

HICKEY LANE STORMWATER RETROFIT PROJECT

PUBLIC STAKEHOLDER CONSTRUCTION KICKOFF PUBLIC MEETING

May 26, 2021

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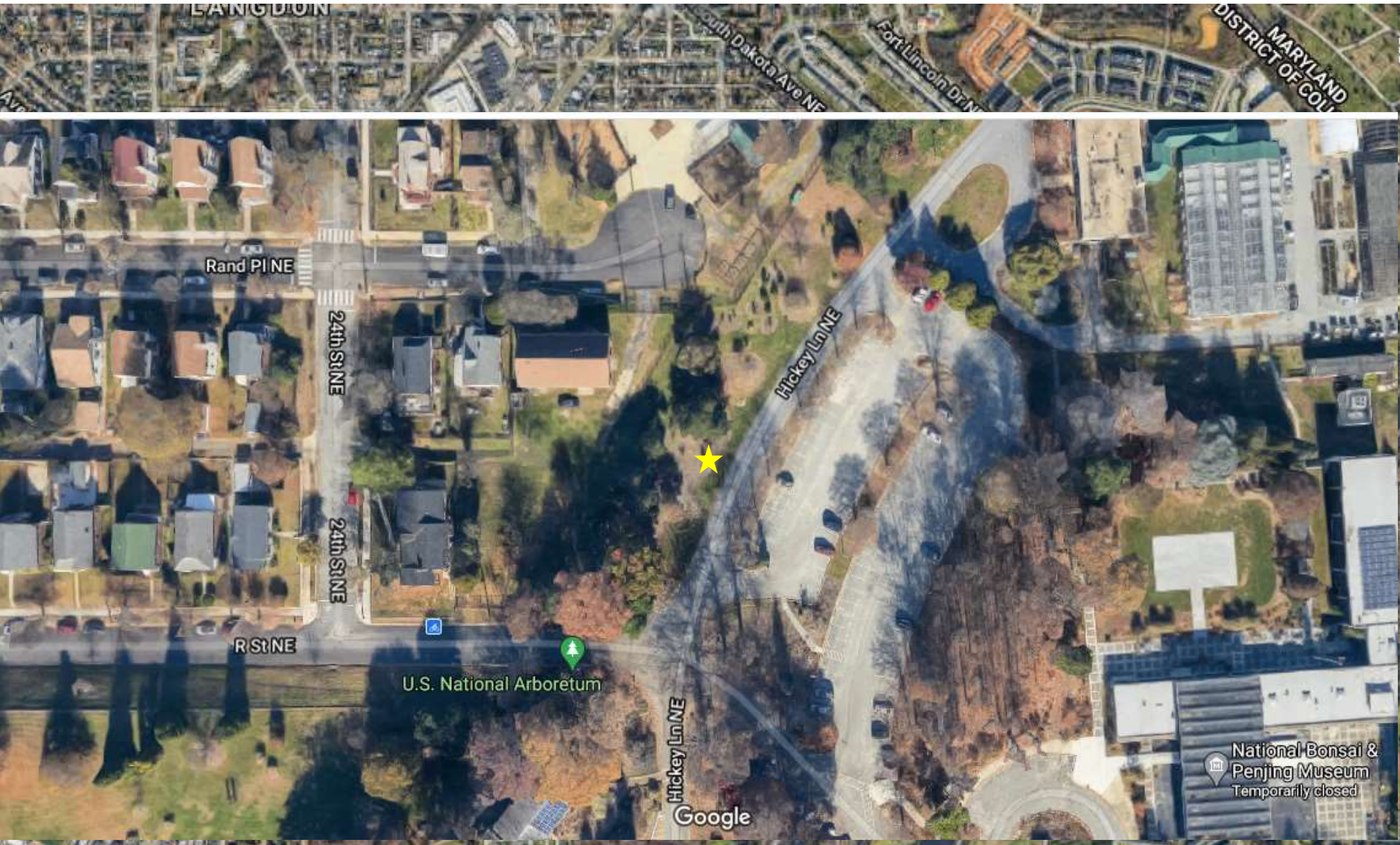


