



# LANDSIDE (OPERABLE UNIT 1) FEASIBILITY STUDY

Benning Road Facility  
3400 Benning Road, NE  
Washington, DC 20019





# LANDSIDE OPERABLE UNIT 1 FEASIBILITY STUDY

Benning Road Facility  
3400 Benning Road, N.E.  
Washington, DC 20019

**PREPARED FOR:**

Pepco and Pepco Energy Services  
701 9<sup>th</sup> Street, NW  
Washington, DC 20068

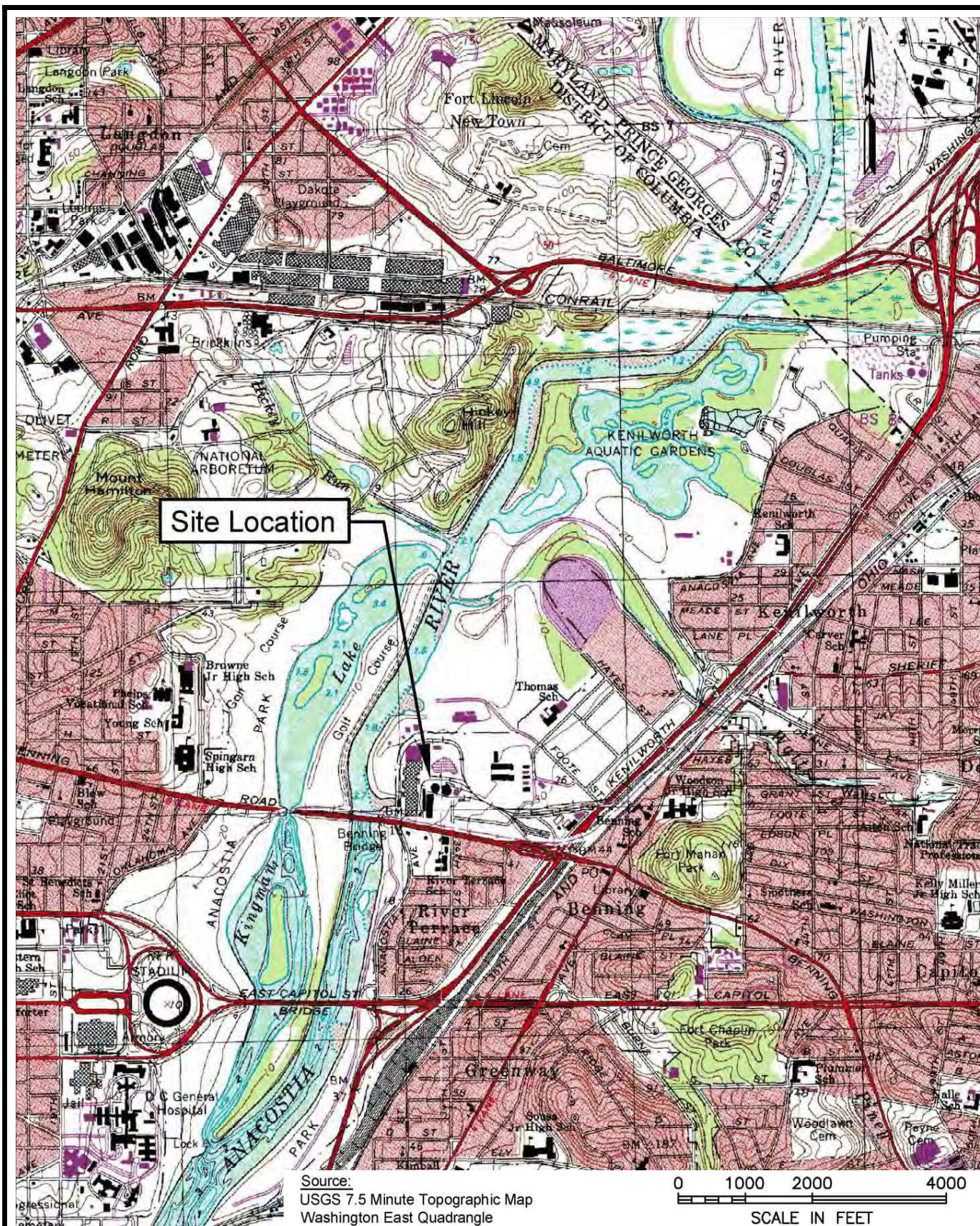
**PREPARED BY:**

AECOM  
430 National Business Parkway, STE 190  
Annapolis Junction, MD 20701

November 2023

## Figures





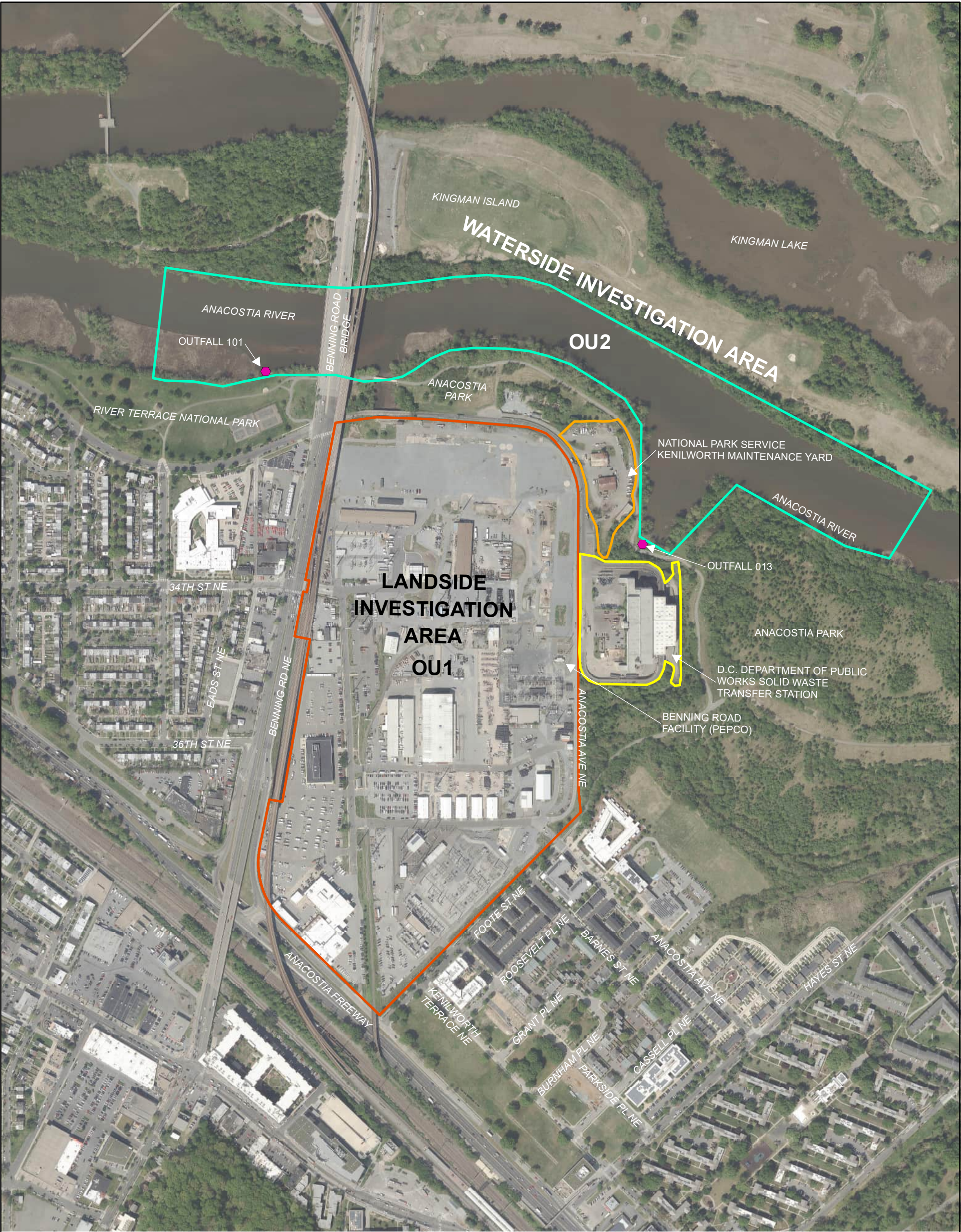
**AECOM**

Benning Road Facility RI/FS  
Project  
3400 Benning Rd., NE  
Washington, DC 20019

**Site Location Map**

**Figure 1-1**





- LEGEND**
- Outfalls
  - National Park Service Kenilworth Maintenance Yard
  - D.C. Department of Public Works Solid Waste Transfer Station
  - Waterside Investigation Area
  - Benning Road Facility Property Boundary

