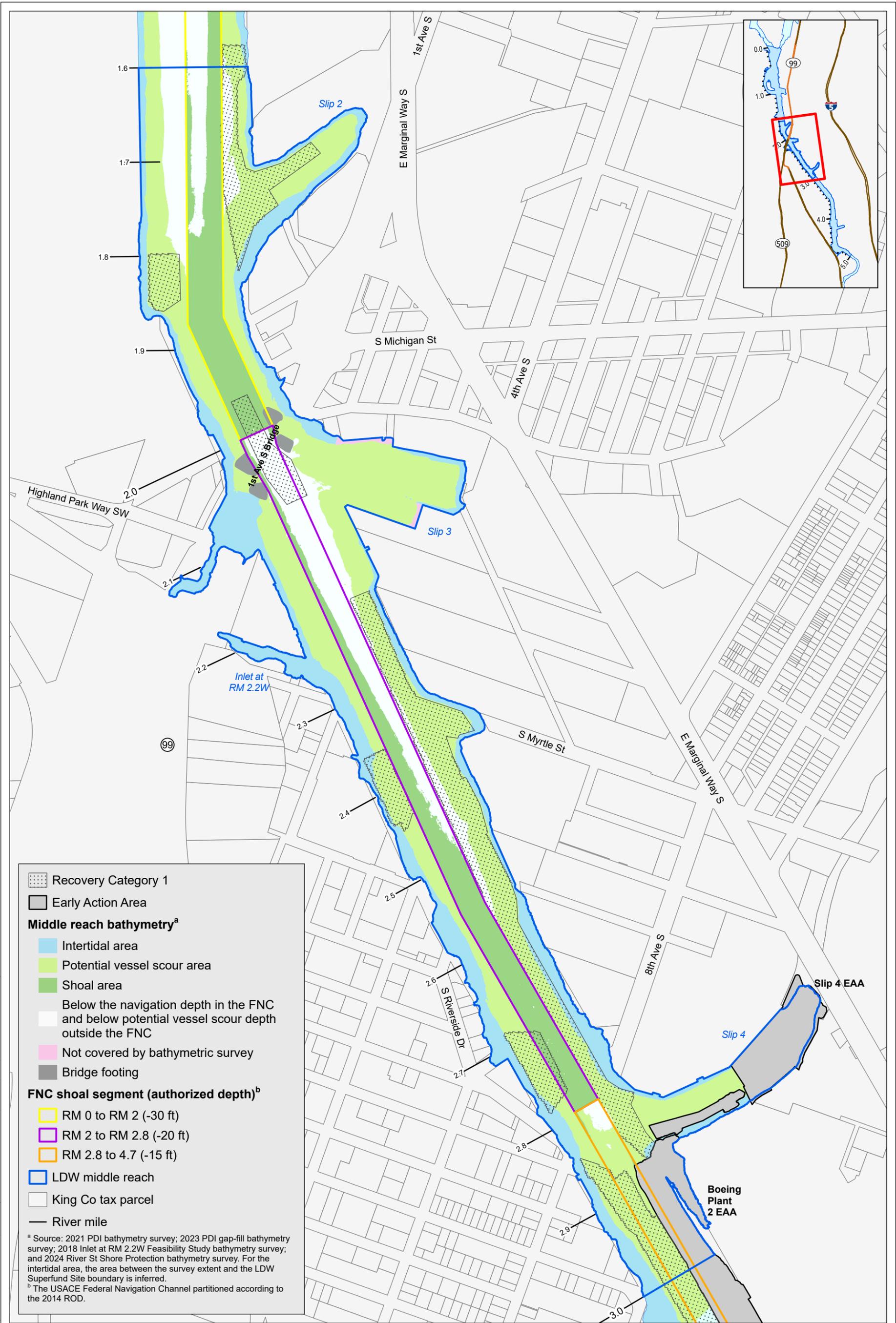
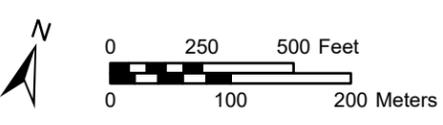


