



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:

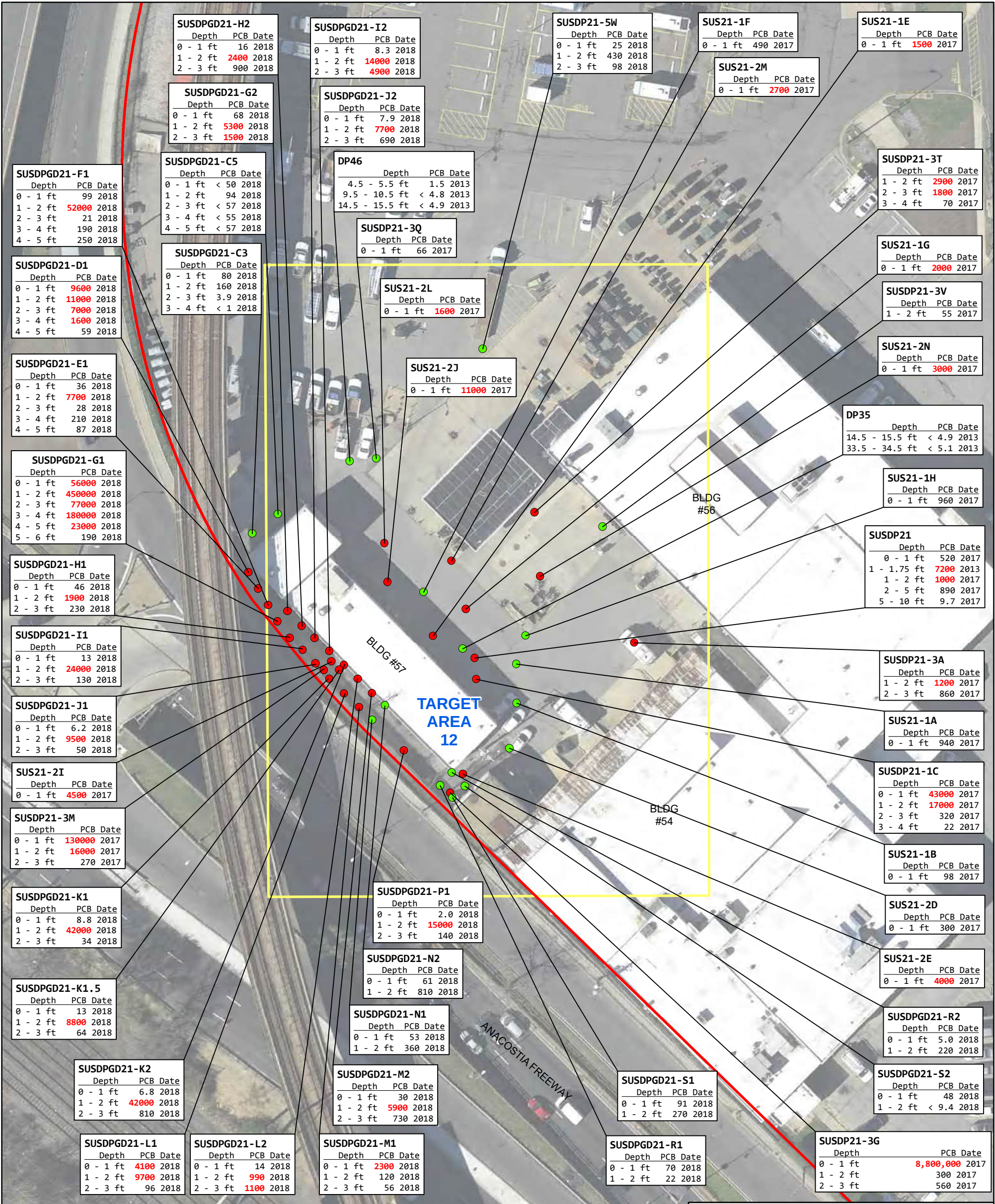
Pepco and Pepco Energy Services
701 9th Street, NW
Washington, DC 20068

PREPARED BY:

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

November 2023

Figures

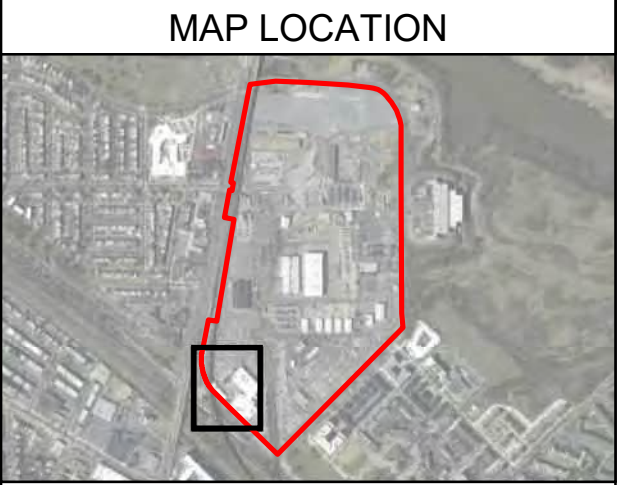


LEGEND

TOTAL PCB

- < 970 ug/kg
- > 970 ug/kg
- SAMPLING GRID
- PROPERTY BOUNDARY
- GROUP LOCATION

NOTE
PCB SCREENING LEVEL = 970 µg/kg
1.5x SCREENING LEVEL = 1455 µg/kg

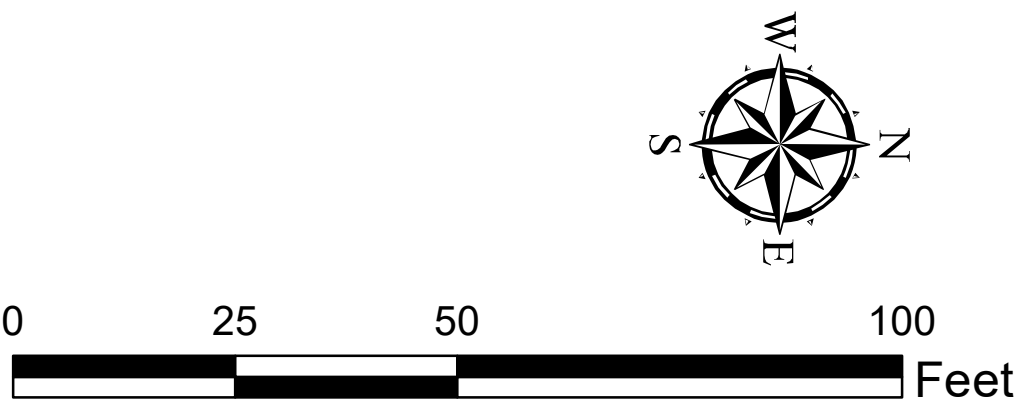




Total PCBs (mg/kg) PROPERTY BOUNDARY

● <7

● >7



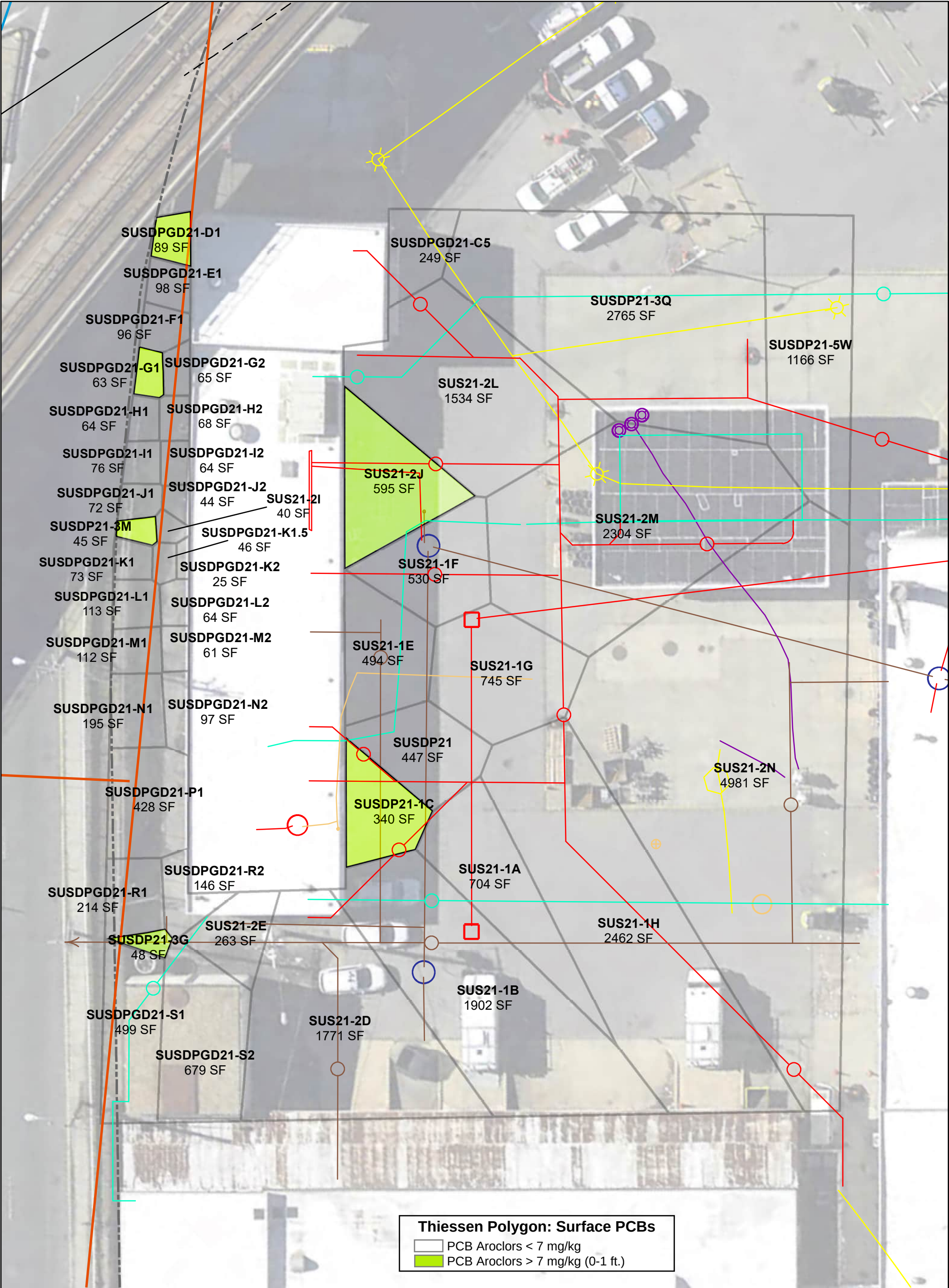
BENNING ROAD FACILITY RI/FS PROJECT
3400 BENNING RD., NE
WASHINGTON, DC 20019

Date: 5/24/2023 Drawn By: JB Checked By: SED

LANDSIDE INVESTIGATION AREA
SAMPLE LOCATIONS
TOTAL PCBs (MG/KG) IN
SURFACE SOIL (0-1 FT BGS)