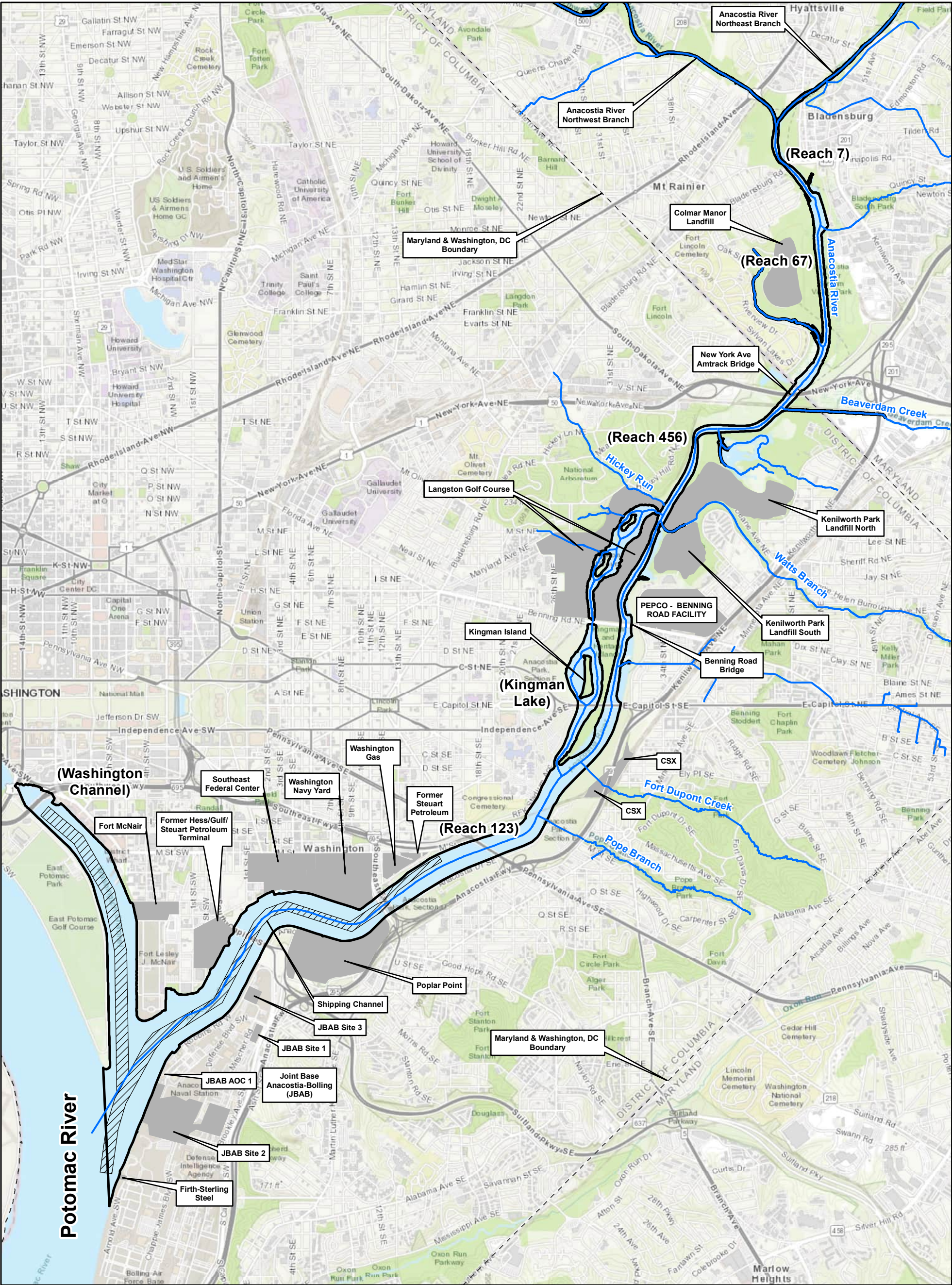
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0 450 Feet

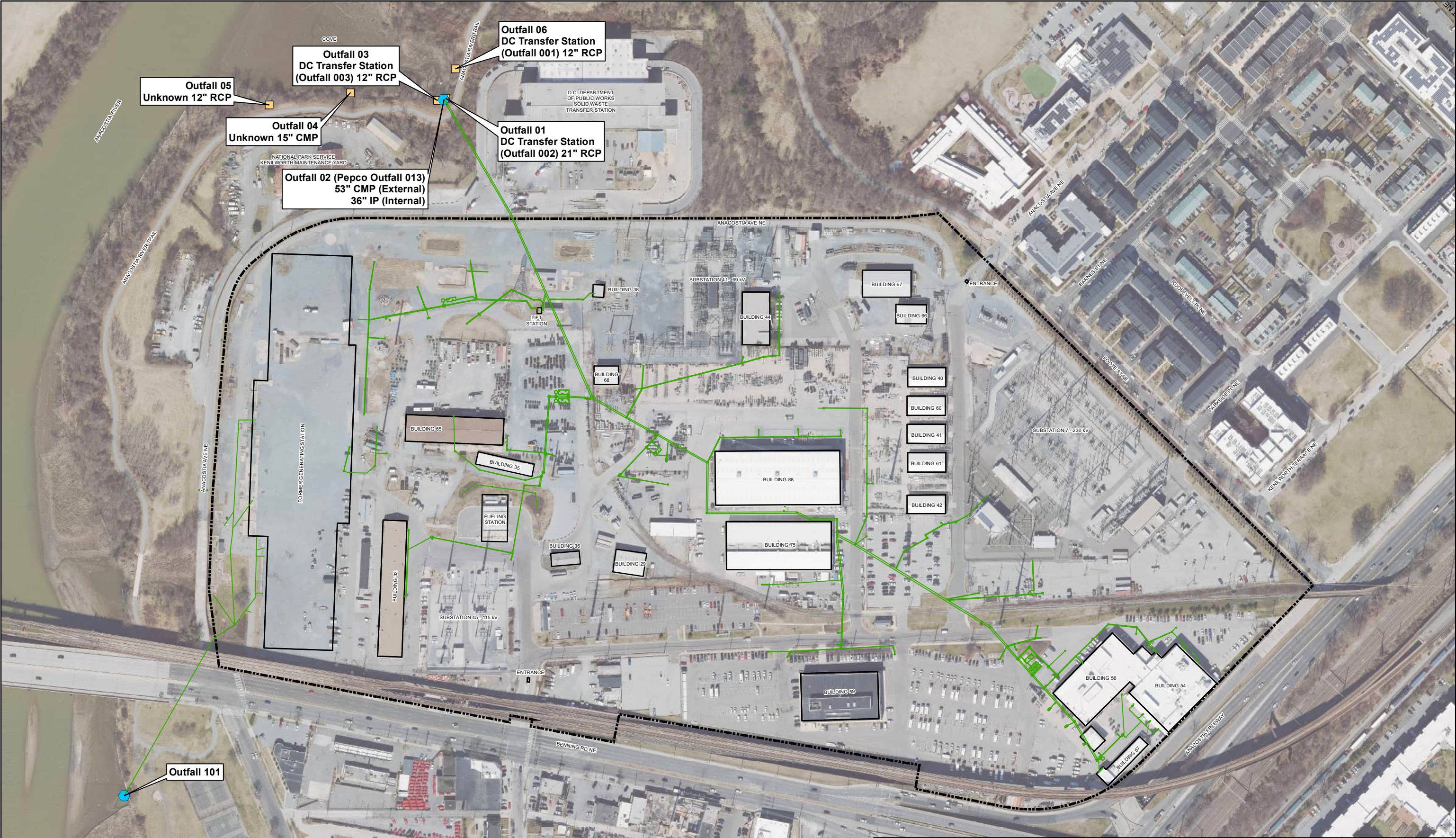


BENNING ROAD FACILITY RI/FS PROJECT 3400 BENNING RD., NE WASHINGTON, DC 20019			SITE PLAN AND INVESTIGATION AREAS	
Date: 4/7/2023	Drawn By: JB	Checked By: MB	FIGURE 1-2	









**AECOM**

Legend

- Storm Drain
- PEPCO Outfall
- Non-PEPCO Outfall



Benning Road Facility Property Boundary

- RCP: Reinforced Concrete Pipe
- CMP: Corrugated Metal Pipe
- IP: Iron Pipe

Source

Orthoimergy from Open Data DC, 2021.

