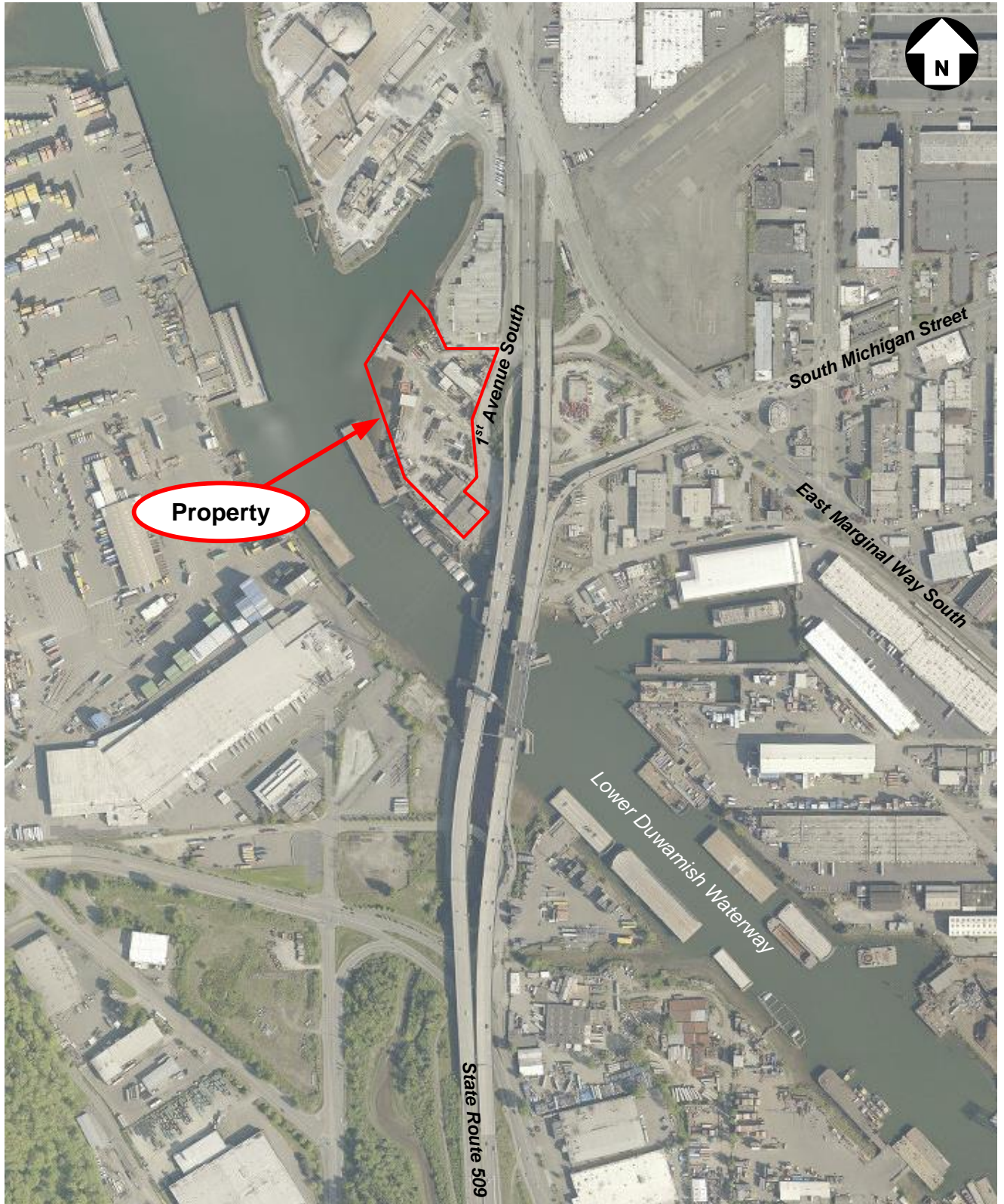


Project File: 01-0979-G-F1-1.xsd

g-logics

Property Location Maps
Duwamish Marine Center Property
6365 First Avenue South
Seattle, WA 98018

Figure
1-1



Project File: 01-0979-G-F1-2.vsd

g-logics

Property Aerial Photo Map (2015)
Duwamish Marine Center Property
6365 First Avenue South
Seattle, WA 98018

Figure
1-2



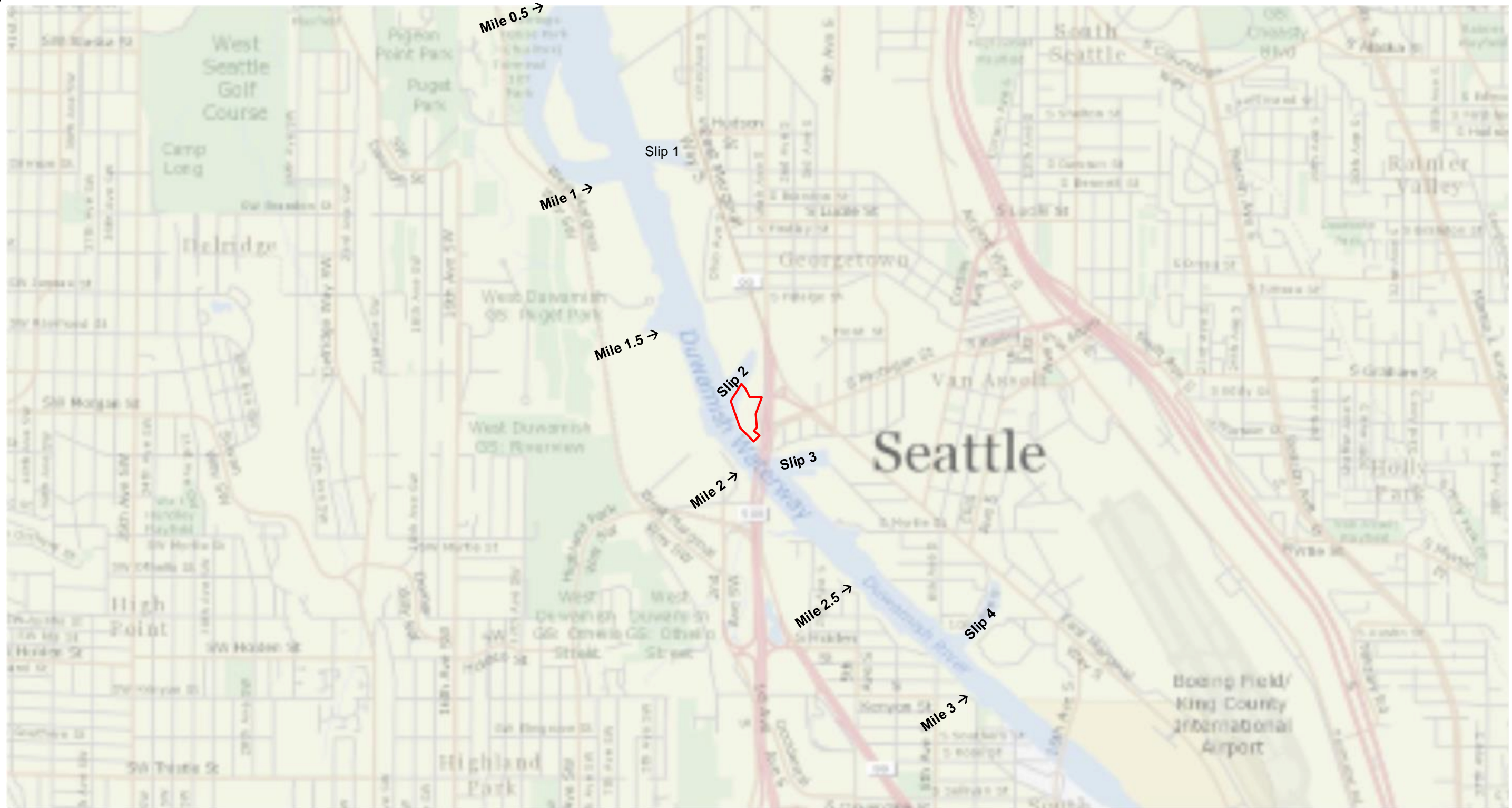
Project File: 01-0979-G-F1-3.vsd



Note: This figure contains information in color. Black & white photocopies may not be suitable for review.

Site Aerial Photo, Oblique View
Duwamish Marine Center Property
6365 First Avenue South
Seattle, WA 98018

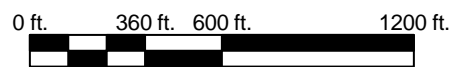
Figure
1-3



Project File: 01-0979-G-F1-4.vsd



Approximate Drawing Scale: 1" = 600'



Note: This figure contains information in color. Black & white photocopies may not be suitable for review.

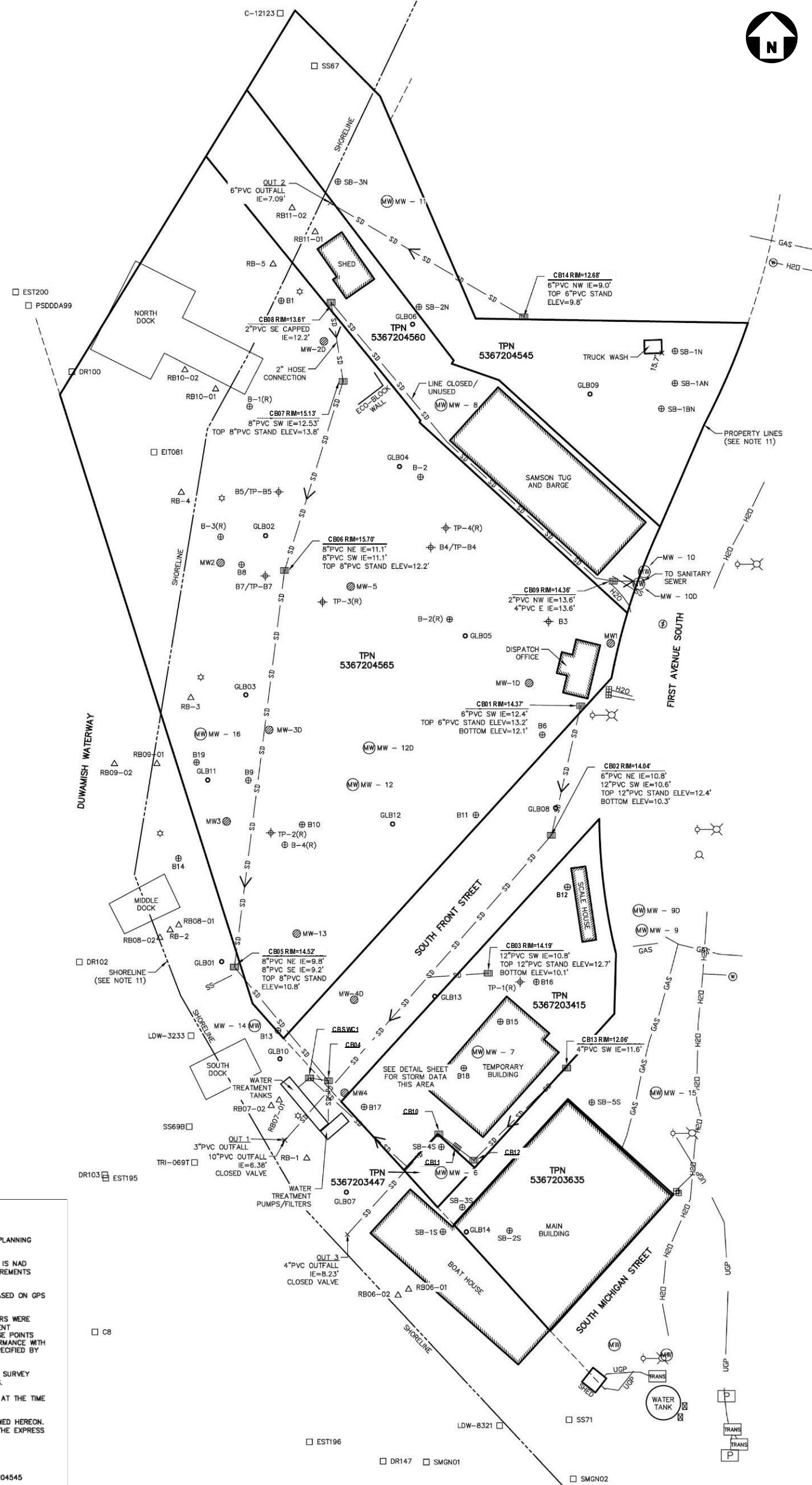
Area Map with River Mile and Slip Identification
Duwamish Marine Center Property
6365 First Avenue South
Seattle, Washington

Figure
1-4



LEGEND:

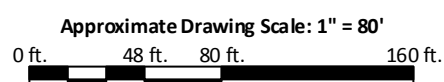
- TPN TAX PARCEL NUMBER
- ⊠ HAND HOLE
- ☆ LUMINAIRE
- ⊕ UTILITY POLE WITH LIGHT
- ⊠ TRANS PAD MOUNTED TRANSFORMER
- ⊠ P POWER VAULT
- UGP UNDERGROUND POWER PAINT MARKS
- GAS GAS PAINT MARKS
- ⊕ FIRE HYDRANT
- ⊕ WATER MAN HOLE
- ⊕ WATER METER
- H2O WATER PAINT MARKS
- ⊕ SANITARY SEWER MANHOLE
- SS SANITARY SEWER PAINT MARKS
- ⊠ CATCH BASIN (CB)
- SD STORM CONNECTION
- < DIRECTION OF FLOW PER CLIENT
- IE INVERT ELEVATION
- PVC PLASTIC PIPE
- x 15.7' SPOT ELEVATION
- ⊕ MW MONITORING WELL - FOUND IN FIELD
- ⊕ MW1 G-LOGICS HISTORICAL MONITORING WELL LOCATION AND ID
- ⊕ G-LOGICS BORING LOCATION
- ⊕ B-3(R) G-LOGICS BORING LOCATION AND ID
- ⊕ RB-4 G-LOGICS RIVERBANK SAMPLE LOCATIONS AND ID
- ⊕ TP-4(R) G-LOGICS TESTPIT LOCATION AND ID
- ⊠ XXXX G-LOGICS OFFSHORE SEDIMENT LOCATIONS



NOTES AND COMMENTS:

- 1.) **PURPOSE OF SURVEY:** THE PURPOSE OF THIS SURVEY WAS TO DEVELOP A PLANNING AND DESIGN BASE FOR USE BY OTHERS.
- 2.) **HORIZONTAL DATUM:** THE OVERALL HORIZONTAL DATUM FOR THIS PROJECT IS NAD 83/91, WASHINGTON COORDINATE SYSTEM, NORTH ZONE, BASED ON GPS MEASUREMENTS USING THE WASHINGTON STATE REFERENCE NETWORK.
- 3.) **VERTICAL DATUM:** THE VERTICAL DATUM FOR THIS SURVEY IS NAVD 88, BASED ON GPS MEASUREMENTS USING THE WASHINGTON STATE REFERENCE NETWORK.
- 4.) **FIELD SURVEY METHODOLOGY:** ACCESSIBLE SURVEY MONUMENTS AND MARKERS WERE FIELD MEASURED USING A TOPCON GLOBAL POSITIONING SYSTEM (GPS). MONUMENT POSITIONS THAT WERE NOT DIRECTLY OBSERVED USING GPS WERE TIED TO THOSE POINTS USING A TRIMBLE 5-SECOND OR BETTER ELECTRONIC TOTAL STATION IN CONFORMANCE WITH ACCEPTED SURVEY PROCEDURES WHICH MEET OR EXCEED STATE STANDARDS SPECIFIED BY WAC 332-130 WITH REGARD TO LINEAR AND ANGULAR CLOSURES.
- 5.) **INSTRUMENT CALIBRATION:** ALL MEASURING INSTRUMENTS EMPLOYED IN THIS SURVEY HAVE BEEN MAINTAINED IN ACCORDANCE WITH MANUFACTURER'S SPECIFICATIONS.
- 6.) **THIS MAP GRAPHICALLY REPRESENTS CONDITIONS AND FEATURES EXISTING AT THE TIME OF THIS SURVEY ONLY, WHICH WAS PERFORMED DURING JULY OF 2015.**
- 7.) **THIS SURVEY WAS PREPARED FOR THE EXCLUSIVE USE OF THE CLIENT NAMED HEREON. ITS USE DOES NOT EXTEND TO ANY UNNAMED PERSON OR PERSONS WITHOUT THE EXPRESS RECERTIFICATION BY THIS SURVEYOR NAMING SUCH PARTY.**
- 8.) **FOR YOUR INFORMATION:** 0.0833 FEET = 1 INCH ON THE GROUND
- 9.) **KING COUNTY TAX PARCEL NUMBERS:** 5367203635, 5367203447, 5367204565, 5367204560, AND 5367204545
- 10.) **THE UNDERGROUND UTILITIES SHOWN HEREON HAVE BEEN LOCATED FROM A COMBINATION OF:** 1.) THE FIELD SURVEYED LOCATION OF VISIBLE SURFACE UTILITY STRUCTURES SUCH AS MANHOLE LIDS, GRATES, GAS AND WATER VALVE LIDS, ETC... 2.) AS-BUILT RECORDS AND MAPS OBTAINED FROM CLIENT, AND 3.) THE FIELD SURVEYED LOCATION OF PAINT OR OTHER MARKS OR MARKERS PLACED BY AN UNDERGROUND UTILITY LOCATOR SERVICE. WE MAKE NO GUARANTEE THAT THE UNDERGROUND UTILITIES SHOWN COMPRISE ALL SUCH UTILITIES IN THE AREA, EITHER IN SERVICE OR ABANDONED, NOR THAT ARE IN THE EXACT LOCATION SHOWN. AN UNDERGROUND UTILITY LOCATING SERVICE WAS NOT HIRED BY PLS, INC. NOR OTHERS TO SURFACE MARK UTILITY LINES FOR THIS PROJECT.
- UTILITY INVERT ELEVATIONS AND PIPE / FLOW LINE DIAMETERS SHOWN HEREON ARE BASED ON OBSERVATIONS FROM THE TOP OF THE UTILITY STRUCTURE AND ARE APPROXIMATE ONLY. FOR SAFETY REASONS NO PHYSICAL ENTRY INTO THE UTILITY STRUCTURE WAS PERFORMED DURING THE COURSE OF THIS SURVEY.
- 11.) **THE PROPERTY AND RIGHT-OF-WAYS LINES DISPLAYED ON THIS MAP WERE EXTRACTED FROM THE KING COUNTY ONLINE I-MAP WEBSITE AT THE TIME OF THIS SURVEY. THE COORDINATES OF THE CORNERS OF THE PARCELS AS DETERMINED FROM THE WEBSITE WERE USED TO POSITION THE PARCELS ON THIS MAP. THE DIMENSIONS AND LOCATION OF THE PARCEL LINES ARE APPROXIMATE ONLY.**
- 12.) **THE GRAPHIC LOCATION AND SIZE OF SOME PHYSICAL FEATURES SUCH AS FENCES AND UTILITY STRUCTURES MAY BE SLIGHTLY EXAGGERATED FOR CLARITY PURPOSES.**

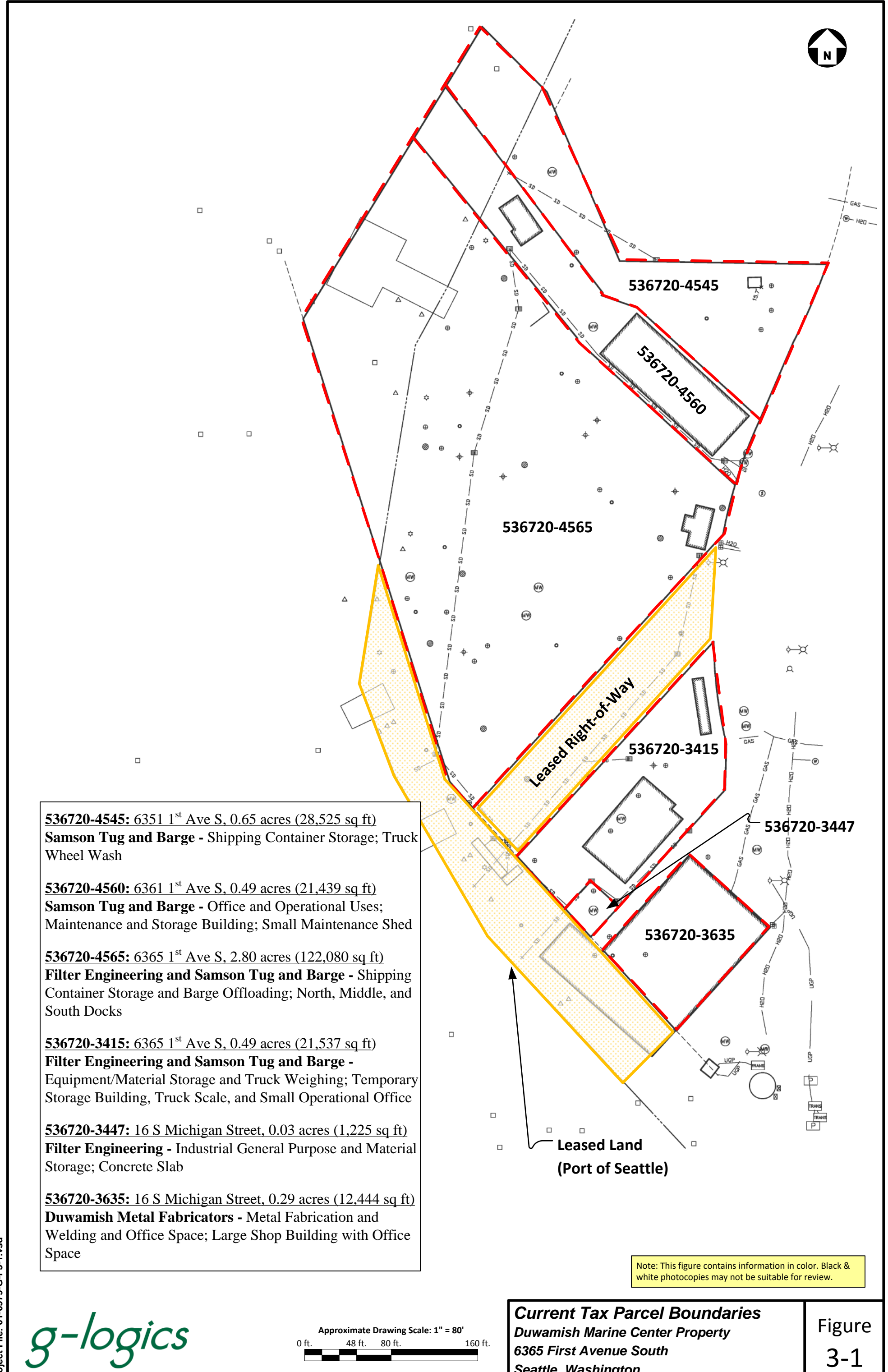
Note: This figure contains information in color. Black & white photocopies may not be suitable for review.



Site Diagram, PLS, Inc. Survey
Duwamish Marine Center Property
6365 First Avenue South
Seattle, Washington

Figure
2

Project File: 01-0979-G-F2.Vsd



536720-4545: 6351 1st Ave S, 0.65 acres (28,525 sq ft)
Samson Tug and Barge - Shipping Container Storage; Truck Wheel Wash

536720-4560: 6361 1st Ave S, 0.49 acres (21,439 sq ft)
Samson Tug and Barge - Office and Operational Uses; Maintenance and Storage Building; Small Maintenance Shed

536720-4565: 6365 1st Ave S, 2.80 acres (122,080 sq ft)
Filter Engineering and Samson Tug and Barge - Shipping Container Storage and Barge Offloading; North, Middle, and South Docks

536720-3415: 6365 1st Ave S, 0.49 acres (21,537 sq ft)
Filter Engineering and Samson Tug and Barge - Equipment/Material Storage and Truck Weighing; Temporary Storage Building, Truck Scale, and Small Operational Office

536720-3447: 16 S Michigan Street, 0.03 acres (1,225 sq ft)
Filter Engineering - Industrial General Purpose and Material Storage; Concrete Slab

536720-3635: 16 S Michigan Street, 0.29 acres (12,444 sq ft)
Duwamish Metal Fabricators - Metal Fabrication and Welding and Office Space; Large Shop Building with Office Space

Note: This figure contains information in color. Black & white photocopies may not be suitable for review.