AECOM

FIGURE 3-2



Benning Road Facility Property Boundary

WMATA Underground Easement

Underground-Rail

D.C. Water and Sewer

Water

Sewer

Fiber Optic

Electric

Gas

Sewer

Drain

Traffic

Communication

0

20

Feet

BENNING ROAD FACILITY FEASIBILITY STUDY

3400 BENNING RD., NE

WASHINGTON, DC 20019

Date: 10/20/2023

Drawn By: JB

Checked By:

LANDSIDE INVESTIGATION AREA

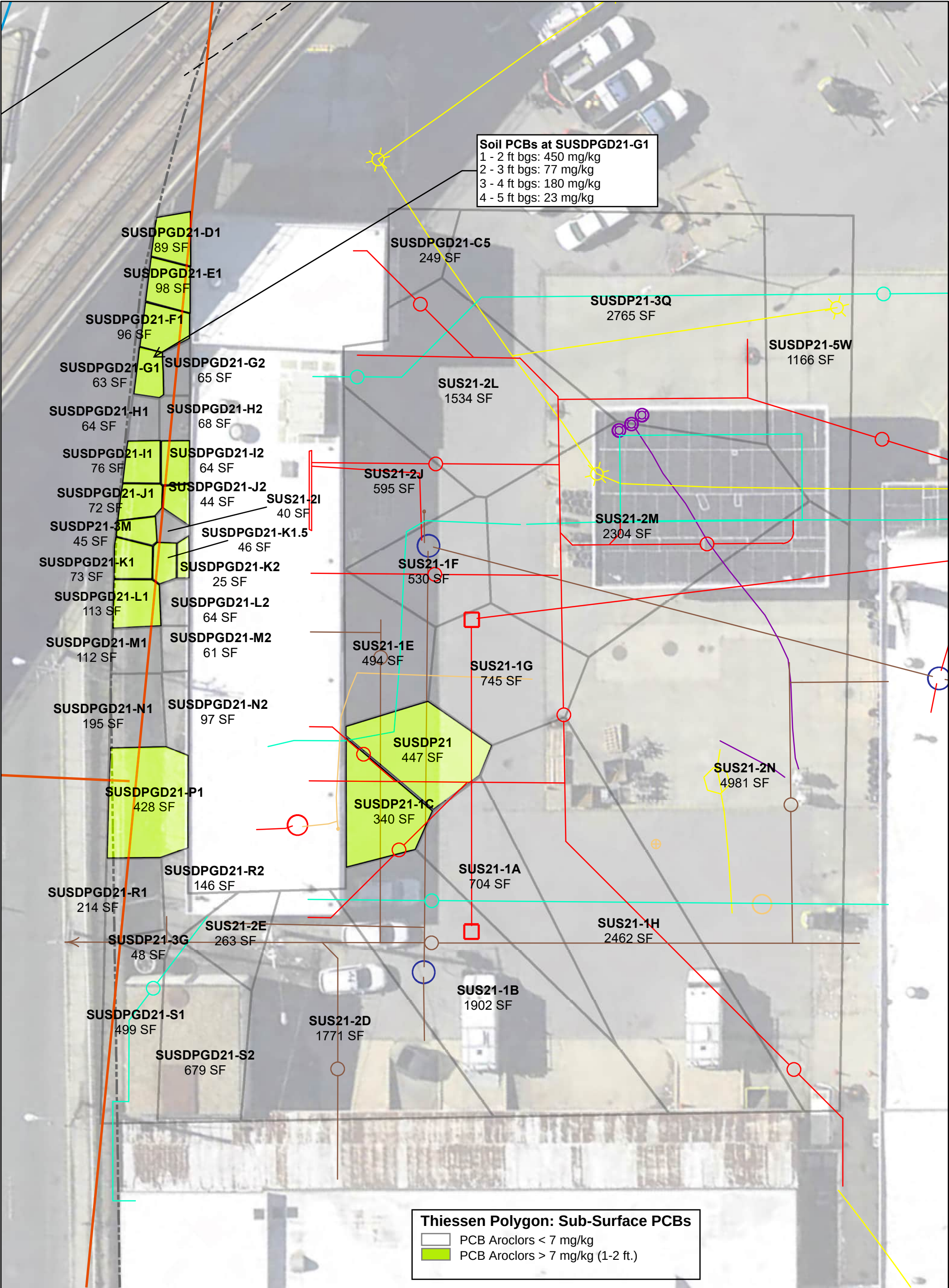
POLYGONS - PCB AROCHLORS

SURFACE SOIL (0-1 FT BGS)

FIGURE 3-3

Total area in exceedance of PRGs: 1180 Square Feet

Total volume of soil within 0-1 ft BGS: 44 CY



Soil PCBs at SUSDPGD21-G1
1 - 2 ft bgs: 450 mg/kg
2 - 3 ft bgs: 77 mg/kg
3 - 4 ft bgs: 180 mg/kg
4 - 5 ft bgs: 23 mg/kg

Thiessen Polygon: Sub-Surface PCBs
PCB Aroclors < 7 mg/kg
PCB Aroclors > 7 mg/kg (1-2 ft.)

- Benning Road Facility Property Boundary

WMATA

Underground Easement

Underground-Rail
- D.C. Water and Sewer

Water

Sewer
- Fiber Optic

Electric

Gas
- Sewer

Drain

Traffic
- Unknown

Water

Communication

Total area in exceedance of PRGs: 2119 Square Feet
Total volume of soil within 1-2 ft BGS: 78 CY

BENNING ROAD FACILITY FEASIBILITY STUDY
3400 BENNING RD., NE
WASHINGTON, DC 20019

LANDSIDE INVESTIGATION AREA
POLYGONS - PCB AROCLORS
SUB-SURFACE SOIL (1-2 FT BGS)

Date: 10/20/2023

Drawn By: JB

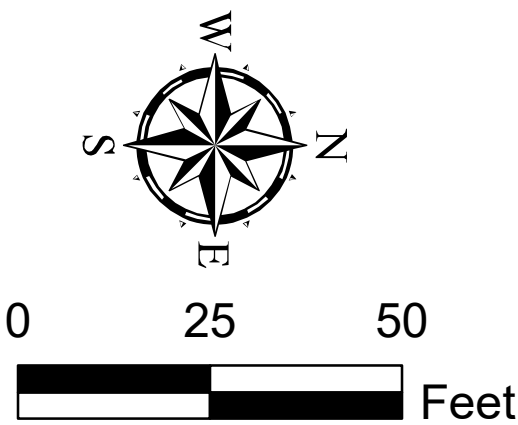
Checked By:

FIGURE 3-5



Vanadium (mg/kg)

- < 277
- > 277



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

LANDSIDE INVESTIGATION AREA
SAMPLE LOCATIONS - VANADIUM
SURFACE SOIL (0-1 FT BGS)

Date: 11/3/2023

Drawn By: JB

Checked By: SED

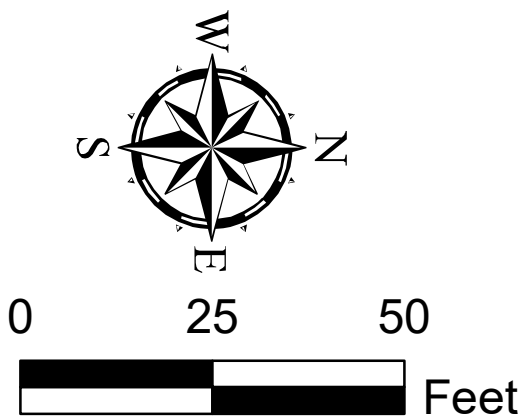
AECOM

FIGURE 3-6



Vanadium (mg/kg)