0 240  
Feet



BENNING ROAD FACILITY RI/FS PROJECT  
3400 BENNING RD., NE  
WASHINGTON, DC 20019

DATE: 4/26/2023

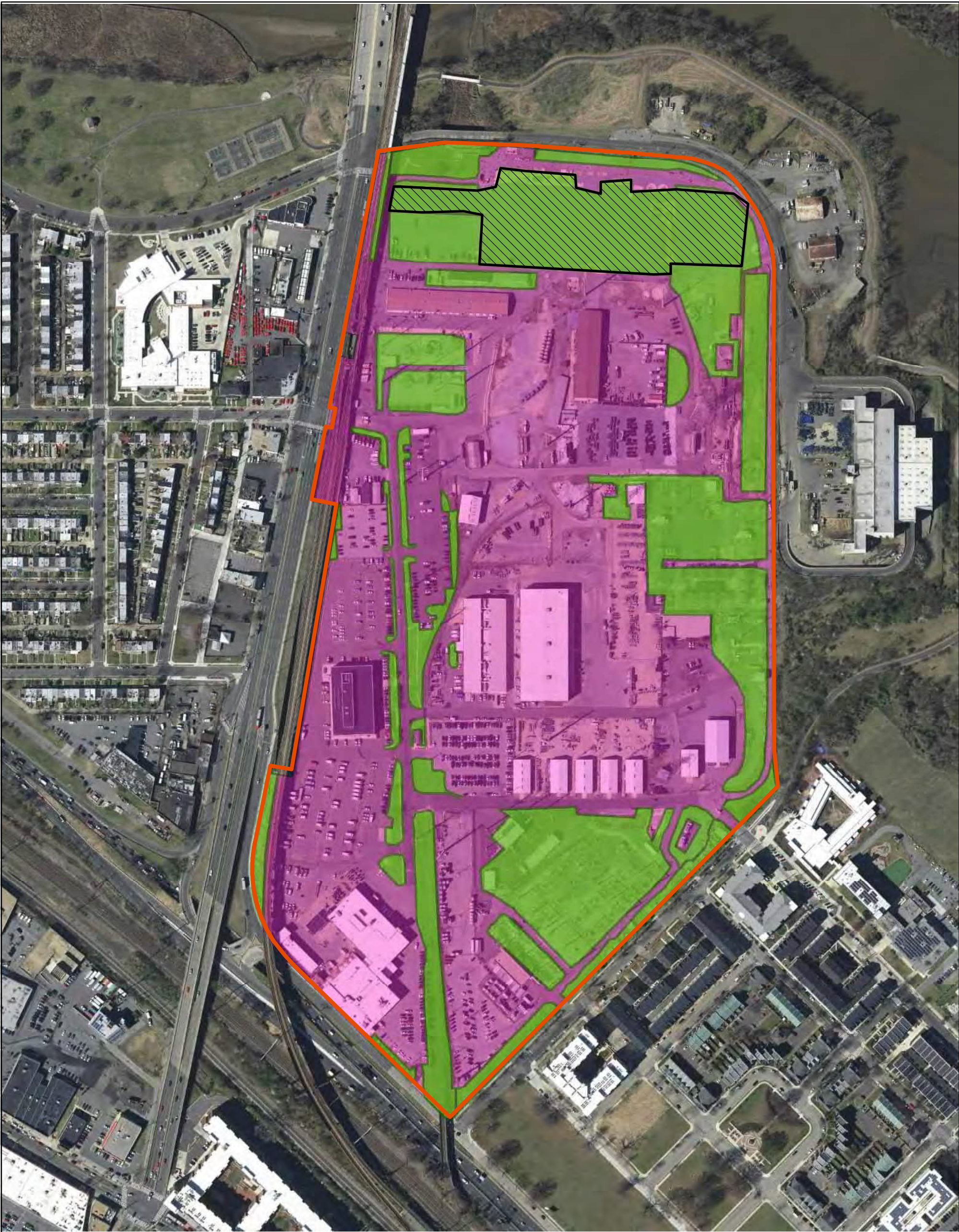
DRWN: JB

CHECKED BY: MB

CURRENT SITE LAYOUT

FIGURE 2-1





- LEGEND
- Benning Road Facility Property Boundary
  - Pervious (Grass and Loose Stone)
  - Impervious (Paved and Hard-Packed Gravel)
  - Former Power Plant Building Foundation

AECOM

0 400 Feet



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WASHINGTON, DC 20019

PERVIOUS VS IMPERVIOUS  
SITE SURFACE COVER

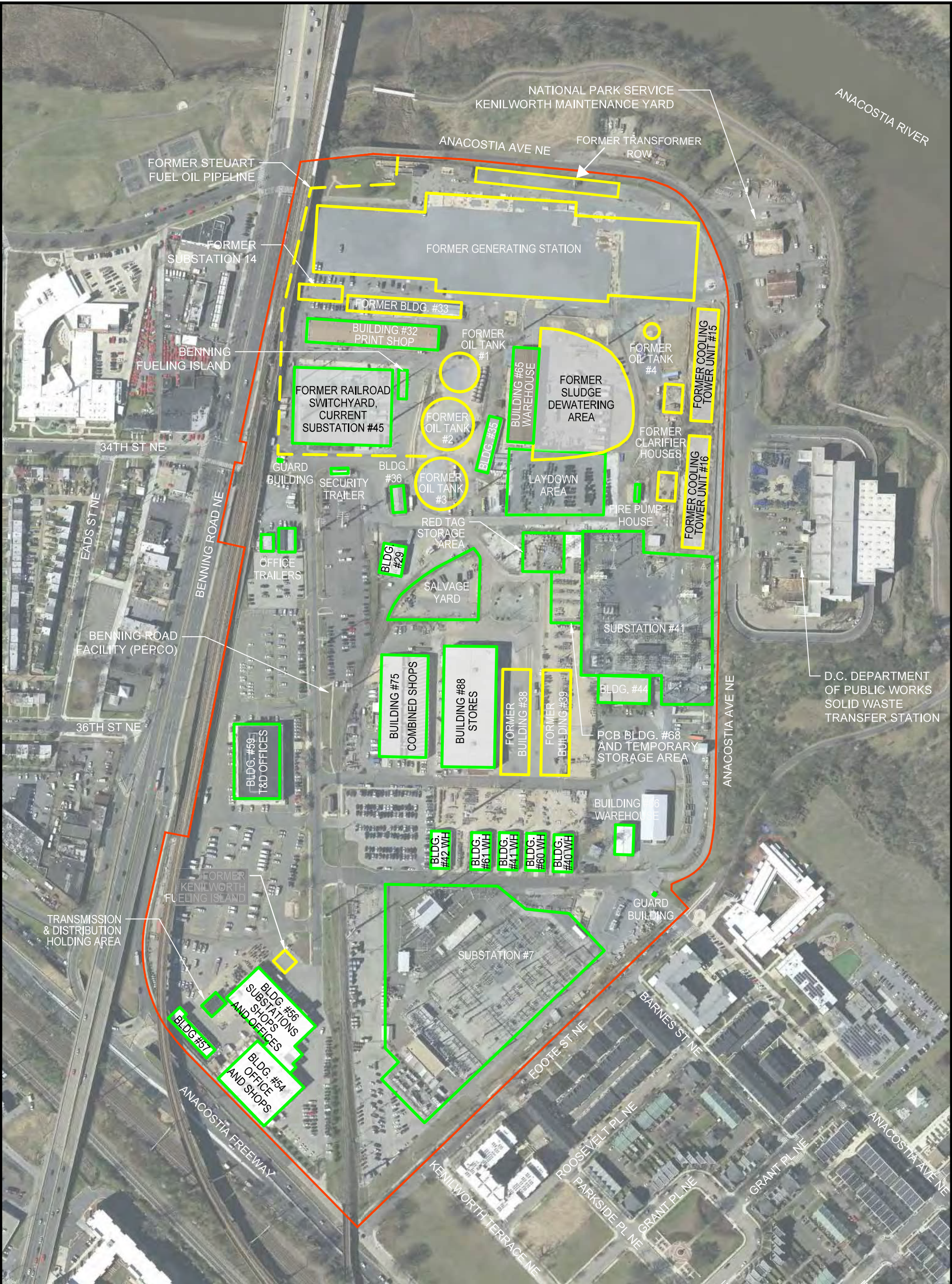
Date: 9/20/2018

Drawn By: KNS

Checked By: SED

FIGURE 2-2





LEGEND:

- CURRENT BUILDING, STRUCTURE, OR AREA
- FORMER BUILDING, STRUCTURE, OR AREA
- PROPERTY BOUNDARY

**AECOM**

0 125 250  
Feet



BENNING ROAD FACILITY RI/FS PROJECT  
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CURRENT AND HISTORICAL  
SITE BUILDINGS