Prepared by ClaireC, 9/28/2025; W:\Projects\Duwamish_AOC\GIS\Maps and Analyses\Phase 2\Data Evaluation\Report\DER.aprx\Map 2-1 17419 Middle reach vicinity

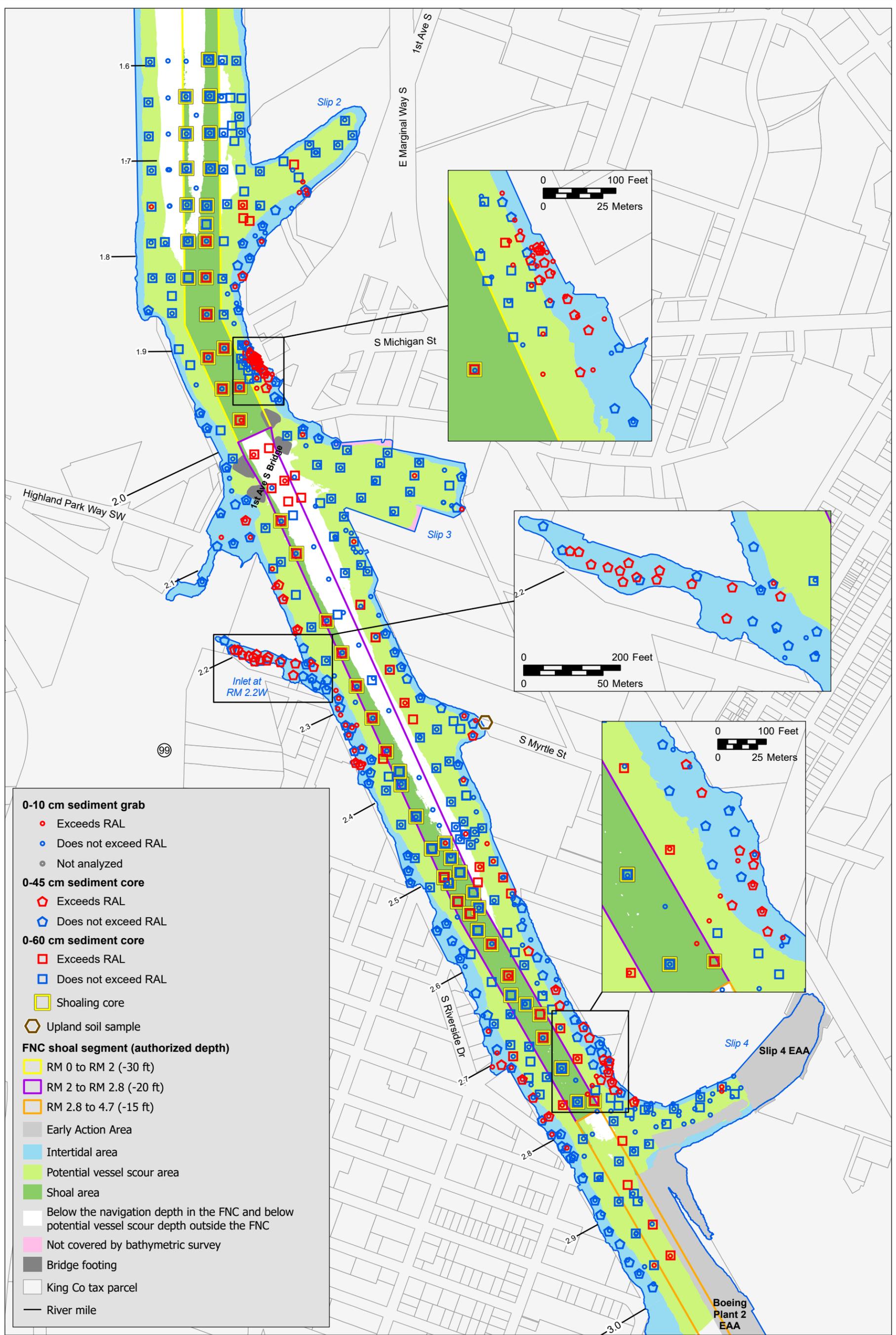


Recovery Category 1
 Early Action Area
Middle reach bathymetry^a
 Intertidal area
 Potential vessel scour area
 Shoal area
 Below the navigation depth in the FNC and below potential vessel scour depth outside the FNC
 Not covered by bathymetric survey
 Bridge footing
FNC shoal segment (authorized depth)^b
 RM 0 to RM 2 (-30 ft)
 RM 2 to RM 2.8 (-20 ft)
 RM 2.8 to 4.7 (-15 ft)
 LDW middle reach
 King Co tax parcel
 River mile