- < 277
- > 277



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

Date: 11/3/2023

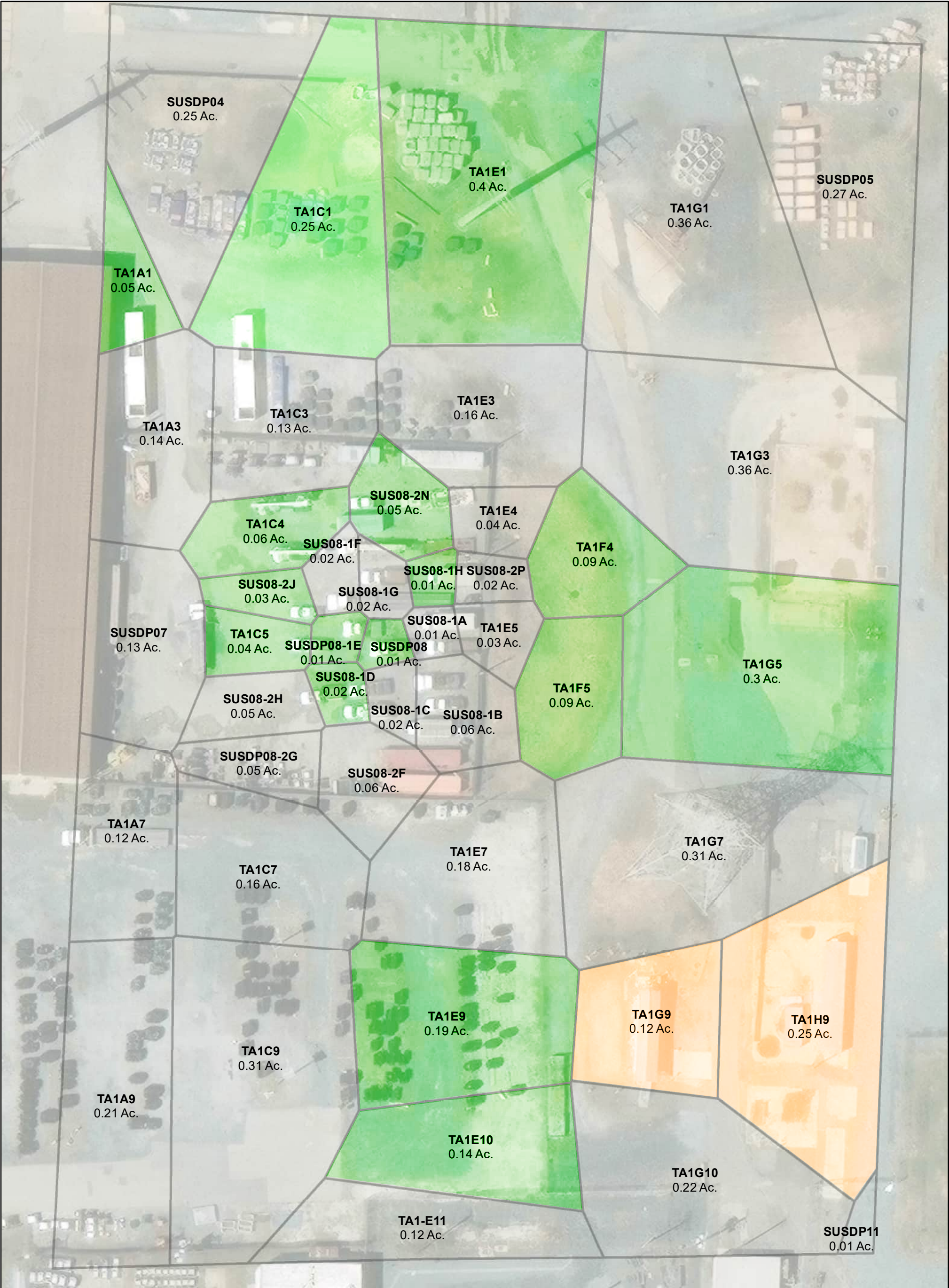
Drawn By: JB

Checked By: SED

LANDSIDE INVESTIGATION AREA
SAMPLE LOCATIONS - VANADIUM
SUBSURFACE SOIL (>1 FT BGS)

AECOM

FIGURE 3-7



Thiessen Polygon: Vanadium

Vanadium < 277 mg/kg

Vanadium > 277 mg/kg (0-1 ft.)

Vanadium > 277 mg/kg (0-1 and 0-2 ft.)

Total area in exceedance of PRGs: 91,912 Square Feet
Total volume of soil within 0-2 ft BGS with vanadium > PRG: 4000 CY

BENNING ROAD FACILITY FEASIBILITY STUDY 3400 BENNING RD., NE WASHINGTON, DC 20019			LANDSIDE INVESTIGATION AREA POLYGONS - VANADIUM SURFACE SOIL (0-1 FT BGS) AND SUB-SURFACE SOIL (0-2 FT BGS)	
Date: 10/31/2023	Drawn By: CMD	Checked By:	FIGURE 3-8	



Vanadium (mg/kg)

<277

>277

Pervious (Grass and Loose Stone)

Impervious (Paved and Hard-Packed Gravel)

Former Power Plant Building Foundation

0

25

50

Feet

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

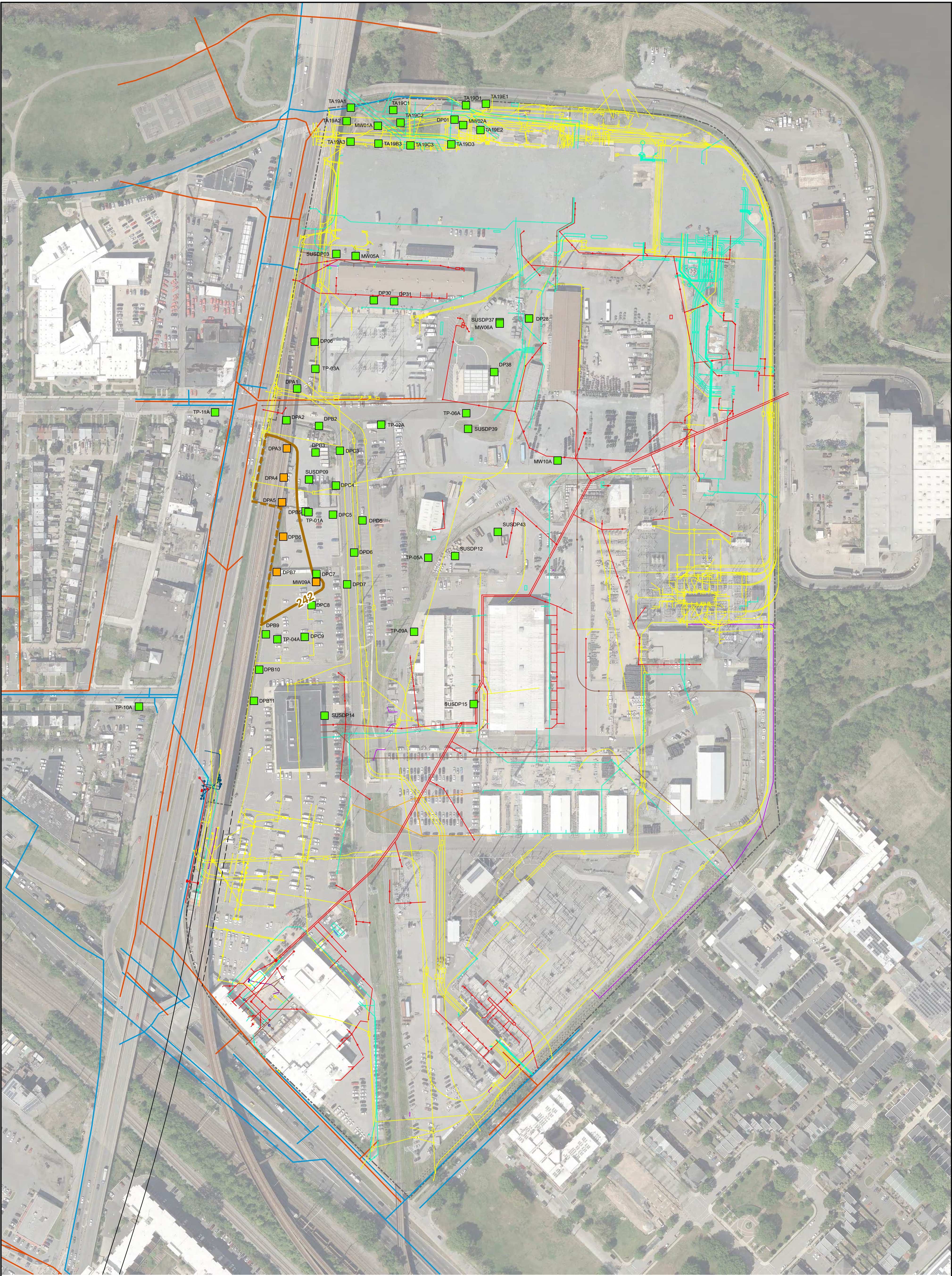
Date: 4/5/2023

Drawn By: JB

Checked By: SED

LANDSIDE INVESTIGATION AREA
PERVIOUS AND IMPERVIOUS
COVER IN WAREHOUSE AND
LAYDOWN AREA

FIGURE 3-9



PCE (ug/l)

■ <242

■ >242

— PCE Isoconcentration Line (242 ug/L)
(Area = 43,759 SF)

Benning Road Facility Property Boundary

D.C. Water and Sewer

— Water

— Sewer

Notes

1. Extent of the plume is not inferred beyond the property boundary.

2. DP, TA and SUSDP samples were collected via point-in-time direct push technology (2014).

3. MW samples were collected from developed monitoring wells (2014, 2016 and 2021). Maximum concentration observed is utilized.