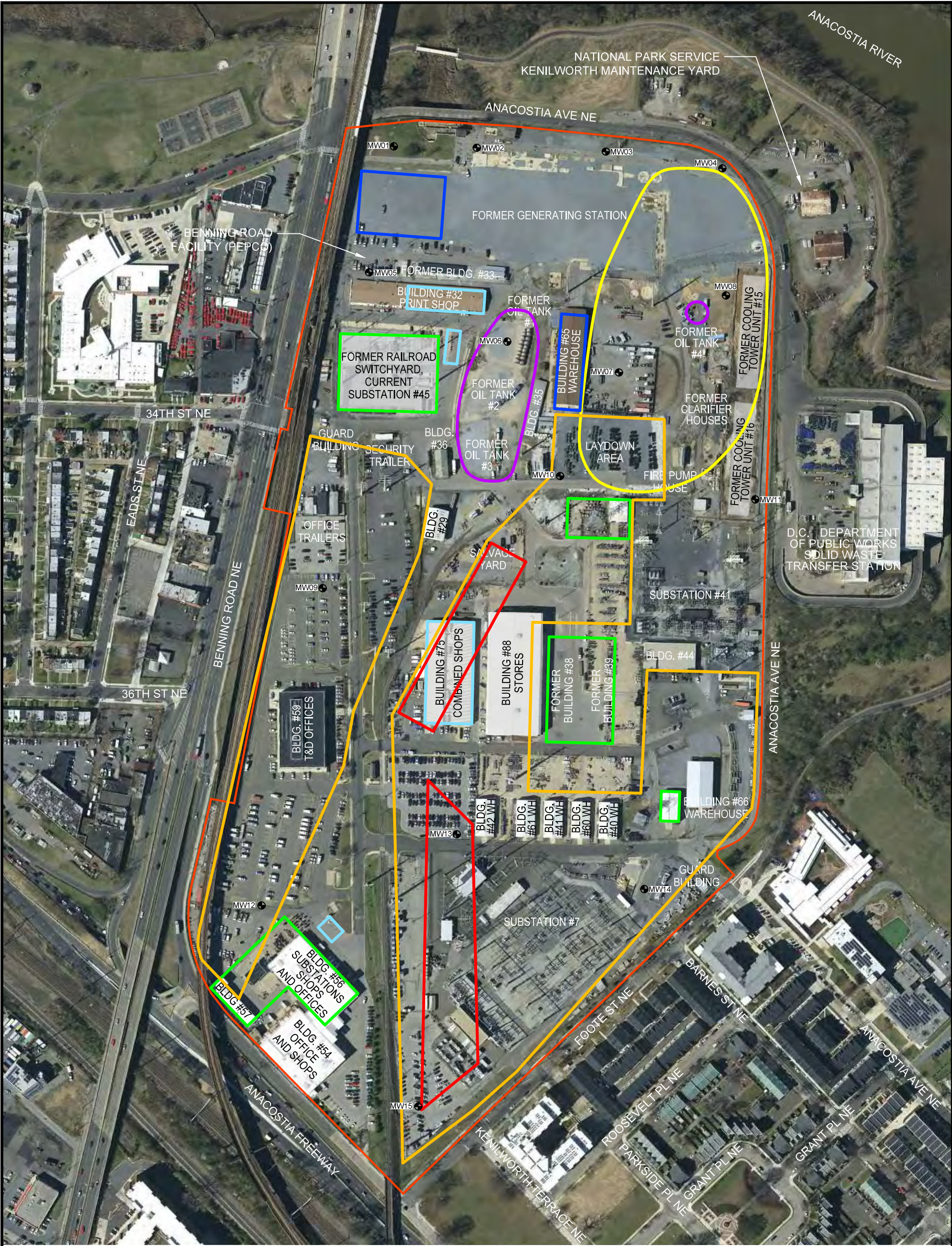
DATE: 09/19/2018

DRAWN BY: LAD

CHECKED BY: RD

FIGURE 2-3





LEGEND:

- PROPERTY BOUNDARY
- EQUIPMENT LAYDOWN AREA (FORMER)
- VEHICLE FLEET SERVICING (REPAIR SHOPS, WASTE OIL STORAGE, FUELING FACILITIES) [CURRENT AND FORMER]
- UTILITY POLE STORAGE AREA (FORMER)
- COAL PILE AREA (FORMER)
- FUEL OIL STORAGE AREA (FORMER)
- TRANSFORMER OPERATIONS AREA (OIL STORAGE, SERVICING, EQUIPMENT SALVAGE) [CURRENT AND FORMER]
- CHLORINATED SOLVENT STORAGE AND/OR USAGE AREA (FORMER)
- MONITORING WELL LOCATION

AECOM

0 125 250 Feet



BENNING ROAD FACILITY RI/FS PROJECT  
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CURRENT AND FORMER SITE  
OPERATIONS AREAS

DATE: 09/19/2018

DRAWN BY: LAD

CHECKED BY: RD

FIGURE 2-4





LEGEND:

18

TARGET AREA #

TARGET AREA

NPDES OUTFALL TO ANACOSTIA RIVER

BENNING RD FACILITY PROPERTY BOUNDARY

WATERSIDE INVESTIGATION AREA

STORM WATER UTILITY

APPROXIMATE FORMER  
CONSTRUCTED WETLANDS BOUNDARY

APPROXIMATE LOCATION OF SEA WALL

15,000 GALLON TRANSFORMER OIL UST

TARGET AREA KEY:

1

FORMER SLUDGE DEWATERING AREA

2

BENNING FUELING ISLAND

3

FORMER 50,000 GAL. AST AND 15,000 GAL. UST  
No. 2 FUEL OIL

4

2003 SALVAGE YARD INVESTIGATION

5

1995 CLEANUP AREA

6

1991 CLEANUP AREA

7

1988 PARKING LOT CLEANUP AREA

8

1985 EXCAVATION AREA

9

GREEN TAG STORAGE AREA

10

RED TAG STORAGE AREA

11

BUILDING #68 (PCB BUILDING)

12

BUILDING #57

13

FORMER BULK STORAGE ASTs WITH LOADING RACK  
550 GALLON FUEL OIL UST AND 2,000 GALLON USED OIL UST

14

FORMER RAILROAD SWITCHYARD

15

GENERATING STATION TRANSFORMERS

16

PRINT SHOP

17

STORM DRAIN SYSTEM

18

KENILWORTH FUELING ISLAND MTBE PLUME

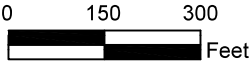
19

PCE AND NAPHTHALENE IN GROUNDWATER

20

PAHs IN SOIL

AECOM



BENNING ROAD FACILITY RI/FS PROJECT  
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WASHINGTON, DC 20019

TARGET INVESTIGATION AREAS

DATE: 09/19/2018

DRAWN BY: JB

CHECKED BY: RD

FIGURE 2-5





**LEGEND**

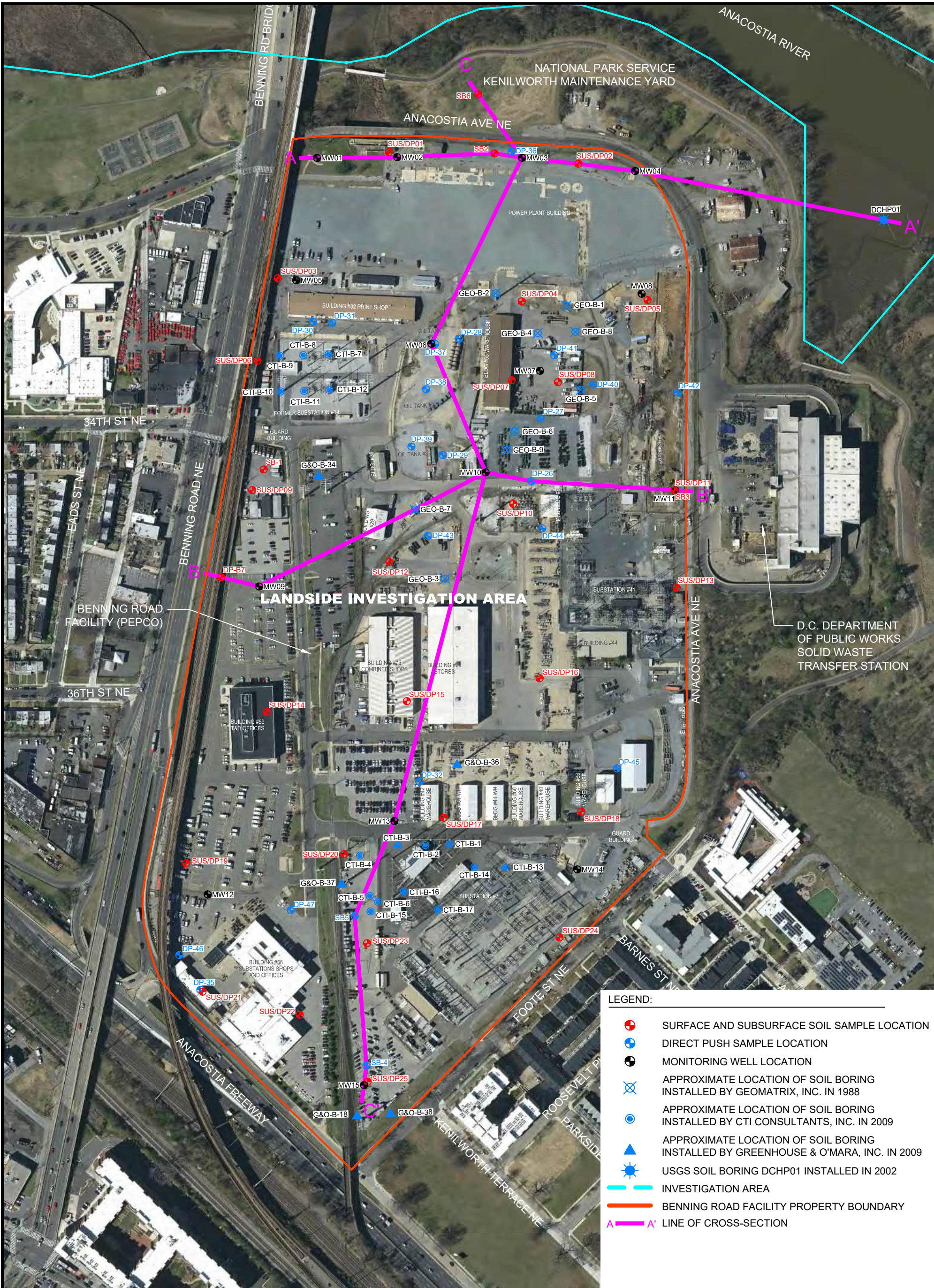
- SURFACE SOILS
- SUBSURFACE SOILS
- DIRECT PUSH WATER
- MONITORING WELL WATER
- GEOTECHNICAL BORING
- PROPERTY BOUNDARY
- ELECTRICAL RESISTIVE IMAGING (ERI) TRANSECTS