GOVERNMENT OF THE
DISTRICT OF COLUMBIA
MURIEL BOWSER, MAYOR

AGENDA

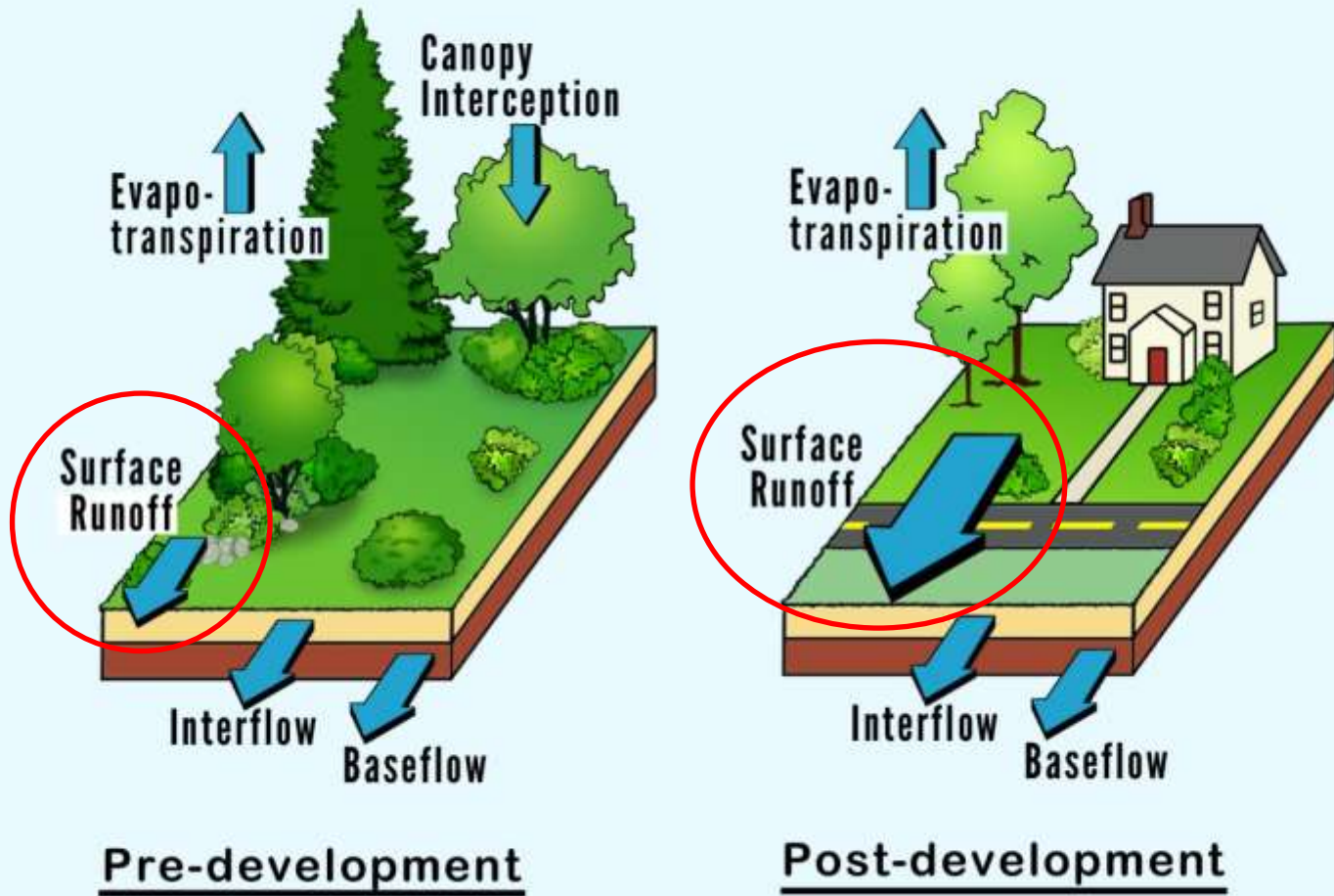
- Project Area & Background
- Existing Conditions
- Project Objectives
- Restoration Approach
- Construction Details
- Timeline
- FAQs
- Q&A

PROJECT LOCATION



BACKGROUND

Figure 1.1 Water Balance at a Developed and Underdeveloped Site
(Source: Schueler, 1987)

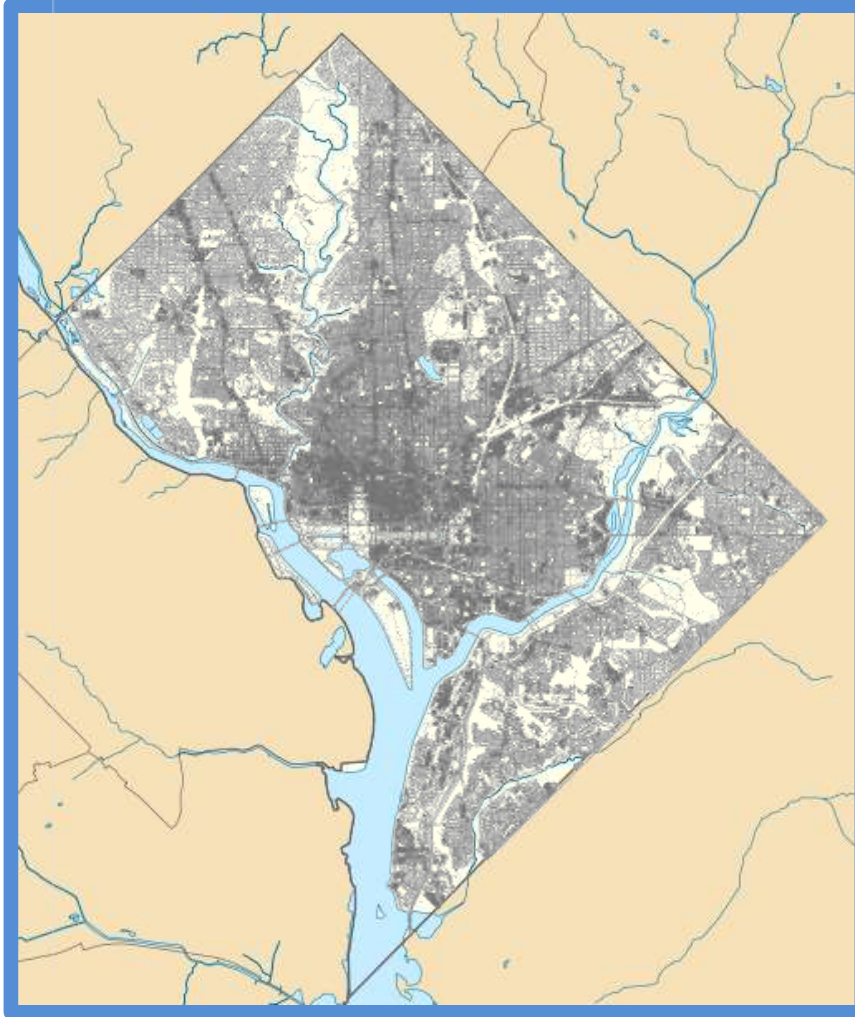


Surface runoff is minimal in an undeveloped site, but dominates the water balance at a highly impervious site.

