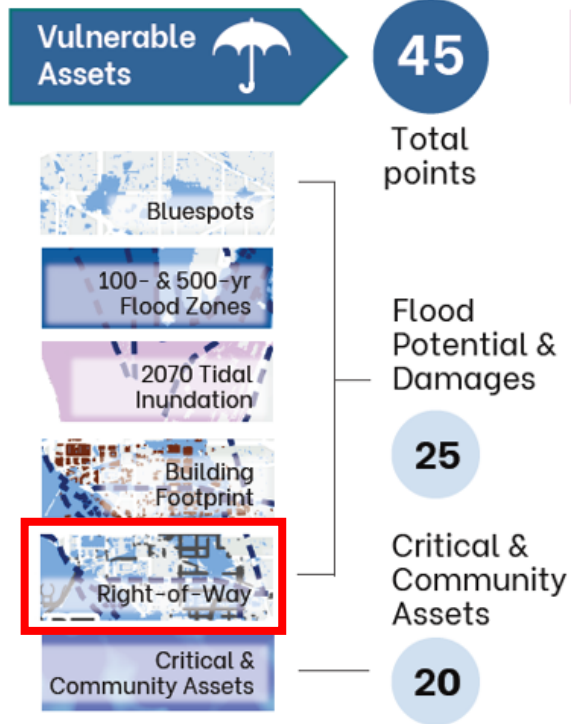
Step 3.
Implementation Strategy
Use the framework to prioritize planning and resilience projects.

STAKEHOLDER FEEDBACK

PRIORITIZATION FRAMEWORK

Vulnerable People — 45 Total points

- CDC SVI
- Equity Emphasis Area Tool
- CRA
- Assets

Equity — 30

- Total Population
- Population Density

Population — 15

Vulnerable Assets — 45 Total points

- Bluespots
- 100- & 500-yr Flood Zones
- 2070 Tidal Inundation
- Building Footprint
- Right-of-Way

Flood Potential & Damages — 25

- Critical & Community Assets

Critical & Community Assets — 20

Actionability — 10 Total points

- Land Ownership
- Space Availability

Action-ability — 10

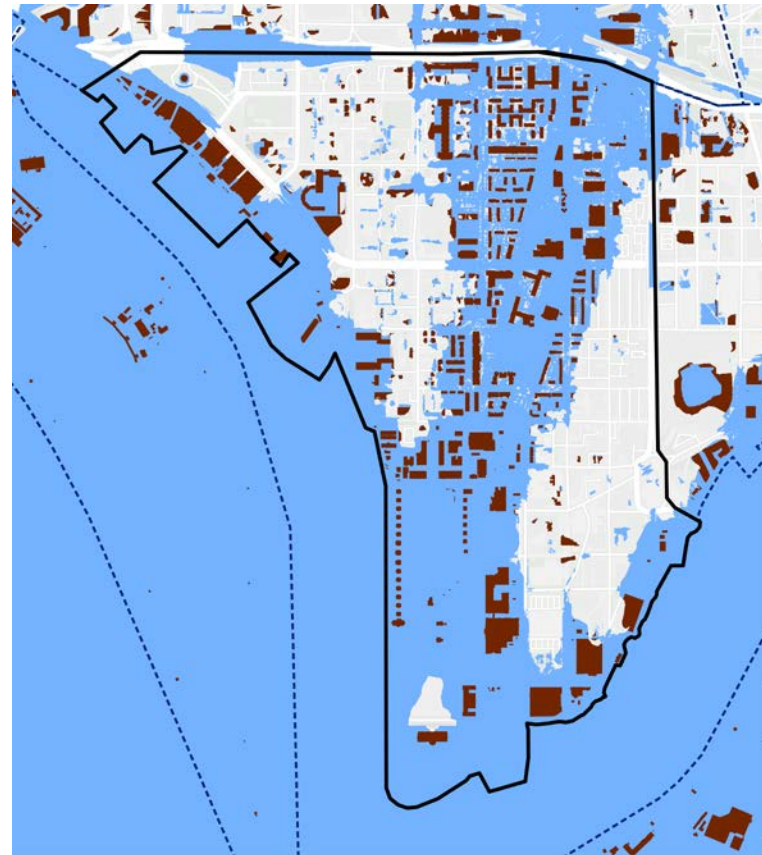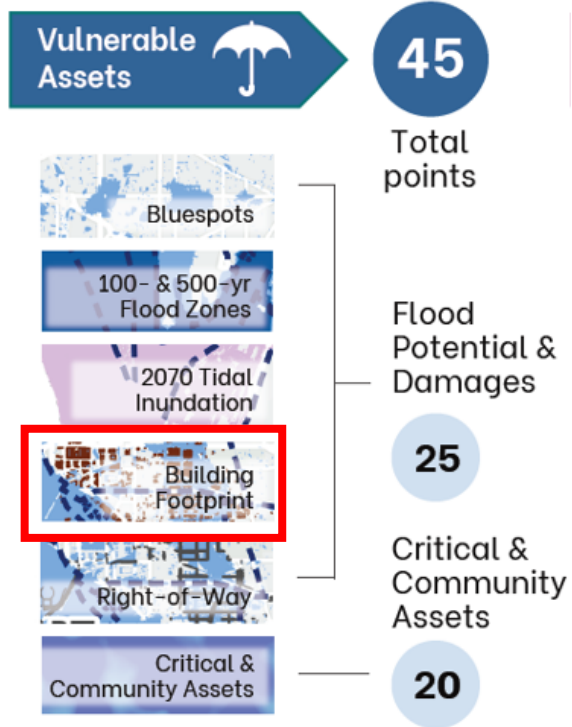# PRIORITIZATION FRAMEWORK – FLOOD POTENTIAL & DAMAGES: RIGHT-OF-WAY