**AECOM**



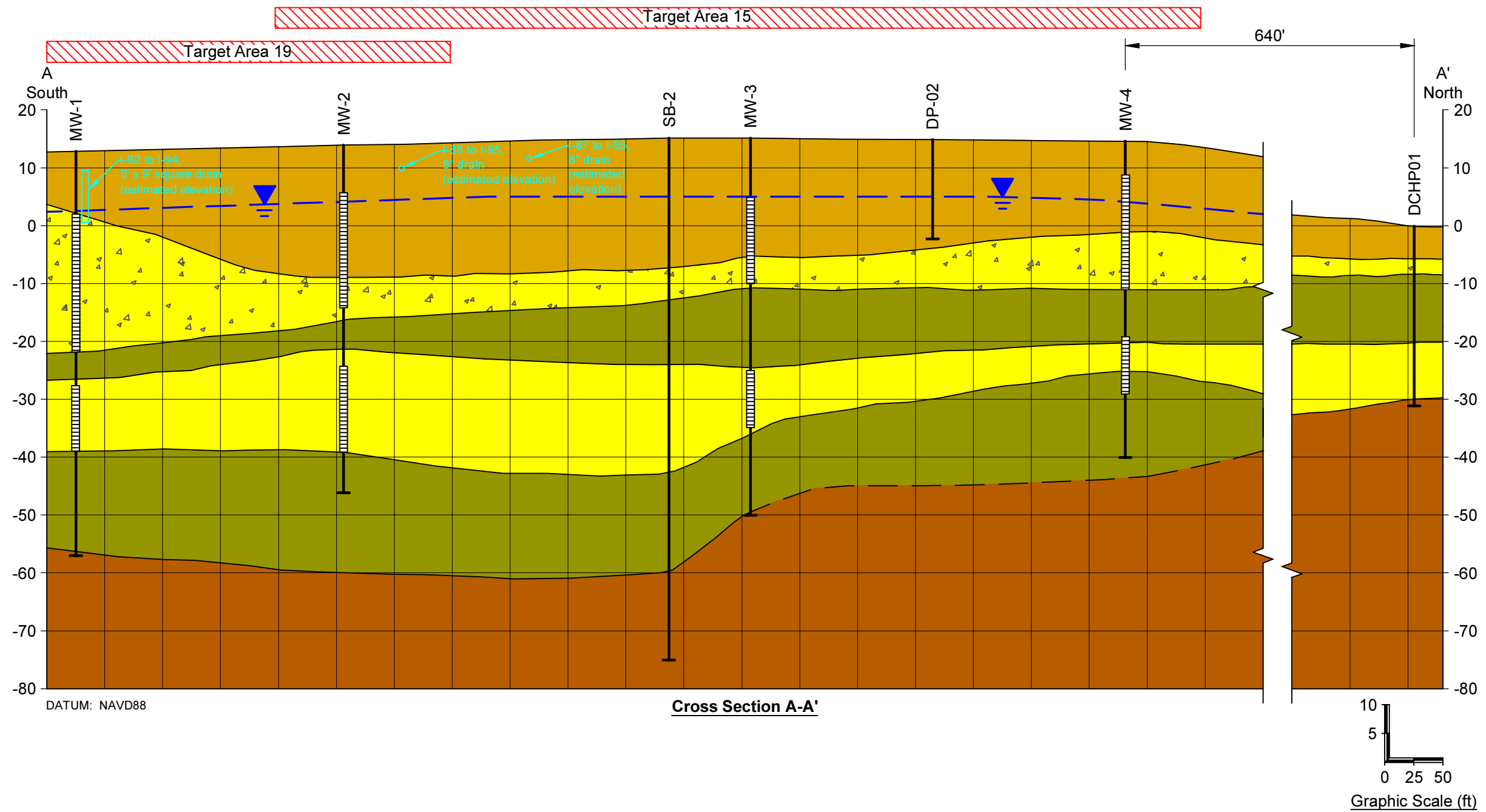
BENNING ROAD FACILITY RI/FS PROJECT 3400 BENNING RD., NE WASHINGTON, DC 20019			LANDSIDE INVESTIGATION AREA SAMPLE LOCATIONS: SOIL AND GROUNDWATER	
Date: 9/19/2018	Drawn By: KNS	Checked By: SED	FIGURE 2-6	



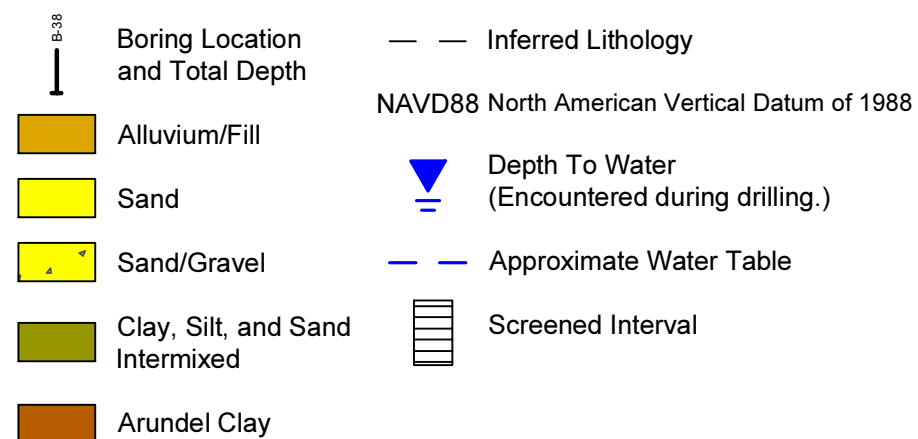


BENNING ROAD FACILITY RI/FS PROJECT 3400 BENNING RD., NE WASHINGTON, DC 20019			GEOLOGIC CROSS SECTION TRANSECT LOCATION MAP	
DATE: 09/19/2018	DRAWN BY: LAD	CHECKED BY: RD		FIGURE 2-7





## Legend:



NOTE: GEOLOGIC CROSS-SECTIONS ARE GENERALIZED

Benning Road Facility RI/FS Project  
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Washington, DC 20019

Geologic Cross Section A-A'

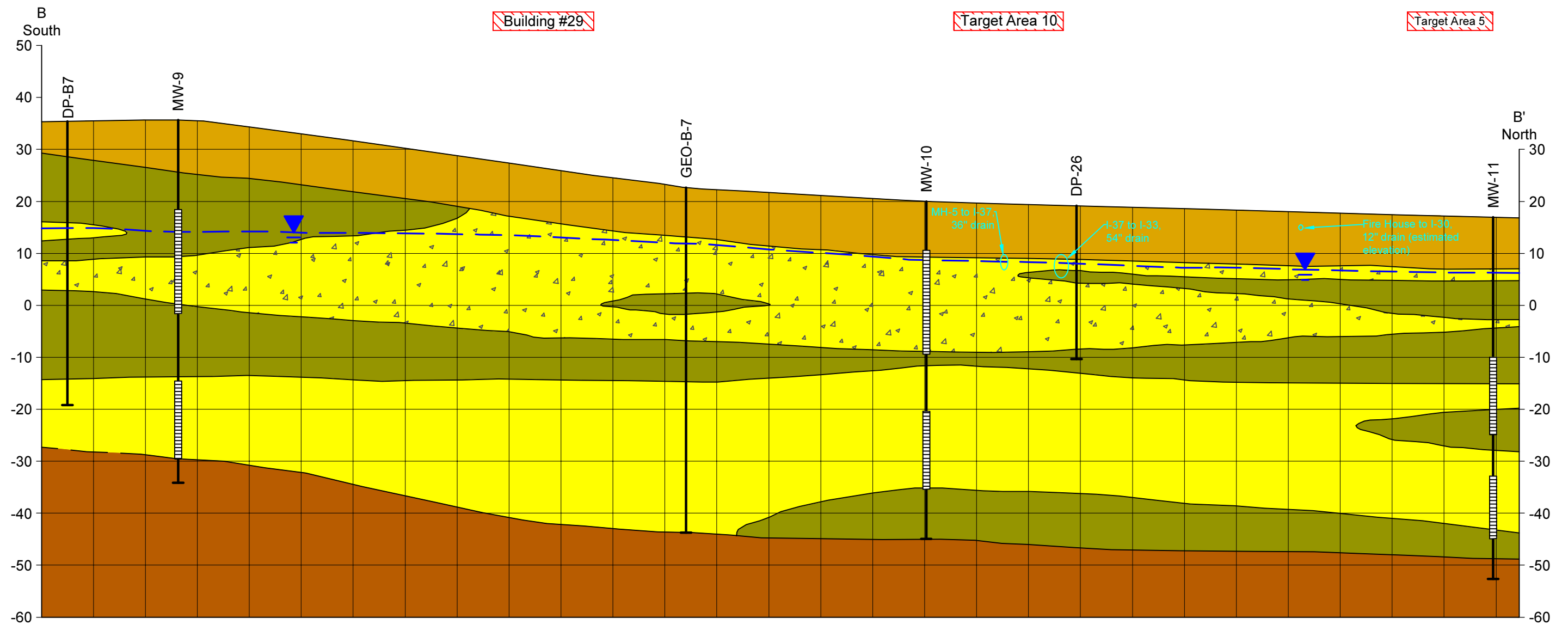
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CHECKED BY: RD

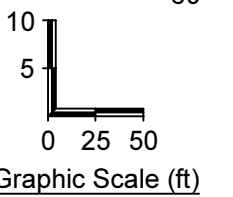
**FIGURE 2-8**





DATUM: NAVD88

**Cross Section B-B'**



## Legend:

- Boring Location and Total Depth
- Alluvium/Fill
- Sand
- Sand/Gravel
- Clay, Silt, and Sand Intermixed
- Arundel Clay
- Inferred Lithology
- NAVD88 North American Vertical Datum of 1988
- Depth To Water (Encountered during drilling.)
- Approximate Water Table
- Screened Interval

NOTE: GEOLOGIC CROSS-SECTIONS ARE GENERALIZED

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3400 Benning Rd., NE  
Washington, DC 20019

Geologic Cross Section B-B'