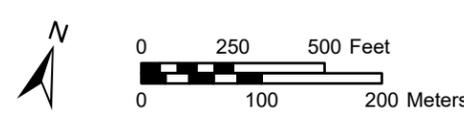
^a Source: 2021 PDI bathymetry survey; 2023 PDI gap-fill bathymetry survey; 2018 Inlet at RM 2.2W Feasibility Study bathymetry survey; and 2024 River St Shore Protection bathymetry survey. For the intertidal area, the area between the survey extent and the LDW Superfund Site boundary is inferred.
^b The USACE Federal Navigation Channel partitioned according to the 2014 ROD.



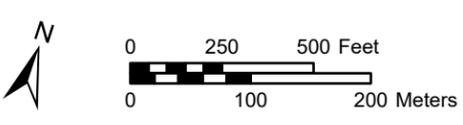
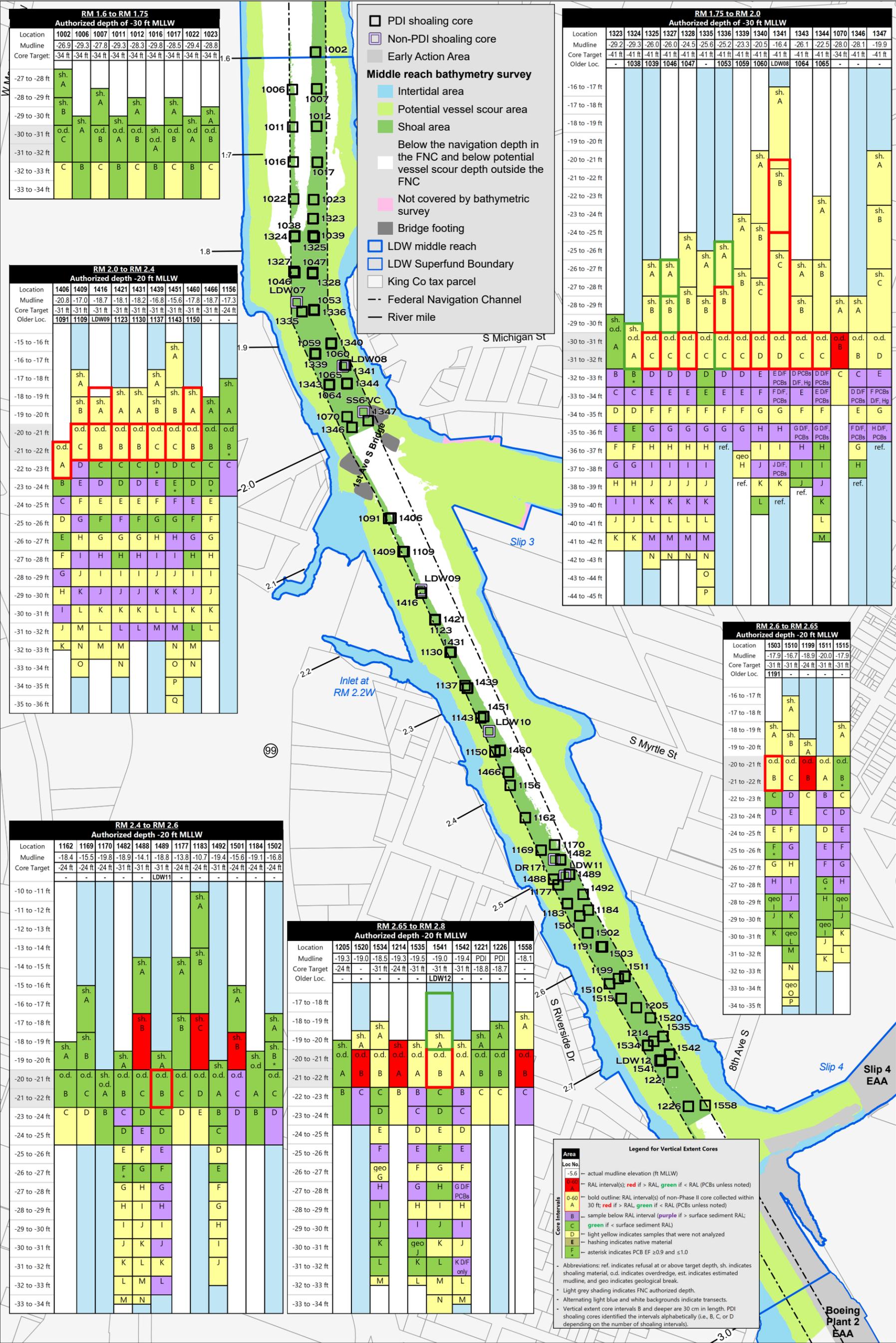
Prepared by ClairC, 9/28/2025; W:\Projects\Duwamish_AOC5\GIS\Maps and Analyses\Phase 2\Data Evaluation\Report\DER.aprx\Map 2-2 7558 Phase I and II PDI locations