PROBLEM OF STORMWATER POLLUTION



DISTRICT OF COLUMBIA LAND USE



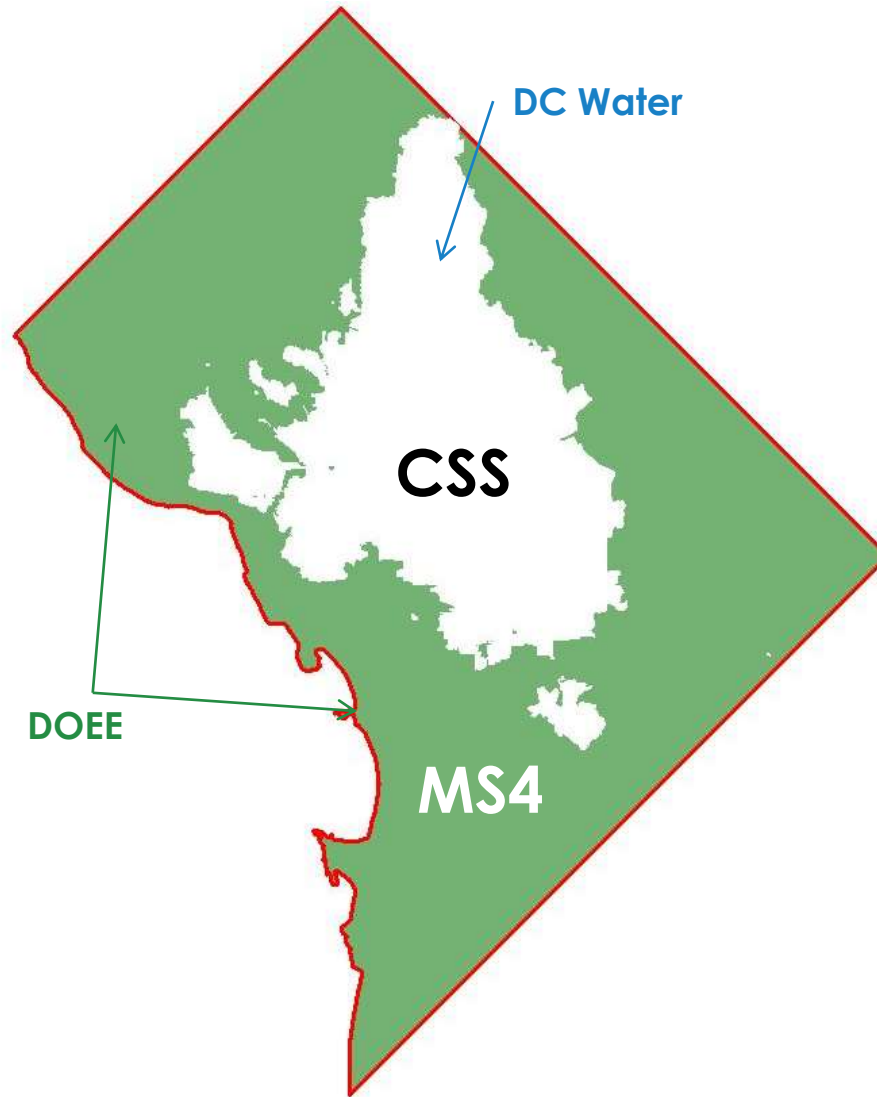
Total Area
68.3 mi²

Land Area
61.3 mi²

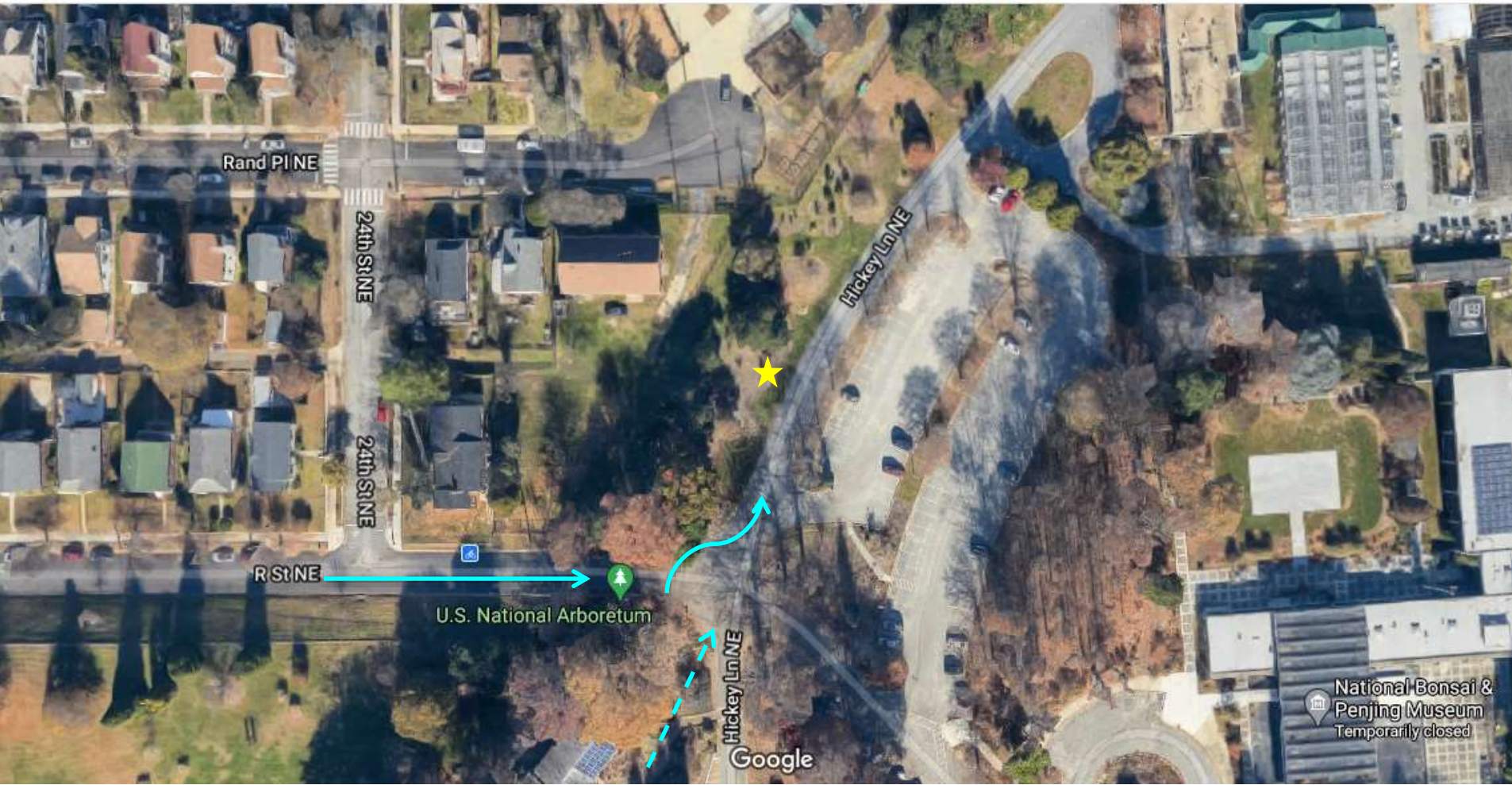
Impervious Area
26.6 mi²
*Approx 43%
of Land Area*