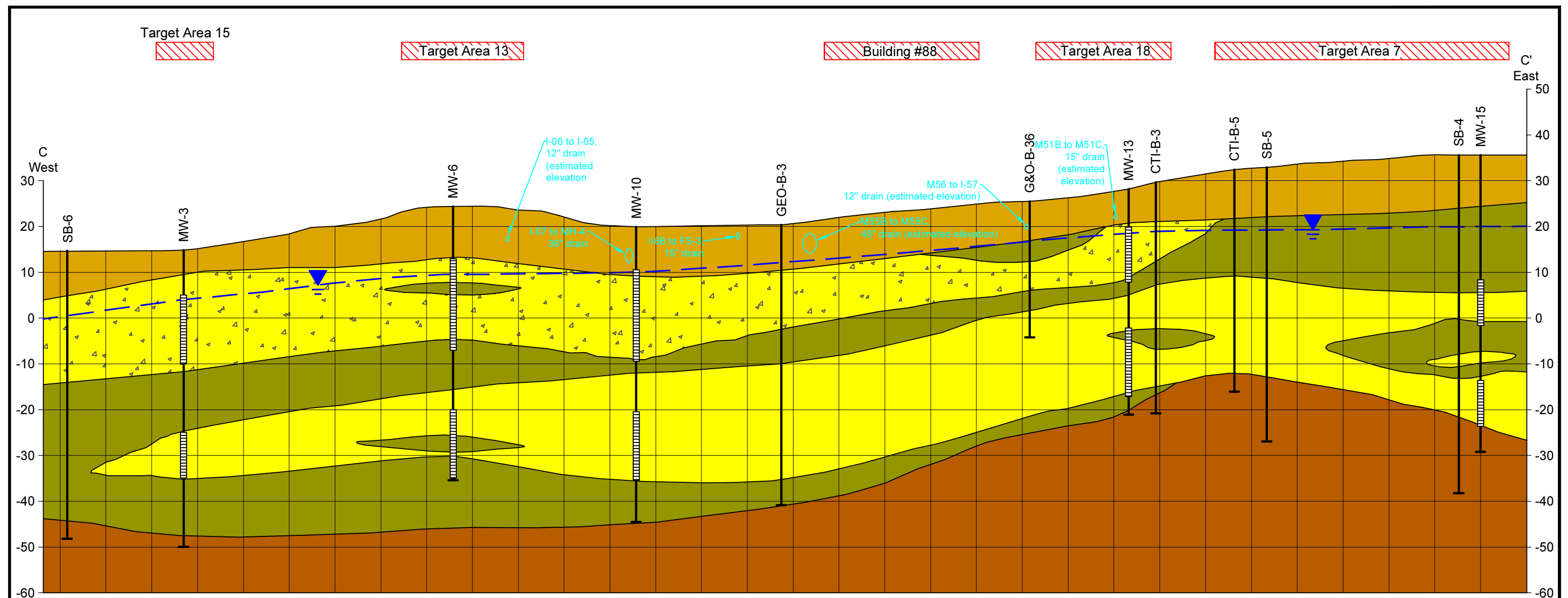
DATE: 09/14/2018

DRAWN BY: LAD

CHECKED BY: RD

**FIGURE 2-9**



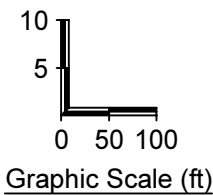


DATUM: NAVD88

Cross Section C-C'

# Legend:

- Boring Location and Total Depth
- Alluvium/Fill
- Sand
- Sand/Gravel
- Clay, Silt, and Sand Intermixed
- Arundel Clay
- Inferred Lithology
- Depth To Water (Encountered during drilling.)
- Approximate Water Table
- Screened Interval
- NAVD88 North American Vertical Datum of 1988



NOT TO SCALE

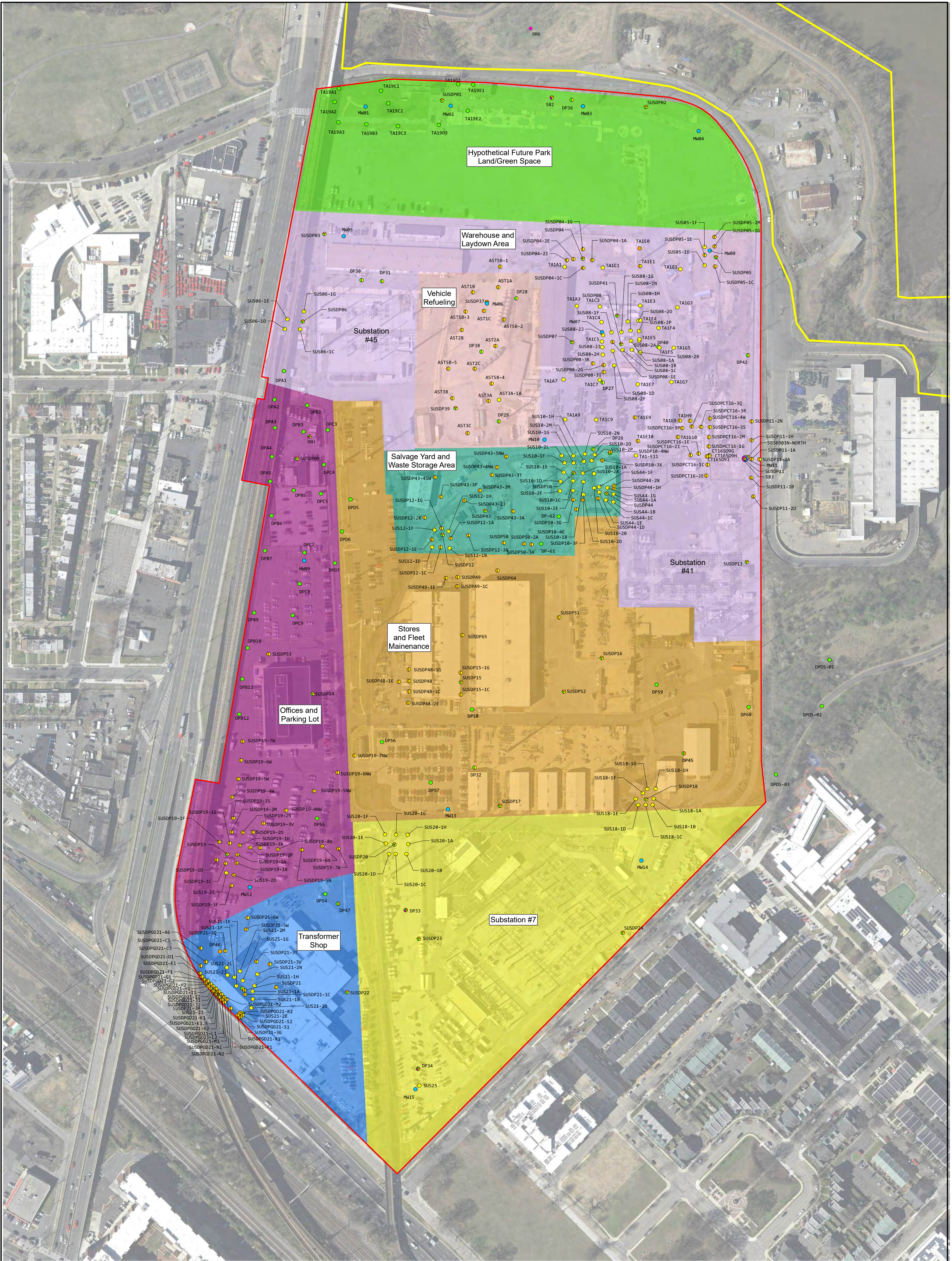
NOTE: GEOLOGIC CROSS-SECTIONS ARE GENERALIZED

NOTE: GEOLOGIC CROSS-SECTIONS ARE GENERALIZED



Benning Road Facility RI/FS Project 3400 Benning Rd., NE Washington, DC 20019			Geologic Cross Section C-C'	
DATE: 09/14/2018	DRAWN BY: LAD	CHECKED BY: RD	FIGURE 2-10	



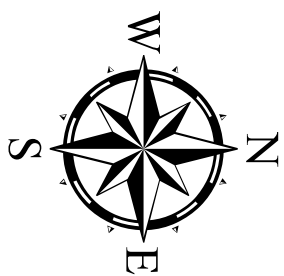


LEGEND

- |                       |   |                                     |                            |
|-----------------------|---|-------------------------------------|----------------------------|
| SURFACE SOILS         | NATIONAL PARK SERVICE KENILWORTH MAINTENANCE YARD | OFFICES AND PARKING LOT             | TRANSFORMER SHOP           |
| SUBSURFACE SOILS      | PROPERTY BOUNDARY                                 | SALVAGE YARD AND WASTE STORAGE AREA | VEHICLE REFUELING          |
| DIRECT PUSH WATER     | HYPOTHETICAL FUTURE PARK LAND/GREEN SPACE         | STORES AND FLEET MAINTENANCE        | WAREHOUSE AND LAYDOWN AREA |
| MONITORING WELL WATER |   | SUBSTATION #7                       |                            |
| GEOTECHNICAL BORING   |   |                                     |                            |