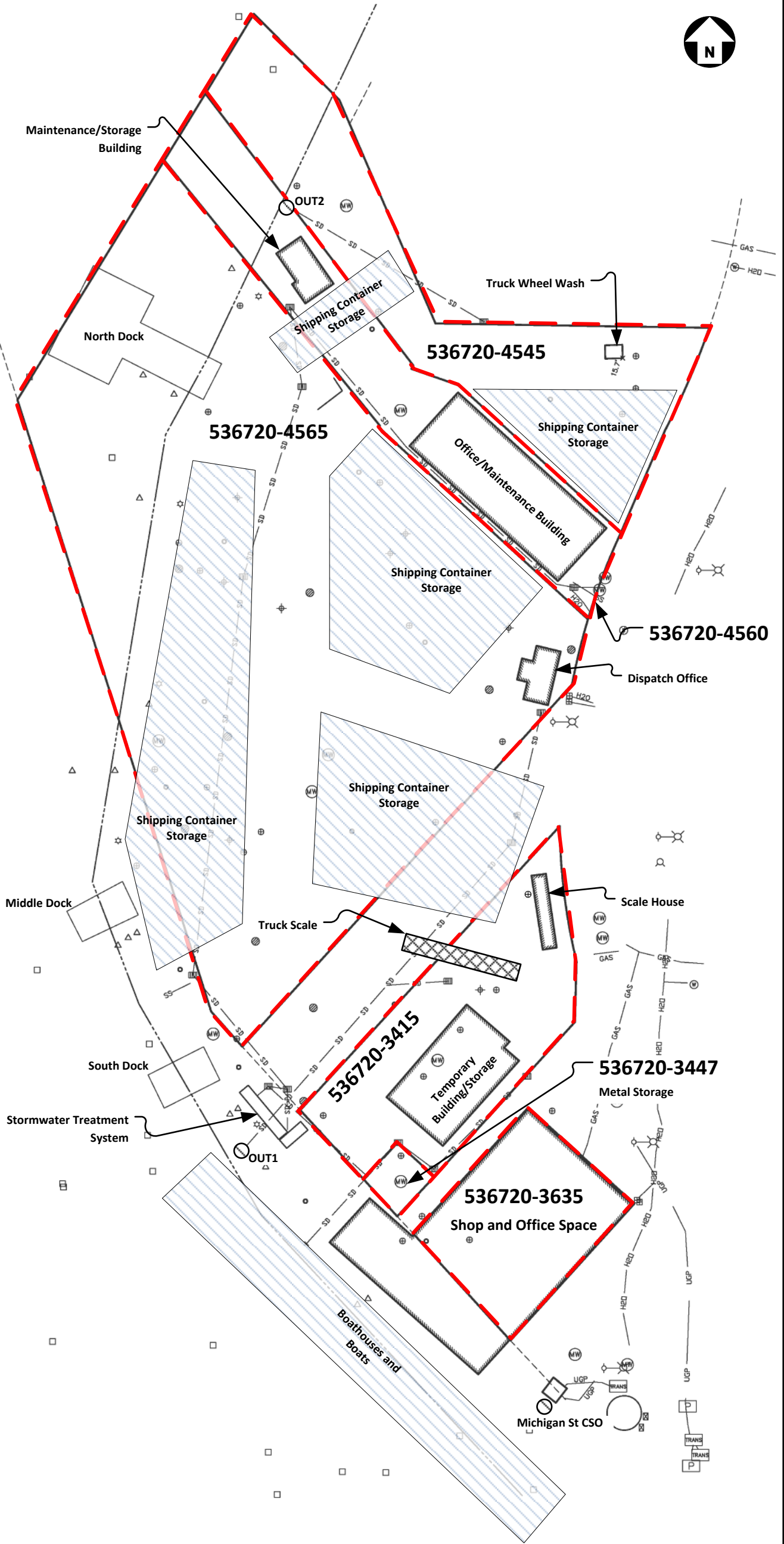
Current Tax Parcel Boundaries
Duwamish Marine Center Property
 6365 First Avenue South
 Seattle, Washington

Figure
 3-1



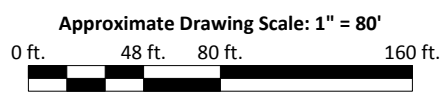
Approximate Drawing Scale: 1" = 80'
 0 ft. 48 ft. 80 ft. 160 ft.

Project File: 01-0979-G-F3-1.vsd



Note: This figure contains information in color. Black & white photocopies may not be suitable for review.

Project File: 01-0979-G-F3-2.vsd



Current Site Features
Duwamish Marine Center Property
6365 First Avenue South
Seattle, Washington

Figure
3-2



Suspected Location of American Pile Driving Company (1936 to 1974) and Junkyard (1960s to 1970s)

Location of Marine Railway (1940 to 1970)

536720-3447
Equipment Wash Area

536720-4545

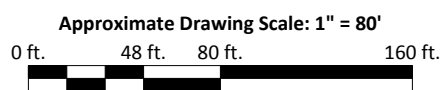
536720-4560

536720-4565

536720-3415

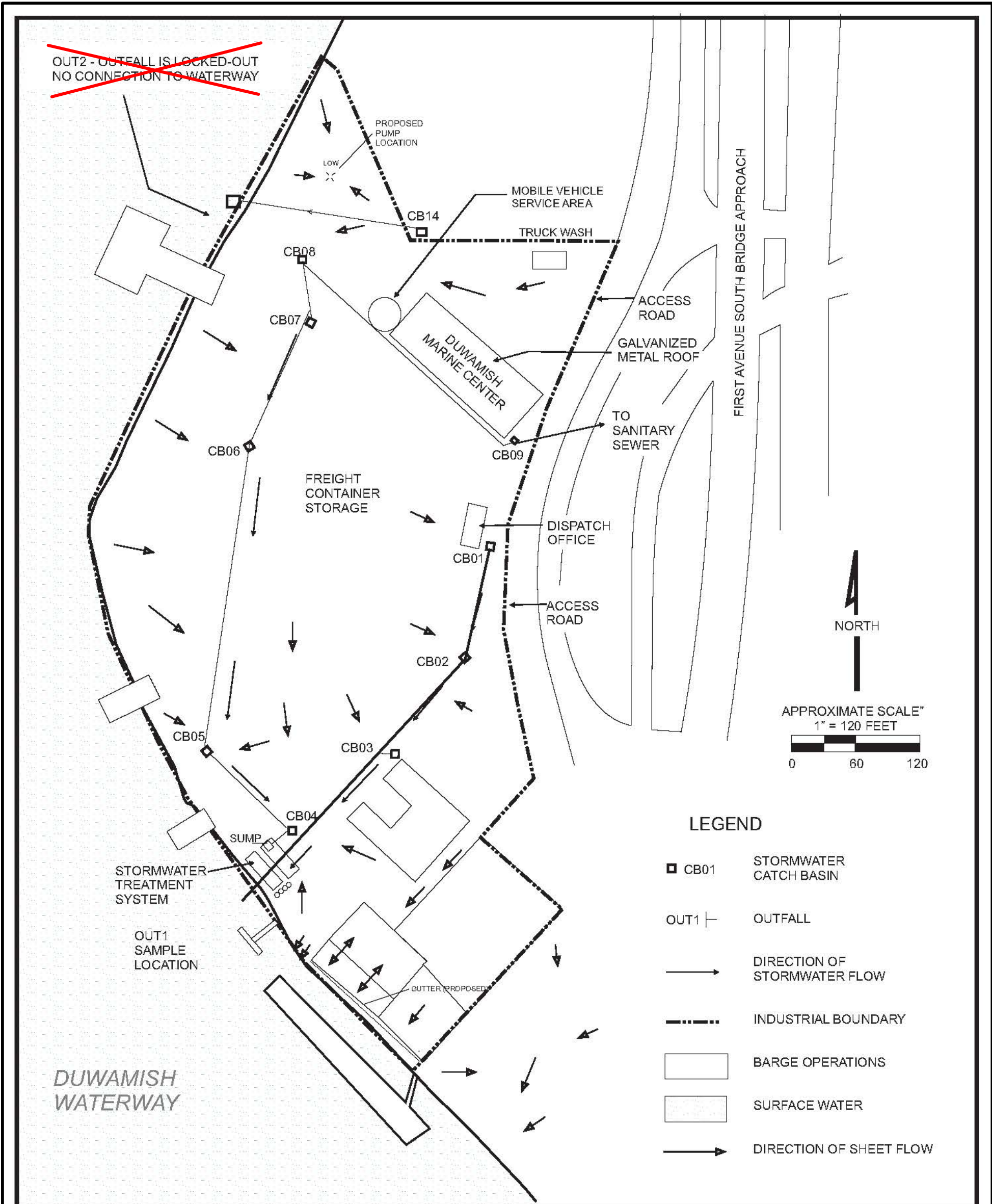
536720-3635

Note: This figure contains information in color. Black & white photocopies may not be suitable for review.



Historical Practices/Businesses
Duwamish Marine Center Property
6365 First Avenue South
Seattle, Washington

Figure
4



4500a 15TH STREET EAST
TACOMA, WA 98424 253-922-8823

**FIGURE 3 - DUWAMISH MARINE SITE PLAN
AND SHEET FLOW DIAGRAM**

SAMPSON TUG AND BARGE / DUWAMISH METAL FABRICATION
6361 FIRST AVENUE SOUTH, SEATTLE WA 98109

DRAWN BY:
M. JOHNSON

DATE:
MAY 14, 2013
REVISED:
MAR 5, 2016

PAGE:
1/1



Note: This figure contains information in color. Black & white photocopies may not be suitable for review.

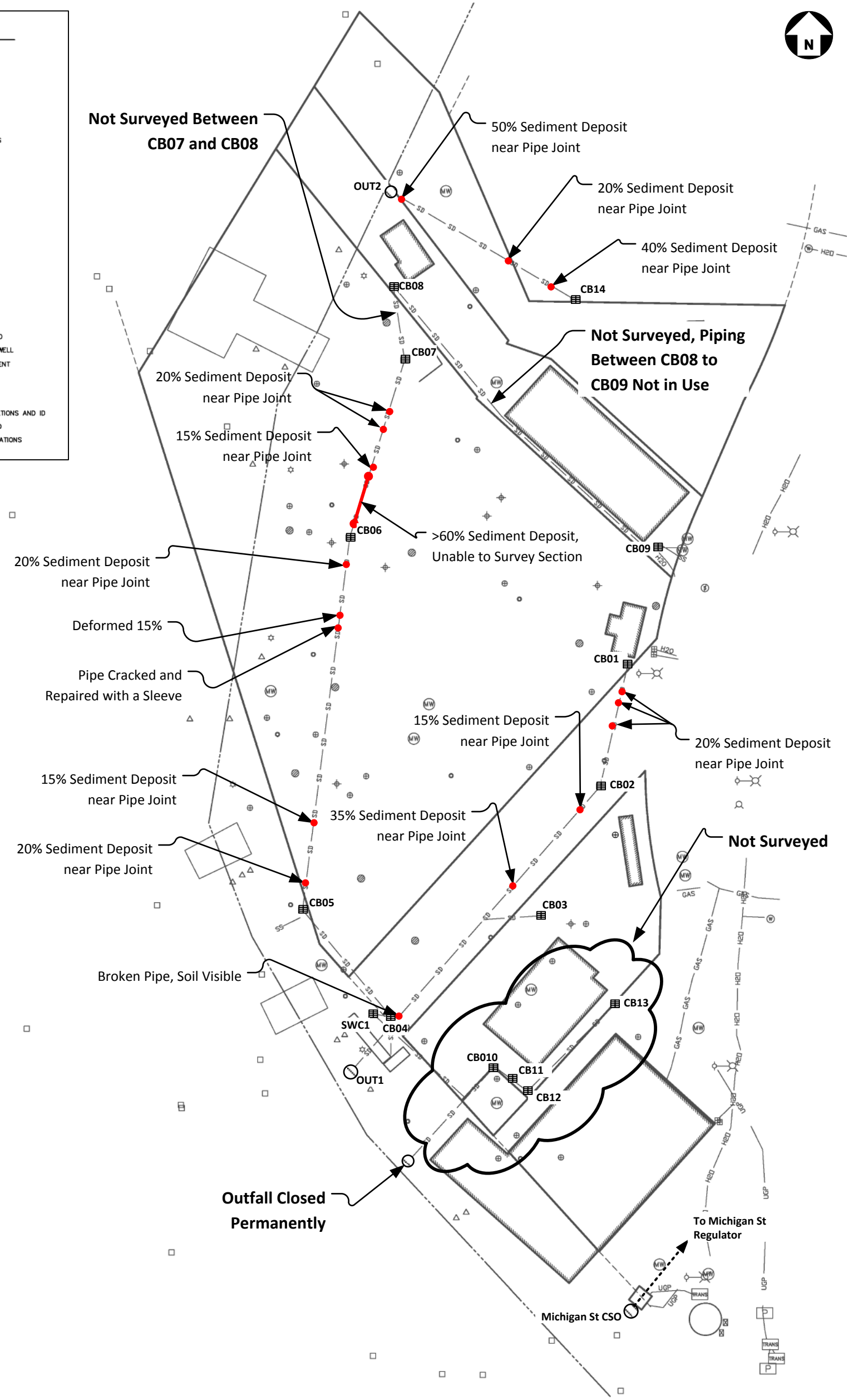
Surface Water Sheet Flow Diagram
Duwamish Marine Center Property
6365 First Avenue South
Seattle, Washington

Figure
5-1



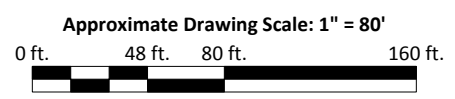
LEGEND:

- TPN TAX PARCEL NUMBER
- ☒ HAND HOLE
- ☆ LUMINAIRE
- ⊕ UTILITY POLE WITH LIGHT
- TRANS PAD MOUNTED TRANSFORMER
- P POWER VAULT
- UGP UNDERGROUND POWER PAINT MARKS
- GAS GAS PAINT MARKS
- ⊕ FIRE HYDRANT
- ⊕ WATER MAN HOLE
- ⊕ WATER METER
- H2O WATER PAINT MARKS
- ⊕ SANITARY SEWER MANHOLE
- SS SANITARY SEWER PAINT MARKS
- CB CATCH BASIN (CB)
- SD STORM CONNECTION
- < DIRECTION OF FLOW PER CLIENT
- IE INVERT ELEVATION
- PVC PLASTIC PIPE
- x15.7' SPOT ELEVATION
- MW MONITORING WELL - FOUND IN FIELD
- MW1 G-LOGICS HISTORICAL MONITORING WELL LOCATION AND ID
GIS COORDINATES PROVIDED BY CLIENT NOT FOUND DURING FIELD SURVEY.
- G-LOGICS BORING LOCATION
- ⊕B-3(R) G-LOGICS BORING LOCATION AND ID
- △RB-4 G-LOGICS RIVERBANK SAMPLE LOCATIONS AND ID
- ⊕TP-R(4) G-LOGICS TESTPIT LOCATION AND ID
- XXXX G-LOGICS OFFSHORE SEDIMENT LOCATIONS



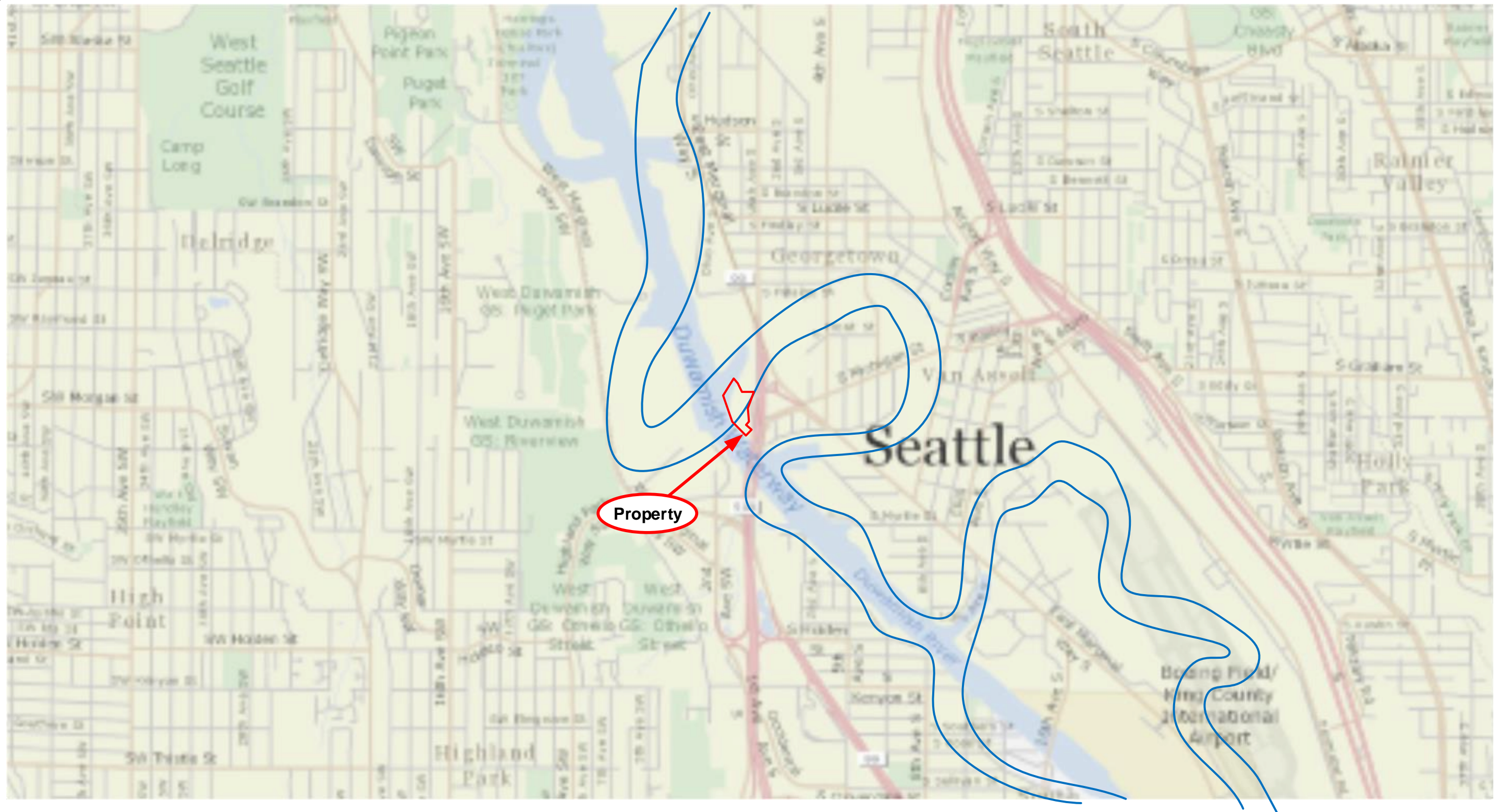
Note: This figure contains information in color. Black & white photocopies may not be suitable for review.

Project File: 01-0979-G-F5-2.vsd

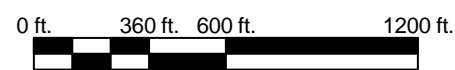


Stormwater System Video-Survey Results
Duwamish Marine Center Property
6365 First Avenue South
Seattle, Washington

Figure 5-2

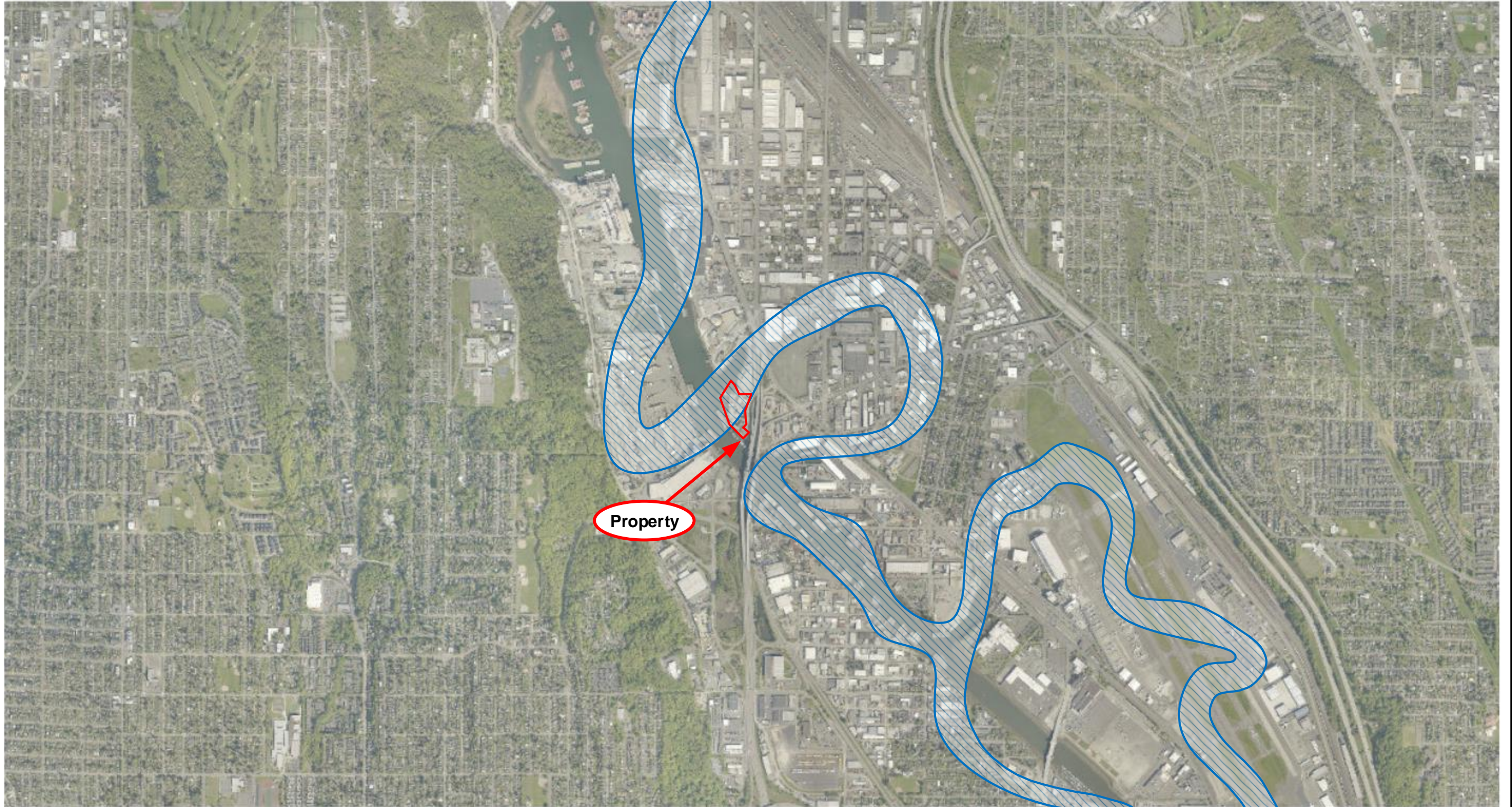


Approximate Drawing Scale: 1" = 600'



Note: This figure contains information in color. Black & white photocopies may not be suitable for review.