A single 1.2 inch storm falling on this area produces about 525 million gallons of stormwater runoff.

DC'S RESTORATION APPROACHES

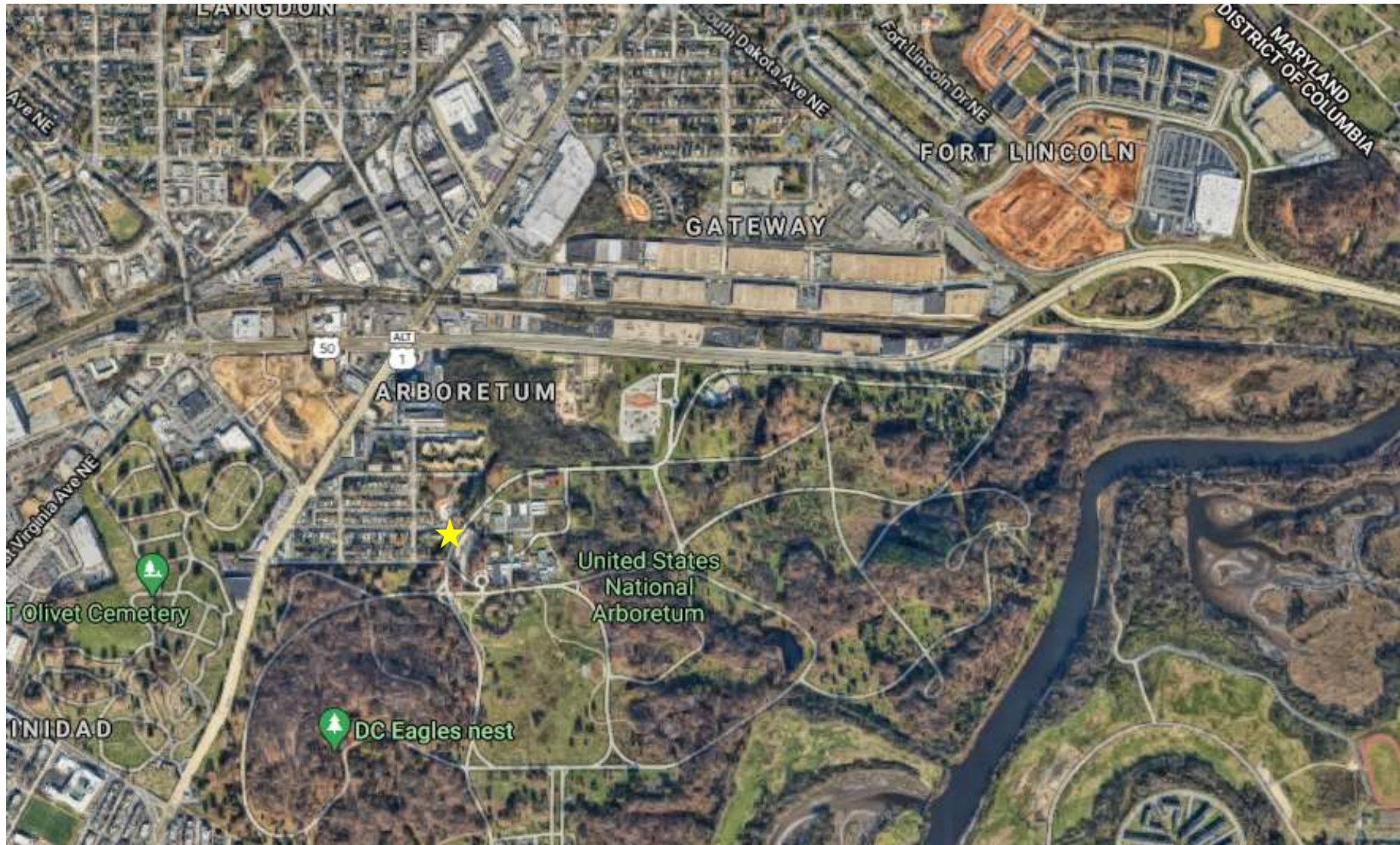


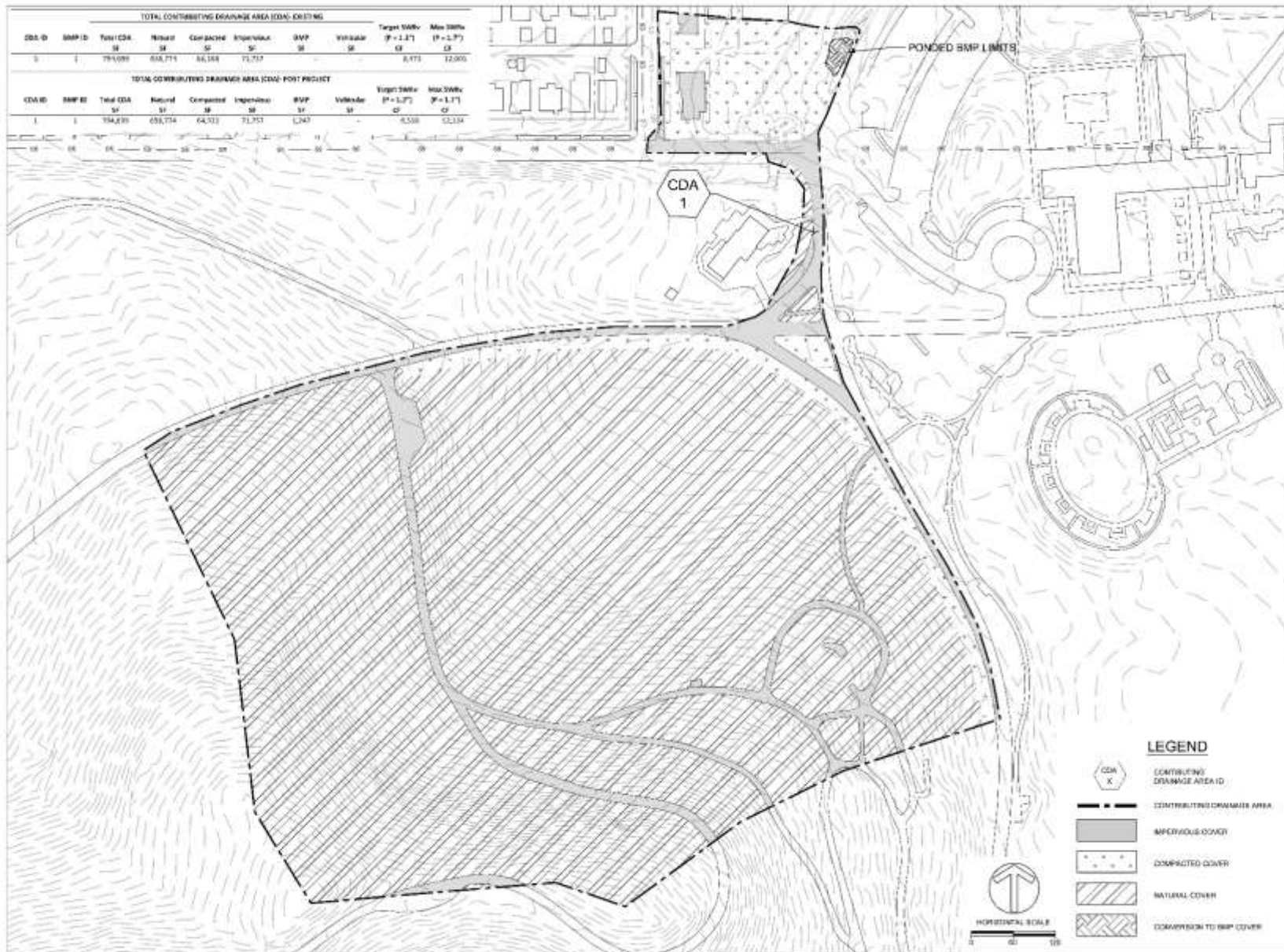
EXISTING CONDITIONS





EXISTING CONDITIONS





TOTAL CONTRIBUTING DRAINAGE AREA (CDA) - EXISTING

CDA ID	BMP ID	Total CDA SF	Natural SF	Compacted SF	Impervious SF	BMP SF	Volume SF	Target SWW ₅ CF	Max SWW ₅ CF
0	1	791,099	616,711	66,168	11,217			6,473	12,000

TOTAL CONTRIBUTING DRAINAGE AREA (CDA) - POST PROJECT

CDA ID	BMP ID	Total CDA SF	Natural SF	Compacted SF	Impervious SF	BMP SF	Volume SF	Target SWW ₅ CF	Max SWW ₅ CF
1	1	154,835	68,724	64,521	21,551	1,347		6,538	12,134

CLIENT

DEPARTMENT OF ENERGY & ENVIRONMENT

CIVILIA LAMP
ENVIRONMENTAL ENGINEER
WATERSHED PROTECTION DIVISION
DEPARTMENT OF ENERGY AND ENVIRONMENT
GOVERNMENT OF THE DISTRICT OF COLUMBIA
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NOT FOR CONSTRUCTION



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Member of The Hill-CO Super Regional Consortium

HICKEY LANE LID RETROFITS

DRAINAGE AREA MAP

- LEGEND**
- CONTRIBUTING DRAINAGE AREA ID
 - CONTRIBUTING DRAINAGE AREA
 - IMPERVIOUS COVER
 - COMPACTED COVER
 - NATURAL COVER
 - DISAPPEAR TO BMP COVER
- HORIZONTAL SCALE
0 20 40 60

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PROJECT OBJECTIVES

- Treat maximum amount of stormwater from the site in the most cost-effective way
- Support previous stormwater management efforts on site
- Minimal impacts to the community
- Development of a community amenity
- Educational opportunities