AECOM

0 400 Feet



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LANDSIDE EXPOSURE AREAS

Date: 5/1/2019

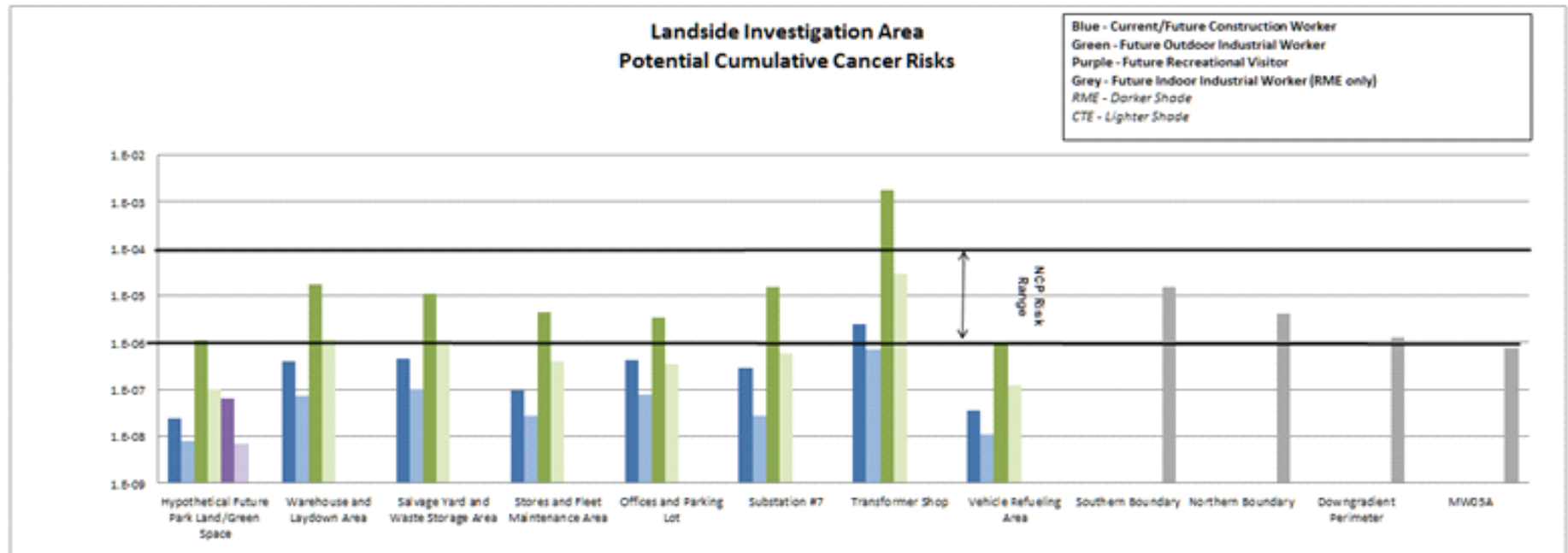
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Checked By: SED

FIGURE 2-11

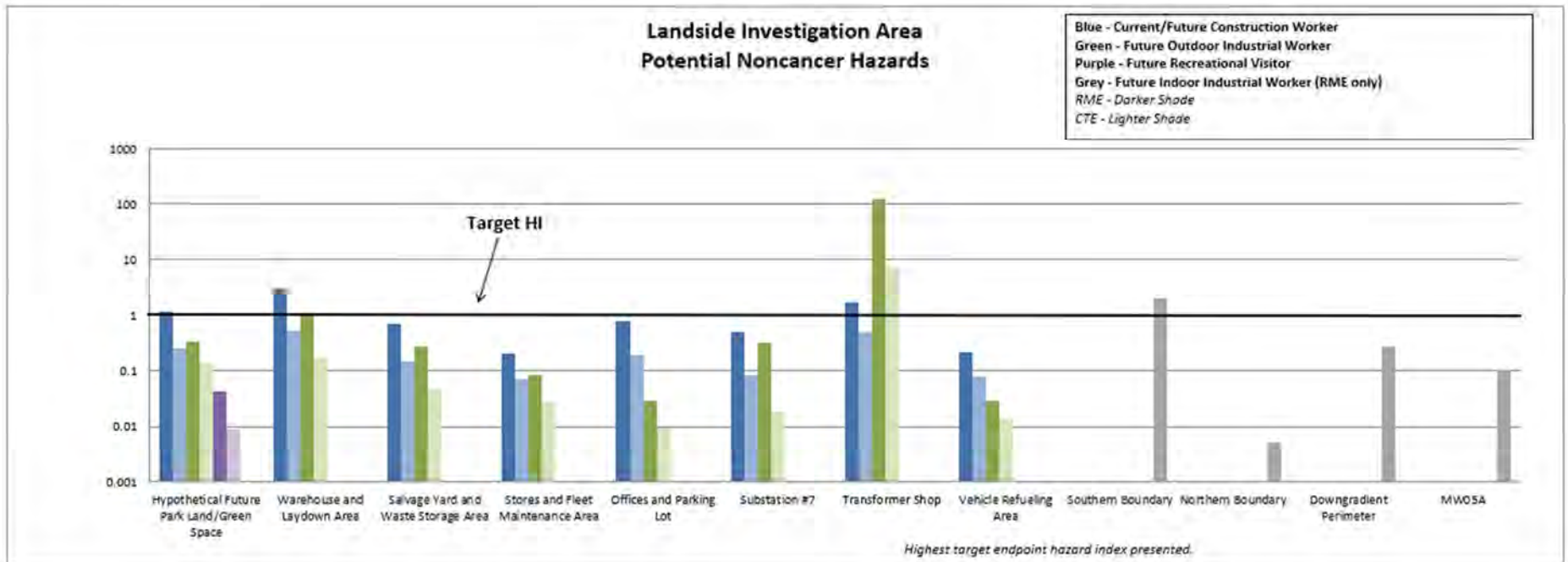


**Figure 2-12**  
**Landside Potential Cancer Risks**  
**Benning Road Facility FS Project**



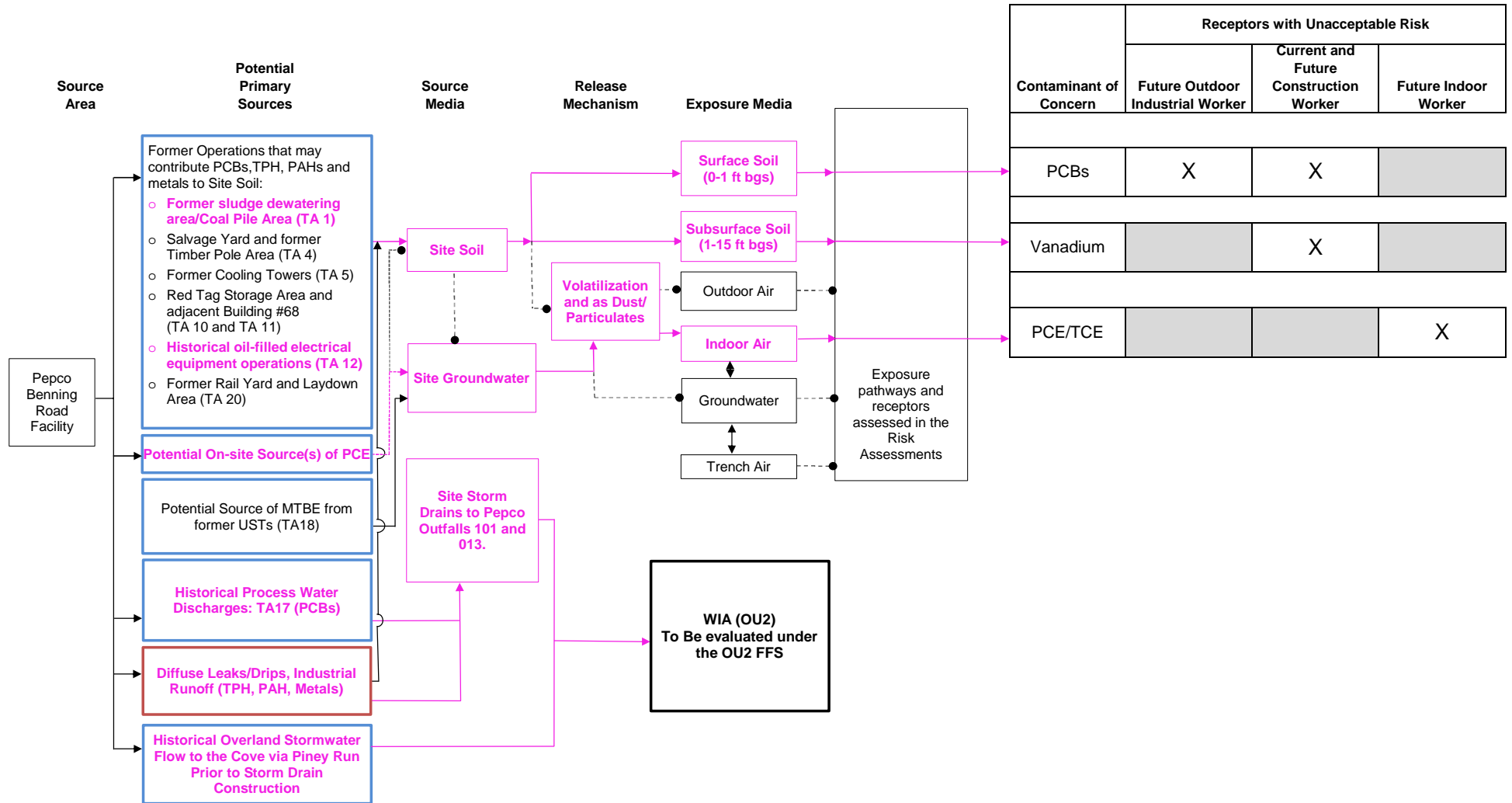


**Figure 2-13**  
**Landside Potential Noncancer Hazards**  
**Benning Road Facility FS Project**





**Figure 2-14**  
**Landside (OU1) Conceptual Site Model - On-site Sources Contributing to Potential COCs**  
**Benning Road Facility RI/FS Project**