Flooding Hazards
- Combined Flood Hazard Extents

Vulnerable Property
- Right-of-Way

PRIORITIZATION FRAMEWORK – FLOOD POTENTIAL & DAMAGES: BUILDING FOOTPRINT

Vulnerable Assets ☂

45 Total points

- Bluespots
- 100- & 500-yr Flood Zones
- 2070 Tidal Inundation
- Building Footprint
- Right-of-Way
- Critical & Community Assets

Flood Potential & Damages **25**

Critical & Community Assets **20**

Building Footprint
x
Damage Factor
x
Age Factor

Larger Area = Higher Score

Weighting Ranges Set Manually

Flooding Hazards — Combined Flood Hazard Extents

Vulnerable Property — Buildings

Damage Factor

Residential	1.0
Commercial	1.4
Institutional	1.4
Industrial	0.8

Age Factor

|	
Bldgs. pre-1985: Pre-First FIRM regulations	1.50
1985-2010: Current version of flood regs	1.25
2010-2020: New Construction Codes in effect	1.00
2020-onward: New construction code to current construction	0.75

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RFA Ranking – Vulnerable People

Rank	RFA Name	Score (Max = 45)
1	Oxon Run	41.78
2	Kenilworth Park/Watts Branch	36.53
3	SW/Buzzard Point	33.80
4	Anacostia Park	29.17
5	Navy Yard	20.77
6	Poplar Point	19.20
7	RFK Stadium	19.07
8	National Mall	16.82
9	SE Blvd	16.80
10	Joint Base Anacostia-Bolling	14.92
11	National Arboretum/Kingman Island	14.46
12	Foggy Bottom	10.35
13	Georgetown	8.35
14	C&O Canal	8.15
15	Potomac Park	3.60