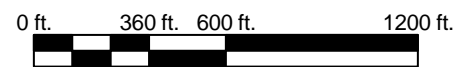
Area Map, Historical Duwamish River Location
Duwamish Marine Center Property
6365 First Avenue South
Seattle, Washington



Project File: 01-0979-G-F6-2.vsd



Approximate Drawing Scale: 1" = 600'



Note: This figure contains information in color. Black & white photocopies may not be suitable for review.

Aerial Photo, Historical Duwamish River Location
Duwamish Marine Center Property
6365 First Avenue South
Seattle, Washington

Figure
6-2



Approximate Drawing Scale: 1" = 80'
0 ft. 48 ft. 80 ft. 160 ft.

Approximate Current Shoreline

1966 Shoreline

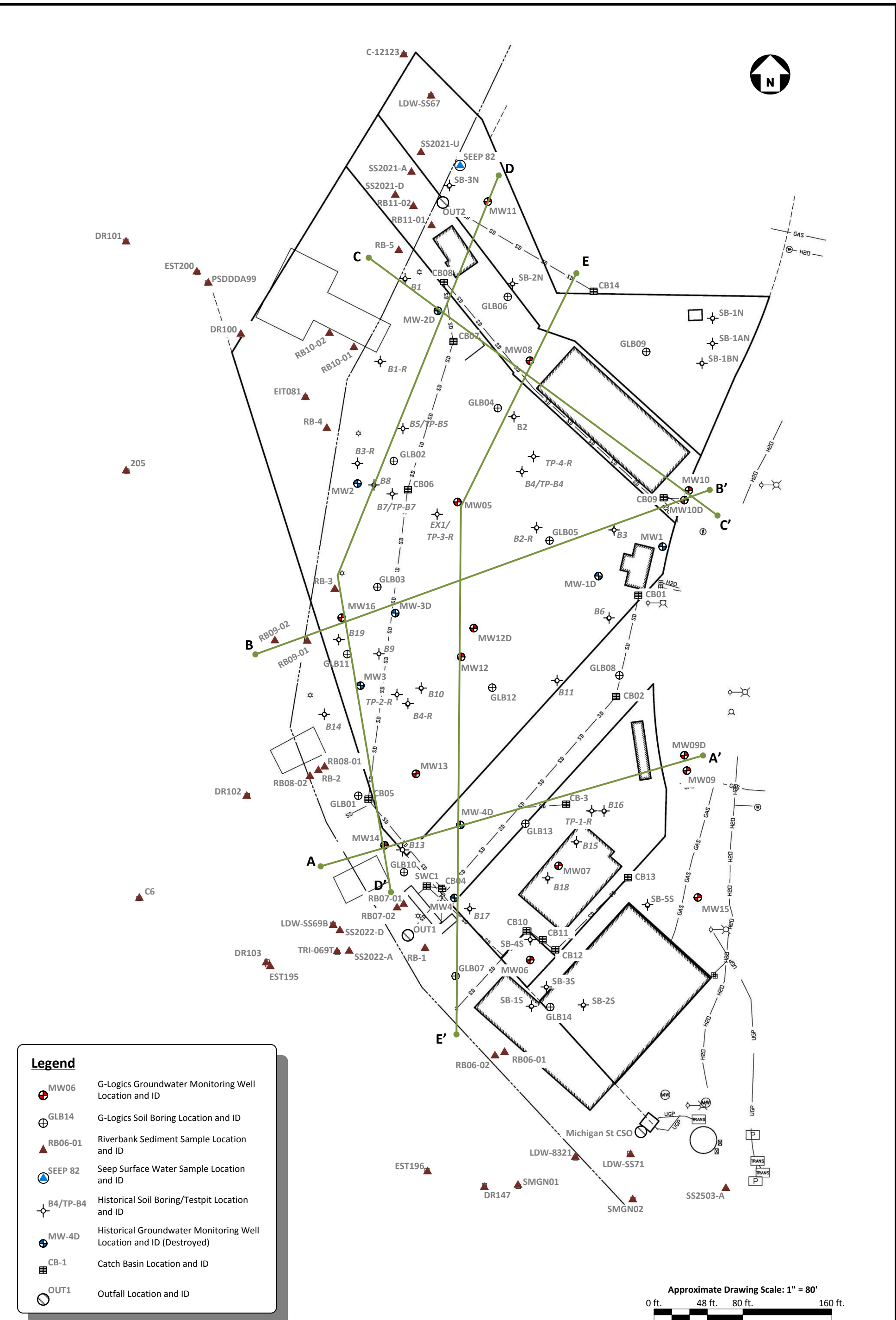
1924/1936 Shoreline



Note: Shoreline locations are based off of historical aerial photographs and King County iMap images.
This figure contains information in color. Black & white photocopies may not be suitable for review.

Historical Shoreline Locations
Duwamish Marine Center Property
6365 First Avenue South
Seattle, Washington

Figure
6-3



Legend

- MW06 G-Logics Groundwater Monitoring Well Location and ID
- GLB14 G-Logics Soil Boring Location and ID
- RB06-01 Riverbank Sediment Sample Location and ID
- SEEP 82 Seep Surface Water Sample Location and ID
- B4/TP-B4 Historical Soil Boring/Testpit Location and ID
- MW-4D Historical Groundwater Monitoring Well Location and ID (Destroyed)
- CB-1 Catch Basin Location and ID
- OUT1 Outfall Location and ID

Approximate Drawing Scale: 1" = 80'

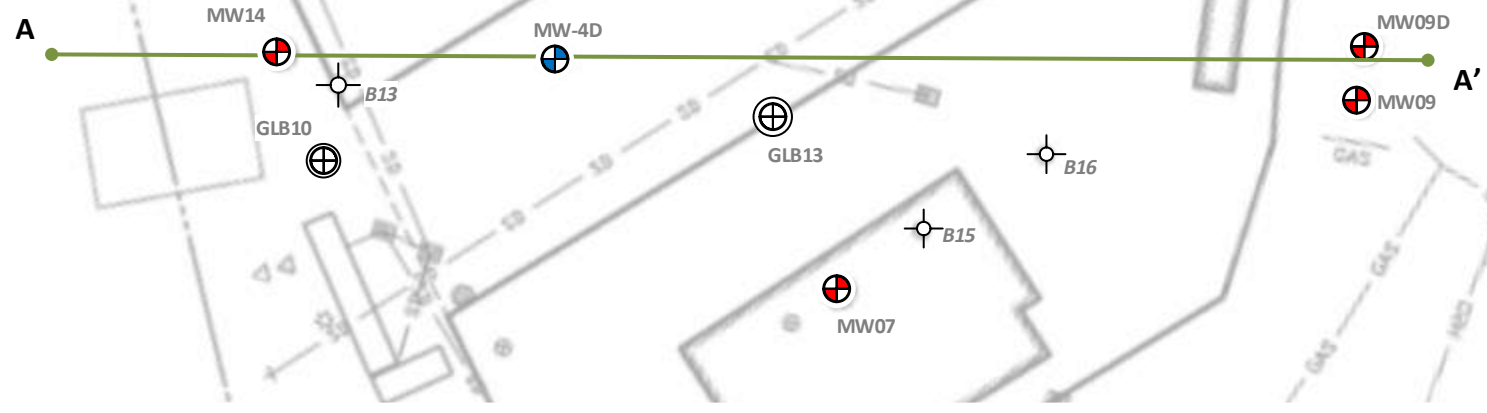
0 ft. 48 ft. 80 ft. 160 ft.

Cross Section Lines
 Duwamish Marine Center Property
 6365 First Avenue South
 Seattle, Washington

Figure 7-1

Note: This figure contains information in color. Black & white photocopies may not be suitable for review.





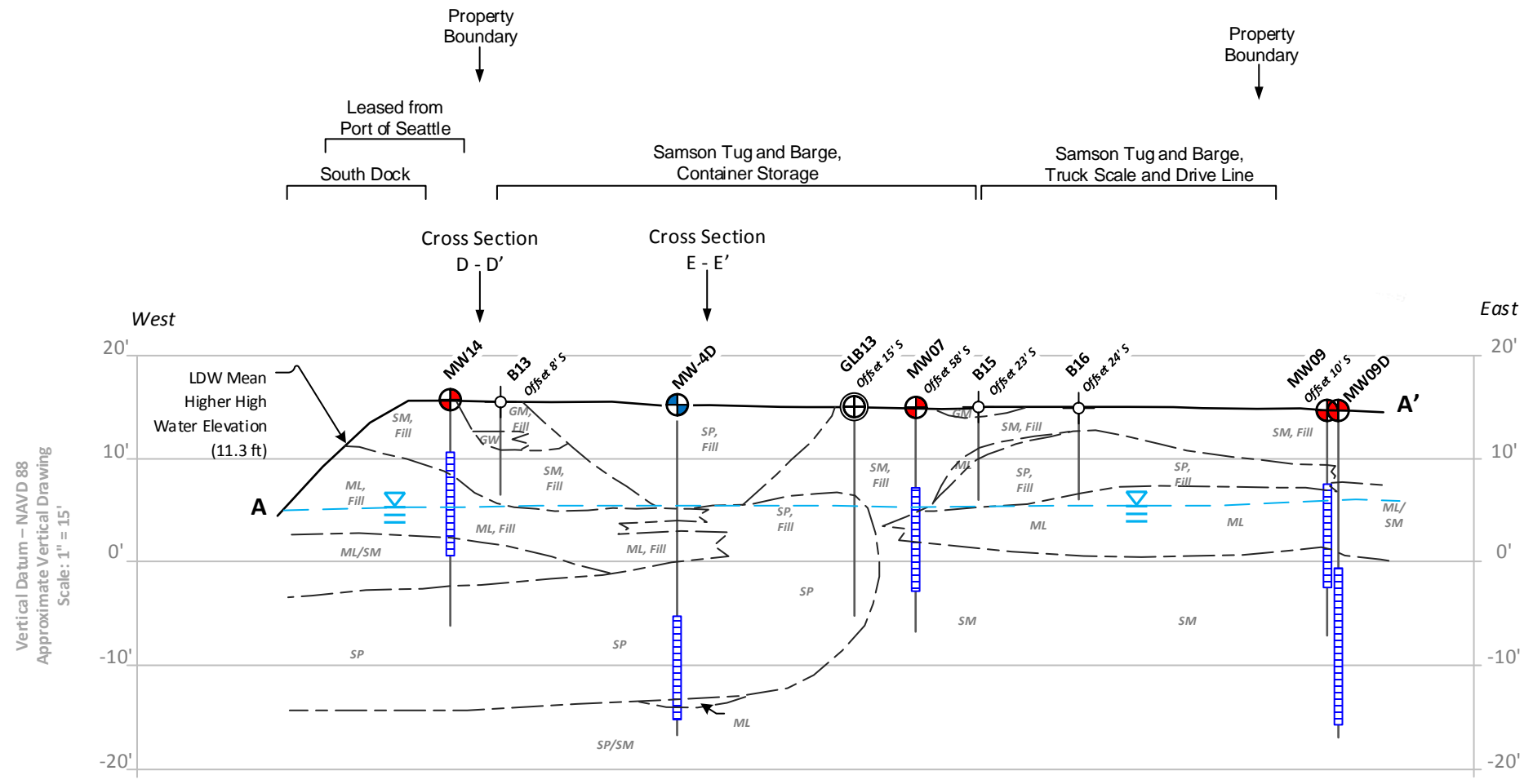
Legend

	MW06	G-Logics Groundwater Monitoring Well Location and ID
	GLB14	G-Logics Soil Boring Location and ID
	RB06-01	Riverbank Sediment Sample Location and ID
	SEEP 82	Seep Surface Water Sample Location and ID
	B4/TP-B4	Historical Soil Boring/Testpit Location and ID
	MW-4D	Historical Groundwater Monitoring Well Location and ID (Destroyed)

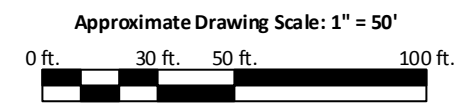
Cross-Section Legend

	Approximate Water Table Elevation (Based on G-Logics Tidal-Influence Study dated June 21, 2019)
	Cross Section Line, Approximate Ground Surface
	Approximate Geologic Contact Based on USCS Soil Classification
	Boring/Well/Probe Location
	Boring Depth
	Well Screen Interval

Note: See boring logs for full geologic description



Project File: 01-0979-G-F7-2.vsd

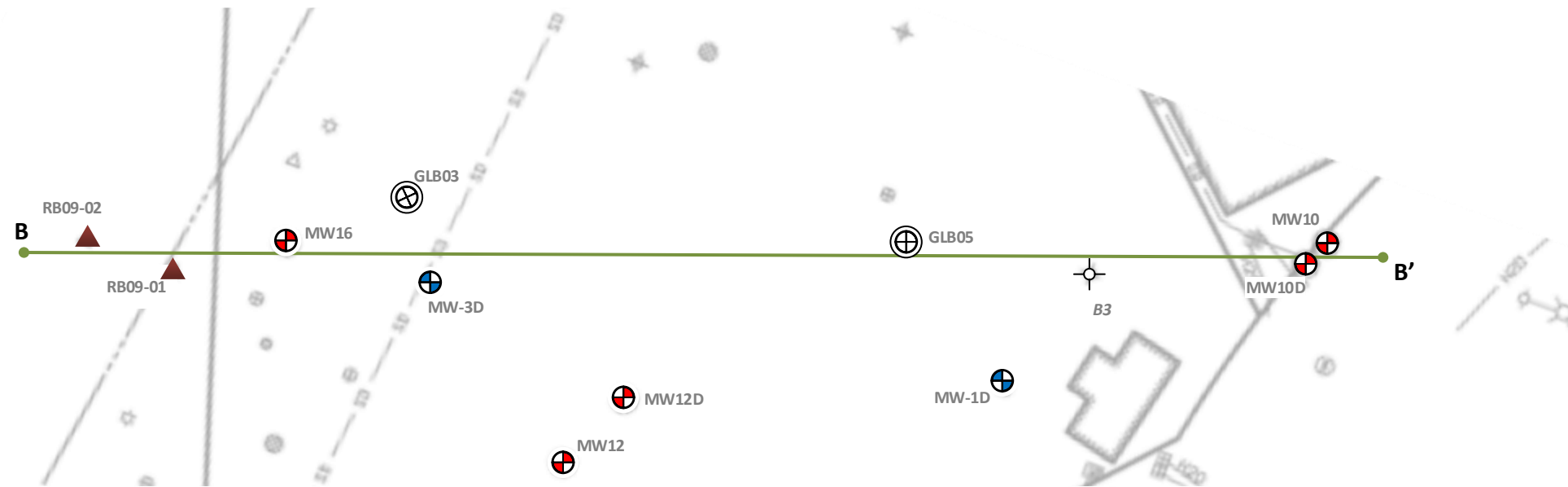


Notes:

1. This image represents an interpretation of available data. Site interpretations may change with additional measurements and/or data points.
2. This figure contains information in color. Black & white photocopies may not be suitable for review.

Cross Section A to A'
Duwamish Marine Center Property
6365 First Avenue South
Seattle, Washington

Figure
7-2



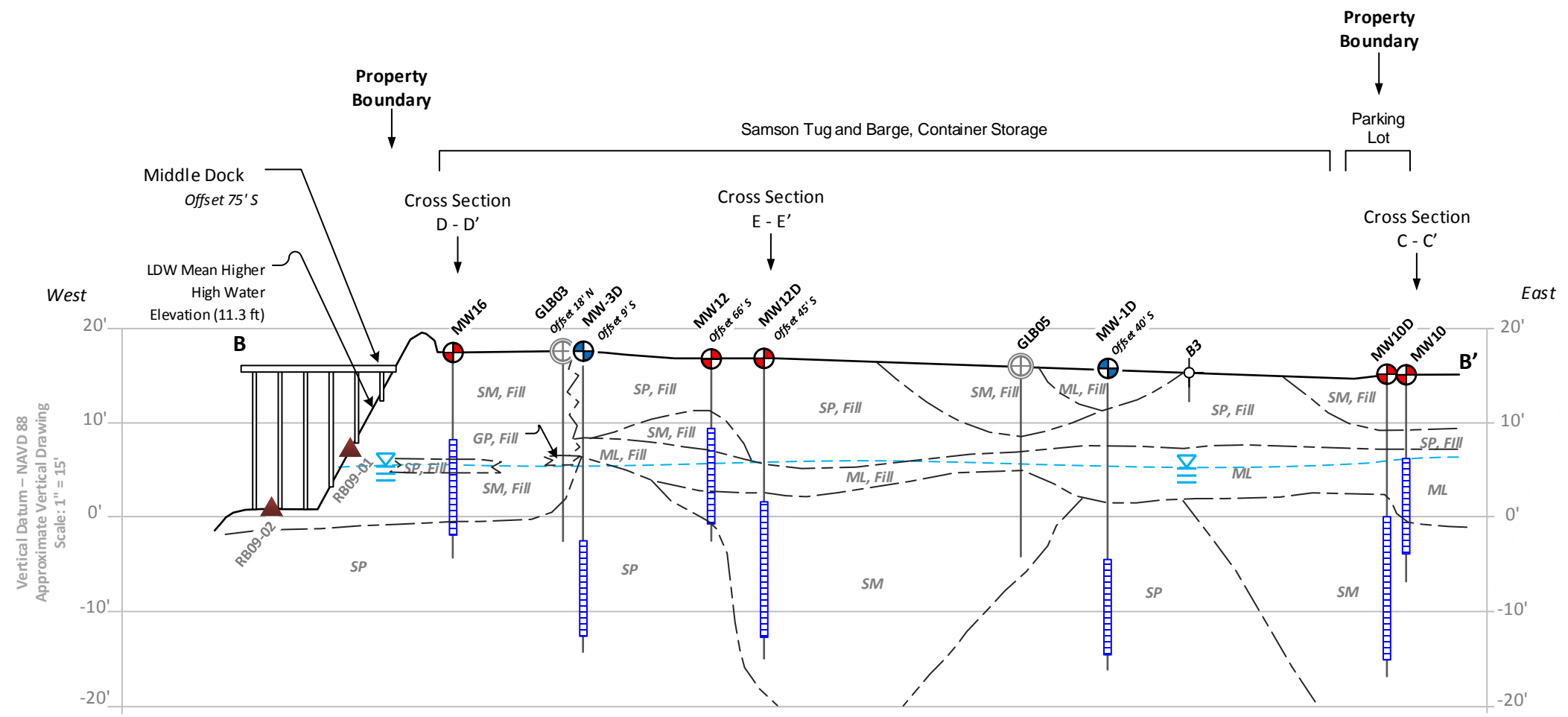
Legend

- MW06 G-Logics Groundwater Monitoring Well Location and ID
- GLB14 G-Logics Soil Boring Location and ID
- RB06-01 Riverbank Sediment Sample Location and ID
- SEEP 82 Seep Surface Water Sample Location and ID
- B4/TP-B4 Historical Soil Boring/Testpit Location and ID
- MW-4D Historical Groundwater Monitoring Well Location and ID (Destroyed)

Cross-Section Legend

- Approximate Water Table Elevation (Based on G-Logics Tidal-Influence Study dated June 21, 2019)
- Cross Section Line, Approximate Ground Surface
- Approximate Geologic Contact Based on USCS Soil Classification
- Boring/Well/Probe Location
- Boring Depth
- Well Screen Interval

Note: See boring logs for full geologic description



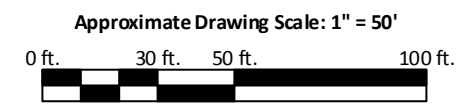
Notes:

1. This image represents an interpretation of available data. Site interpretations may change with additional measurements and/or data points.
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Cross Section B to B'
Duwamish Marine Center Property
6365 First Avenue South
Seattle, Washington

Figure
7-3

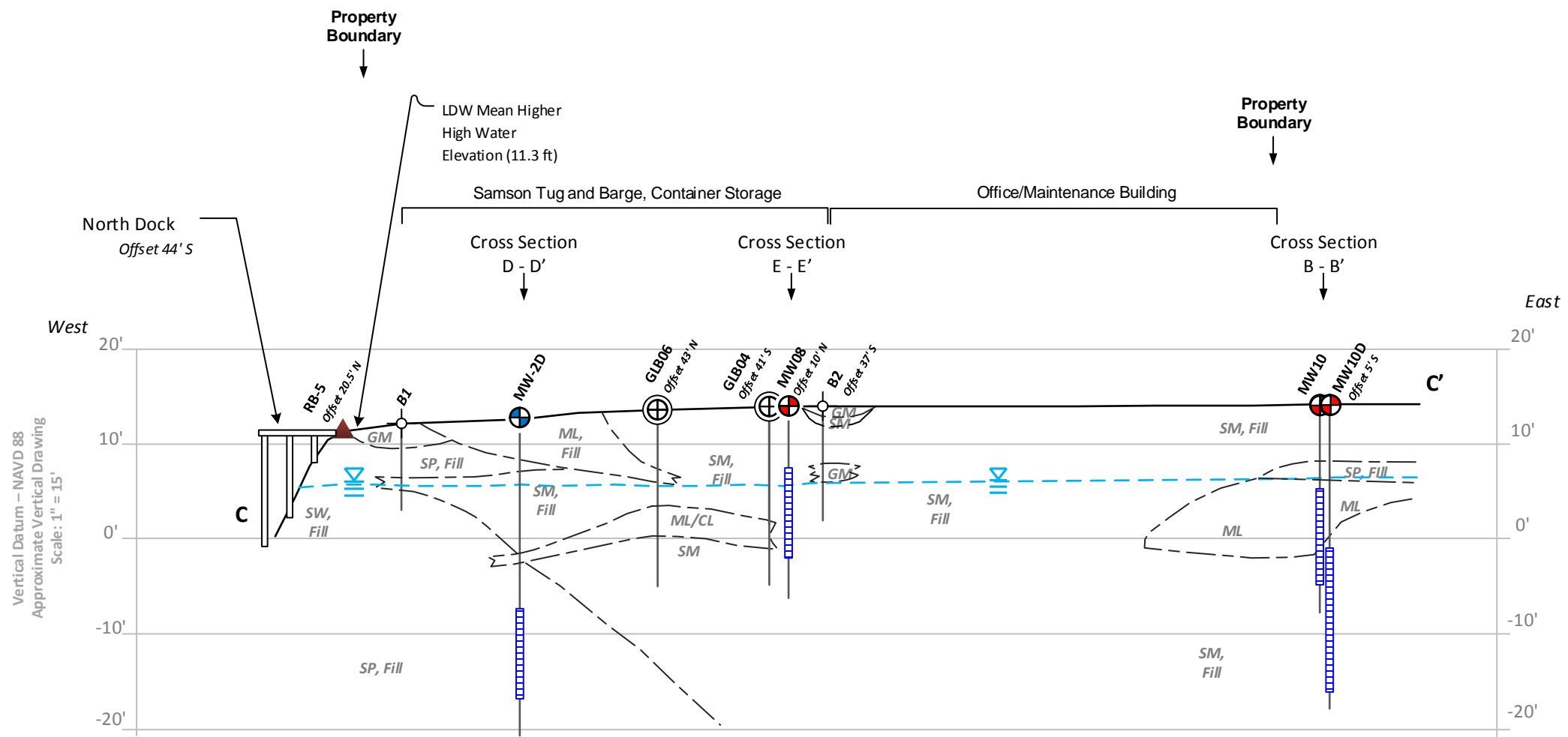
Project File: 01-0979-G-F7-3.vsd



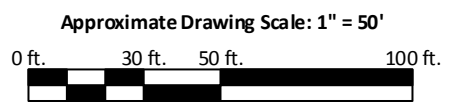


Legend	
	G-Logics Groundwater Monitoring Well Location and ID
	G-Logics Soil Boring Location and ID
	Riverbank Sediment Sample Location and ID
	Seep Surface Water Sample Location and ID
	Historical Soil Boring/Testpit Location and ID
	Historical Groundwater Monitoring Well Location and ID (Destroyed)