4. TP samples were collected from developed pre-packed monitoring points (2021).

— Fiber Optic

— Electric

— Gas

— Sewer

— Drain

— Traffic

— Unknown

— Water

— Communication

- - - WMATA Underground Easement

— Underground-Rail

0 120 240

Feet

BENNING ROAD FACILITY RI/FS PROJECT

3400 BENNING RD., NE

WASHINGTON, DC 20019

Date: 4/26/2022

Drawn By: JB

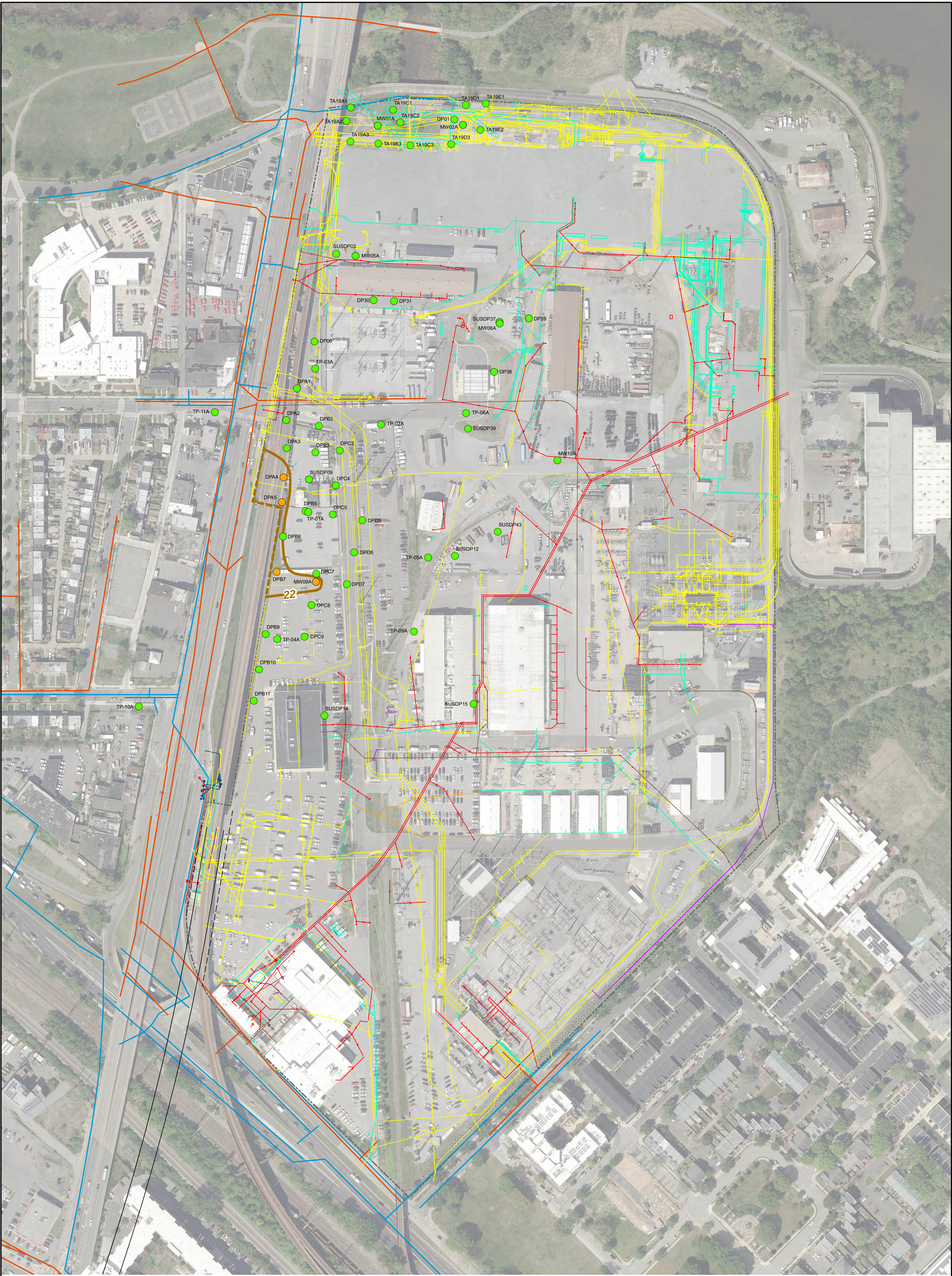
Checked By: EF

LANDSIDE INVESTIGATION AREA

SAMPLE LOCATIONS

PCE UPPER WATER-BEARING ZONE

FIGURE 3-10



TCE (ug/l)

● <22

● >22

— TCE Isoconcentration Line (22 ug/L)
(Area = 22,231 SF)

Benning Road Facility Property Boundary

— Water

— Sewer

D.C. Water and Sewer

— Water

— Sewer

— Fiber Optic

— Electric

— Gas

— Sewer

— Drain

— Traffic

— Unknown

— Water

— Communication

--- WMATA Underground Easement

— Underground-Rail

- Notes
1. Extent of the plume is not inferred beyond the property boundary.
 2. DP, TA and SUSDP samples were collected via point-in-time direct push technology (2014).
 3. MW samples were collected from developed monitoring wells (2014, 2016 and 2021). Maximum concentration observed is utilized.
 4. TP samples were collected from developed pre-packed monitoring points (2021).

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

LANDSIDE INVESTIGATION AREA
SAMPLE LOCATIONS
TCE UPPER WATER-BEARING ZONE

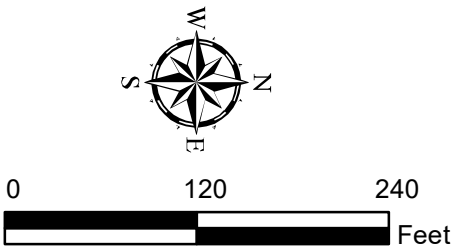
Date: 4/26/2022

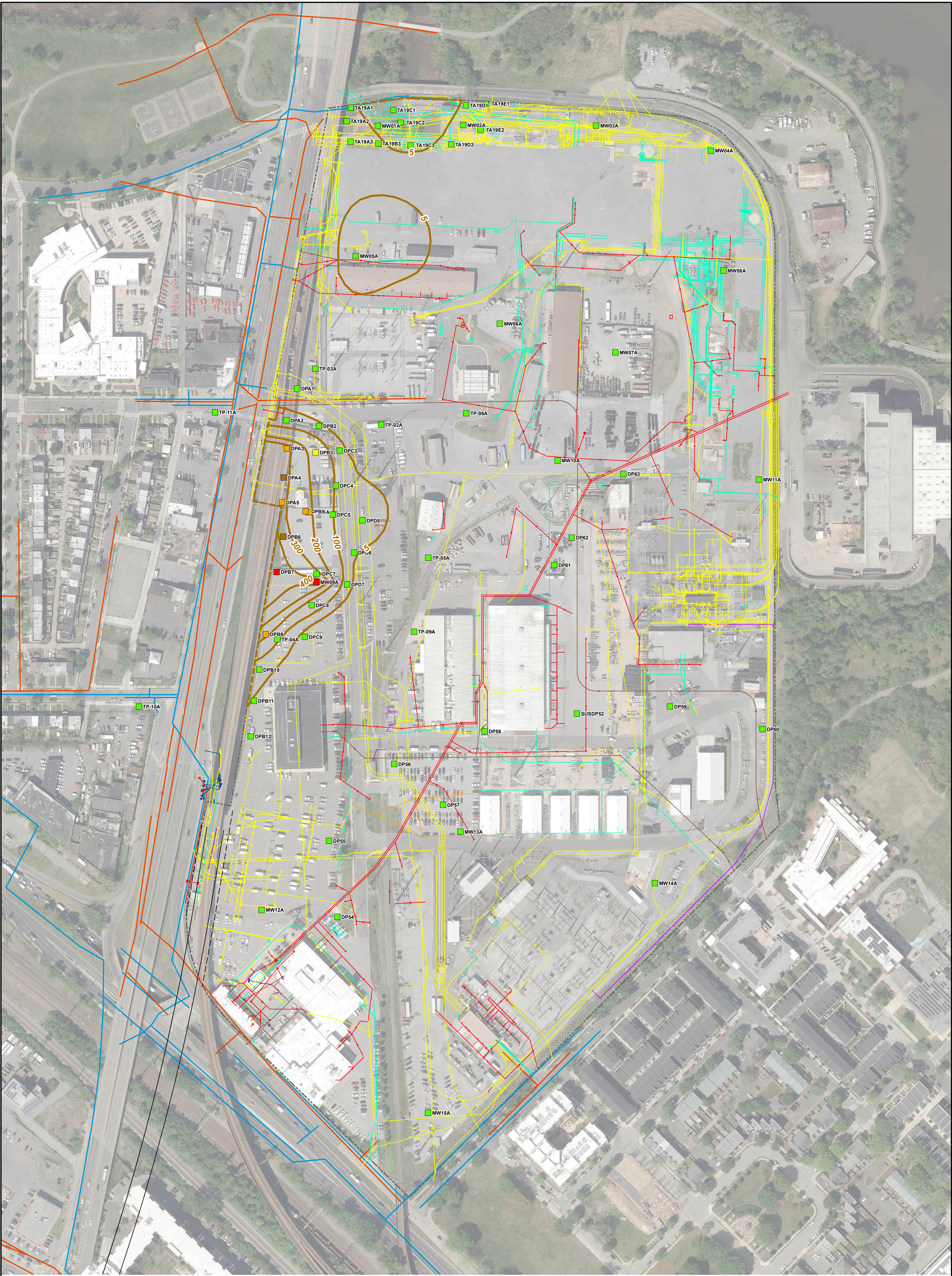
Drawn By: JB

Checked By: EF

FIGURE 3-11

AECOM





Total VOCs (ug/l)

- < 100
- ≥100 - < 200
- ≥ 200 - < 300
- ≥ 300 - < 400
- ≥ 400

Total VOCs Isoconcentration Line (5 ug/L)
(Area = 222,643 SF)

Total VOCs Isoconcentration Line (100 ug/L)
(Area = 93,208 SF)

Total VOCs Isoconcentration Line (200 ug/L)
(Area = 60,165 SF)

Total VOCs Isoconcentration Line (300 ug/L)
(Area = 35,381 SF)

Total VOCs Isoconcentration Line (400 ug/L)
(Area = 9,156 SF)