Legend
Highest Priority
Lowest Priority

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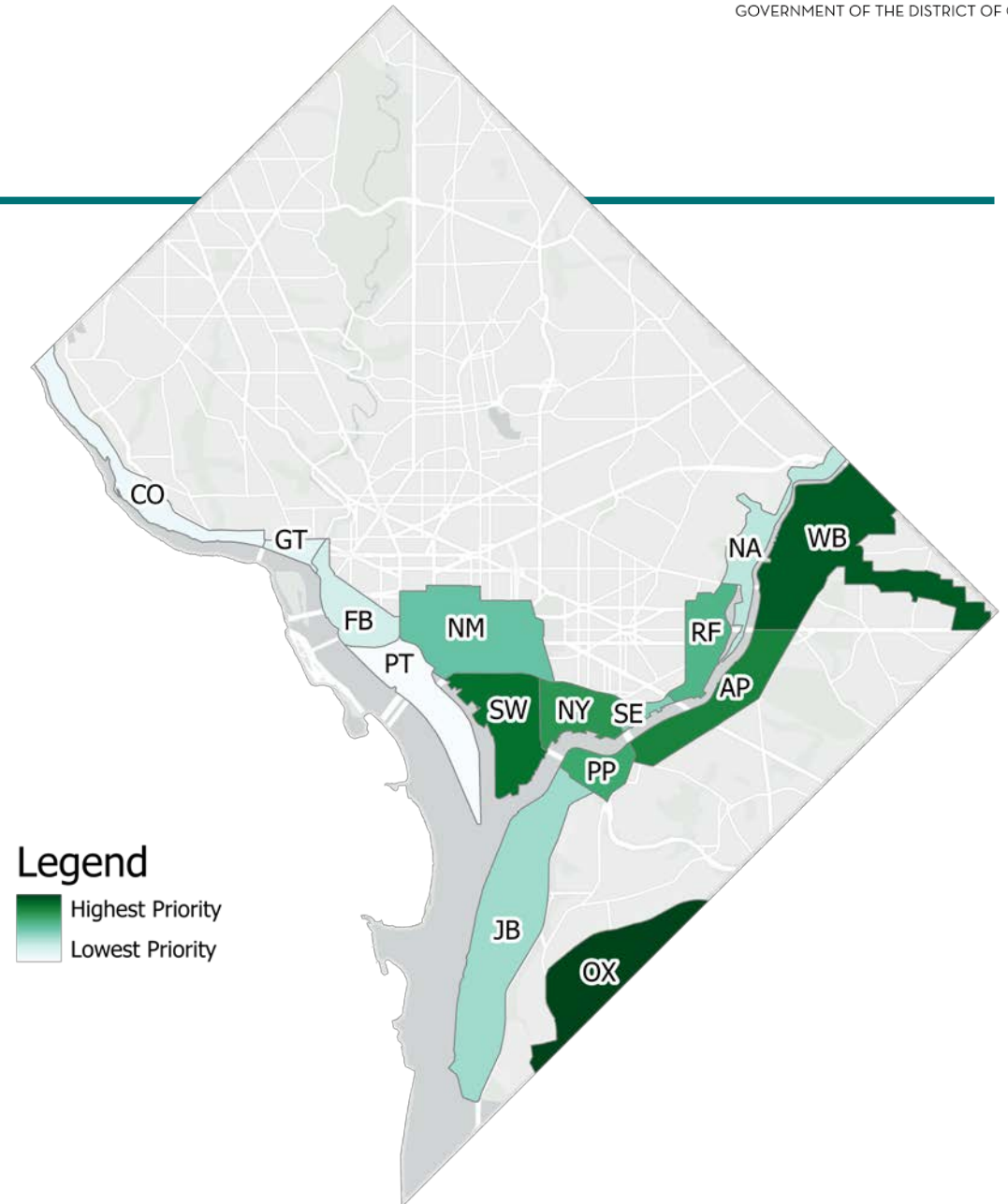
RFA RANKING – VULNERABLE ASSETS

Rank	RFA Name	Score (Max = 45)
1	National Mall	33.10
2	SW/Buzzard Point	29.04
3	Joint Base Anacostia-Bolling	24.29
4	Kenilworth Park/Watts Branch	22.21
5	Navy Yard	14.80
6	Oxon Run	14.74
7	Georgetown	11.14
8	Foggy Bottom	9.95
9	RFK Stadium	8.59
10	C&O Canal	6.29
11	Poplar Point	4.14
12	Anacostia Park	4.08
13	Potomac Park	3.37
14	SE Blvd	0.78
15	National Arboretum/Kingman Island	0.02