Cross-Section Legend	
	Approximate Water Table Elevation (Based on G-Logics Tidal-Influence Study dated June 21, 2019)
	Cross Section Line, Approximate Ground Surface
	Approximate Geologic Contact Based on USCS Soil Classification
	Boring/Well/Probe Location
	Boring Depth
	Well Screen Interval
Note: See boring logs for full geologic description	



Vertical Datum - NAVD 88
Approximate Vertical Drawing
Scale: 1" = 15'



Notes:
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Cross Section C to C'
 Duwamish Marine Center Property
 6365 First Avenue South
 Seattle, Washington

Figure
 7-4

Project File: 01-0979-G-F7-4.vsd





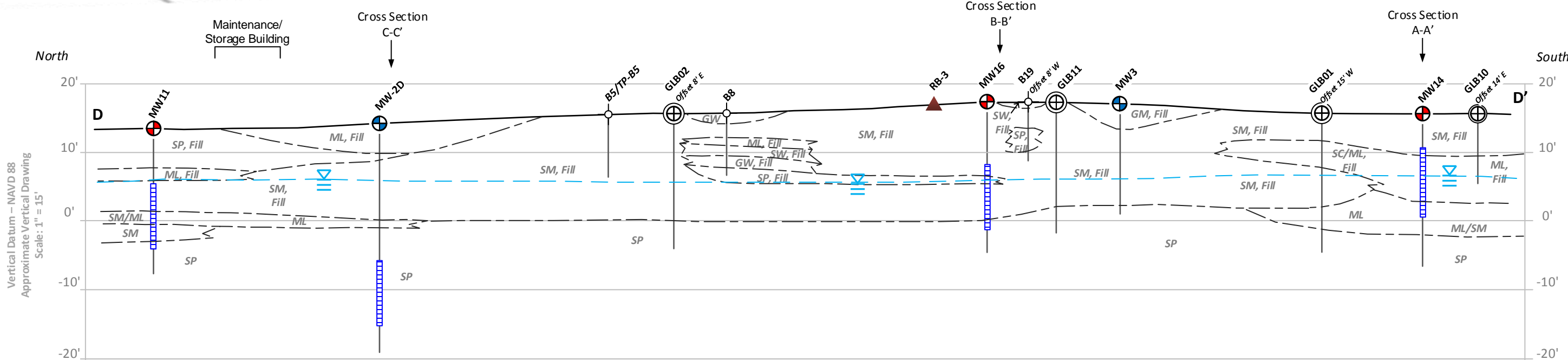
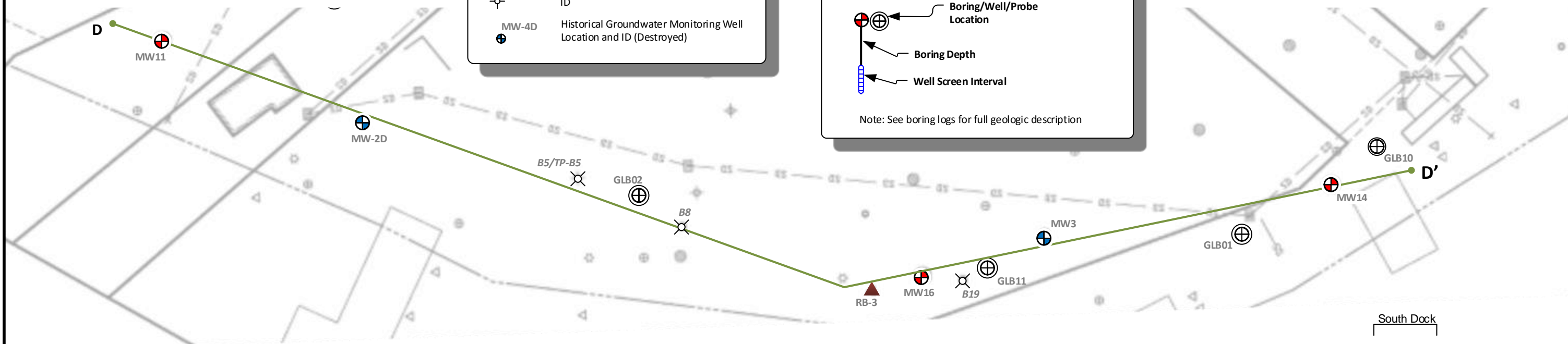
Legend

- MW06 G-Logics Groundwater Monitoring Well Location and ID
- GLB14 G-Logics Soil Boring Location and ID
- RB06-01 Riverbank Sediment Sample Location and ID
- SEEP 82 Seep Surface Water Sample Location and ID
- B4/TP-B4 Historical Soil Boring/Testpit Location and ID
- MW-4D Historical Groundwater Monitoring Well Location and ID (Destroyed)

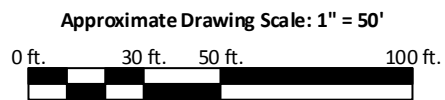
Cross-Section Legend

- Approximate Water Table Elevation (Based on G-Logics Tidal-Influence Study dated June 21, 2019)
- Cross Section Line, Approximate Ground Surface
- Approximate Geologic Contact Based on USCS Soil Classification
- Boring/Well/Probe Location
- Boring Depth
- Well Screen Interval

Note: See boring logs for full geologic description



Vertical Datum – NAVD 88
Approximate Vertical Drawing
Scale: 1" = 15'



Notes:

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Cross Section D to D'
Duwamish Marine Center Property
6365 First Avenue South
Seattle, Washington

Figure
7-5

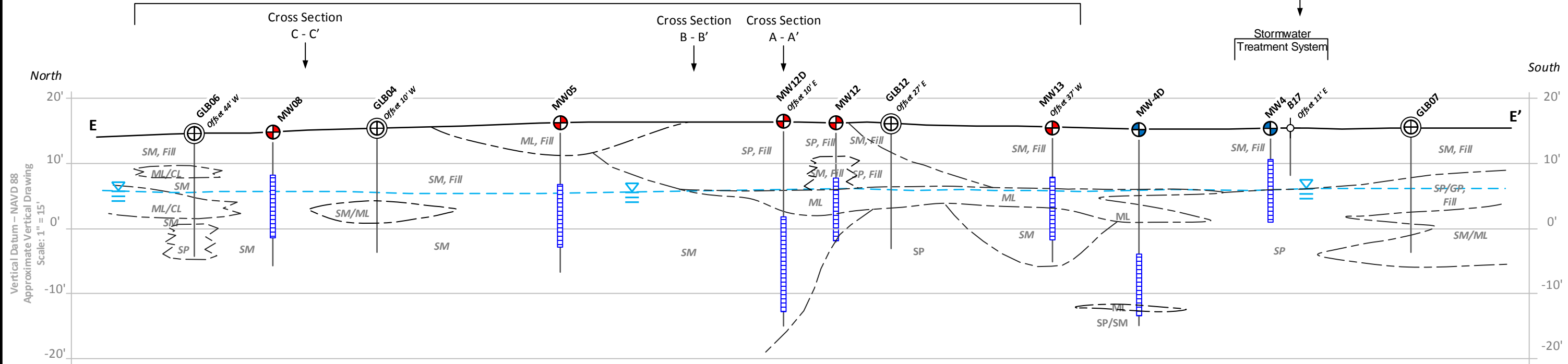
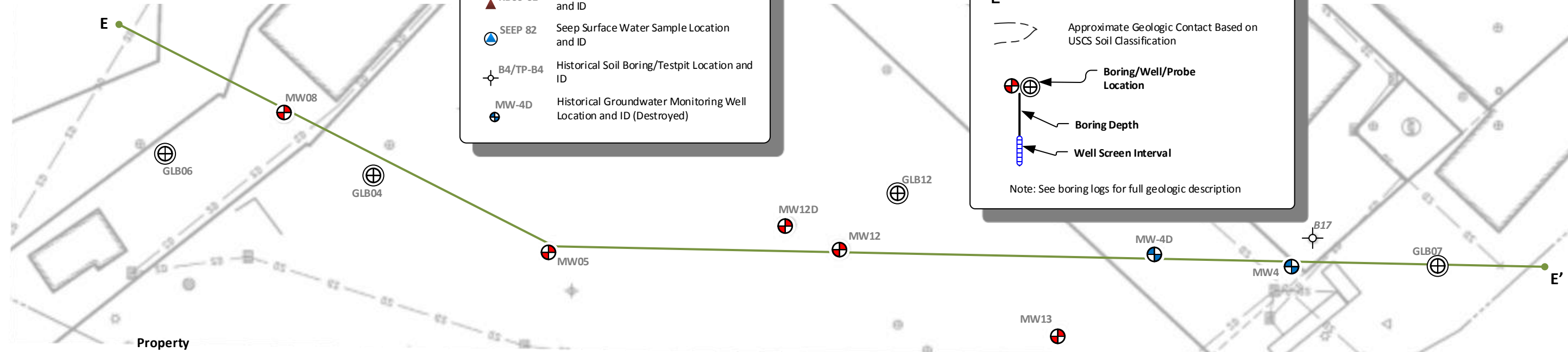


Legend

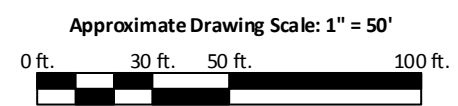
- MW06 G-Logics Groundwater Monitoring Well Location and ID
- GLB14 G-Logics Soil Boring Location and ID
- RB06-01 Riverbank Sediment Sample Location and ID
- SEEP 82 Seep Surface Water Sample Location and ID
- B4/TP-B4 Historical Soil Boring/Testpit Location and ID
- MW-4D Historical Groundwater Monitoring Well Location and ID (Destroyed)

Cross-Section Legend

- Approximate Water Table Elevation (Based on G-Logics Tidal-Influence Study dated June 21, 2019)
 - Cross Section Line, Approximate Ground Surface
 - Approximate Geologic Contact Based on USCS Soil Classification
 - Boring/Well/Probe Location
 - Boring Depth
 - Well Screen Interval
- Note: See boring logs for full geologic description



Project File: 01-0979-G-F7-6.vsd

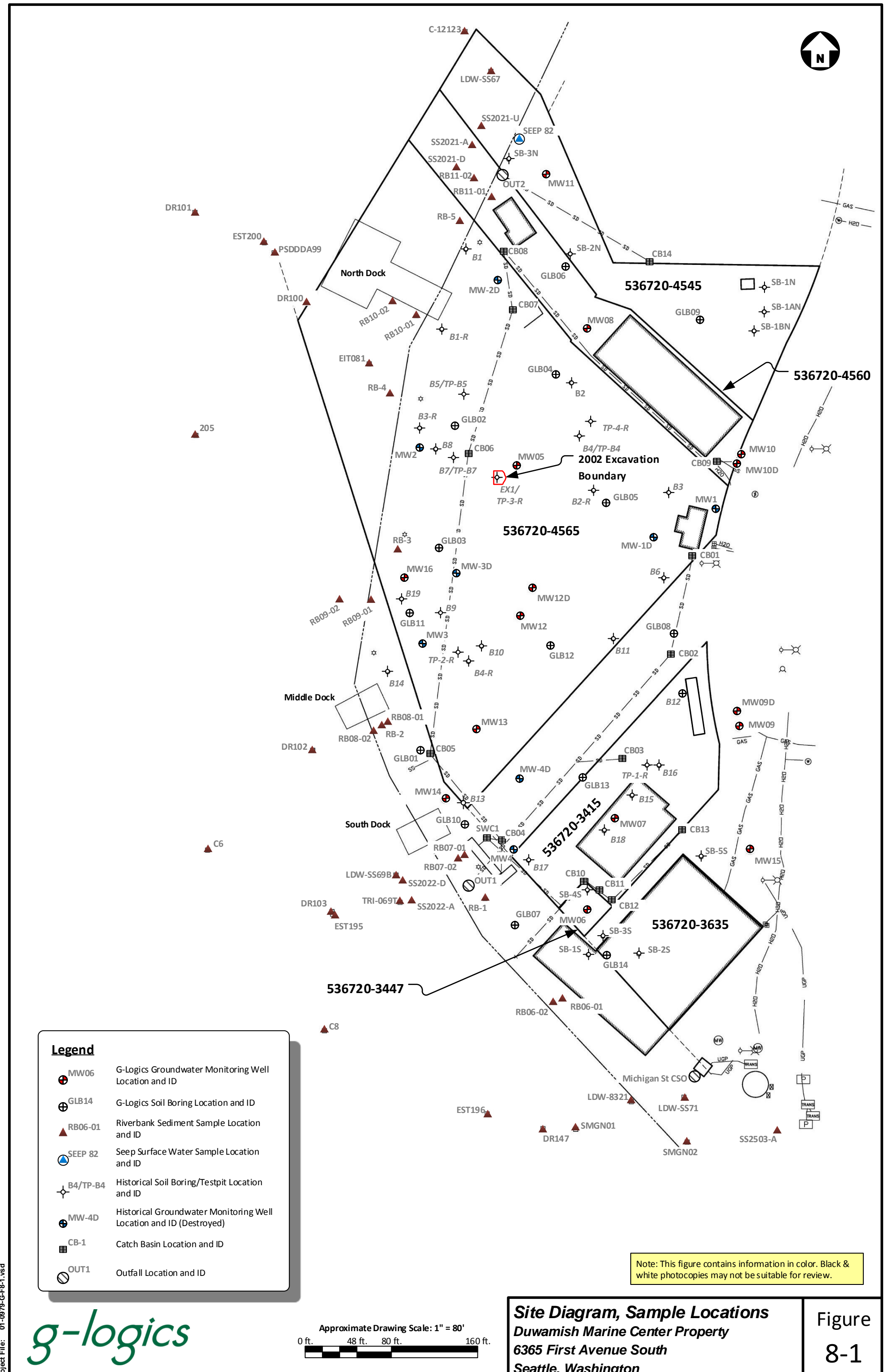


Notes:

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



Cross Section E to E'
Duwamish Marine Center Property
6365 First Avenue South
Seattle, Washington

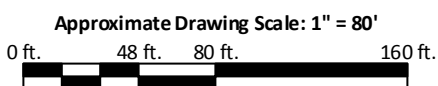
Figure
7-6



Note: This figure contains information in color. Black & white photocopies may not be suitable for review.

Legend

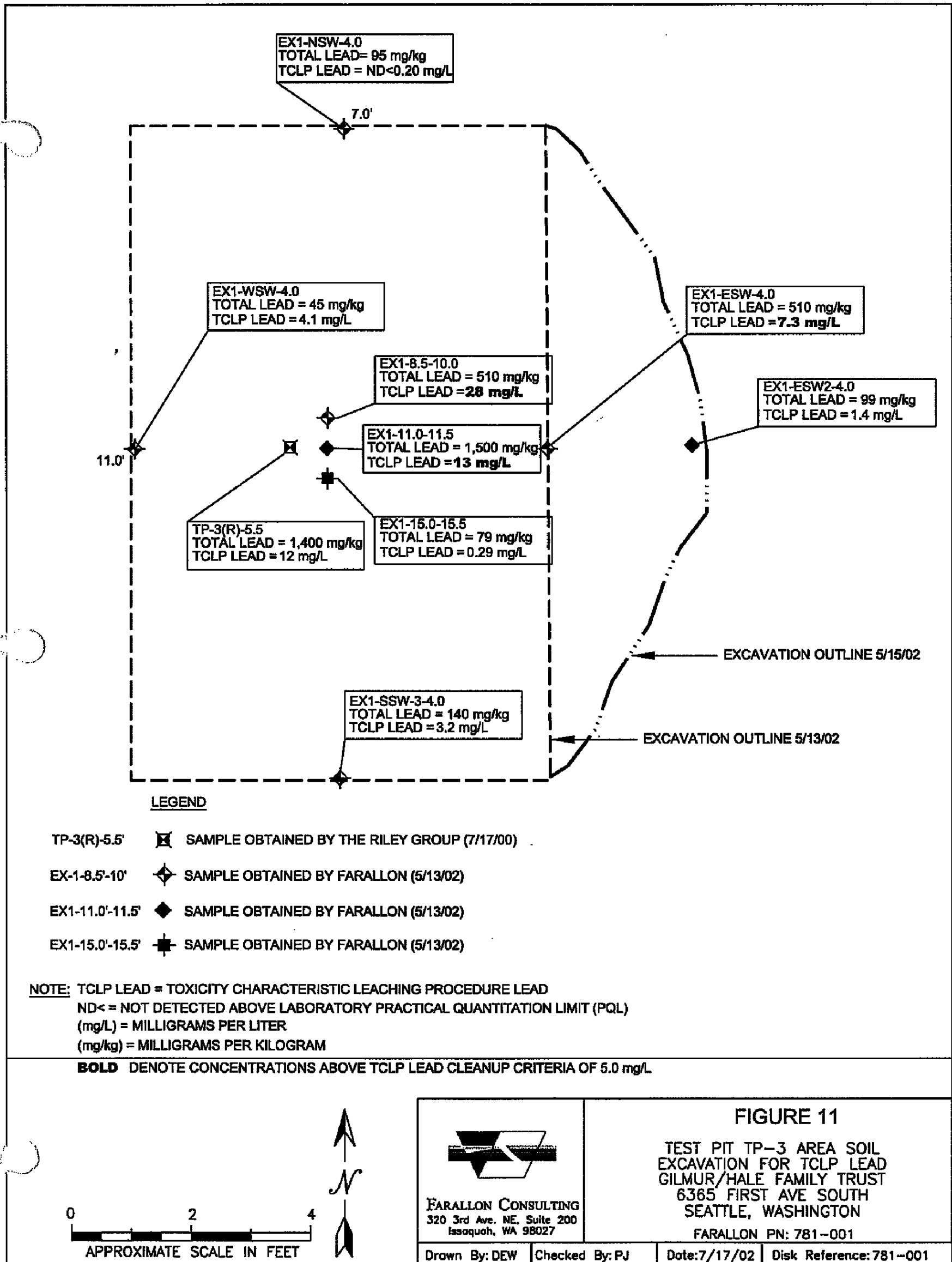
-  MW06 G-Logics Groundwater Monitoring Well Location and ID
-  GLB14 G-Logics Soil Boring Location and ID
-  RB06-01 Riverbank Sediment Sample Location and ID
-  SEEP 82 Seep Surface Water Sample Location and ID
-  B4/TP-B4 Historical Soil Boring/Testpit Location and ID
-  MW-4D Historical Groundwater Monitoring Well Location and ID (Destroyed)
-  CB-1 Catch Basin Location and ID
-  OUT1 Outfall Location and ID



Site Diagram, Sample Locations
Duwamish Marine Center Property
 6365 First Avenue South
 Seattle, Washington

Figure
8-1





Note: This figure contains information in color. Black & white photocopies may not be suitable for review.

Interim Cleanup Action, Lead Excavation
 Duwamish Marine Center Property
 6365 First Avenue South
 Seattle, Washington






Slip 2

Current Shoreline

Property Boundary

Lower Duwamish Waterway

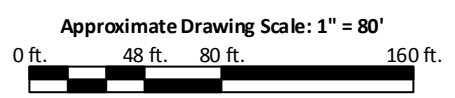
Legend

-  MW09 G-Logics Monitoring Well Location and ID Not Used in Tidal Study
-  MW08 Tidal Study Well Location and ID
-  SW01 Temporary Stilling Well Location and ID



Note: This figure contains information in color. Black & white photocopies may not be suitable for review.

Project File: 01-0879-G-F9-1.vsd



Tidal-Study Well Locations
Duwamish Marine Center Property
 6365 First Avenue South
 Seattle, Washington

Figure 9-1






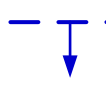
Slip 2

Current Shoreline

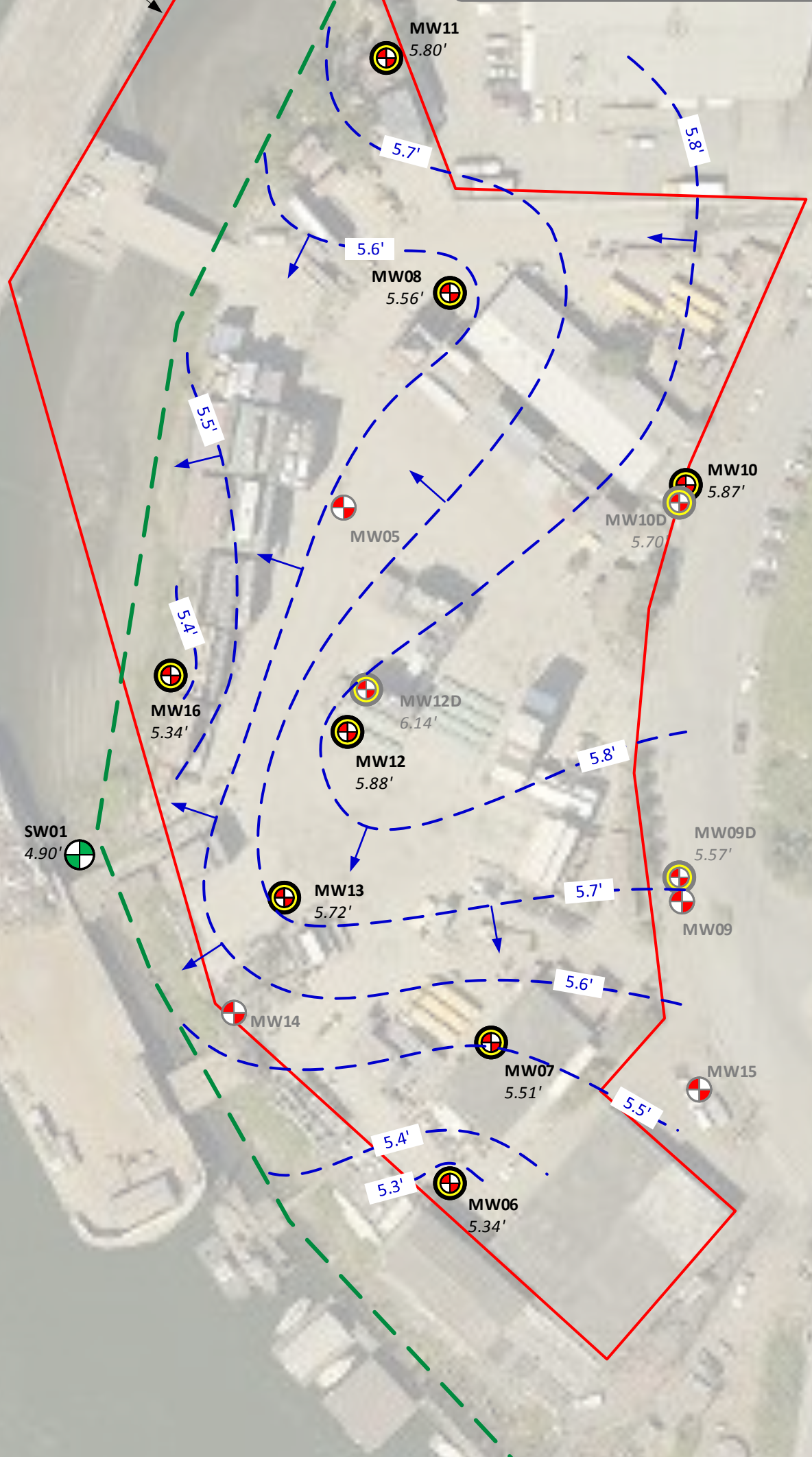
Property Boundary

Lower Duwamish Waterway

Legend

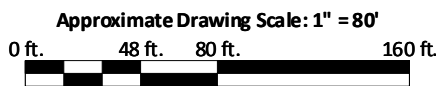
-  MW09 G-Logics Monitoring Well Location and ID
-  MW08 Tidal Study Well Location and ID
-  SW1 Temporary Stilling Well Location and ID
-  Isocontour of Groundwater Elevations (feet) in Shallow-Zone Wells and Groundwater-Flow Direction

Mean groundwater elevations were calculated using the Serfes Method (1991) and data collected between 8/26/2016 and 8/28/2016.