Benning Road Facility
Property Boundary

D.C. Water and Sewer

- Water
- Sewer

- Fiber Optic
- Electric
- Gas

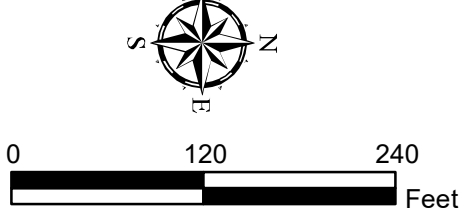
- Sewer
- Drain
- Traffic

- Unknown
- Water
- Communication
- WMATA
- Underground Easement
- Underground-Rail

Notes

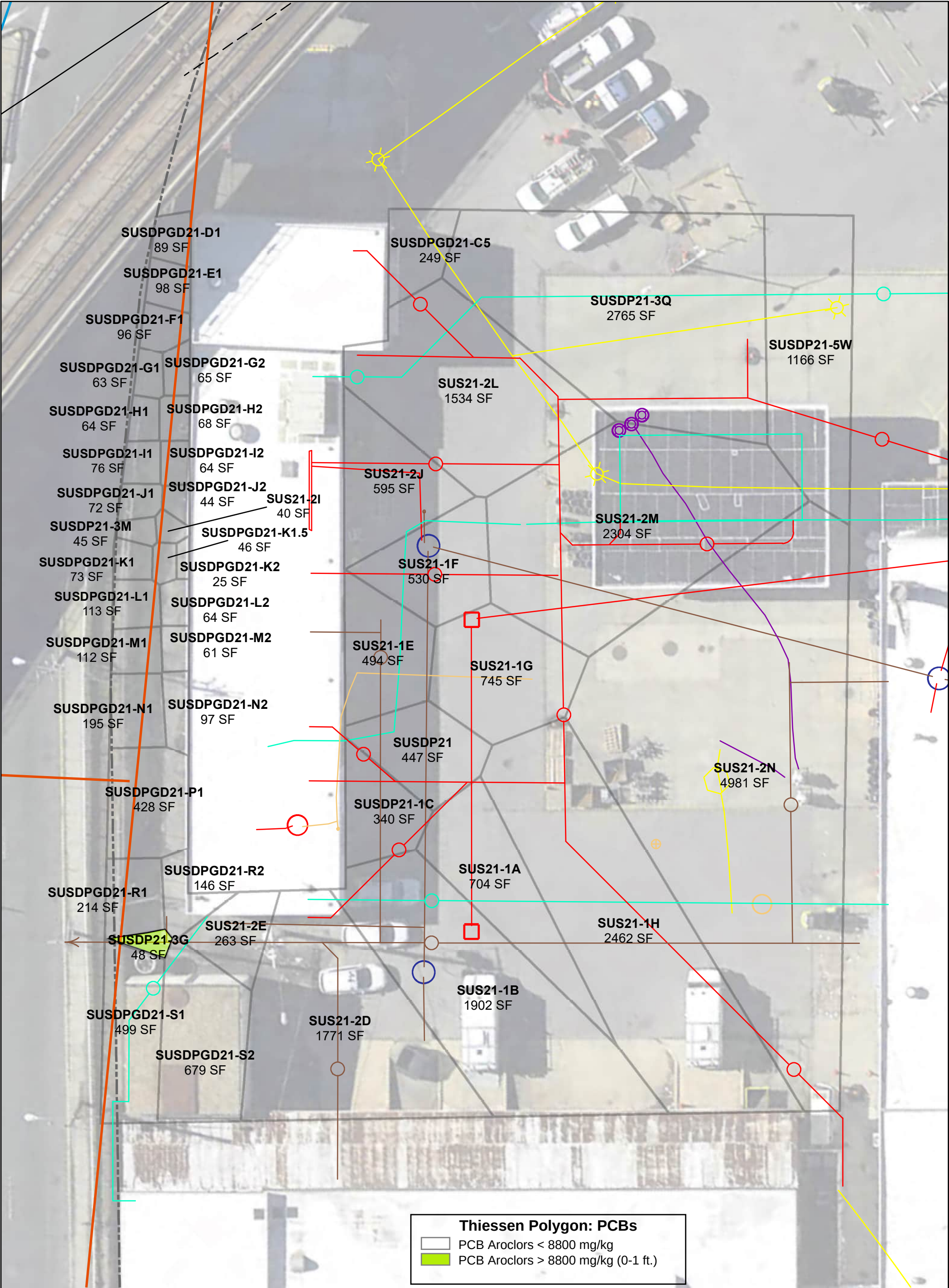
- Extent of the plume is not inferred beyond the property boundary.
- MW samples were collected from developed monitoring wells (2014 - 2021). Maximum concentration observed is utilized.
- TP samples were collected from developed pre-packed monitoring points (2021).

AECOM



BENNING ROAD FACILITY RI/FS PROJECT 3400 BENNING RD., NE WASHINGTON, DC 20019		
Date: 9/13/2023	Drawn By: JB	Checked By: EF

LANDSIDE INVESTIGATION AREA TOTAL VOC ISOCONCENTRATION CONTOURS, UPPER WATER-BEARING ZONE	
FIGURE 3-12	



Benning Road Facility Property Boundary

WMATA

Underground Easement

Underground-Rail

D.C. Water and Sewer

Water

Sewer

Fiber Optic

Electric

Gas

Sewer

Drain

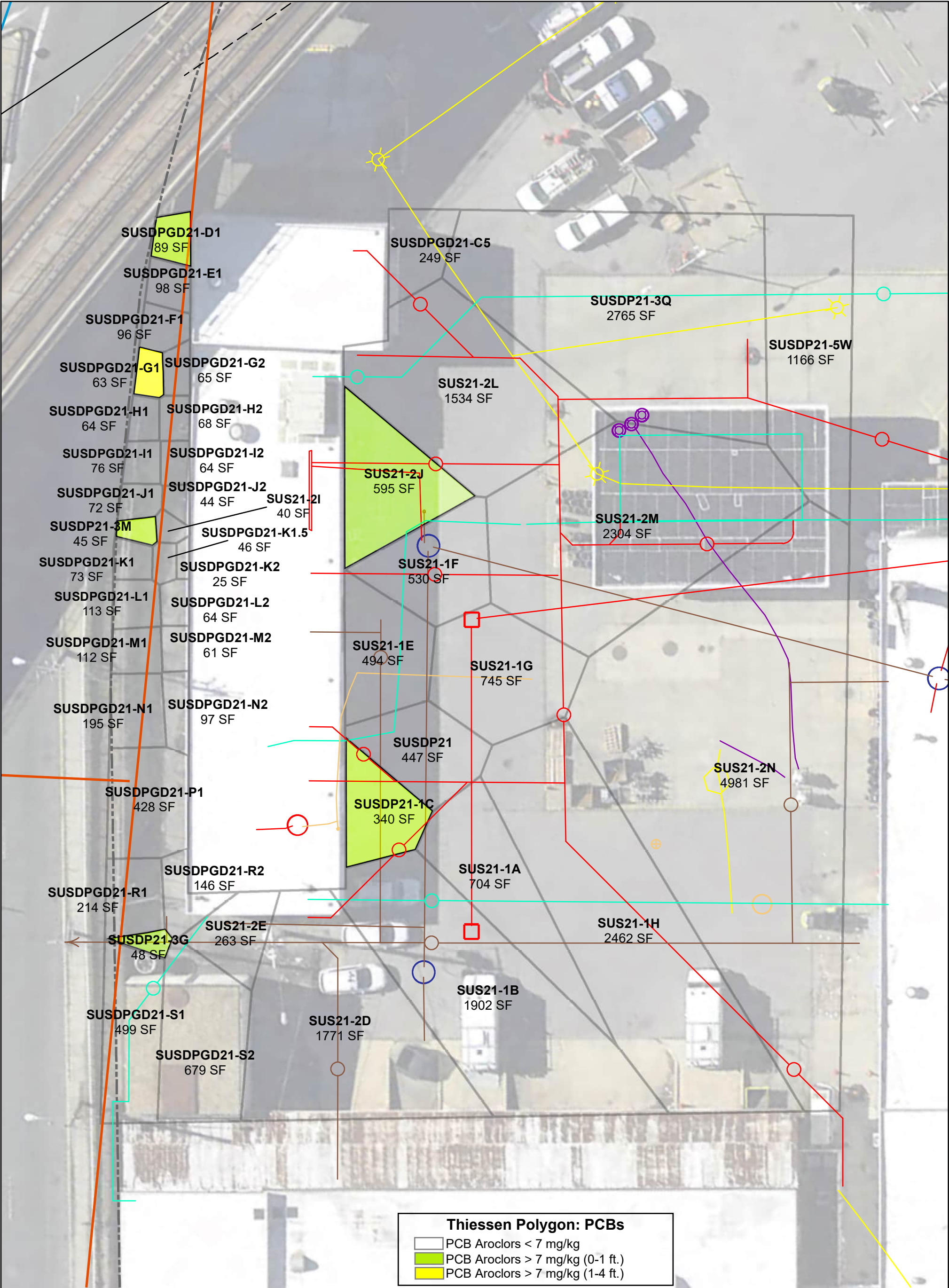
Traffic

Communication

Total area in exceedance of PRGs: 48 Square Feet

Total volume of soil within 0-1 ft BGS: 1.8 CY

BENNING ROAD FACILITY FEASIBILITY STUDY 3400 BENNING RD., NE WASHINGTON, DC 20019			LANDSIDE INVESTIGATION AREA CONCEPTUAL APPROACH FOR LSS-PCB-2	
Date: 10/20/2023	Drawn By: JB	Checked By:		FIGURE 5-1



Benning Road Facility Property Boundary

WMATA

Underground Easement

Underground-Rail

D.C. Water and Sewer

Water

Sewer

Fiber Optic

Electric

Gas

Sewer

Drain

Traffic

Unknown

Water

Communication

PCB Aroclors < 7 mg/kg

PCB Aroclors > 7 mg/kg (0-1 ft.)