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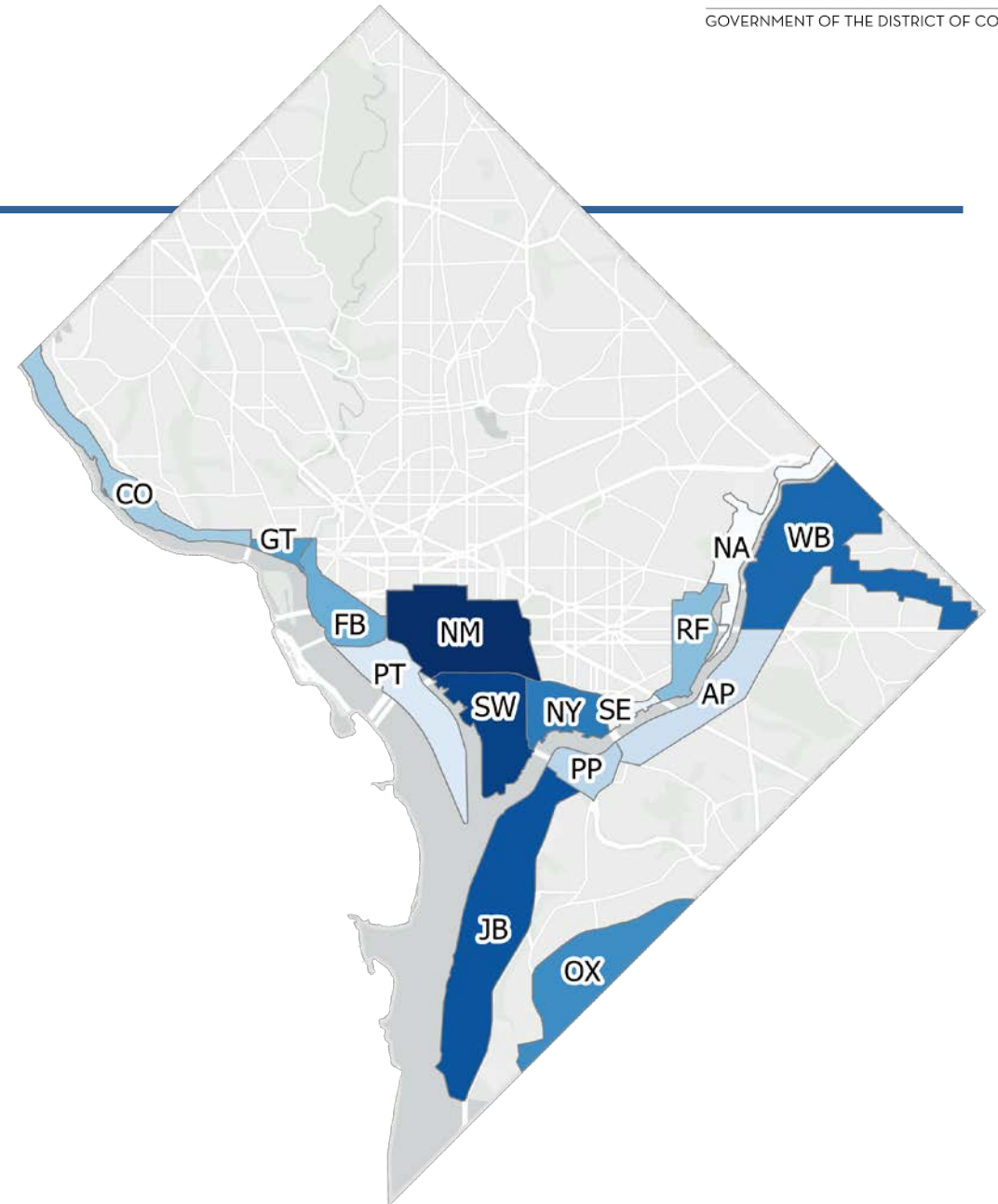
RFA Ranking – Actionability

Rank	RFA Name	Score (Max = 10)
1	Oxon Run	9.06
2	Poplar Point	7.71
3	Kenilworth Park/Watts Branch	6.98
4	SW/Buzzard Point	3.42
5	Joint Base Anacostia-Bolling	3.02
6	RFK Stadium	2.73
7	National Arboretum/Kingman Island	2.45
8	Anacostia Park	2.13
9	Navy Yard	1.91
10	SE Blvd	0.72
11	National Mall	0.61
12	C&O Canal	0.20
13	Foggy Bottom	0.11
14	Georgetown	0.10
15	Potomac Park	0.03