Note: This figure contains information in color. Black & white photocopies may not be suitable for review.

Project File: 01-0879-G-F9-2.vsd



Mean Groundwater Isocontours
Duwamish Marine Center Property
 6365 First Avenue South
 Seattle, Washington

Figure 9-2



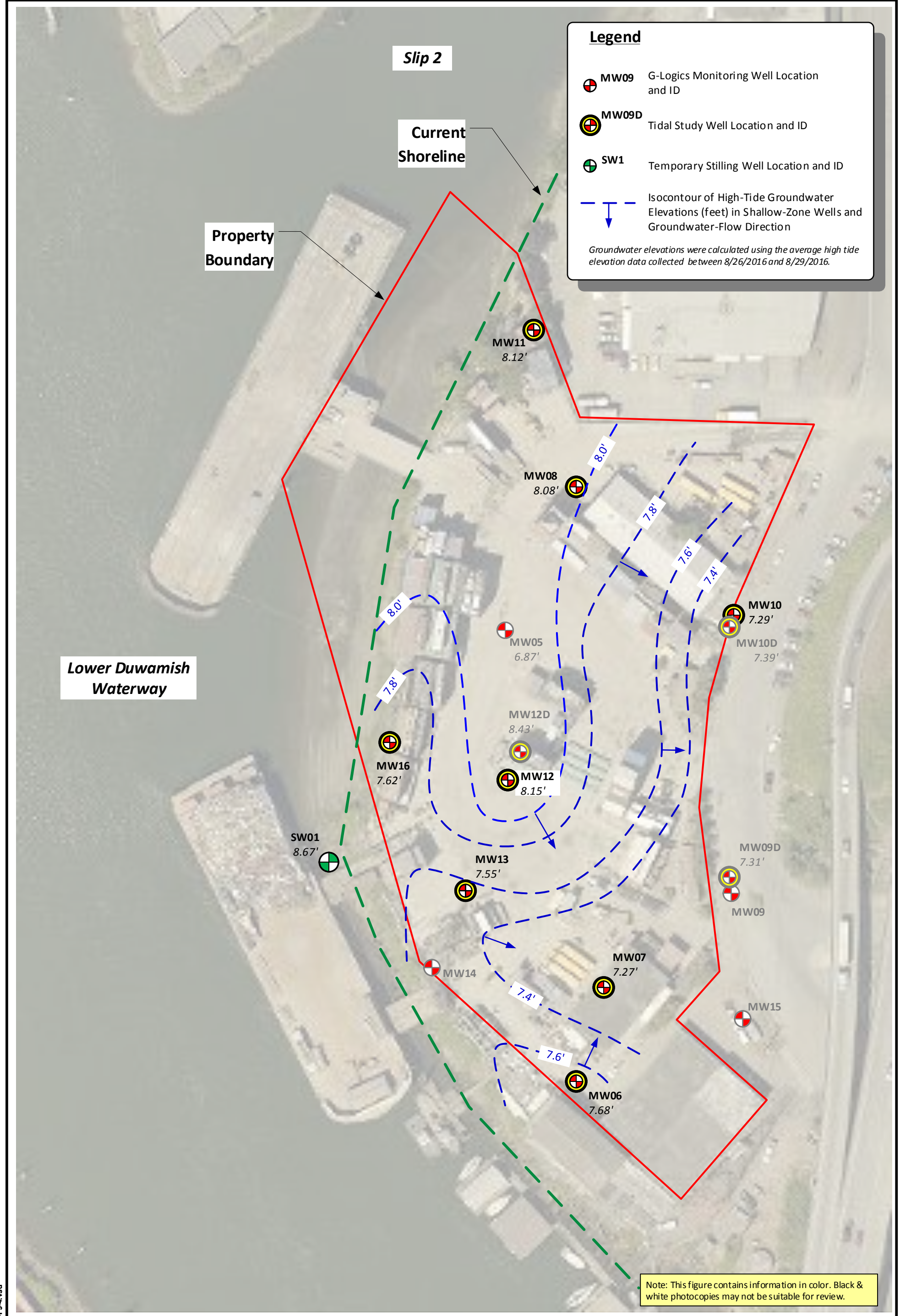
Project File: 01-0879-G-F9-3.vsd



Mapping Reference: King County iMap, PLS Inc. Survey (2015-2017), G-Logics Site Measurements

Low Tide Groundwater Isocontours
Duwamish Marine Center Property
 6365 First Avenue South
 Seattle, Washington

Figure
 9-3









Slip 2

Current Shoreline

Property Boundary

Lower Duwamish Waterway

Legend

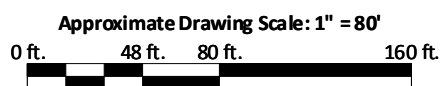
-  MW09 G-Logics Monitoring Well Location and ID Not Used in Tidal Study
-  MW08 Tidal Study Well Location and ID
-  SW1 Temporary Stilling Well Location and ID
-  Isocontour of Groundwater-Elevation Fluctuations for Shallow-Zone Wells (feet)

Groundwater fluctuations were calculated using the high and low-low tide elevation data collected between 8/26/2016 and 8/29/2016.



Note: This figure contains information in color. Black & white photocopies may not be suitable for review.

Project File: 01-0879-G-F9-5.vsd



Average Groundwater Fluctuations
Duwamish Marine Center Property
 6365 First Avenue South
 Seattle, Washington

Figure 9-5








Slip 2

Current Shoreline

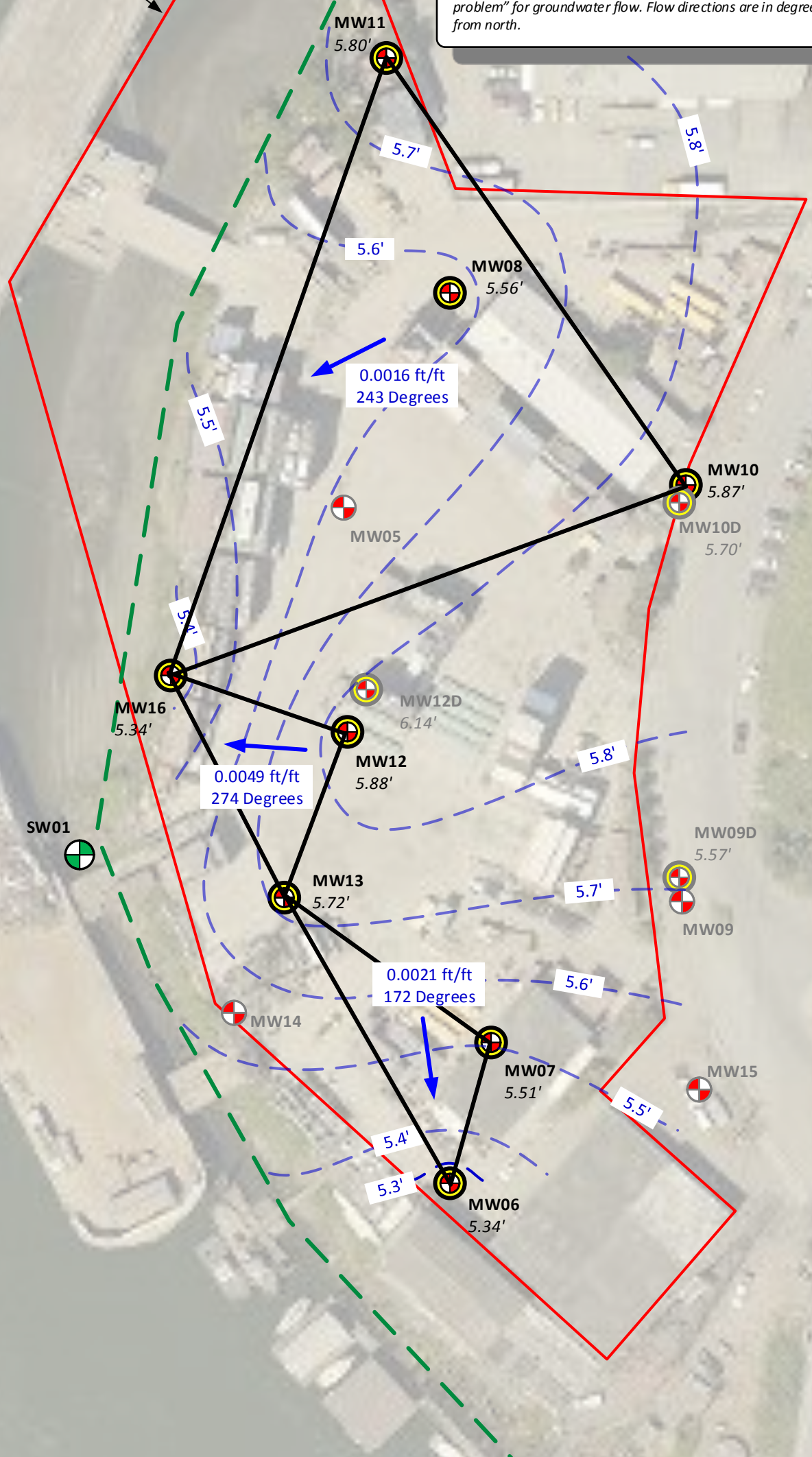
Property Boundary

Lower Duwamish Waterway

Legend

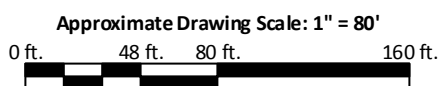
-  MW09 G-Logics Monitoring Well Location and ID
-  MW08 Tidal Study Well Location and ID
-  SW1 Temporary Stilling Well Location and ID
-  Groundwater Elevation Contours for Shallow-Zone Wells (in feet)
-  Lateral-Hydraulic Gradient and Groundwater-Flow Direction for Triangulated Well Sets

Lateral hydraulic gradients calculated using standard "three-point problem" for groundwater flow. Flow directions are in degrees, clockwise from north.



Note: This figure contains information in color. Black & white photocopies may not be suitable for review.

Project File: 01-0879-G-F9-6.vsd



Lateral Hydraulic Gradients
Duwamish Marine Center Property
 6365 First Avenue South
 Seattle, Washington

Figure 9-6






Slip 2

Current Shoreline


Property Boundary

Lower Duwamish Waterway

Legend

-  MW09 G-Logics Monitoring Well Location and ID
-  MW08 Tidal Study Well Location and ID
-  SW1 Temporary Stilling Well Location and ID

4,870 Chloride Concentrations (mg/L)

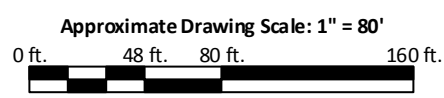
 Isocontour of Average Chloride Concentrations (mg/L)

Chloride concentrations are averages based on G-Logics groundwater-sampling events.



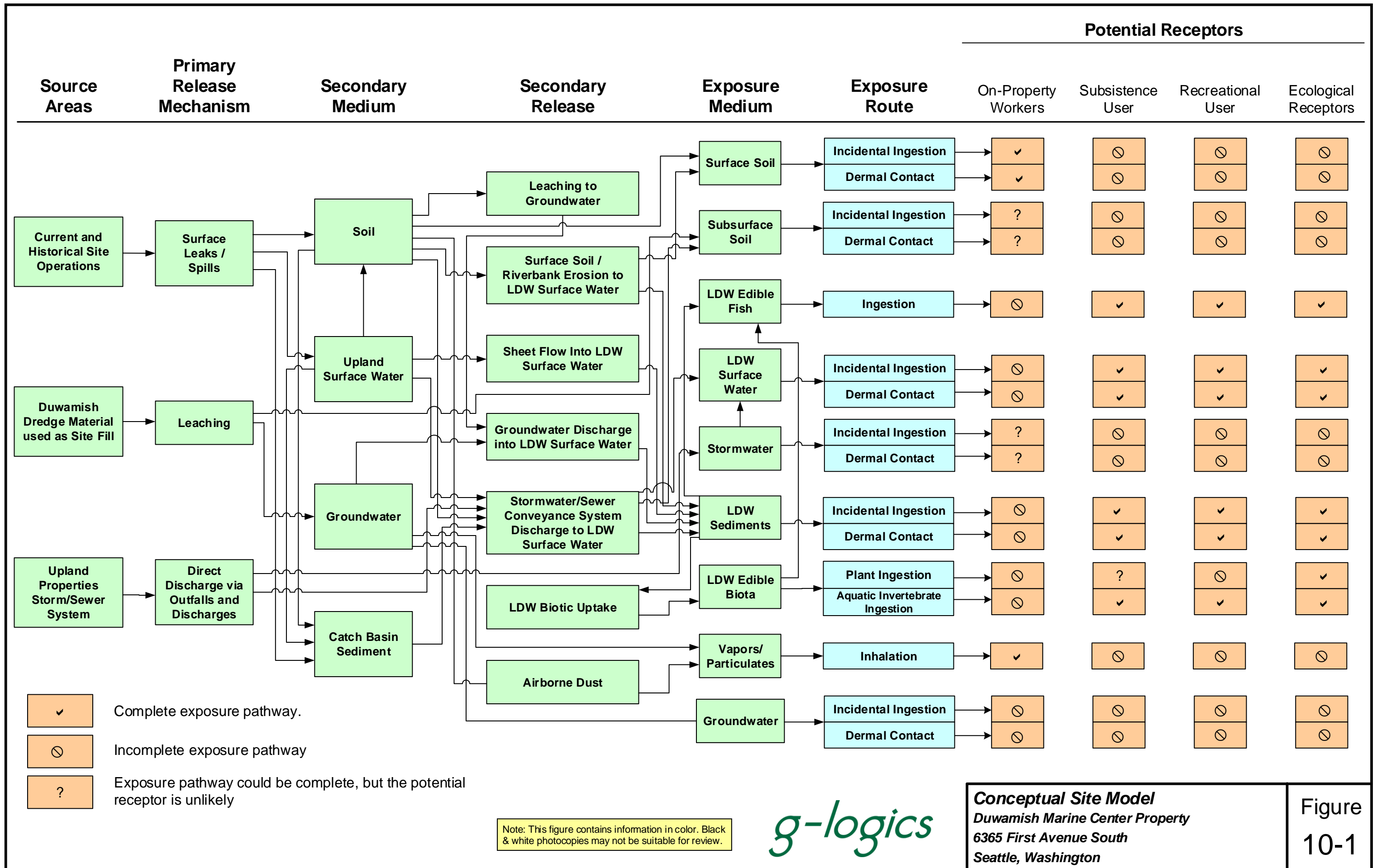
Note: This figure contains information in color. Black & white photocopies may not be suitable for review.

Project File: 01-0879-G-F9-7.vsd

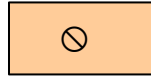


Average Chloride Isocontours
Duwamish Marine Center Property
 6365 First Avenue South
 Seattle, Washington

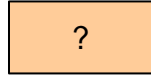
Figure 9-7



Complete exposure pathway.



Incomplete exposure pathway



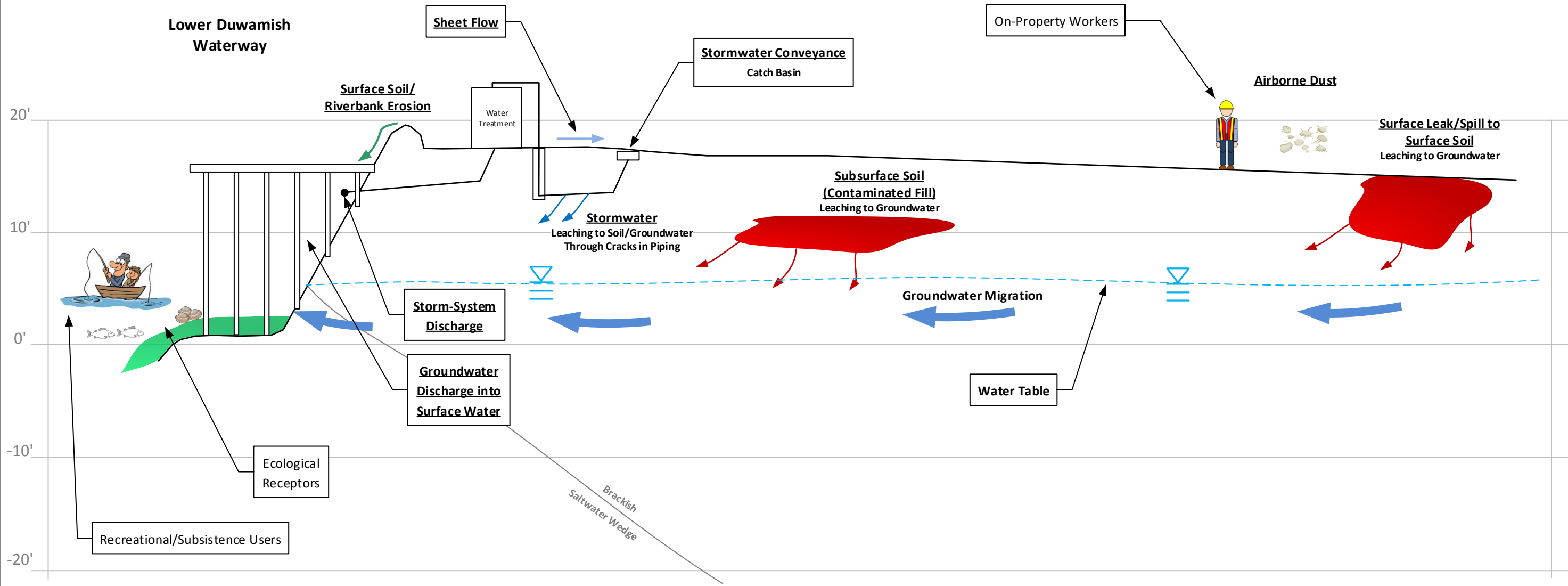
Exposure pathway could be complete, but the potential receptor is unlikely

Note: This figure contains information in color. Black & white photocopies may not be suitable for review.



Conceptual Site Model
 Duwamish Marine Center Property
 6365 First Avenue South
 Seattle, Washington

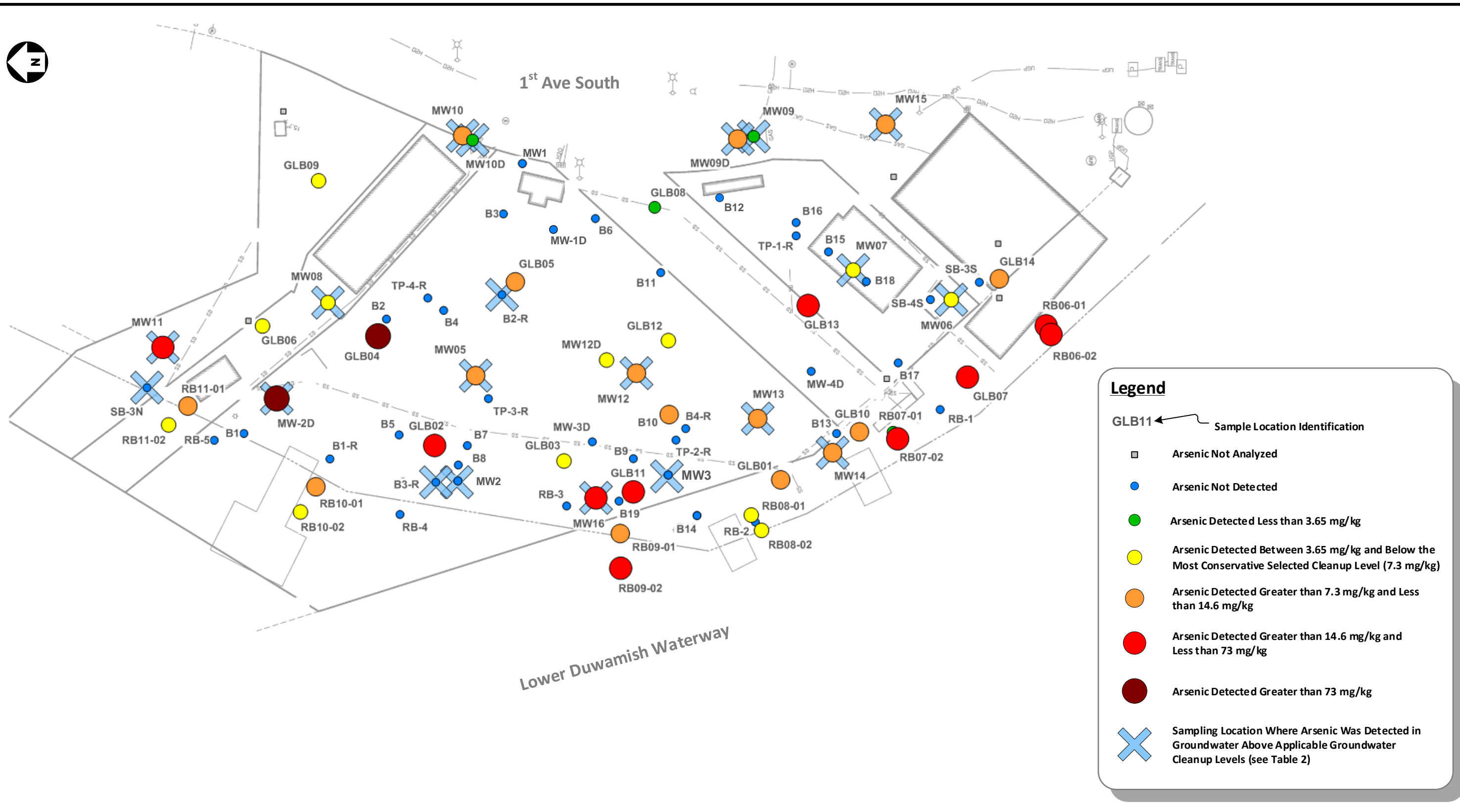
Figure
 10-1



Note: This figure contains information in color. Black & white photocopies may not be suitable for review.