PCB Aroclors > 7 mg/kg (1-4 ft.)

0

20

Feet

Benning Road Facility Feasibility Study

3400 Benning Rd., NE

Washington, DC 20019

Date: 10/20/2023

Drawn By: JB

Checked By:

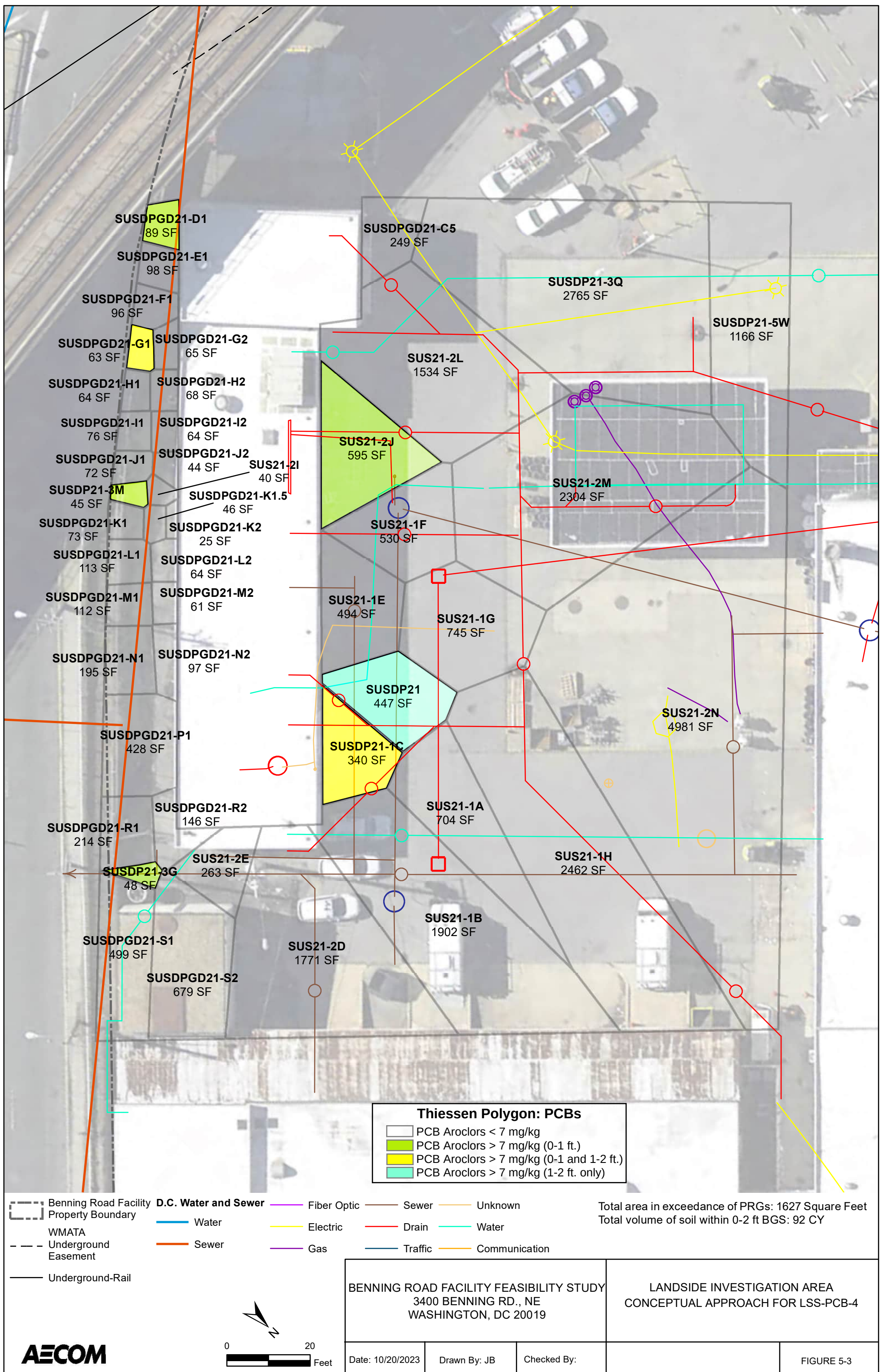
LANDSIDE INVESTIGATION AREA

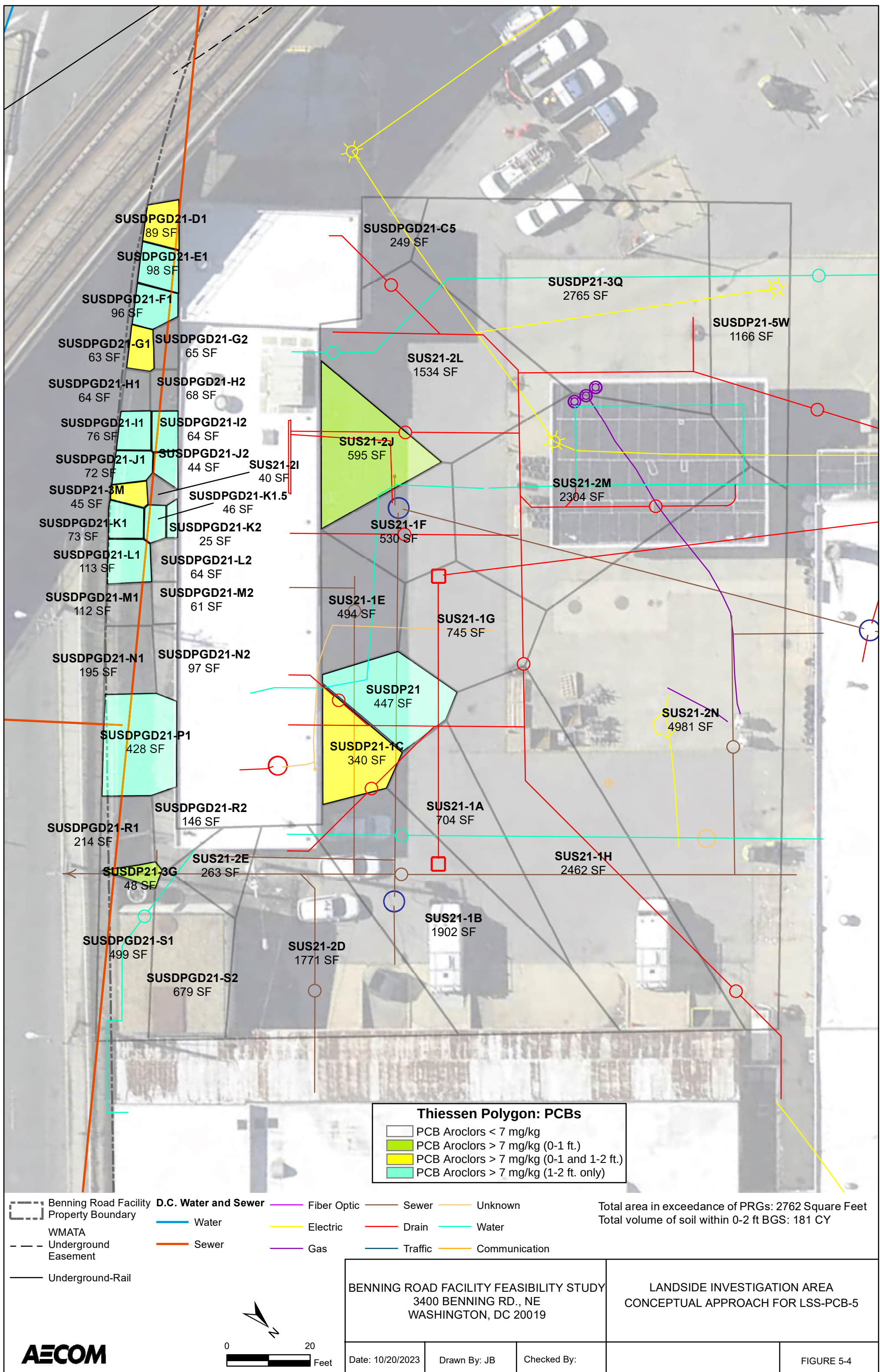
CONCEPTUAL APPROACH FOR LSS-PCB-3

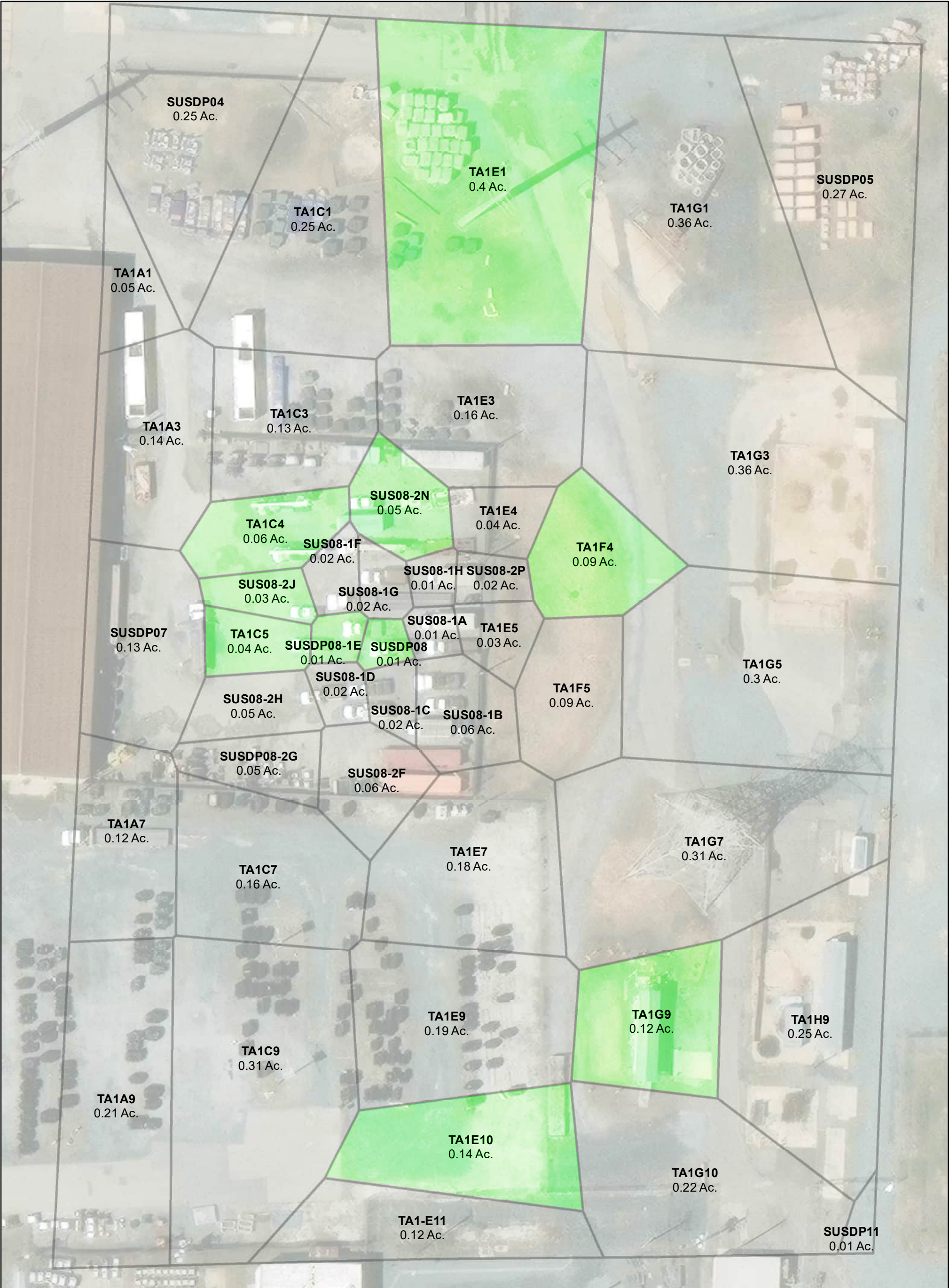
FIGURE 5-2

Total area in exceedance of PRGs: 1180 Square Feet

Total volume of soil within 0-4 ft BGS: 51 CY







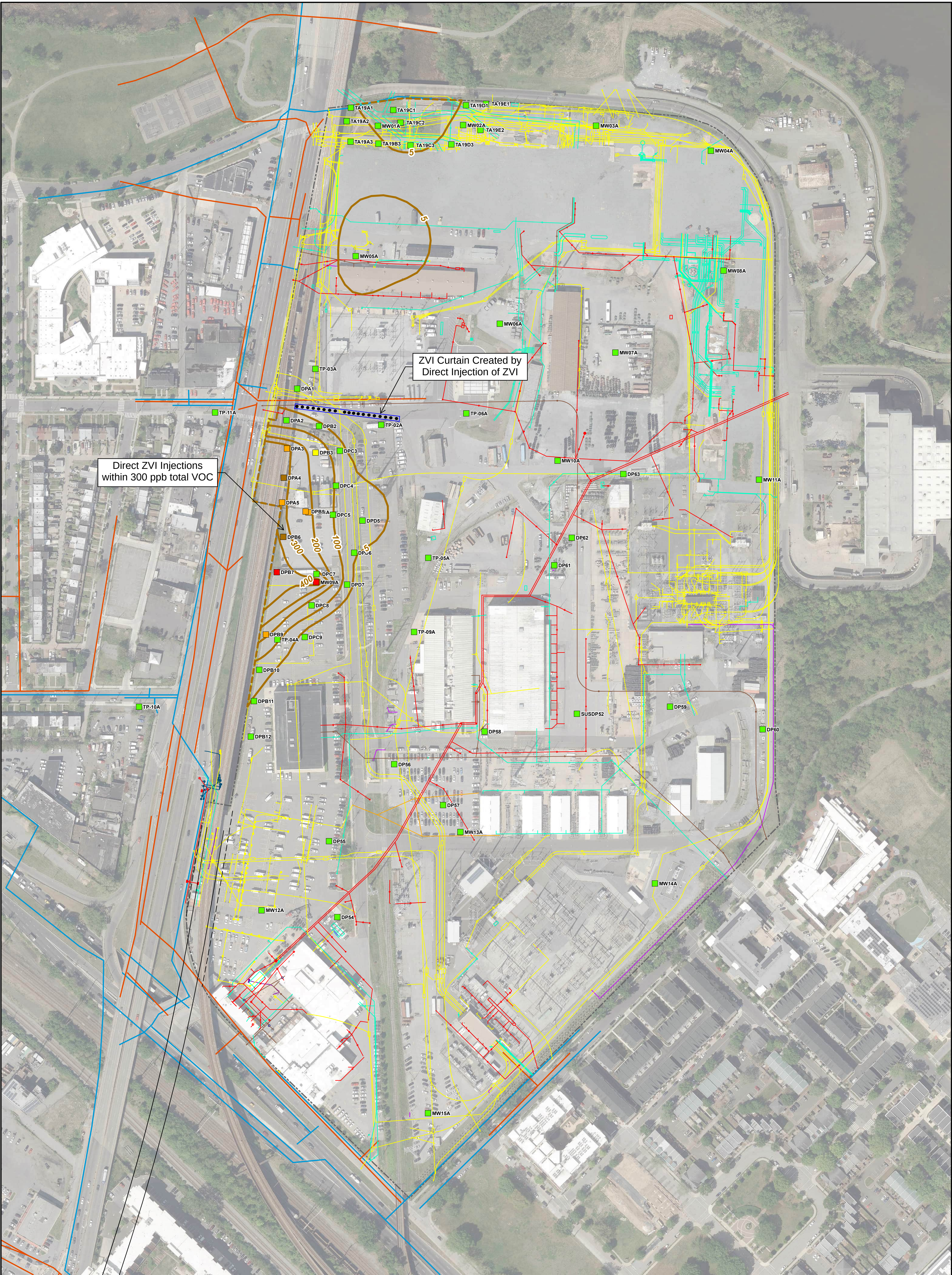
Total area in exceedance of PRGs: 41,382 Square Feet
Total volume of soil within 0-1 ft BGS: 1530 CY

Thiessen Polygon: Vanadium

Vanadium < 277 mg/kg

Vanadium > 277 mg/kg (0-1 ft.)

BENNING ROAD FACILITY FEASIBILITY STUDY 3400 BENNING RD., NE WASHINGTON, DC 20019			LANDSIDE INVESTIGATION AREA CONCEPTUAL APPROACH FOR LSS-V-3	
Date: 10/31/2023	Drawn By: CMD	Checked By:		FIGURE 5-5



Total VOCs (ug/l)

- < 100
- ≥100 - < 200
- ≥ 200 - < 300
- ≥ 300 - < 400
- ≥ 400

Total VOCs Isoconcentration Line (5 ug/L)
(Area = 222,643 SF)

Total VOCs Isoconcentration Line (100 ug/L)
(Area = 93,208 SF)

Total VOCs Isoconcentration Line (200 ug/L)
(Area = 60,165 SF)

Total VOCs Isoconcentration Line (300 ug/L)
(Area = 35,381 SF)

Total VOCs Isoconcentration Line (400 ug/L)
(Area = 9,156 SF)