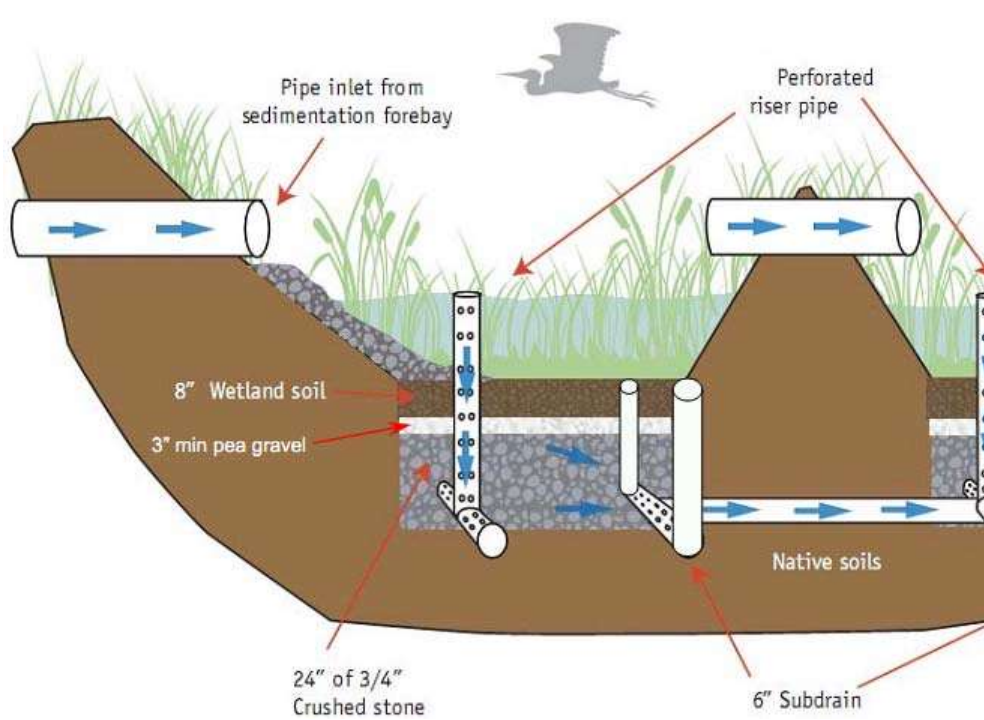
RESTORATION APPROACH

Most stormwater practices all work the same way: “they collect stormwater runoff and use or mimic natural processes that result in the infiltration, evapotranspiration or use of stormwater in order to protect water quality and associated aquatic habitat” (EPA).

Slow it down, Spread it Out, Soak it In !

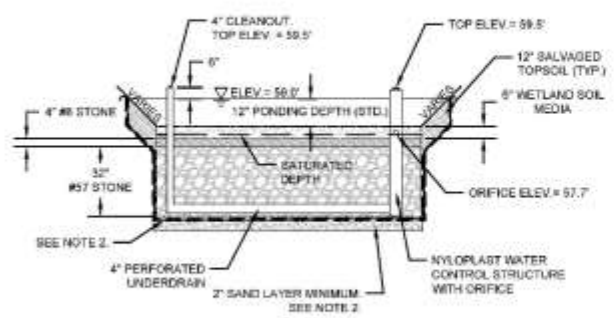
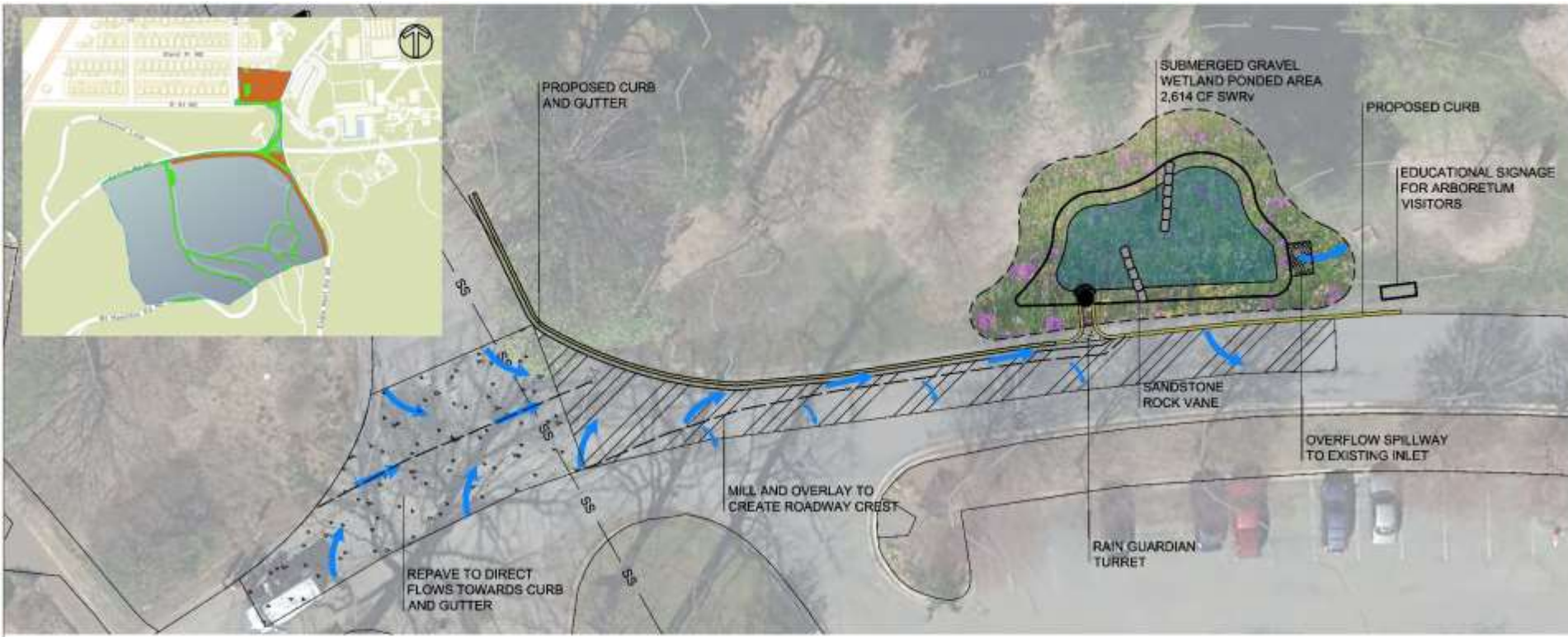
SUBMERGED GRAVEL WETLANDS

Figure: Diagram of a gravel wetland.
Source: UNH



- Pollutant removal is achieved through:
 - Biological uptake from algae and filter media
 - Wetland plants provide additional physical and chemical treatment
 - Absorption of organic matter
 - Allows for distinct plant palette

PROJECT DESIGN



SUMMARY TABLE

BMP	Bioretention Version	SWR _v		Areas			Depths				Sv CF	Retention Volume Provided %	Retention Volume Provided CF
		(P = 1.2") CF	(P = 1.7") CF	SA _{top} SF	Subbottom SF	SA _{average} SF	d _{ponding} IN	d _{media} IN	Gravel Underdrain IN	Infiltration Sump IN			
1	Standard	8,571	12,142	1,425	975	1,200	12	12	36	0	2,614	10%	261
Total											2,614		261

DOEE
Washington, D.C.