Conceptual Site Model Figure
Duwamish Marine Center Property
6365 First Avenue South
Seattle, Washington

Figure
10-2

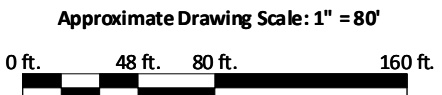


Legend

GLB11 ← Sample Location Identification

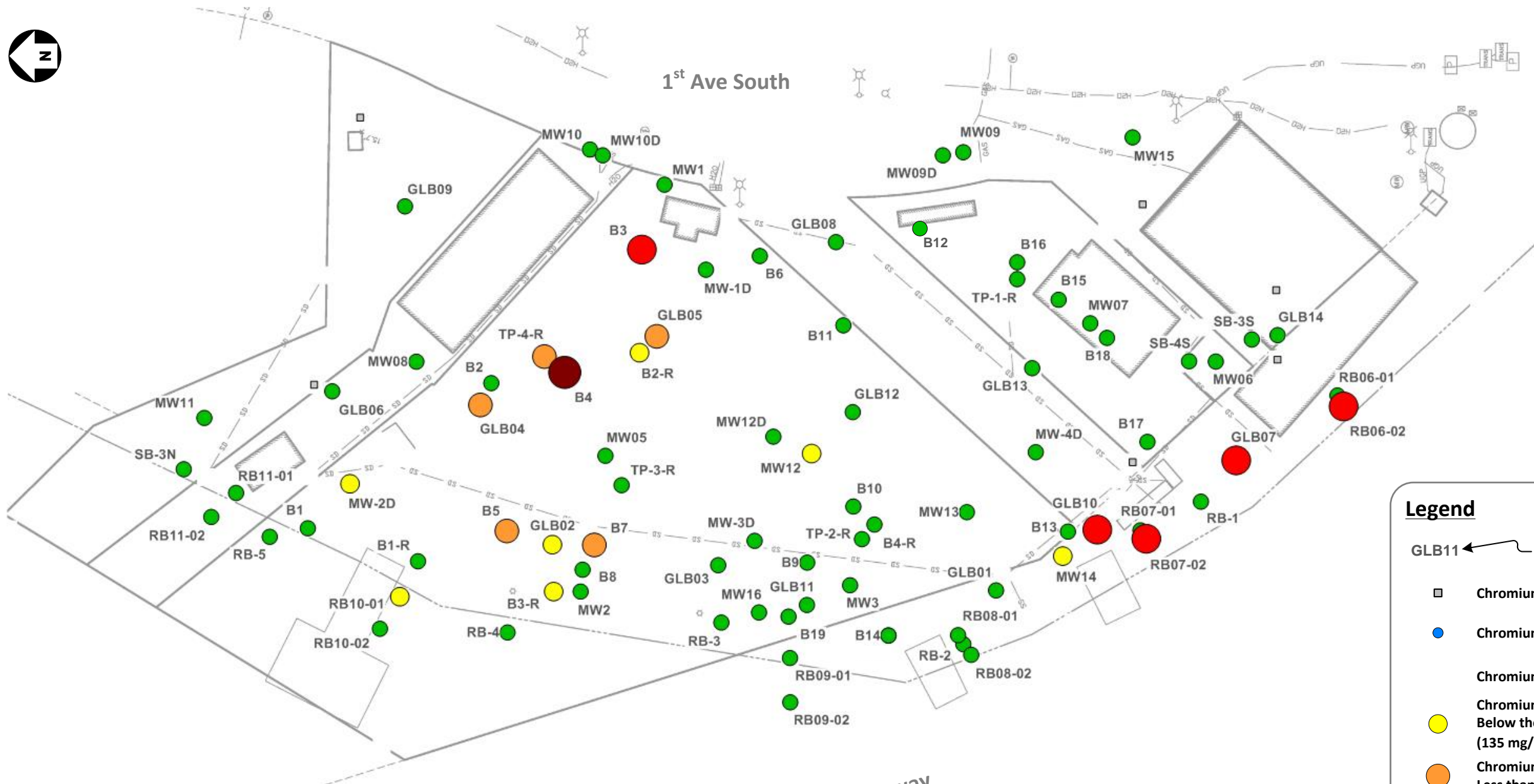
- Arsenic Not Analyzed
- Arsenic Not Detected
- Arsenic Detected Less than 3.65 mg/kg
- Arsenic Detected Between 3.65 mg/kg and Below the Most Conservative Selected Cleanup Level (7.3 mg/kg)
- Arsenic Detected Greater than 7.3 mg/kg and Less than 14.6 mg/kg
- Arsenic Detected Greater than 14.6 mg/kg and Less than 73 mg/kg
- Arsenic Detected Greater than 73 mg/kg
- ✕ Sampling Location Where Arsenic Was Detected in Groundwater Above Applicable Groundwater Cleanup Levels (see Table 2)

Notes:
 -Figure Indicates the Highest Contaminant Concentration Detected in Soil at the Specified Location (for all depths).
 -See Table 1-1 for Cleanup Levels and Screening Criteria.
 -"RB" Indicates a Riverbank Sediment Sample, Shown for Comparison Purposes.
 -Sediment Data Not Included on this Figure.
 -This Figure Contains Information in Color. Black & White Photocopies May Not be Suitable for Review.



Highest Arsenic Concentrations in Soil
 Duwamish Marine Center Property
 6365 First Avenue South
 Seattle, Washington

Figure
 11-1

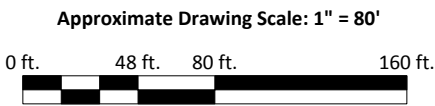


Legend

GLB11 ← Sample Location Identification

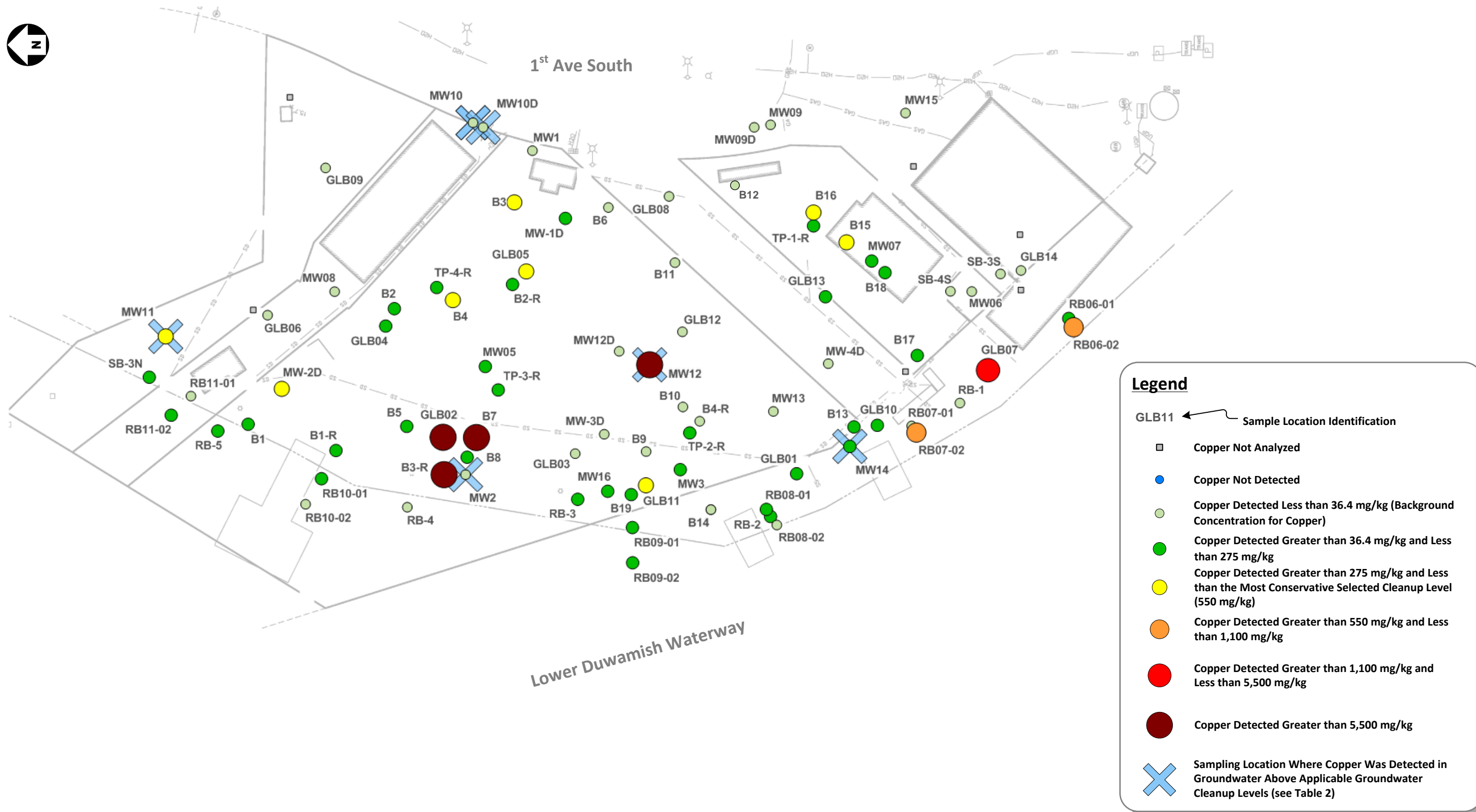
- Chromium Not Analyzed
- Chromium Not Detected
- Chromium Detected Less than 67.5 mg/kg
- Chromium Detected Greater than 67.5 mg/kg and Below the Most Conservative Selected Cleanup Level (135 mg/kg)
- Chromium Detected Greater than 135 mg/kg and Less than 270 mg/kg
- Chromium Detected Greater than 270 mg/kg and Less than 1,350 mg/kg
- Chromium Detected Greater than 1,350 mg/kg
- ✕ Sampling Location Where Chromium Was Detected in Groundwater Above Applicable Groundwater Cleanup Levels (see Table 2)

Notes:
 -Figure Indicates the Highest Contaminant Concentration Detected in Soil at the Specified Location (for all depths).
 -See Table 1-1 for Cleanup Levels and Screening Criteria.
 -"RB" Indicates a Riverbank Sediment Sample, Shown for Comparison Purposes.
 -Sediment Data Not Included on this Figure.
 -This Figure Contains Information in Color. Black & White Photocopies May Not be Suitable for Review.



Highest Chromium Concentrations in Soil
 Duwamish Marine Center Property
 6365 First Avenue South
 Seattle, Washington

Figure
 11-2

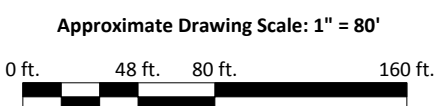


Legend

GLB11 ← Sample Location Identification

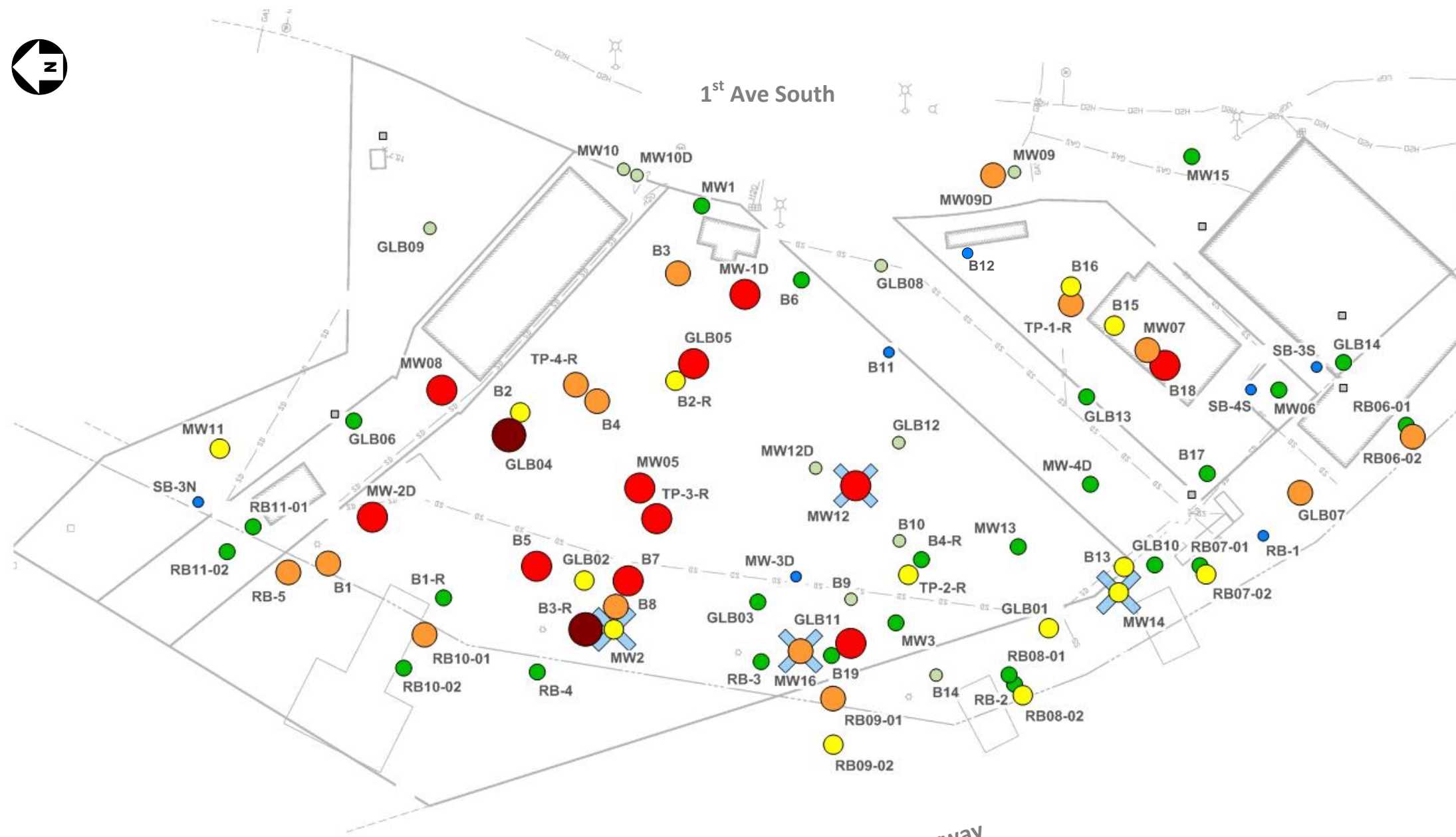
- Copper Not Analyzed
- Copper Not Detected
- Copper Detected Less than 36.4 mg/kg (Background Concentration for Copper)
- Copper Detected Greater than 36.4 mg/kg and Less than 275 mg/kg
- Copper Detected Greater than 275 mg/kg and Less than the Most Conservative Selected Cleanup Level (550 mg/kg)
- Copper Detected Greater than 550 mg/kg and Less than 1,100 mg/kg
- Copper Detected Greater than 1,100 mg/kg and Less than 5,500 mg/kg
- Copper Detected Greater than 5,500 mg/kg
- ✕ Sampling Location Where Copper Was Detected in Groundwater Above Applicable Groundwater Cleanup Levels (see Table 2)

Notes:
 -Figure Indicates the Highest Contaminant Concentration Detected in Soil at the Specified Location (for all depths).
 -See Table 1-1 for Cleanup Levels and Screening Criteria.
 -"RB" Indicates a Riverbank Sediment Sample, Shown for Comparison Purposes.
 -Sediment Data Not Included on this Figure.
 -This Figure Contains Information in Color. Black & White Photocopies May Not be Suitable for Review.



Highest Copper Concentrations in Soil
 Duwamish Marine Center Property
 6365 First Avenue South
 Seattle, Washington

Figure
 11-3

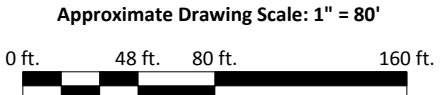


Legend

GLB11 ← Sample Location Identification

- Lead Not Analyzed
- Lead Not Detected
- Lead Detected Less than 16.8 mg/kg (Background Concentration for Copper)
- Lead Detected Greater than 16.8 mg/kg and Less than 110 mg/kg
- Lead Detected Greater than 110 mg/kg and Less than the Most Conservative Selected Cleanup Level (220 mg/kg)
- Lead Detected Greater than 220 mg/kg and Less than 440 mg/kg
- Lead Detected Greater than 440 mg/kg and Less than 2,200 mg/kg
- Lead Detected Greater than 2,200 mg/kg
- ⊗ Sampling Location Where Lead Was Detected in Groundwater Above Applicable Groundwater Cleanup Levels (see Table 2)

Notes:
 -Figure Indicates the Highest Contaminant Concentration Detected in Soil at the Specified Location (for all depths).
 -See Table 1-1 for Cleanup Levels and Screening Criteria.
 -"RB" Indicates a Riverbank Sediment Sample, Shown for Comparison Purposes.
 -Sediment Data Not Included on this Figure.
 -This Figure Contains Information in Color. Black & White Photocopies May Not be Suitable for Review.

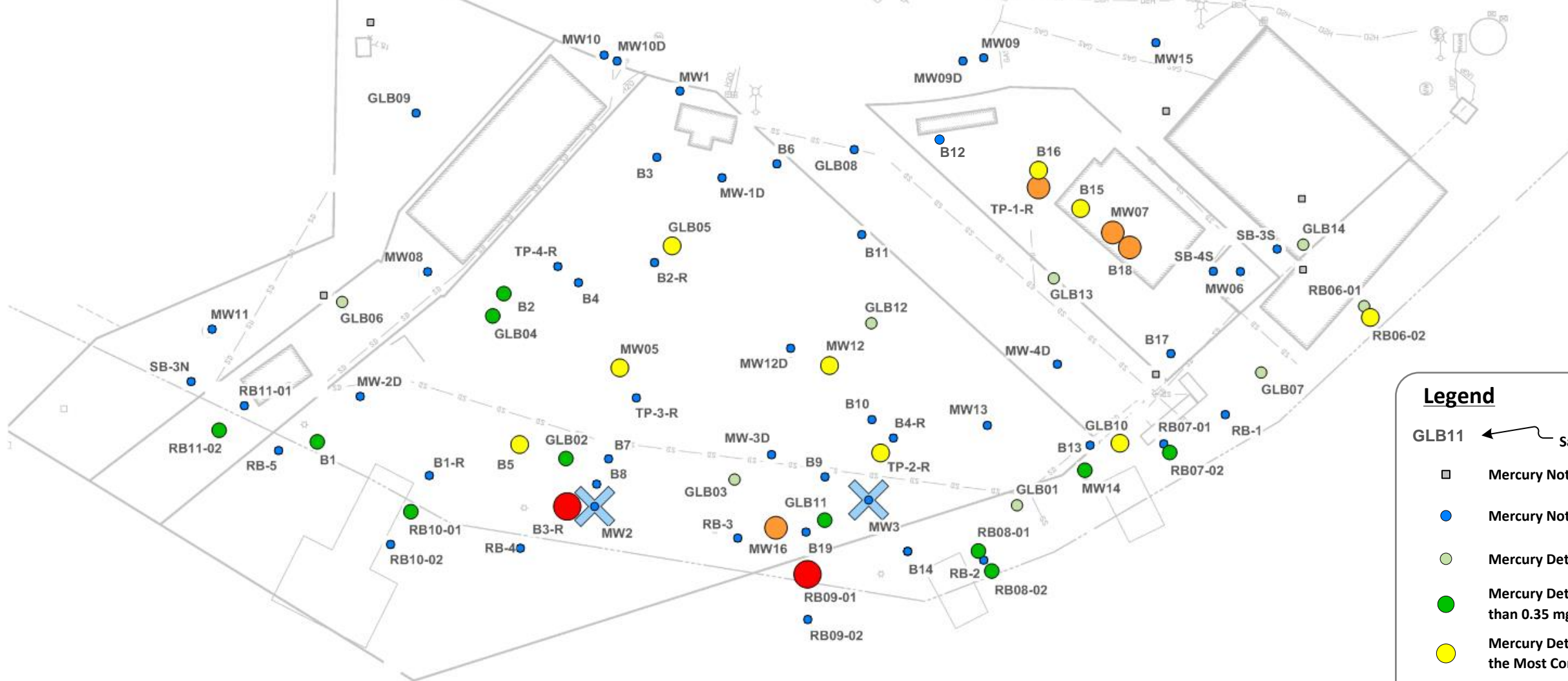


Highest Lead Concentrations in Soil
 Duwamish Marine Center Property
 6365 First Avenue South
 Seattle, Washington

Figure
 11-4



1st Ave South

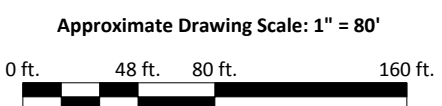


Legend

GLB11 ← Sample Location Identification

- Mercury Not Analyzed
- Mercury Not Detected
- Mercury Detected Less than 0.105 mg/kg
- Mercury Detected Greater than 0.105 mg/kg and Less than 0.35 mg/kg
- Mercury Detected Greater than 0.35 mg/kg and Less than the Most Conservative Selected Cleanup Level (0.7 mg/kg)
- Mercury Detected Greater than 0.7 mg/kg and Less than 1.4 mg/kg
- Mercury Detected Greater than 1.4 mg/kg and Less than 7 mg/kg
- Mercury Detected Greater than 7 mg/kg
- ⊗ Sampling Location Where Mercury Was Detected in Groundwater Above Applicable Groundwater Cleanup Levels (see Table 2)

Project File: 01-0979-G-F11-5_Highest Mercury in Soil.vsd

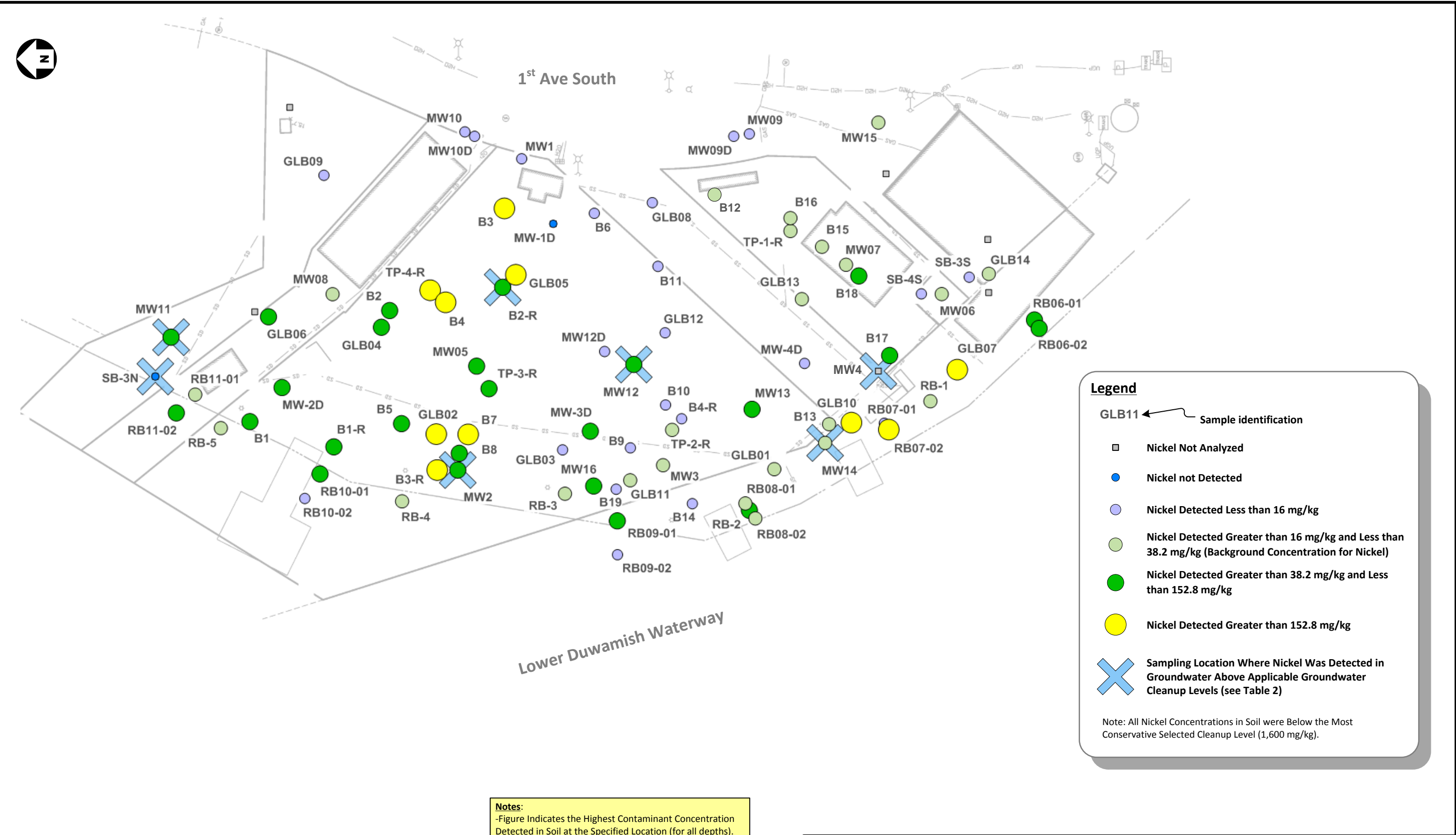


Notes:

- Figure Indicates the Highest Contaminant Concentration Detected in Soil at the Specified Location (for all depths).
- See Table 1-1 for Cleanup Levels and Screening Criteria.
- “RB” Indicates a Riverbank Sediment Sample, Shown for Comparison Purposes.
- Sediment Data Not Included on this Figure.
- This Figure Contains Information in Color. Black & White Photocopies May Not be Suitable for Review.