Legend

Highest Priority

Lowest Priority
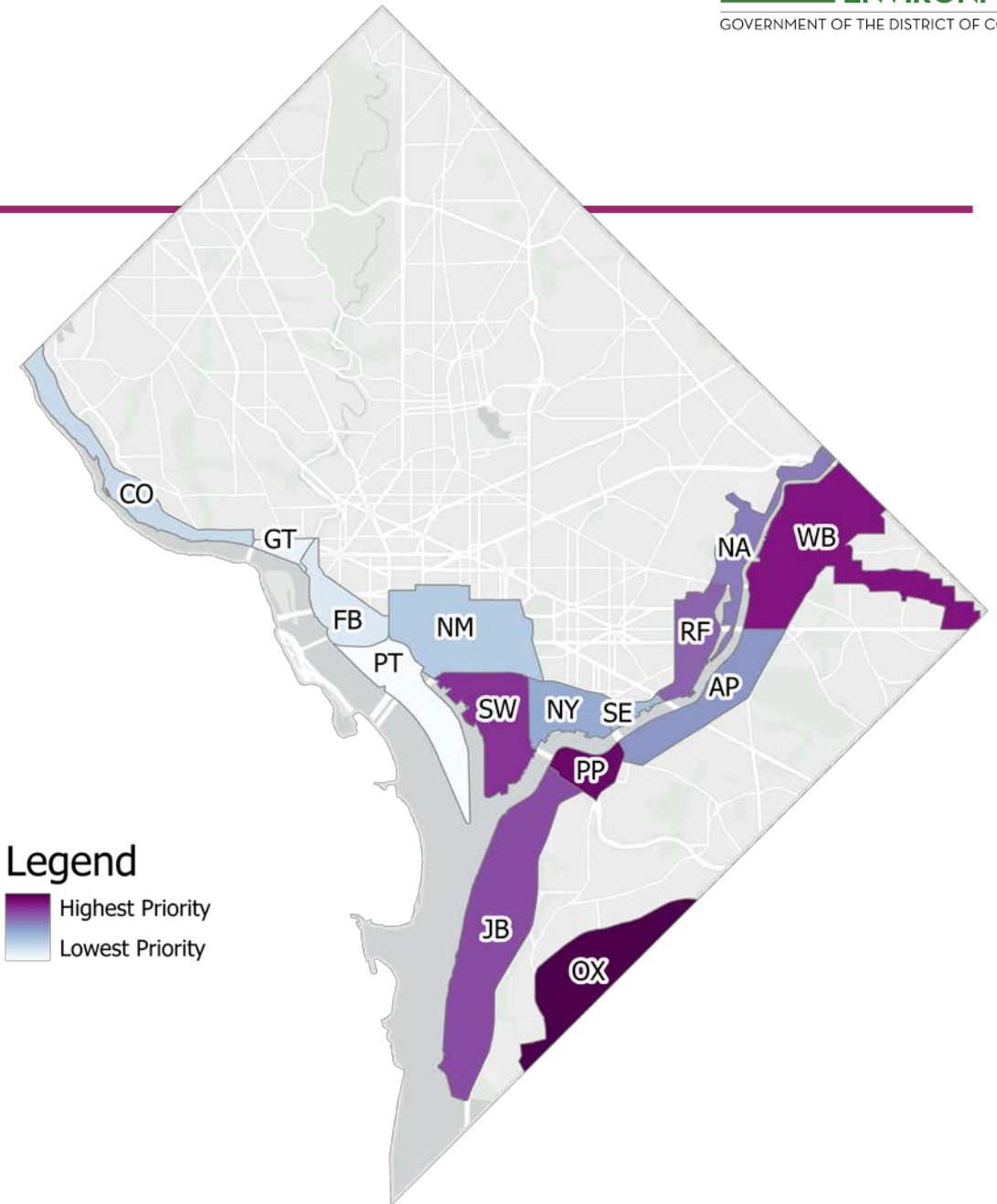
PRIORITIZATION FRAMEWORK – OVERALL RESULTS
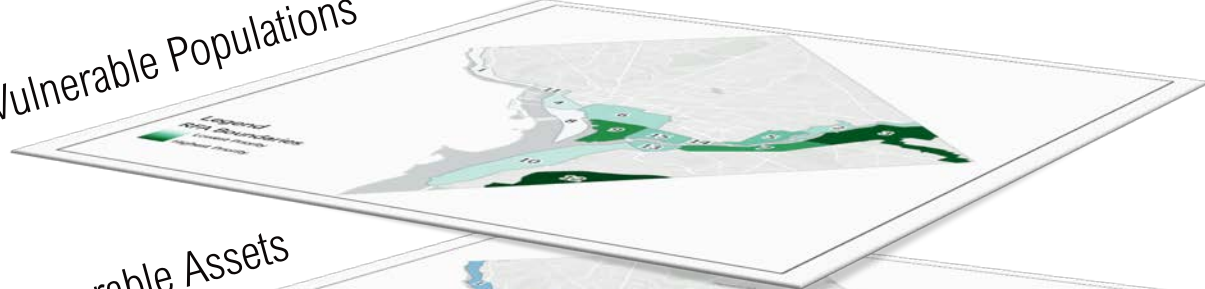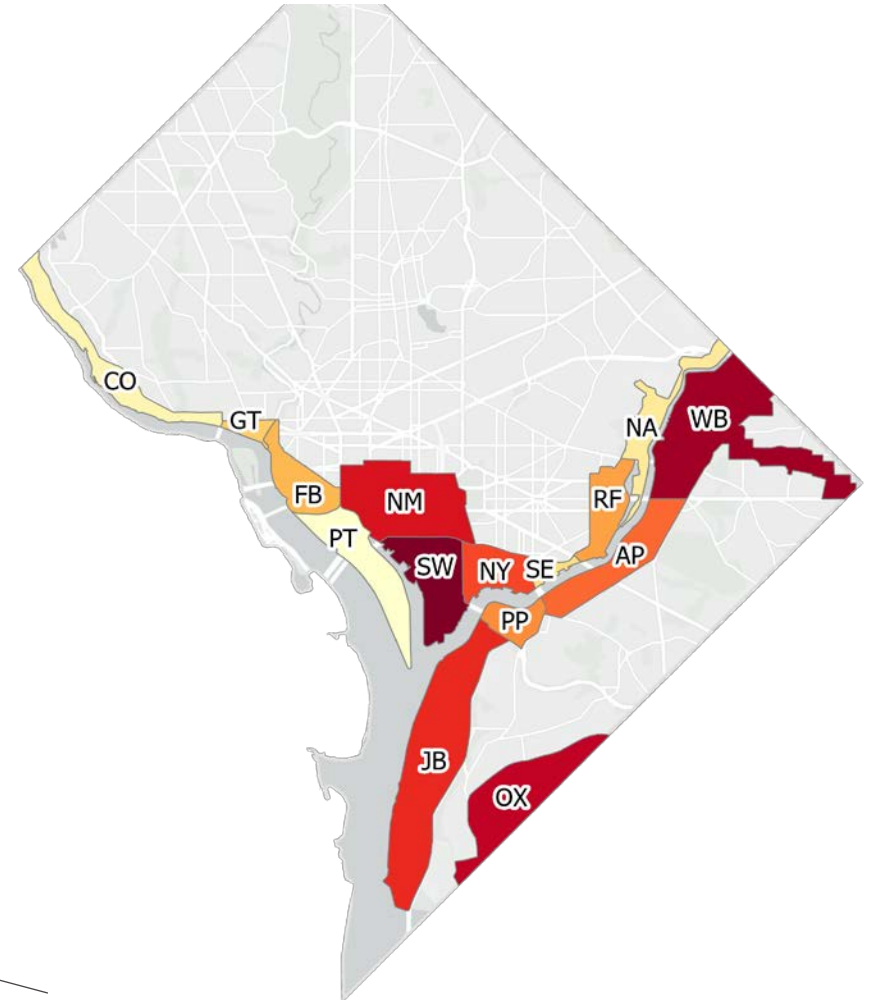
Overall Ranking