- 0-10 cm sediment grab**
 - Exceeds RAL
 - Does not exceed RAL
 - Not analyzed
- 0-45 cm sediment core**
 - ◊ Exceeds RAL
 - ◊ Does not exceed RAL
- 0-60 cm sediment core**
 - ◻ Exceeds RAL
 - ◻ Does not exceed RAL
- ◻ Shoaling core
- ◊ Upland soil sample
- FNC shoal segment (authorized depth)**
 - ◻ RM 0 to RM 2 (-30 ft)
 - ◻ RM 2 to RM 2.8 (-20 ft)
 - ◻ RM 2.8 to 4.7 (-15 ft)
- Early Action Area
- Intertidal area
- Potential vessel scour area
- Shoal area
- Below the navigation depth in the FNC and below potential vessel scour depth outside the FNC
- Not covered by bathymetric survey
- Bridge footing
- King Co tax parcel
- River mile



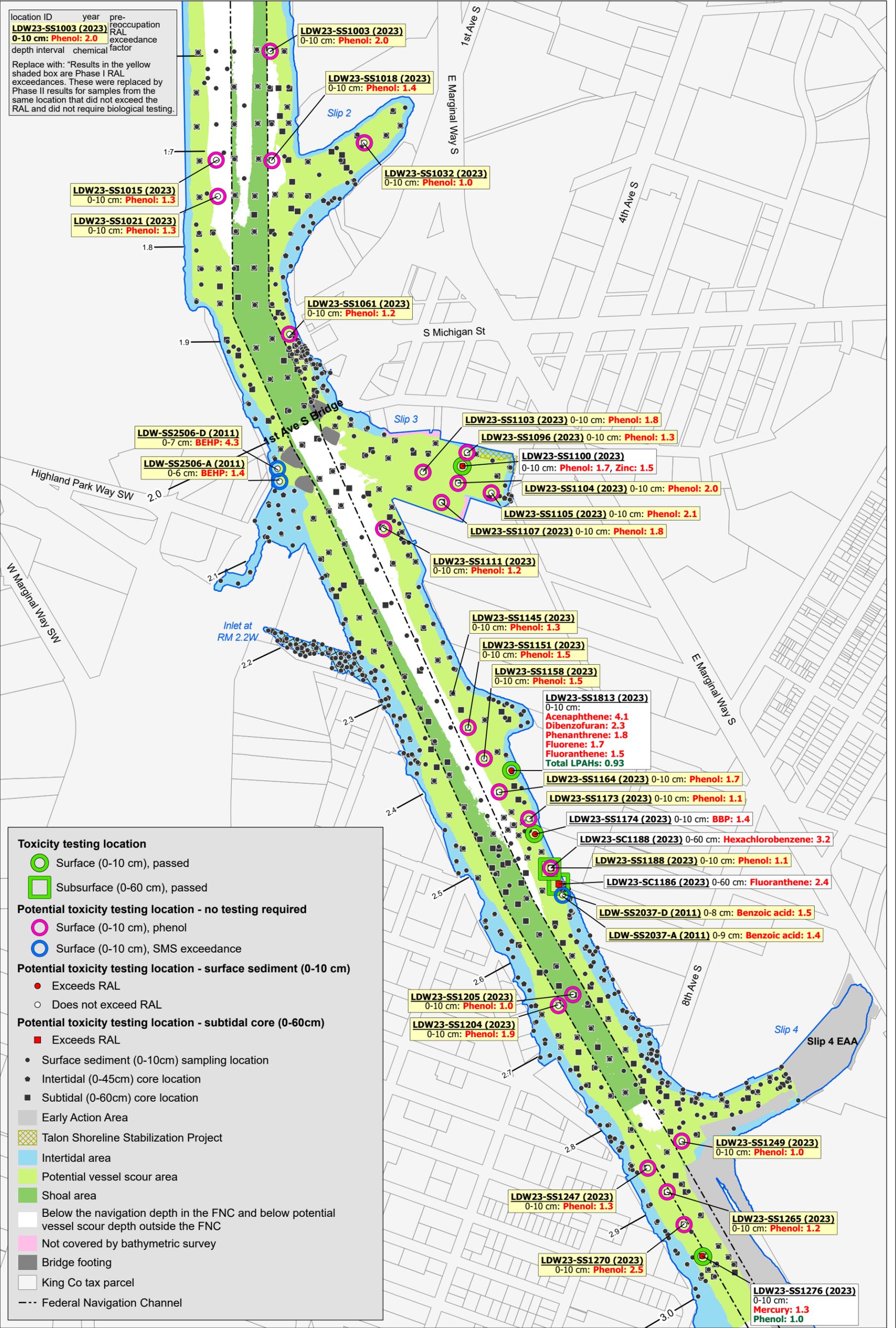
Prepared by Claire C. 9/28/2025: W:\Projects\Duwamish AOC\GIS\Maps and Analyses\Phase 2\Data Evaluation Report\DER aprx\Map 2-3 7558 Phase I and II PDI shoaling sampling locations and intervals



location ID	year	pre-occupation RAL
LDW23-SS1003 (2023)		0-10 cm: Phenol: 2.0

depth interval chemical factor

Replace with: "Results in the yellow shaded box are Phase I RAL exceedances. These were replaced by Phase II results for samples from the same location that did not exceed the RAL and did not require biological testing."



Toxicity testing location

- Surface (0-10 cm), passed
- Subsurface (0-60 cm), passed

Potential toxicity testing location - no testing required

- Surface (0-10 cm), phenol
- Surface (0-10 cm), SMS exceedance

Potential toxicity testing location - surface sediment (0-10 cm)

- Exceeds RAL
- Does not exceed RAL

Potential toxicity testing location - subtidal core (0-60cm)

- Exceeds RAL
- Surface sediment (0-10cm) sampling location
- Intertidal (0-45cm) core location
- Subtidal (0-60cm) core location

■ Early Action Area

▨ Talon Shoreline Stabilization Project

■ Intertidal area

■ Potential vessel scour area

■ Shoal area

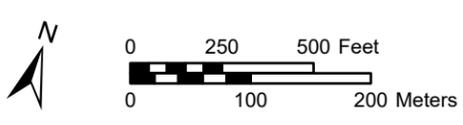
■ Below the navigation depth in the FNC and below potential vessel scour depth outside the FNC