Highest Mercury Concentrations in Soil
Duwamish Marine Center Property
6365 First Avenue South
Seattle, Washington

Figure
11-5

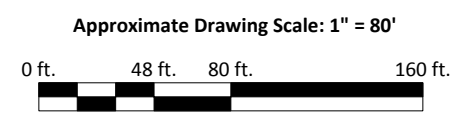


Legend

- GLB11 ← Sample identification
- Nickel Not Analyzed
- Nickel not Detected
- Nickel Detected Less than 16 mg/kg
- Nickel Detected Greater than 16 mg/kg and Less than 38.2 mg/kg (Background Concentration for Nickel)
- Nickel Detected Greater than 38.2 mg/kg and Less than 152.8 mg/kg
- Nickel Detected Greater than 152.8 mg/kg
- ✕ Sampling Location Where Nickel Was Detected in Groundwater Above Applicable Groundwater Cleanup Levels (see Table 2)

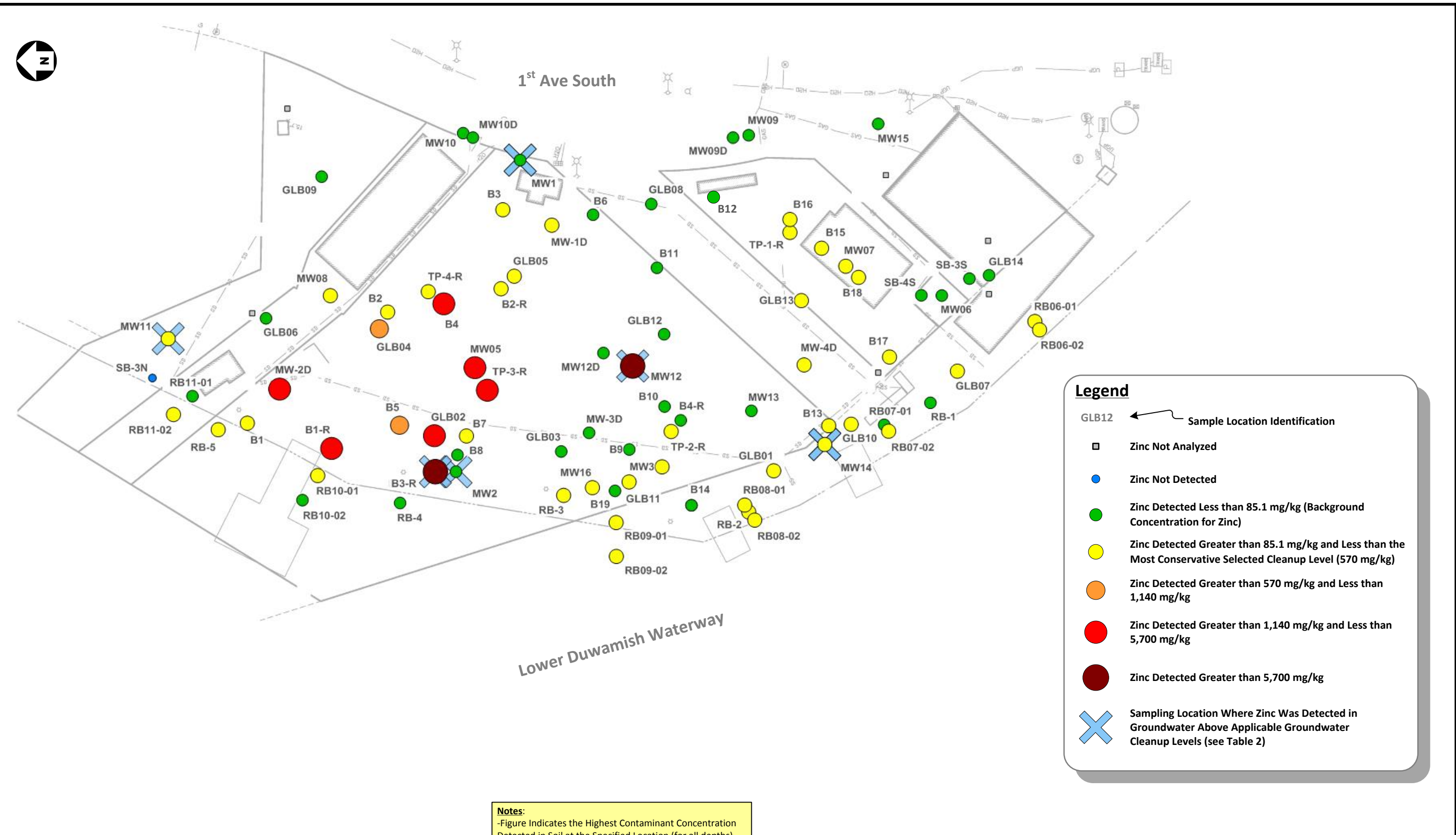
Note: All Nickel Concentrations in Soil were Below the Most Conservative Selected Cleanup Level (1,600 mg/kg).

Notes:
 -Figure Indicates the Highest Contaminant Concentration Detected in Soil at the Specified Location (for all depths).
 -See Table 1-1 for Cleanup Levels and Screening Criteria.
 -"RB" Indicates a Riverbank Sediment Sample, Shown for Comparison Purposes.
 -Sediment Data Not Included on this Figure.
 -This Figure Contains Information in Color. Black & White Photocopies May Not be Suitable for Review.

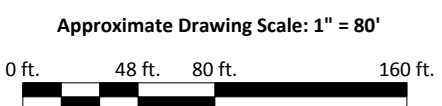


Highest Nickel Concentrations in Soil
 Duwamish Marine Center Property
 6365 First Avenue South
 Seattle, Washington

Figure 11-6

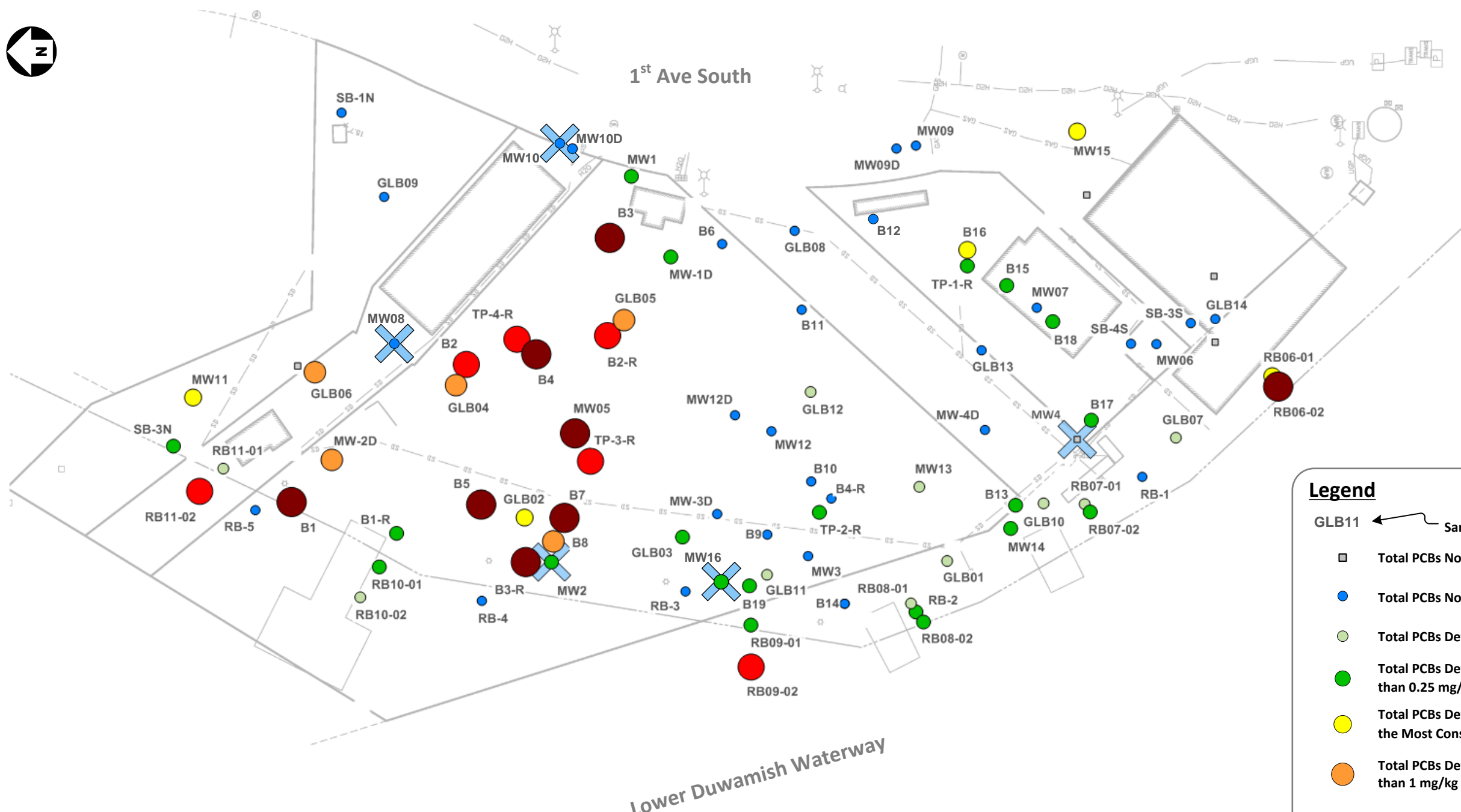


Notes:
 -Figure Indicates the Highest Contaminant Concentration Detected in Soil at the Specified Location (for all depths).
 -See Table 1-1 for Cleanup Levels and Screening Criteria.
 -"RB" Indicates a Riverbank Sediment Sample, Shown for Comparison Purposes.
 -Sediment Data Not Included on this Figure.
 -This Figure Contains Information in Color. Black & White Photocopies May Not be Suitable for Review.



Highest Zinc Concentrations in Soil
 Duwamish Marine Center Property
 6365 First Avenue South
 Seattle, Washington

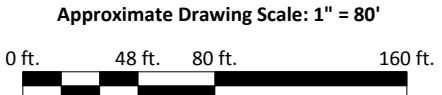
Figure 11-7



Legend

- GLB11 ← Sample Location Identification
- Total PCBs Not Analyzed
- Total PCBs Not Detected
- Total PCBs Detected Less than 0.05 mg/kg
- Total PCBs Detected Greater than 0.05 mg/kg and Less than 0.25 mg/kg (Half the Selected Cleanup Level)
- Total PCBs Detected Greater than 0.25 mg/kg and Less than the Most Conservative Selected Cleanup Level (0.5 mg/kg)
- Total PCBs Detected Greater than 0.5 mg/kg and Less than 1 mg/kg
- Total PCBs Detected Greater than 0.5 mg/kg and Less than 5 mg/kg
- Total PCBs Detected Greater than 5 mg/kg
- ⊗ Sampling Location Where Total PCBs Were Detected in Groundwater Above Applicable Groundwater Cleanup Levels (see Table 2)

Notes:
 -Figure Indicates the Highest Contaminant Concentration Detected in Soil at the Specified Location (for all depths).
 -See Table 1-1 for Cleanup Levels and Screening Criteria.
 -"RB" Indicates a Riverbank Sediment Sample, Shown for Comparison Purposes.
 -Sediment Data Not Included on this Figure.
 -This Figure Contains Information in Color. Black & White Photocopies May Not be Suitable for Review.

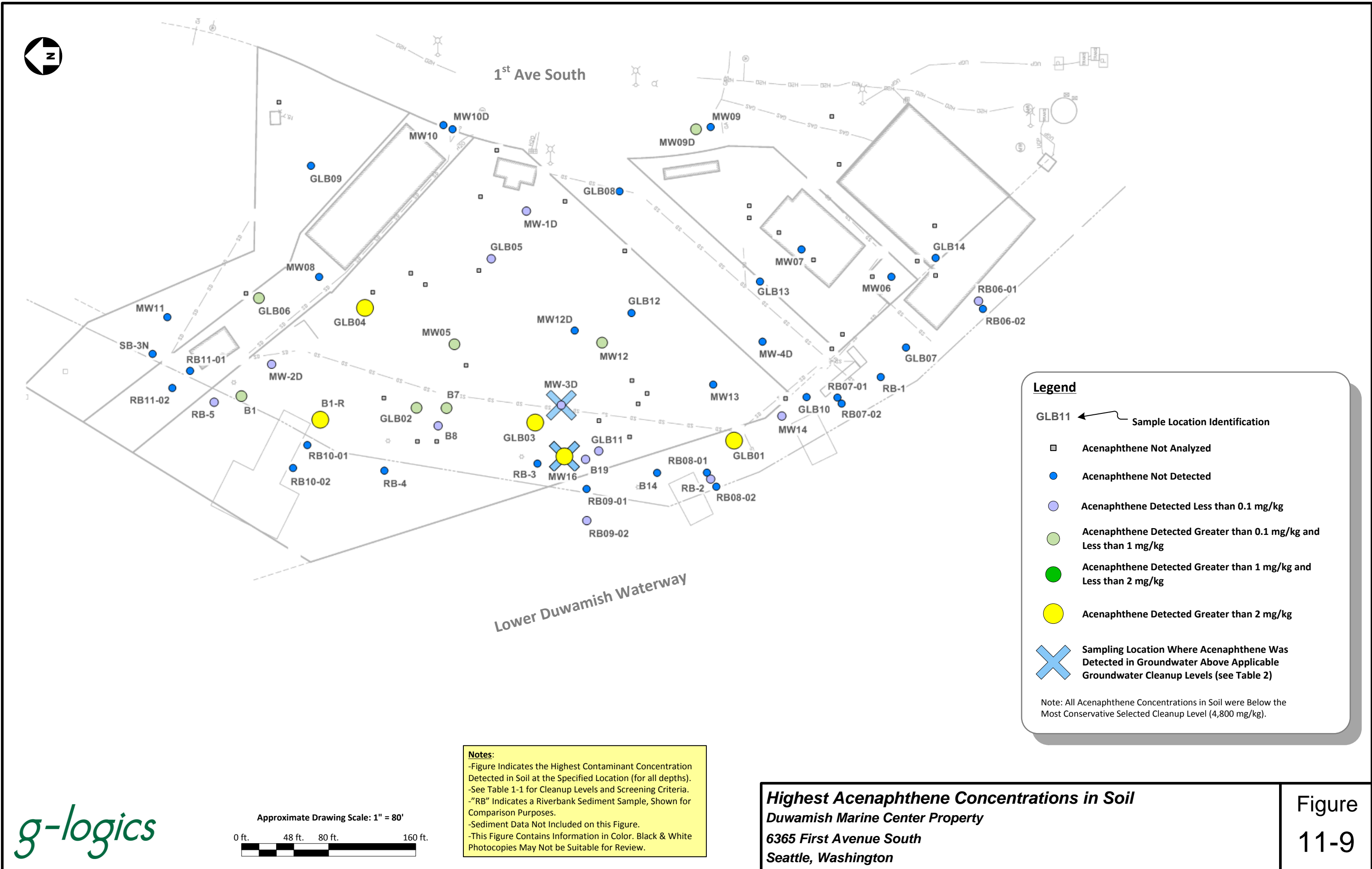


Highest Total PCB Concentrations in Soil
Duwamish Marine Center Property
6365 First Avenue South
Seattle, Washington

Figure
 11-8

Project File: 01-0979-G-F11-8_Highest Total PCB Aroclors in Soil.vsd





Legend

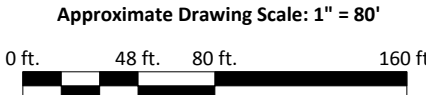
- GLB11 ← Sample Location Identification
- Acenaphthene Not Analyzed
- Acenaphthene Not Detected
- Acenaphthene Detected Less than 0.1 mg/kg
- Acenaphthene Detected Greater than 0.1 mg/kg and Less than 1 mg/kg
- Acenaphthene Detected Greater than 1 mg/kg and Less than 2 mg/kg
- Acenaphthene Detected Greater than 2 mg/kg
- ✕ Sampling Location Where Acenaphthene Was Detected in Groundwater Above Applicable Groundwater Cleanup Levels (see Table 2)

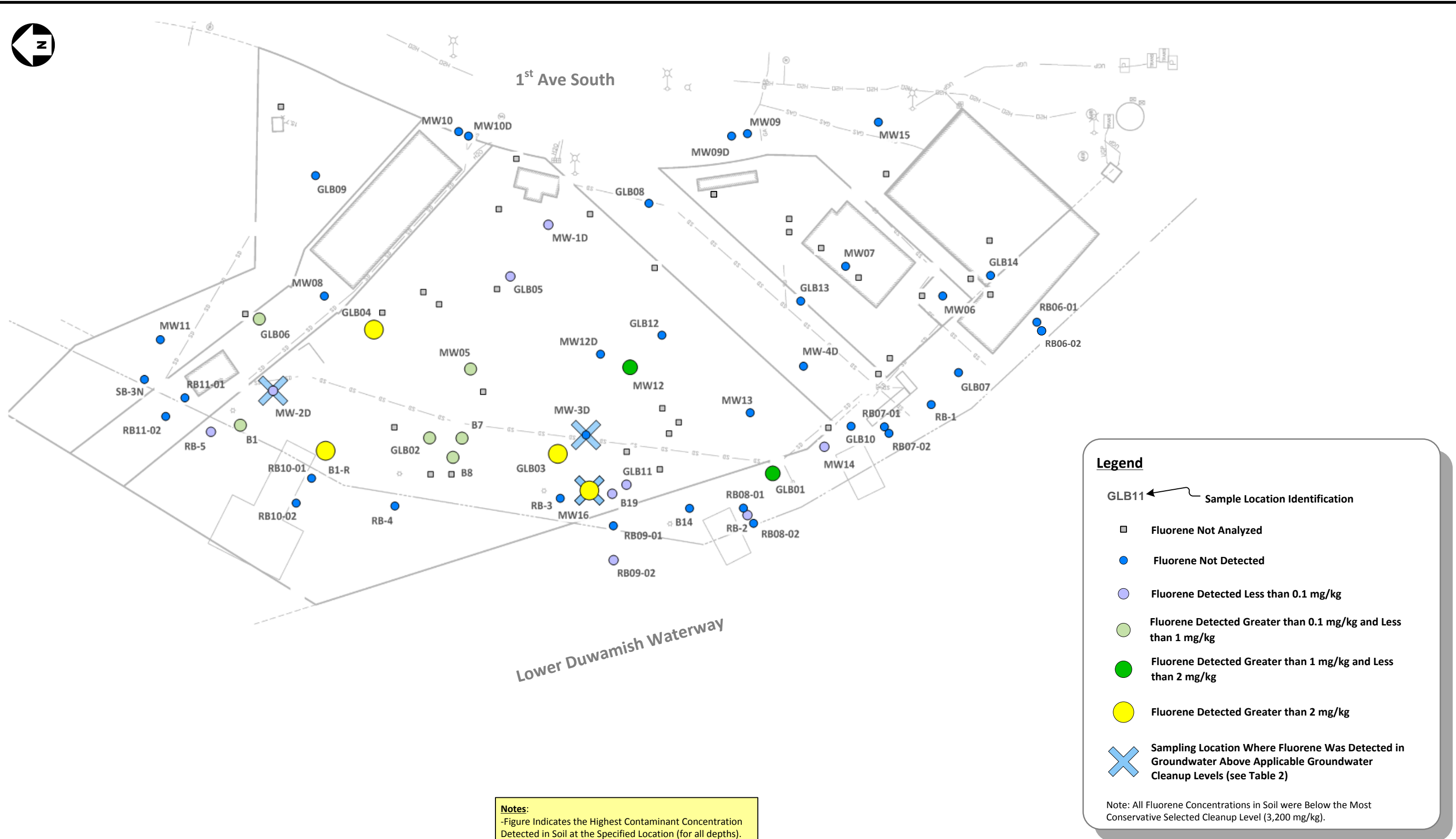
Note: All Acenaphthene Concentrations in Soil were Below the Most Conservative Selected Cleanup Level (4,800 mg/kg).

Notes:
 -Figure Indicates the Highest Contaminant Concentration Detected in Soil at the Specified Location (for all depths).
 -See Table 1-1 for Cleanup Levels and Screening Criteria.
 -"RB" Indicates a Riverbank Sediment Sample, Shown for Comparison Purposes.
 -Sediment Data Not Included on this Figure.
 -This Figure Contains Information in Color. Black & White Photocopies May Not be Suitable for Review.

Highest Acenaphthene Concentrations in Soil
Duwamish Marine Center Property
 6365 First Avenue South
 Seattle, Washington

Figure
 11-9





Legend

GLB11 ← Sample Location Identification

- Fluorene Not Analyzed
- Fluorene Not Detected
- Fluorene Detected Less than 0.1 mg/kg
- Fluorene Detected Greater than 0.1 mg/kg and Less than 1 mg/kg
- Fluorene Detected Greater than 1 mg/kg and Less than 2 mg/kg
- Fluorene Detected Greater than 2 mg/kg
- ✕ Sampling Location Where Fluorene Was Detected in Groundwater Above Applicable Groundwater Cleanup Levels (see Table 2)

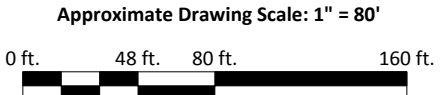
Note: All Fluorene Concentrations in Soil were Below the Most Conservative Selected Cleanup Level (3,200 mg/kg).

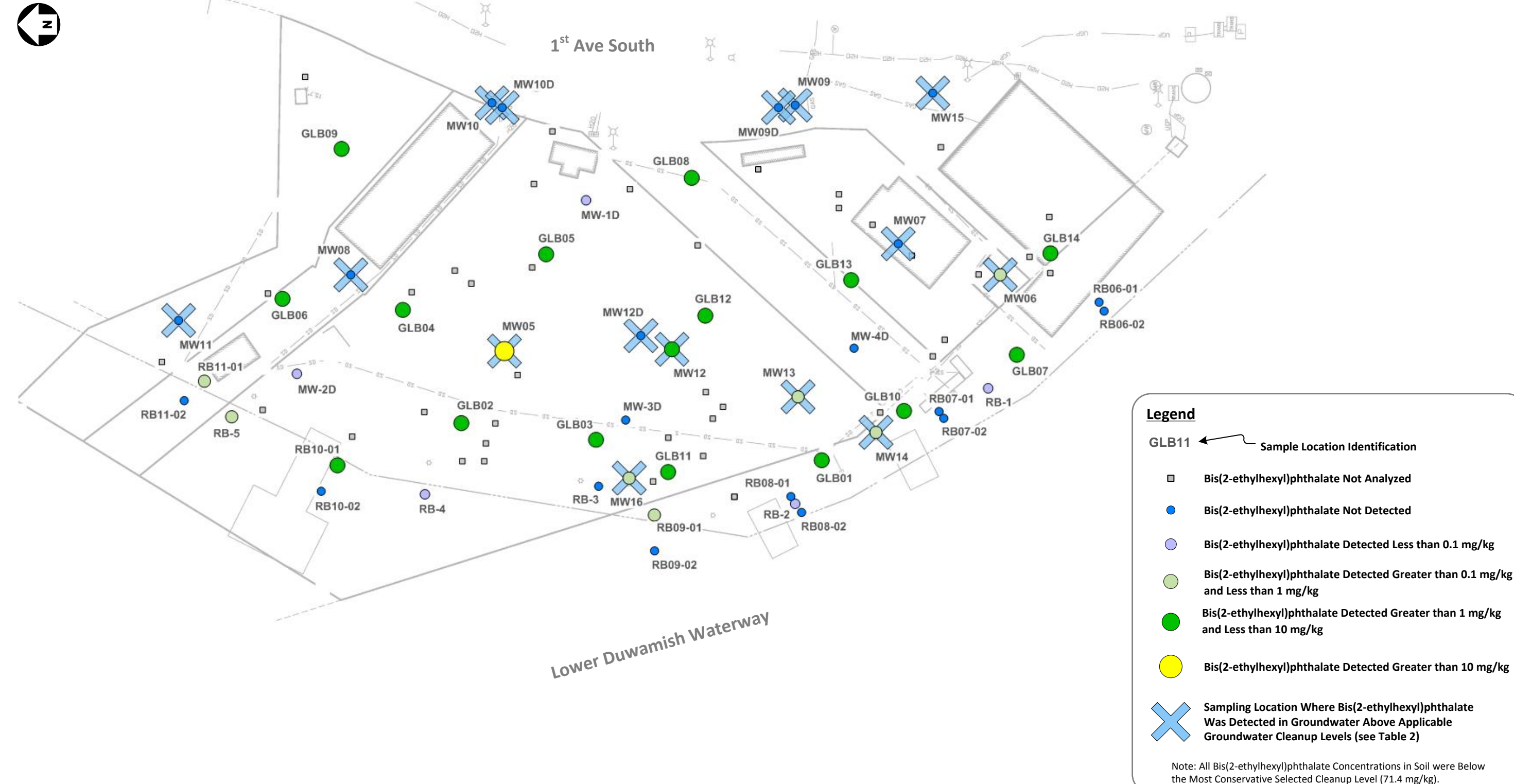
Notes:

- Figure Indicates the Highest Contaminant Concentration Detected in Soil at the Specified Location (for all depths).
- See Table 1-1 for Cleanup Levels and Screening Criteria.
- "RB" Indicates a Riverbank Sediment Sample, Shown for Comparison Purposes.
- Sediment Data Not Included on this Figure.
- This Figure Contains Information in Color. Black & White Photocopies May Not be Suitable for Review.