HICKEY LANE NE LID RETROFIT
Final Design
May 2021

- Legend**
- Existing Drainage Area
 - Existing Storm Drain
 - Existing Sanitary Sewer
 - Proposed Submerged Gravel Wetland
 - Proposed Curb



CONSTRUCTION DETAILS



GENERAL INFORMATION

- All work to occur on weekdays (M-F)*
- Work hours are 7AM–5PM
- Construction vehicles on site:
 - 1 track truck
 - Up to 2 excavators
 - Up to 2 company trucks parked in construction zone
 - 2-3 personal vehicles parked in Arboretum Parking Lot
- DOEE Community Point of Contact:
Cecilia Lane
Cecilia.lane@dc.gov
202-535-1961



SITE ACCESS & PARKING RESTRICTIONS

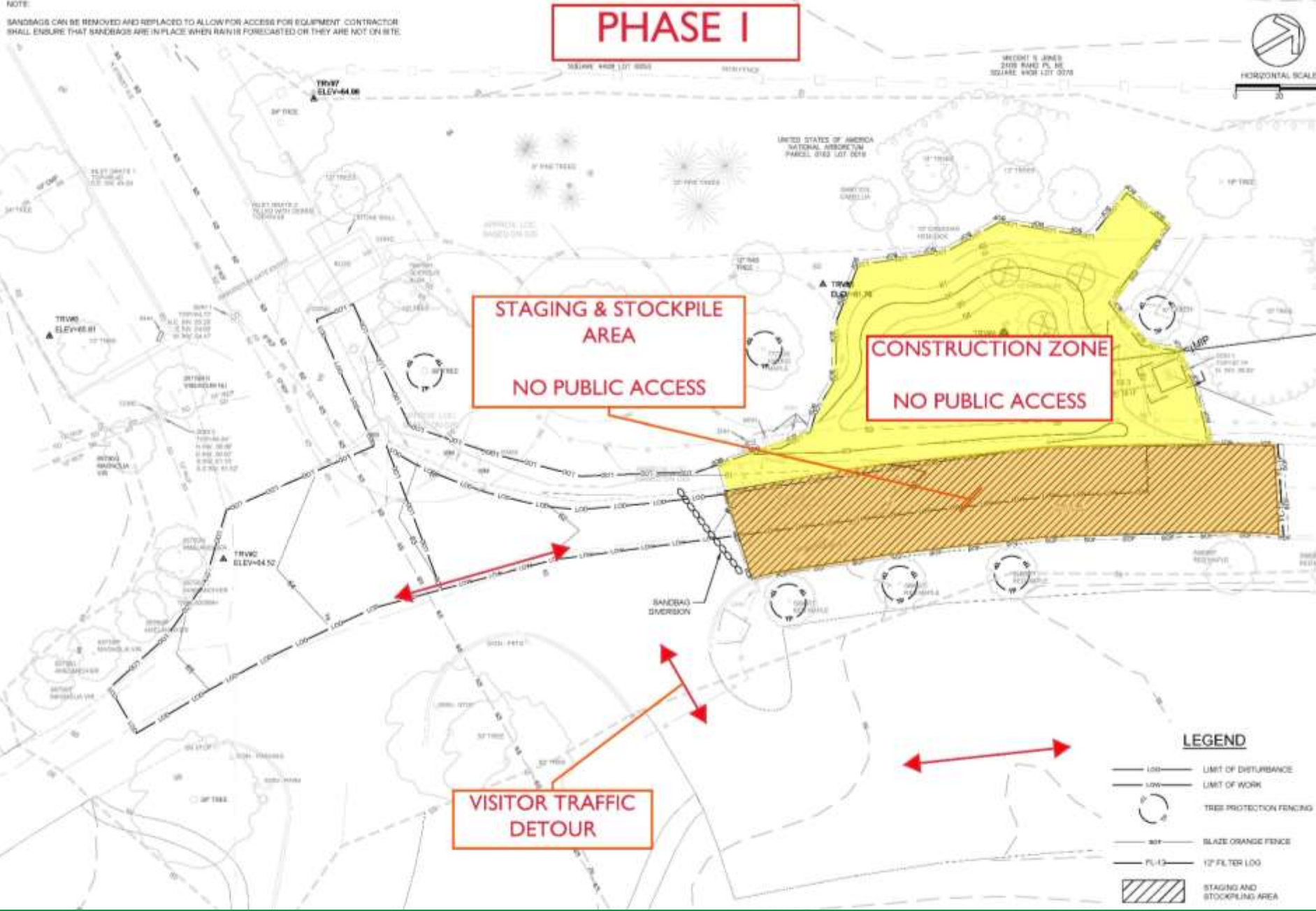
- Vehicular Traffic redirected through Hickey Lane Parking Lot
- No pedestrian access through Work Area

NOTE
SANDBAGS CAN BE REMOVED AND REPLACED TO ALLOW FOR ACCESS FOR EQUIPMENT. CONTRACTOR SHALL ENSURE THAT SANDBAGS ARE IN PLACE WHEN RAIN IS FORECASTED OR THEY ARE NOT ON SITE.