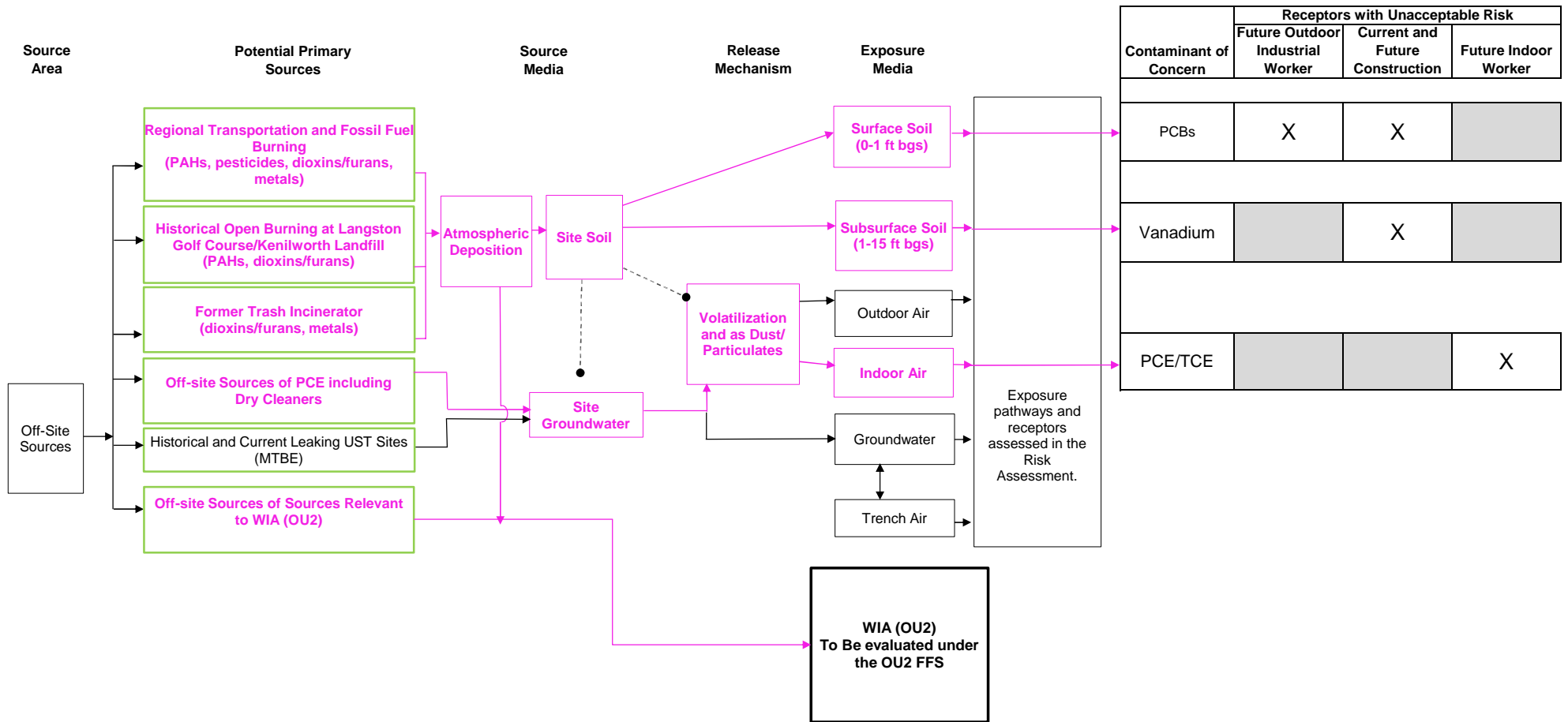


**Notes:**

- |   |  |                           |
|---|--|---------------------------|
| <span style="border: 1px solid blue; padding: 2px;"> </span> Potential historical/former source | <span style="color: magenta;">→</span> Potentially complete pathway    | NPS National Park Service |
| <span style="border: 1px solid red; padding: 2px;"> </span> Potential historical/current source | <span style="color: magenta;">- - - - -</span> Unconfirmed pathway     | TA Target Area            |
| <span style="color: magenta;">→</span> Magenta indicates unacceptable risk pathway              | <span style="color: magenta;">- - - - - ●</span> Insignificant Pathway | X Unacceptable Risk       |



**Figure 2-15**  
**Landside (OU1) Conceptual Site Model - Off-Site Sources Contributing to Potential COCs**  
**Benning Road Facility RI/FS Project**



**Notes:**

- Potentially complete pathway
- Unconfirmed pathway
- Insignificant Pathway

- KMY Kenilworth Maintenance Yard
- KPS Kenilworth Park South
- X Unacceptable Risk

**Magenta indicates Unacceptable Risk Pathway**

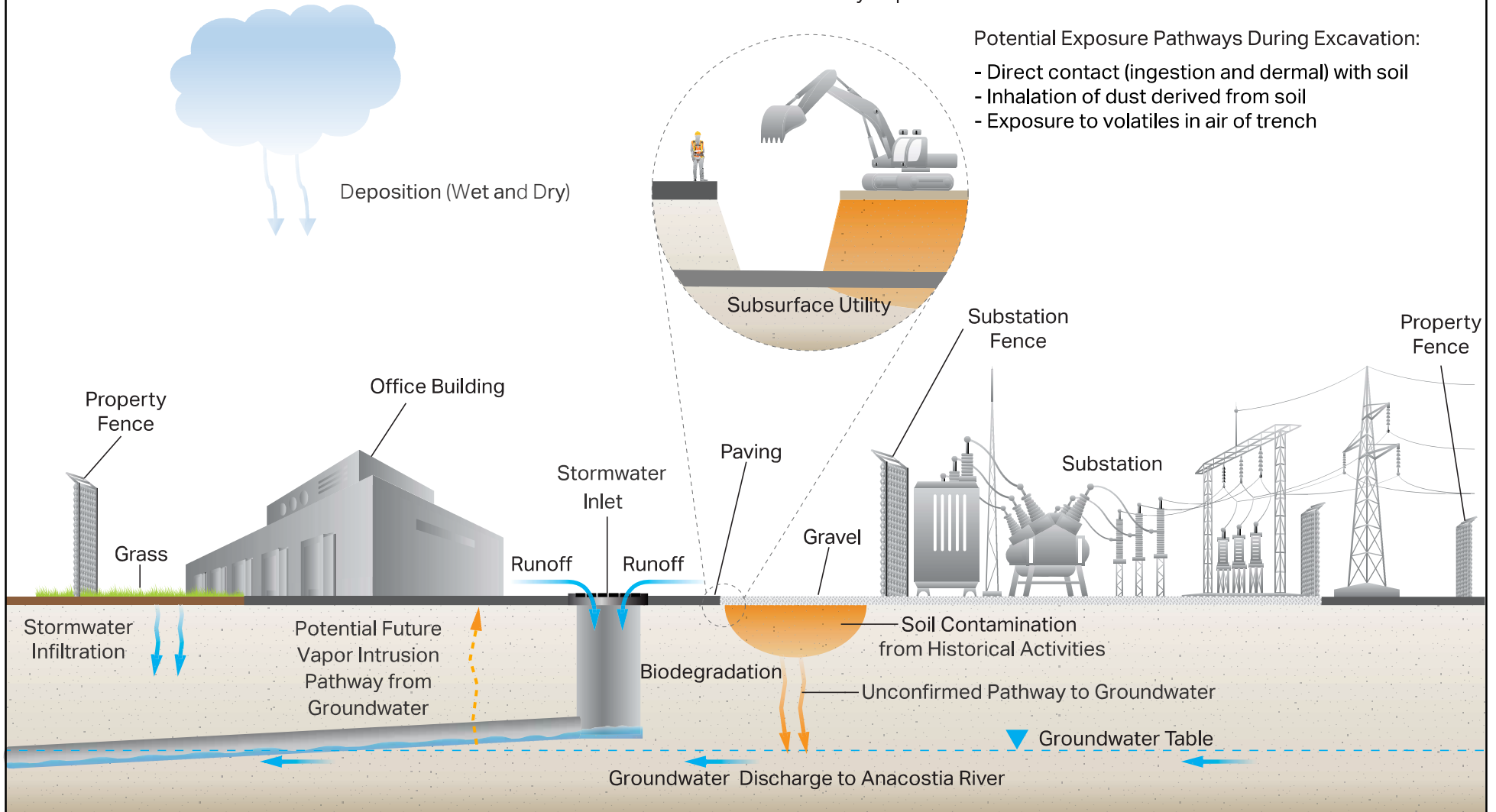


# Atmospheric Transport of Contaminants (Off-Site Sources)

## Trenching Scenario: Subsurface Utility Repair

### Potential Exposure Pathways During Excavation:

- Direct contact (ingestion and dermal) with soil
- Inhalation of dust derived from soil
- Exposure to volatiles in air of trench



Landside Investigation Area Conceptual  
Model

FIGURE 2-16

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