RFA RANKING – OVERALL

| Rank	RFA Name	Score (Max = 100)
1	SW/Buzzard Point	66.26
2	Kenilworth Park/Watts Branch	65.72
3	Oxon Run	65.57
4	National Mall	50.53
5	Joint Base Anacostia-Bolling	42.22
6	Navy Yard	37.48
7	Anacostia Park	35.38
8	Poplar Point	31.05
9	RFK Stadium	30.38
10	Foggy Bottom	20.42
11	Georgetown	19.58
12	SE Blvd	18.30
13	National Arboretum/Kingman Island	16.94
14	C&O Canal	14.64
15	Potomac Park	7.01
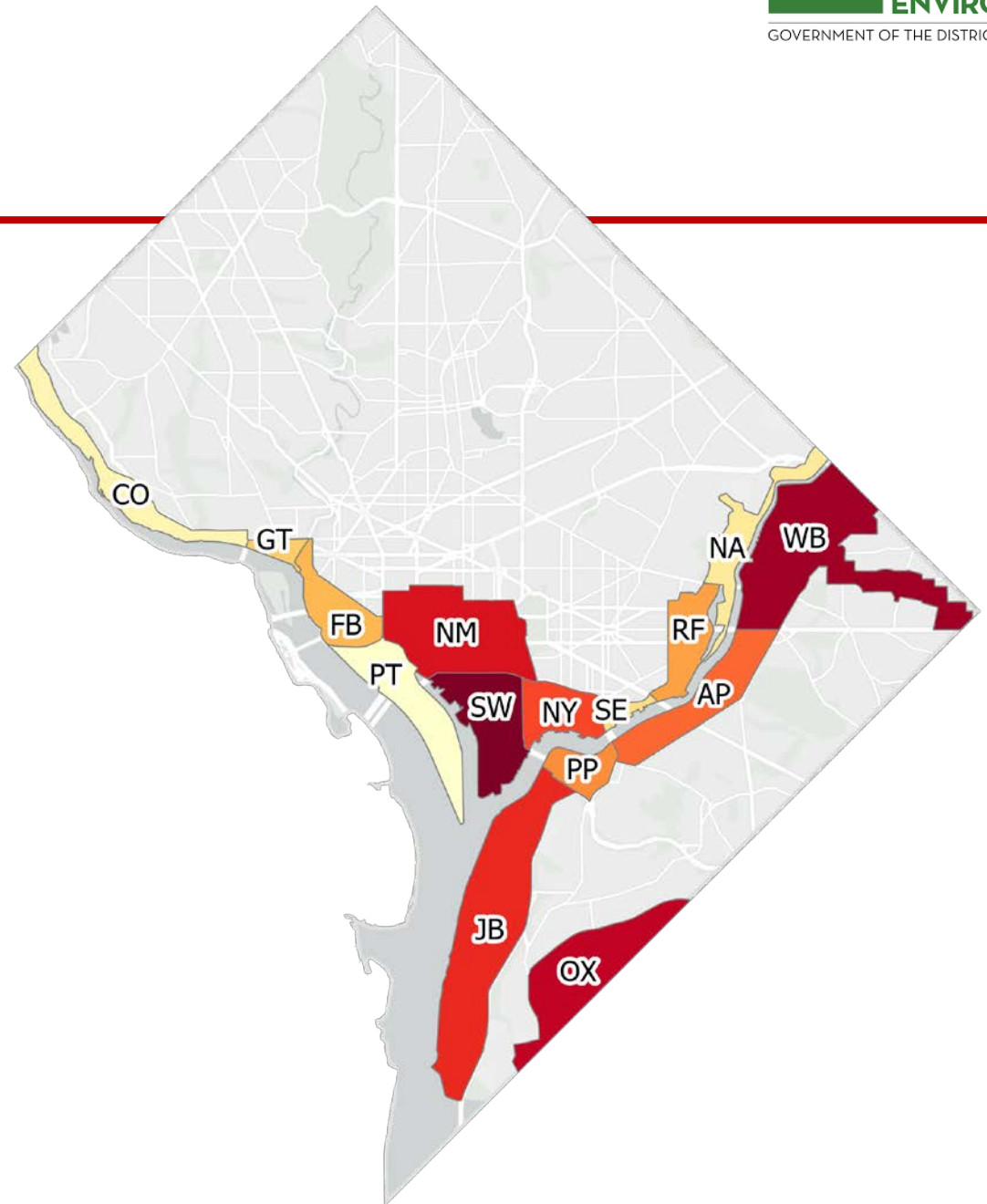
RFA Strategy