■ Not covered by bathymetric survey

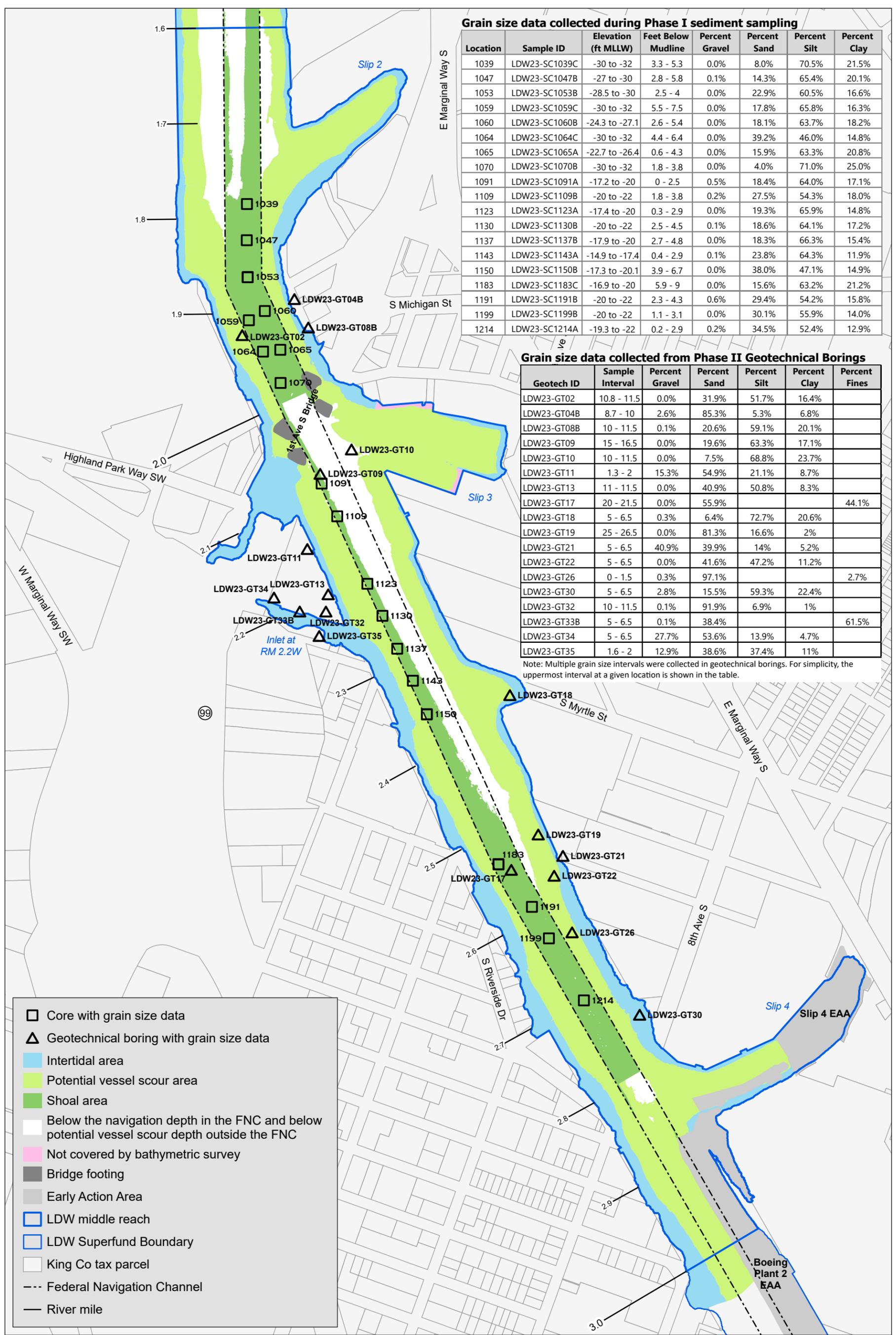
■ Bridge footing

■ King Co tax parcel

--- Federal Navigation Channel



Prepared by ClairC, 9/27/2025; W:\Projects\Duwamish_AOC5\GIS\Maps_and_Analyses\Phase 2\Data_Evaluation_Report\DER.aprx