PHASE I



HORIZONTAL SCALE
0 20 40






**STAGING & STOCKPILE
AREA**
NO PUBLIC ACCESS

CONSTRUCTION ZONE
NO PUBLIC ACCESS

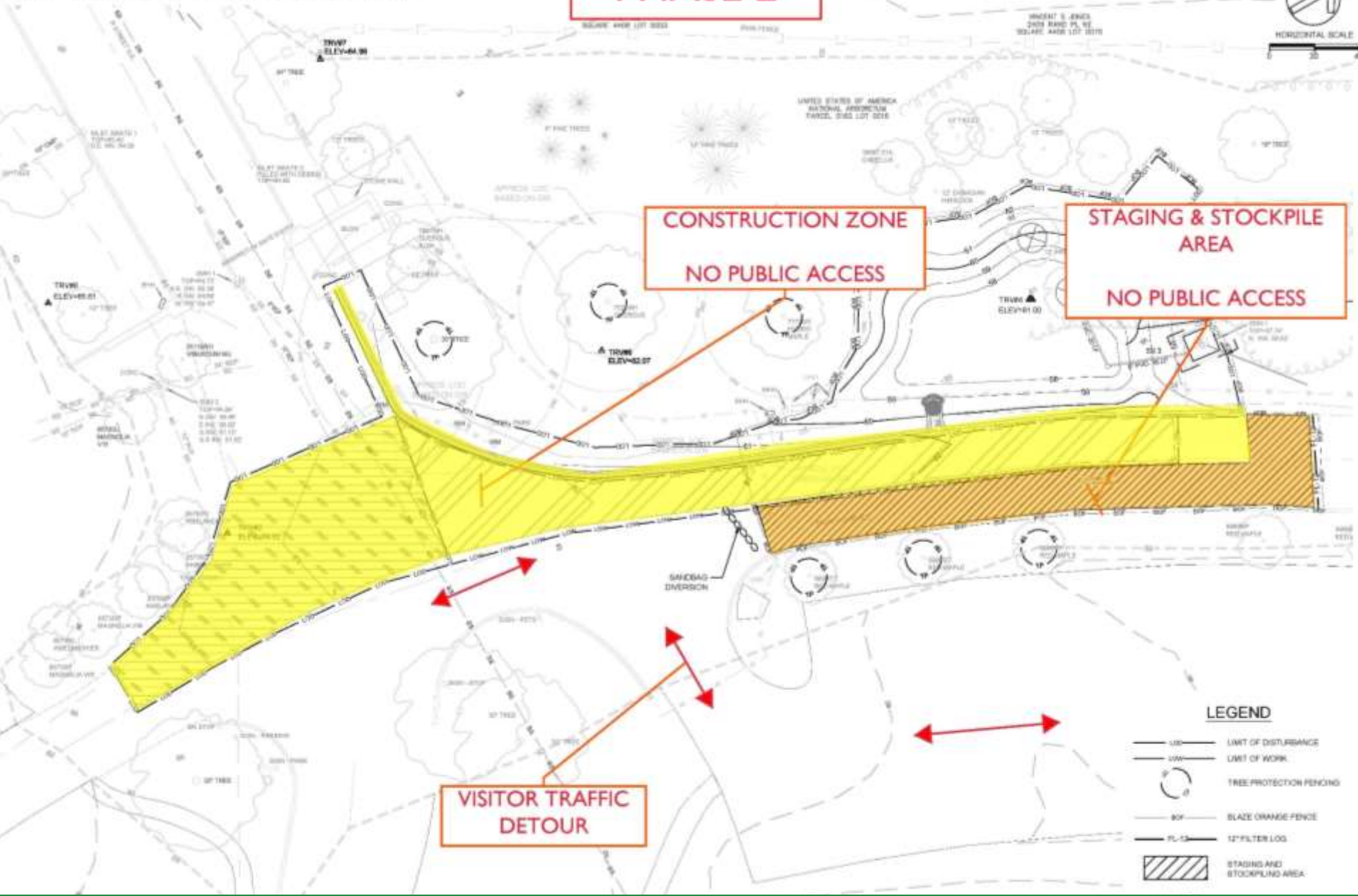
**VISITOR TRAFFIC
DETOUR**

LEGEND

-  LIMIT OF DISTURBANCE
-  LIMIT OF WORK
-  TREE PROTECTION FENCING
-  BLAZE ORANGE FENCE
-  12" FILTER LOG
-  STAGING AND STOCKPILE AREA

SANDBAGS CAN BE REMOVED AND REPLACED TO ALLOW FOR ACCESS FOR EQUIPMENT. CONTRACTOR SHALL ENSURE THAT SANDBAGS ARE IN PLACE WHEN RAIN IS FORECASTED OR THEY ARE NOT ON SITE.

PHASE 2



CONSTRUCTION ZONE
NO PUBLIC ACCESS

STAGING & STOCKPILE AREA
NO PUBLIC ACCESS

VISITOR TRAFFIC DETOUR

LEGEND

- LIMIT OF DISTURBANCE
- LIMIT OF WORK
- TREE PROTECTION PERIMETER
- BLAZE ORANGE FENCE
- 12" FILTER LOG
- STAGING AND STOCKPILE AREA

PROJECT TIMELINE

- March 2020: contract awarded
- April – July 2020: field assessment (topographic survey, geotechnical investigations etc.)
- August 2020 – May 2021: design development
- 3 public meetings:
 - Concept designs on 10/26/2020
 - Semi-final designs (~65%): 1/27/21
 - Construction kickoff meeting (timeline): 5/26/21
 - Construction to begin June 15, 2021
 - Expected to take 10 weeks
 - No work on holidays or during rain

FAQs

- How do we find our project sites?
 - Enthusiastic landowners!
 - Funding sources
 - Large areas of untreated impervious cover
 - More impactful locations
- What can I do?
 - RiverSmart Homes
 - Rain Gardens
 - Permeable Pavers
 - Rain Barrels
 - Tree Planting
 - “BayScaping”



<https://www.riversmarthomes.org/>

QUESTIONS



U.S. NATIONAL
ARBORETUM



DEPARTMENT
OF ENERGY &
ENVIRONMENT



WE ARE
WASHINGTON
DC

GOVERNMENT OF THE
DISTRICT OF COLUMBIA
MURIEL BOWSER, MAYOR