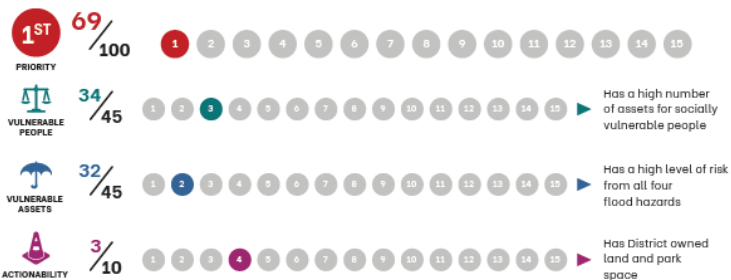## RANK #1: SW/BUZZARD POINT

RFA DESCRIPTION

The SW/Buzzard Point (SW) RFA is comprised of four main areas in Ward 6: Southwest, The Wharf, Buzzard Point, and Fort McNair. The RFA is bounded by I Street SE on the north, South Capitol Street SW on the east, and the Potomac and Anacostia Rivers, which converge at the southern end of the RFA. This RFA contains historically overburdened communities and a high number of critical community assets. SW has very high flood risk from riverine (100- and 500-year) and tidal inundation flooding. In addition, there are several large areas that are susceptible to interior flooding. In October 2021, the District experienced heavy rainfall paired with tidal and coastal flooding which heavily impacted low-lying areas throughout the Southwest neighborhood. There are several ongoing resilience initiatives, including the SW-Buzzard Point Flood Resilience Strategy, and the District has secured $18 million in FEMA funding to implement interior flood mitigation.

RESILIENCE FOCUS AREAS

SW ranked the highest among all RFAs
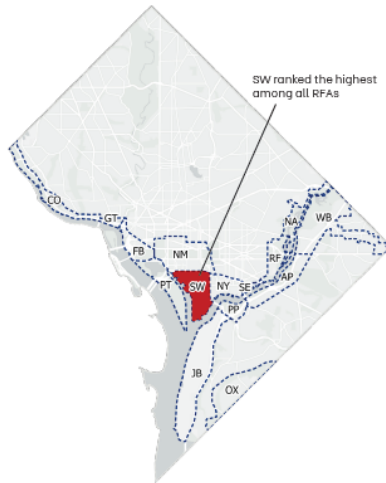
SCORE SUMMARY - RANKING

The RFA's overall rank and rank within each scoring category is shown below along with the corresponding score.

1ST PRIORITY — 69/100

VULNERABLE PEOPLE — 34/45 — Has a high number of assets for socially vulnerable people

VULNERABLE ASSETS — 32/45 — Has a high level of risk from all four flood hazards

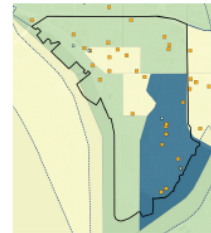**ACTIONABILITY** — 3/10 — Has District owned land and park space

RANK #1: SW/BUZZARD POINT

VULNERABLE PEOPLE

This RFA has a **moderate** average social vulnerability index score of **0.60** out of 1.

There are a **high number** of assets for socially vulnerable people, including childcare centers and affordable housing buildings.