Benning Road Facility D.C. Water and Sewer

Benning Road Facility Property Boundary

Water

Sewer

Fiber Optic

Electric

Gas

Sewer

Drain

Traffic

Unknown

Water

Communication

WMATA

Underground Easement

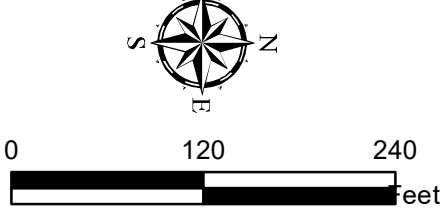
Underground-Rail

Notes

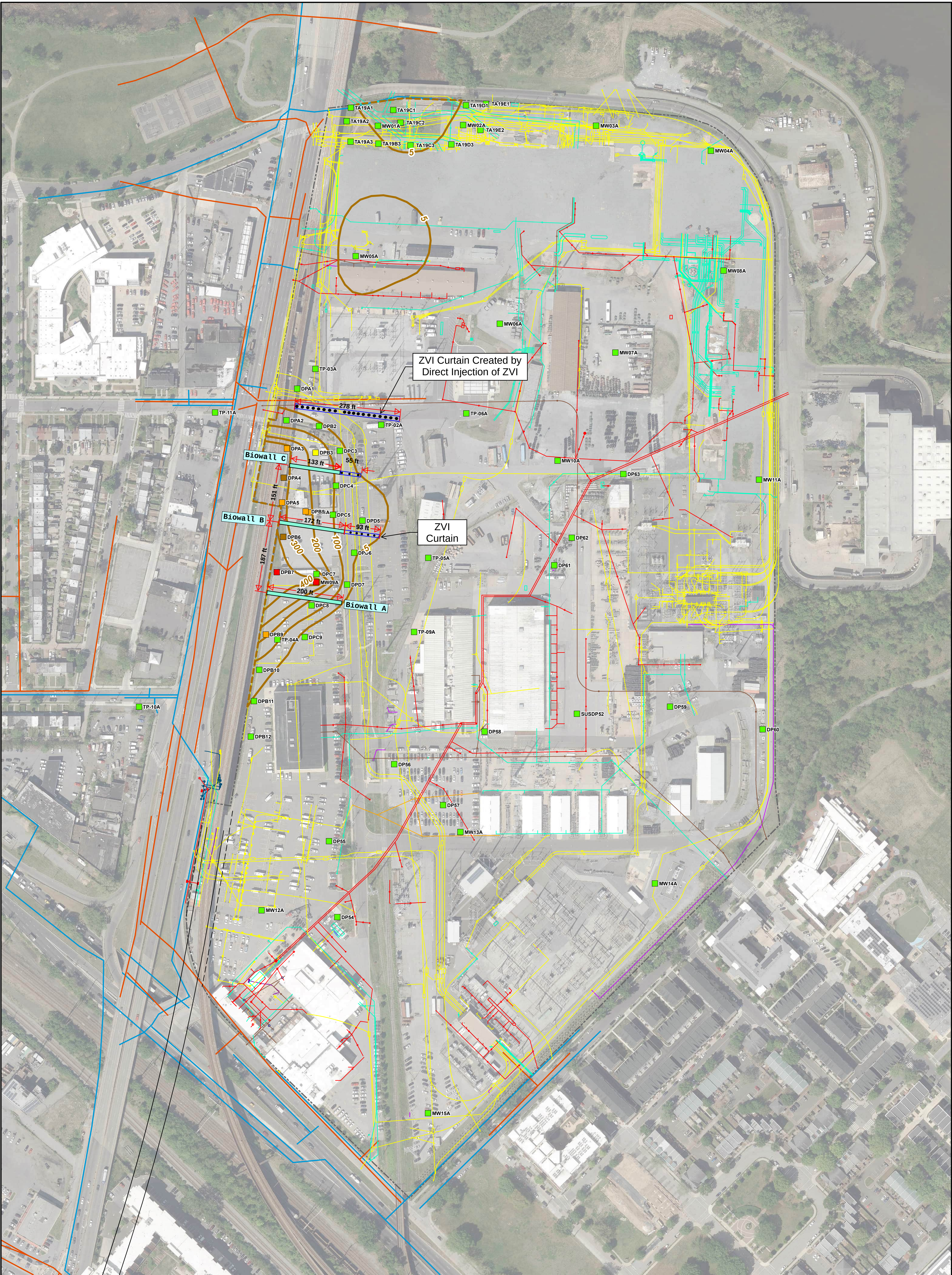
1. Extent of the plume is not inferred beyond the property boundary.

2. MW samples were collected from developed monitoring wells (2014 - 2021). Maximum concentration observed is utilized.

4. TP samples were collected from developed pre-packed monitoring points (2021).



BENNING ROAD FACILITY RI/FS PROJECT 3400 BENNING RD., NE WASHINGTON, DC 20019			LANDSIDE INVESTIGATION AREA CONCEPTUAL APPROACH FOR LGW-GR-4	
Date: 9/13/2023	Drawn By: JB	Checked By: EF	FIGURE 5-6	



Total VOCs (ug/l)

- < 100
- ≥100 - < 200
- ≥ 200 - < 300
- ≥ 300 - < 400
- ≥ 400

Total VOCs Isoconcentration Line (5 ug/L)
(Area = 222,643 SF)

Total VOCs Isoconcentration Line (100 ug/L)
(Area = 93,208 SF)

Total VOCs Isoconcentration Line (200 ug/L)
(Area = 60,165 SF)

Total VOCs Isoconcentration Line (300 ug/L)
(Area = 35,381 SF)

Total VOCs Isoconcentration Line (400 ug/L)
(Area = 9,156 SF)

Benning Road Facility
Property Boundary

D.C. Water and Sewer

- Water
- Sewer

Fiber Optic

- Electric
- Gas

Sewer

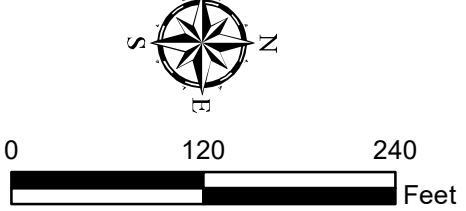
- Drain
- Traffic

Unknown

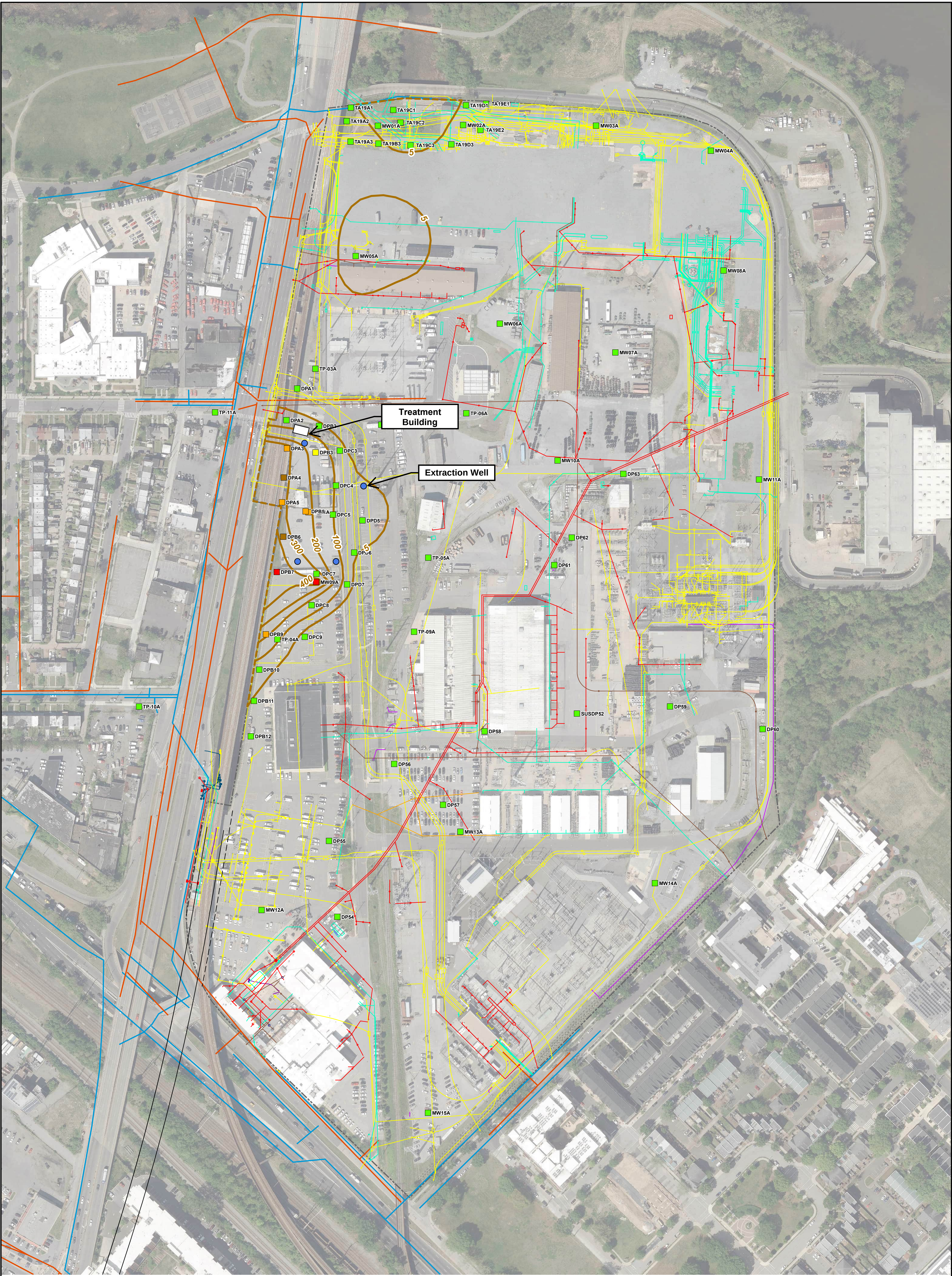
- Water
- Communication
- WMATA
- Underground Easement
- Underground-Rail

Notes

- Extent of the plume is not inferred beyond the property boundary.
- MW samples were collected from developed monitoring wells (2014 - 2021). Maximum concentration observed is utilized.
- TP samples were collected from developed pre-packed monitoring points (2021).



BENNING ROAD FACILITY RI/FS PROJECT 3400 BENNING RD., NE WASHINGTON, DC 20019			LANDSIDE INVESTIGATION AREA CONCEPTUAL APPROACH FOR LGW-GR-5	
Date: 9/13/2023	Drawn By: JB	Checked By: EF	FIGURE 5-7	



< 100

≥100 - < 200

≥ 200 - < 300

≥ 300 - < 400

≥ 400

Total VOCs Isoconcentration Line (5 ug/L)
(Area = 222,643 SF)

Total VOCs Isoconcentration Line (100 ug/L)
(Area = 93,208 SF)

Total VOCs Isoconcentration Line (200 ug/L)
(Area = 60,165 SF)

Total VOCs Isoconcentration Line (300 ug/L)
(Area = 35,381 SF)

Total VOCs Isoconcentration Line (400 ug/L)
(Area = 9,156 SF)

Benning Road Facility
Property Boundary

Groundwater Extraction
Well

D.C. Water and Sewer

Water

Sewer

Fiber Optic

Electric

Gas

Sewer

Drain

Traffic

Unknown

Water

Communication

WMATA

Underground
Easement

Underground-Rail

Notes

1. Extent of the plume is not inferred beyond the property boundary.

2. MW samples were collected from developed monitoring wells (2014 - 2021). Maximum concentration observed is utilized.

4. TP samples were collected from developed pre-packed monitoring points (2021).

BENNING ROAD FACILITY RI/FS PROJECT 3400 BENNING RD., NE WASHINGTON, DC 20019			LANDSIDE INVESTIGATION AREA CONCEPTUAL APPROACH FOR LGW-GR-6	
Date: 9/13/2023	Drawn By: JB	Checked By: EF	FIGURE 5-8	