Highest Fluorene Concentrations in Soil
Duwamish Marine Center Property
6365 First Avenue South
Seattle, Washington

Figure
11-10





Legend

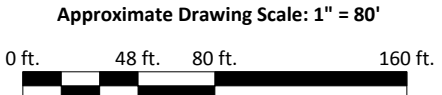
- GLB11 ← Sample Location Identification
- Bis(2-ethylhexyl)phthalate Not Analyzed
- Bis(2-ethylhexyl)phthalate Not Detected
- Bis(2-ethylhexyl)phthalate Detected Less than 0.1 mg/kg
- Bis(2-ethylhexyl)phthalate Detected Greater than 0.1 mg/kg and Less than 1 mg/kg
- Bis(2-ethylhexyl)phthalate Detected Greater than 1 mg/kg and Less than 10 mg/kg
- Bis(2-ethylhexyl)phthalate Detected Greater than 10 mg/kg
- ✕ Sampling Location Where Bis(2-ethylhexyl)phthalate Was Detected in Groundwater Above Applicable Groundwater Cleanup Levels (see Table 2)

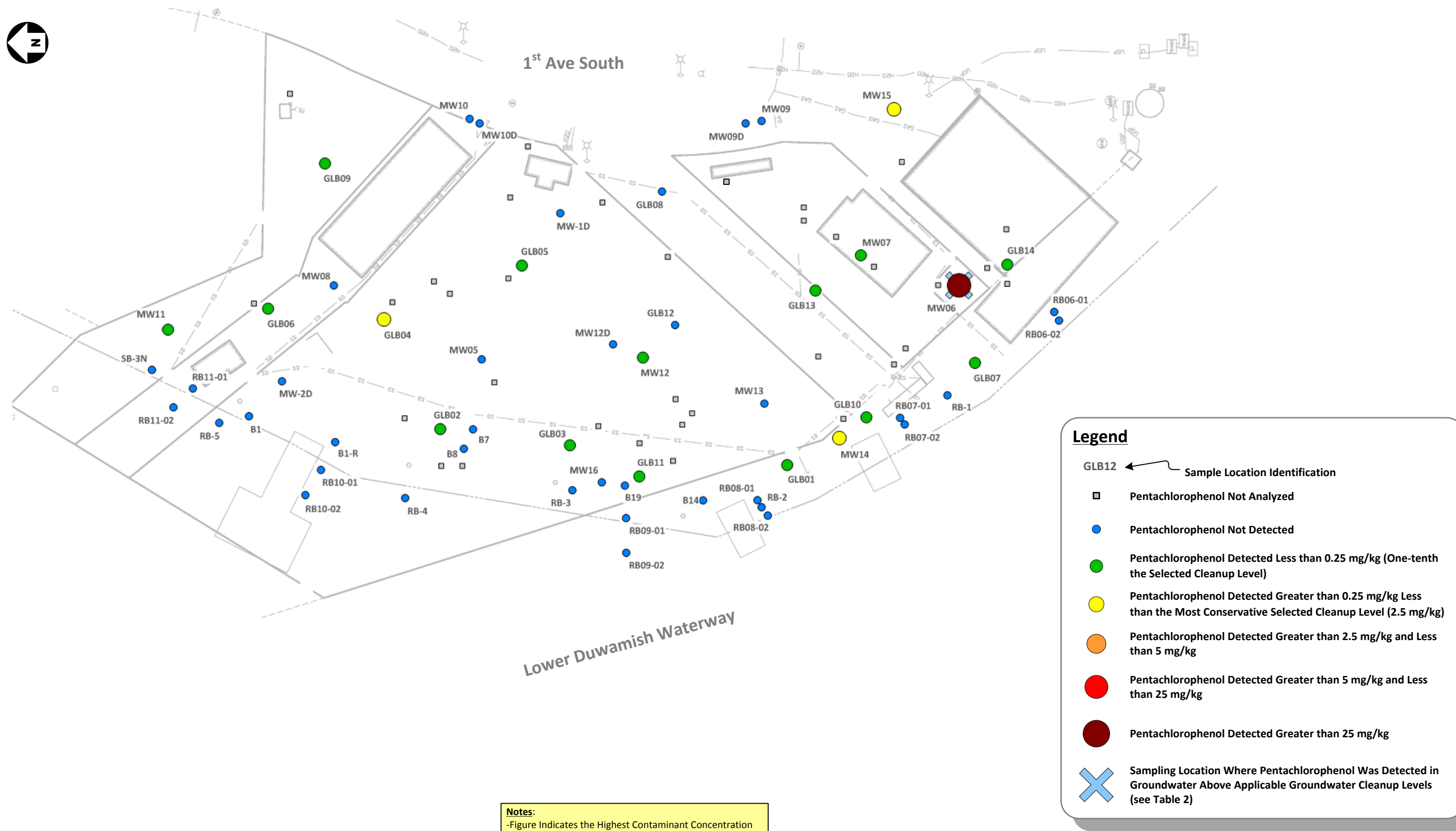
Note: All Bis(2-ethylhexyl)phthalate Concentrations in Soil were Below the Most Conservative Selected Cleanup Level (71.4 mg/kg).

Notes:
 -Figure Indicates the Highest Contaminant Concentration Detected in Soil at the Specified Location (for all depths).
 -See Table 1-1 for Cleanup Levels and Screening Criteria.
 -"RB" Indicates a Riverbank Sediment Sample, Shown for Comparison Purposes.
 -Sediment Data Not Included on this Figure.
 -This Figure Contains Information in Color. Black & White Photocopies May Not be Suitable for Review.

Highest Bis(2-ethylhexyl)phthalate Concentrations in Soil
 Duwamish Marine Center Property
 6365 First Avenue South
 Seattle, Washington

Figure
 11-11

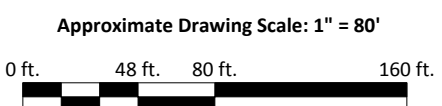




Legend

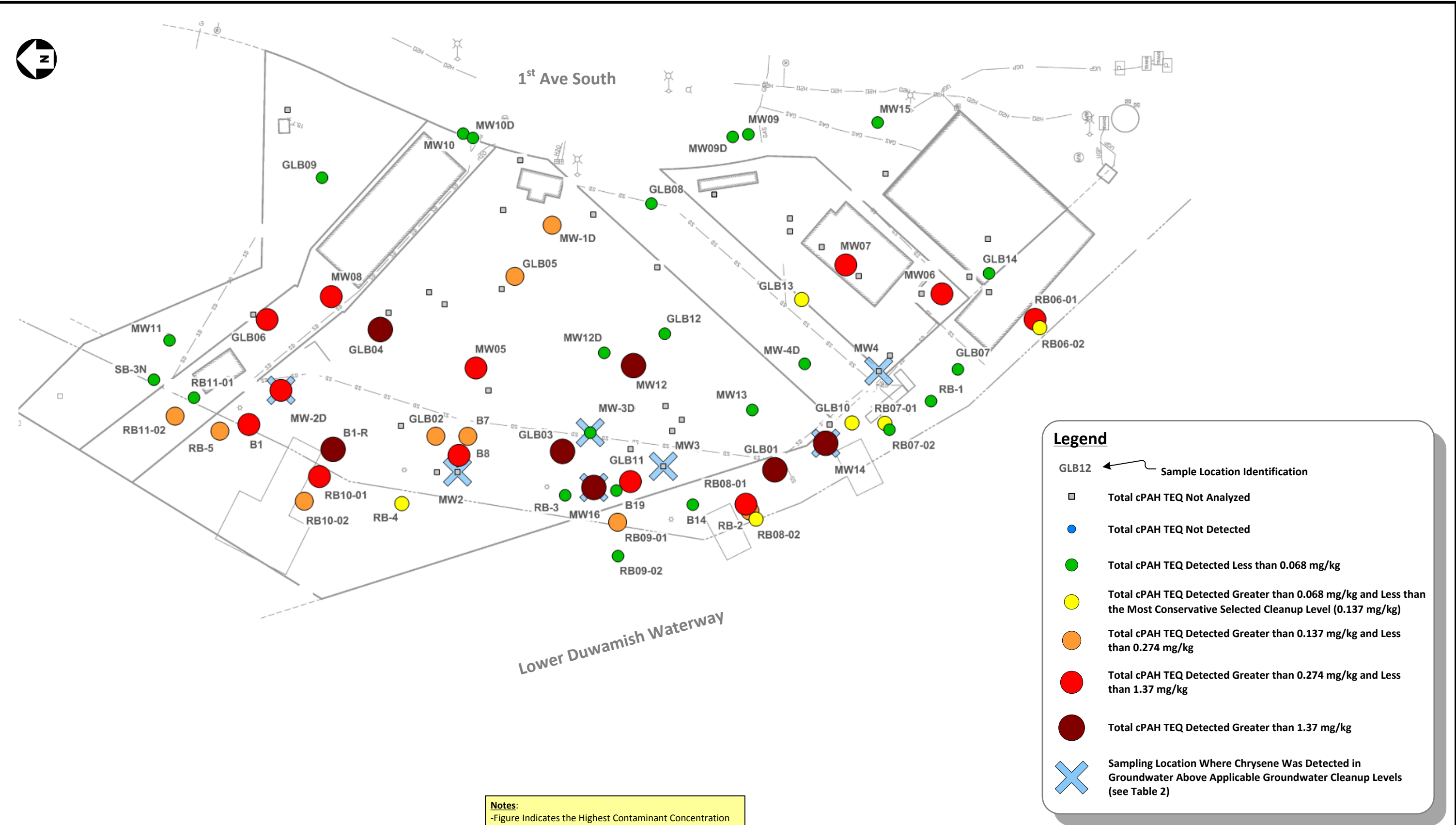
- GLB12 ← Sample Location Identification
- Pentachlorophenol Not Analyzed
- Pentachlorophenol Not Detected
- Pentachlorophenol Detected Less than 0.25 mg/kg (One-tenth the Selected Cleanup Level)
- Pentachlorophenol Detected Greater than 0.25 mg/kg Less than the Most Conservative Selected Cleanup Level (2.5 mg/kg)
- Pentachlorophenol Detected Greater than 2.5 mg/kg and Less than 5 mg/kg
- Pentachlorophenol Detected Greater than 5 mg/kg and Less than 25 mg/kg
- Pentachlorophenol Detected Greater than 25 mg/kg
- ✕ Sampling Location Where Pentachlorophenol Was Detected in Groundwater Above Applicable Groundwater Cleanup Levels (see Table 2)

Notes:
 -Figure Indicates the Highest Contaminant Concentration Detected in Soil at the Specified Location (for all depths).
 -See Table 1-1 for Cleanup Levels and Screening Criteria.
 -"RB" Indicates a Riverbank Sediment Sample, Shown for Comparison Purposes.
 -Sediment Data Not Included on this Figure.
 -This Figure Contains Information in Color. Black & White Photocopies May Not be Suitable for Review.

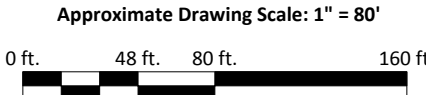


Highest Pentachlorophenol Concentrations in Soil
 Duwamish Marine Center Property
 6365 First Avenue South
 Seattle, Washington

Figure
 11-12



Notes:
 -Figure Indicates the Highest Contaminant Concentration Detected in Soil at the Specified Location (for all depths).
 -See Table 1-1 for Cleanup Levels and Screening Criteria.
 -"RB" Indicates a Riverbank Sediment Sample, Shown for Comparison Purposes.
 -Sediment Data Not Included on this Figure.
 -This Figure Contains Information in Color. Black & White Photocopies May Not be Suitable for Review.

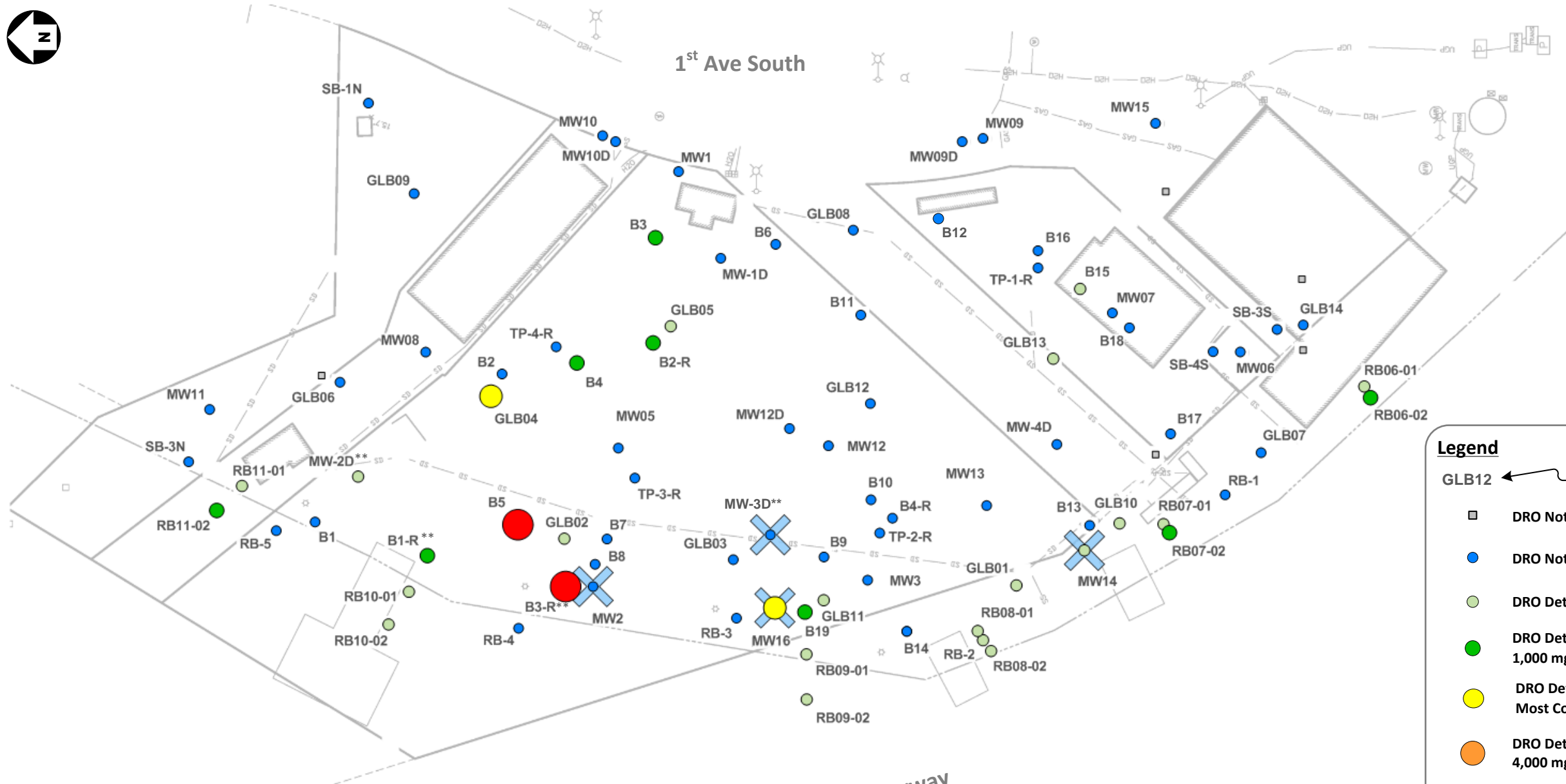


Highest Total cPAH TEQ Concentrations in Soil
 Duwamish Marine Center Property
 6365 First Avenue South
 Seattle, Washington

Figure 11-13



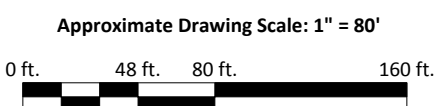
1st Ave South



Legend

- GLB12 ← Sample Location Identification
- DRO Not Analyzed
- DRO Not Detected
- DRO Detected Less than 100 mg/kg
- DRO Detected Greater than 100 mg/kg and Less than 1,000 mg/kg
- DRO Detected Greater than 1,000 mg/kg and Less than Most Conservative Selected Cleanup Level (2,000 mg/kg)
- DRO Detected Greater than 2,000 mg/kg and Less than 4,000 mg/kg
- DRO Detected Greater than 4,000 mg/kg and Less than 15,000 mg/kg
- DRO Detected Greater than 15,000 mg/kg
- ⊗ Sampling Location Where DRO Was Detected in Groundwater Above Applicable Groundwater Cleanup Levels (see Table 2)
- B1-R** Asterisks Indicate Locations Where Sheen Was Noted on the Boring Logs During Drilling

Notes:
 -Figure Indicates the Highest Contaminant Concentration Detected in Soil at the Specified Location (for all depths).
 -See Table 1-1 for Cleanup Levels and Screening Criteria.
 -"RB" Indicates a Riverbank Sediment Sample, Shown for Comparison Purposes.
 -Sediment Data Not Included on this Figure.
 -This Figure Contains Information in Color. Black & White Photocopies May Not be Suitable for Review.

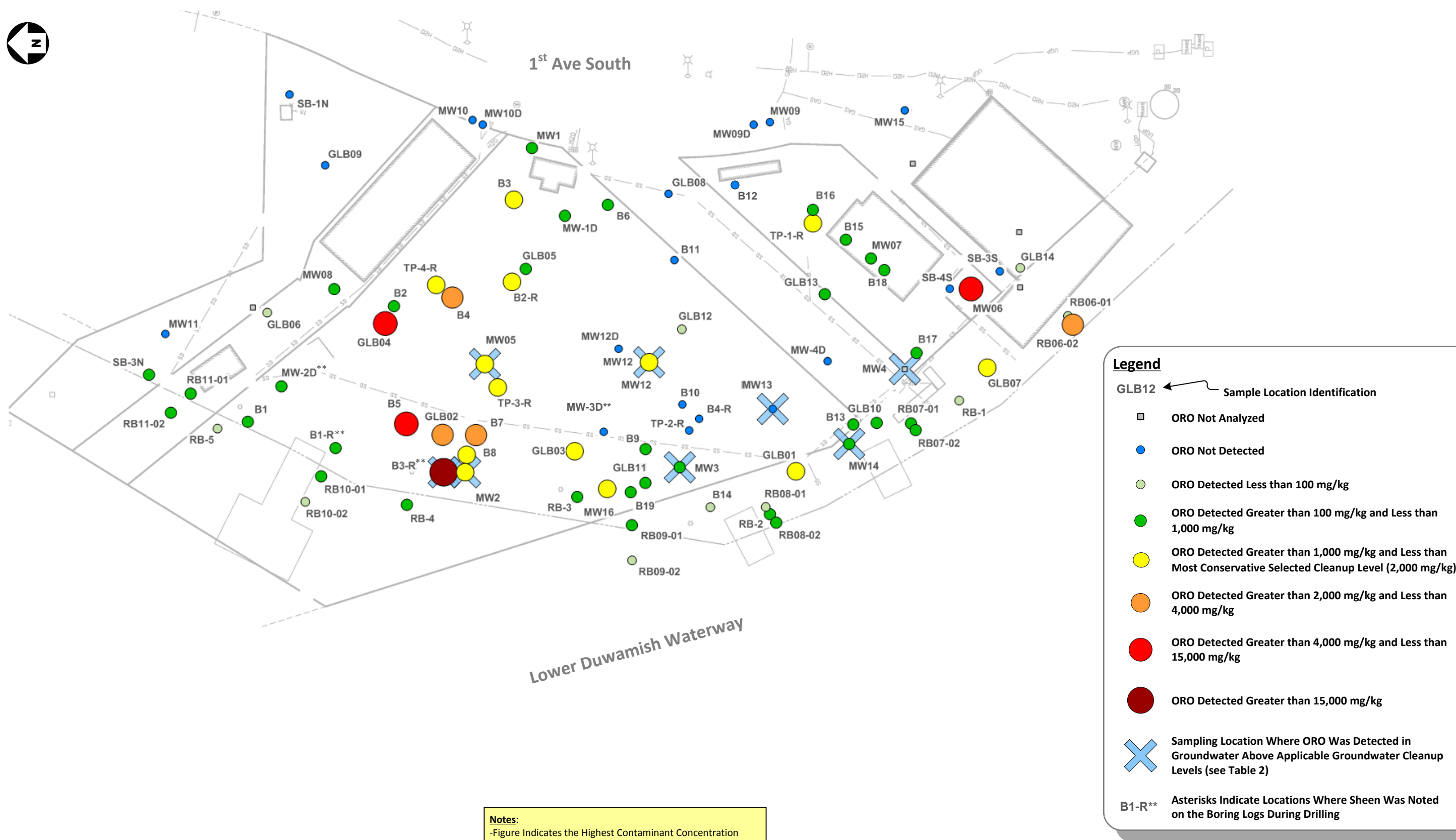


Highest Diesel-Range Organics Concentrations in Soil
 Duwamish Marine Center Property
 6365 First Avenue South
 Seattle, Washington

Figure
 11-14

Project File: 01-0979-G-F11-14_Highest Diesel in Soil.vsd

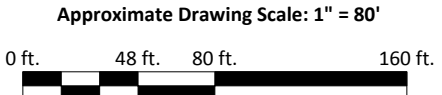




Legend

- GLB12 ← Sample Location Identification
- ORO Not Analyzed
- ORO Not Detected
- ORO Detected Less than 100 mg/kg
- ORO Detected Greater than 100 mg/kg and Less than 1,000 mg/kg
- ORO Detected Greater than 1,000 mg/kg and Less than Most Conservative Selected Cleanup Level (2,000 mg/kg)
- ORO Detected Greater than 2,000 mg/kg and Less than 4,000 mg/kg
- ORO Detected Greater than 4,000 mg/kg and Less than 15,000 mg/kg
- ORO Detected Greater than 15,000 mg/kg
- ⊗ Sampling Location Where ORO Was Detected in Groundwater Above Applicable Groundwater Cleanup Levels (see Table 2)
- B1-R** Asterisks Indicate Locations Where Sheen Was Noted on the Boring Logs During Drilling

Notes:
 -Figure Indicates the Highest Contaminant Concentration Detected in Soil at the Specified Location (for all depths).
 -See Table 1-1 for Cleanup Levels and Screening Criteria.
 -"RB" Indicates a Riverbank Sediment Sample, Shown for Comparison Purposes.
 -Sediment Data Not Included on this Figure.
 -This Figure Contains Information in Color. Black & White Photocopies May Not be Suitable for Review.



Highest Oil-Range Organics Concentrations in Soil
 Duwamish Marine Center Property
 6365 First Avenue South
 Seattle, Washington

Figure
 11-15