CDC SOCIAL VULNERABILITY INDEX
- Data Unavailable
- 0.25 | Lowest Vulnerability
- 0.2501 - 0.5
- 0.501 - 0.75
- 0.7501 - 1 | Highest Vulnerability

**ASSETS FOR SOCIALLY VULNERABLE PEOPLE**
- ○ Childcare Centers
- □ Affordable Housing
- ▲ Nursing Homes

VULNERABLE ASSETS

Large areas of flood hazards cover this RFA. Bluespots cover **24%** of the RFA, the 100-year floodplain covers **32%**, the 500-year floodplain covers **87%**, and tidal inundation areas cover **70%**.

Buildings within this RFA are generally **newer** with an average year built of **1970**.
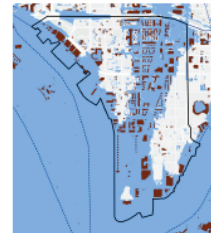
FLOODING HAZARDS
- Combined Flood Hazard Extents (includes FEMA 100- and 500-year floodplains, bluespot, and tidal inundation)
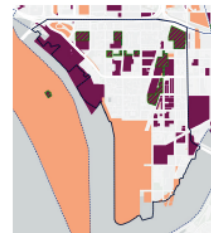
VULNERABLE PROPERTY
- Buildings that Intersect with Flood Risk Areas

ACTIONABILITY

The District owns **much of** the land within this RFA (**30%**), while **33%** is federally owned.

Some District-owned parks and recreational areas are present in this RFA, covering **6%** of the total RFA area.

SPACE AVAILABILITY
- Parks and Recreation Areas

OWNERSHIP
- District Owned Land
- Federal Owned Land

APPENDIX C. VULNERABLE ASSETS MAPS

BLUESPOTS

Bluespots are identified using an ArcGIS tool developed by the Danish Road Institute as a screening method for assessing flood risk. A bluespots analysis identifies surface depressions in topography where rainfall will collect without a means of conveyance. Bluespots show the maximum extents water may fill up before reaching a pour point and spill out.

METHODOLOGY

1. **IDENTIFY BLUESPOTS** - The ArcGIS Bluespots Tool was run to identify natural depressions in the surface topography.
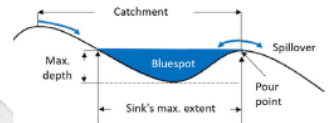
2. **CALCULATE AREA** - The ArcGIS Summarize Within Tool was used to sum the total area of bluespots within each RFA.

RESULTS

RFA ID	BLUESPOTS AREA (ACRES)
JB	303.7
NM	300.8
WB	210.2
SW	113.4
PT	69.8
FB	67.5
CO	67.3
PP	63.0
AP	59.5
RF	42.1
NY	30.7
OX	20.4
NA	19.1
GT	8.2
SE	7.5
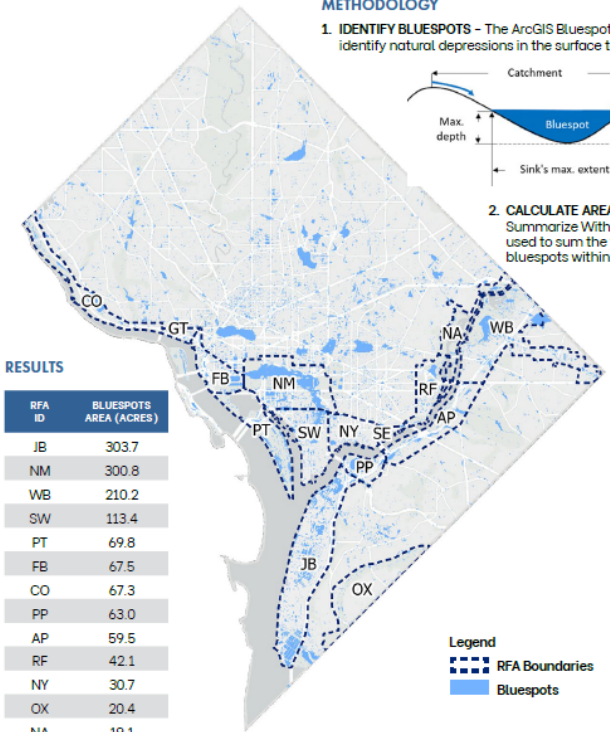
Legend
- RFA Boundaries
- Bluespots

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NEXT STEPS

PRIORITIZE PROJECTS

Use the framework to prioritize projects for planning and funding

FUTURE UPDATES

Update the framework when new information becomes available, such as the Integrated Flood Model

QUESTIONS:

Andrea Limauro
Environmental Protection Specialist • Resilience Focus Areas
Flood Team
DOEE

Link: doee.dc.gov/service/resilience-focus-area-strategy