Grain size data collected during Phase I sediment sampling

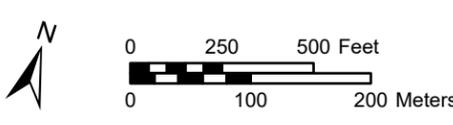
Location	Sample ID	Elevation (ft MLLW)	Feet Below Mudline	Percent Gravel	Percent Sand	Percent Silt	Percent Clay
1039	LDW23-SC1039C	-30 to -32	3.3 - 5.3	0.0%	8.0%	70.5%	21.5%
1047	LDW23-SC1047B	-27 to -30	2.8 - 5.8	0.1%	14.3%	65.4%	20.1%
1053	LDW23-SC1053B	-28.5 to -30	2.5 - 4	0.0%	22.9%	60.5%	16.6%
1059	LDW23-SC1059C	-30 to -32	5.5 - 7.5	0.0%	17.8%	65.8%	16.3%
1060	LDW23-SC1060B	-24.3 to -27.1	2.6 - 5.4	0.0%	18.1%	63.7%	18.2%
1064	LDW23-SC1064C	-30 to -32	4.4 - 6.4	0.0%	39.2%	46.0%	14.8%
1065	LDW23-SC1065A	-22.7 to -26.4	0.6 - 4.3	0.0%	15.9%	63.3%	20.8%
1070	LDW23-SC1070B	-30 to -32	1.8 - 3.8	0.0%	4.0%	71.0%	25.0%
1091	LDW23-SC1091A	-17.2 to -20	0 - 2.5	0.5%	18.4%	64.0%	17.1%
1109	LDW23-SC1109B	-20 to -22	1.8 - 3.8	0.2%	27.5%	54.3%	18.0%
1123	LDW23-SC1123A	-17.4 to -20	0.3 - 2.9	0.0%	19.3%	65.9%	14.8%
1130	LDW23-SC1130B	-20 to -22	2.5 - 4.5	0.1%	18.6%	64.1%	17.2%
1137	LDW23-SC1137B	-17.9 to -20	2.7 - 4.8	0.0%	18.3%	66.3%	15.4%
1143	LDW23-SC1143A	-14.9 to -17.4	0.4 - 2.9	0.1%	23.8%	64.3%	11.9%
1150	LDW23-SC1150B	-17.3 to -20.1	3.9 - 6.7	0.0%	38.0%	47.1%	14.9%
1183	LDW23-SC1183C	-16.9 to -20	5.9 - 9	0.0%	15.6%	63.2%	21.2%
1191	LDW23-SC1191B	-20 to -22	2.3 - 4.3	0.6%	29.4%	54.2%	15.8%
1199	LDW23-SC1199B	-20 to -22	1.1 - 3.1	0.0%	30.1%	55.9%	14.0%
1214	LDW23-SC1214A	-19.3 to -22	0.2 - 2.9	0.2%	34.5%	52.4%	12.9%

Grain size data collected from Phase II Geotechnical Borings

Geotech ID	Sample Interval	Percent Gravel	Percent Sand	Percent Silt	Percent Clay	Percent Fines
LDW23-GT02	10.8 - 11.5	0.0%	31.9%	51.7%	16.4%	
LDW23-GT04B	8.7 - 10	2.6%	85.3%	5.3%	6.8%	
LDW23-GT08B	10 - 11.5	0.1%	20.6%	59.1%	20.1%	
LDW23-GT09	15 - 16.5	0.0%	19.6%	63.3%	17.1%	
LDW23-GT10	10 - 11.5	0.0%	7.5%	68.8%	23.7%	
LDW23-GT11	1.3 - 2	15.3%	54.9%	21.1%	8.7%	
LDW23-GT13	11 - 11.5	0.0%	40.9%	50.8%	8.3%	
LDW23-GT17	20 - 21.5	0.0%	55.9%			44.1%
LDW23-GT18	5 - 6.5	0.3%	6.4%	72.7%	20.6%	
LDW23-GT19	25 - 26.5	0.0%	81.3%	16.6%	2%	
LDW23-GT21	5 - 6.5	40.9%	39.9%	14%	5.2%	
LDW23-GT22	5 - 6.5	0.0%	41.6%	47.2%	11.2%	
LDW23-GT26	0 - 1.5	0.3%	97.1%			2.7%
LDW23-GT30	5 - 6.5	2.8%	15.5%	59.3%	22.4%	
LDW23-GT32	10 - 11.5	0.1%	91.9%	6.9%	1%	
LDW23-GT33B	5 - 6.5	0.1%	38.4%			61.5%
LDW23-GT34	5 - 6.5	27.7%	53.6%	13.9%	4.7%	
LDW23-GT35	1.6 - 2	12.9%	38.6%	37.4%	11%	

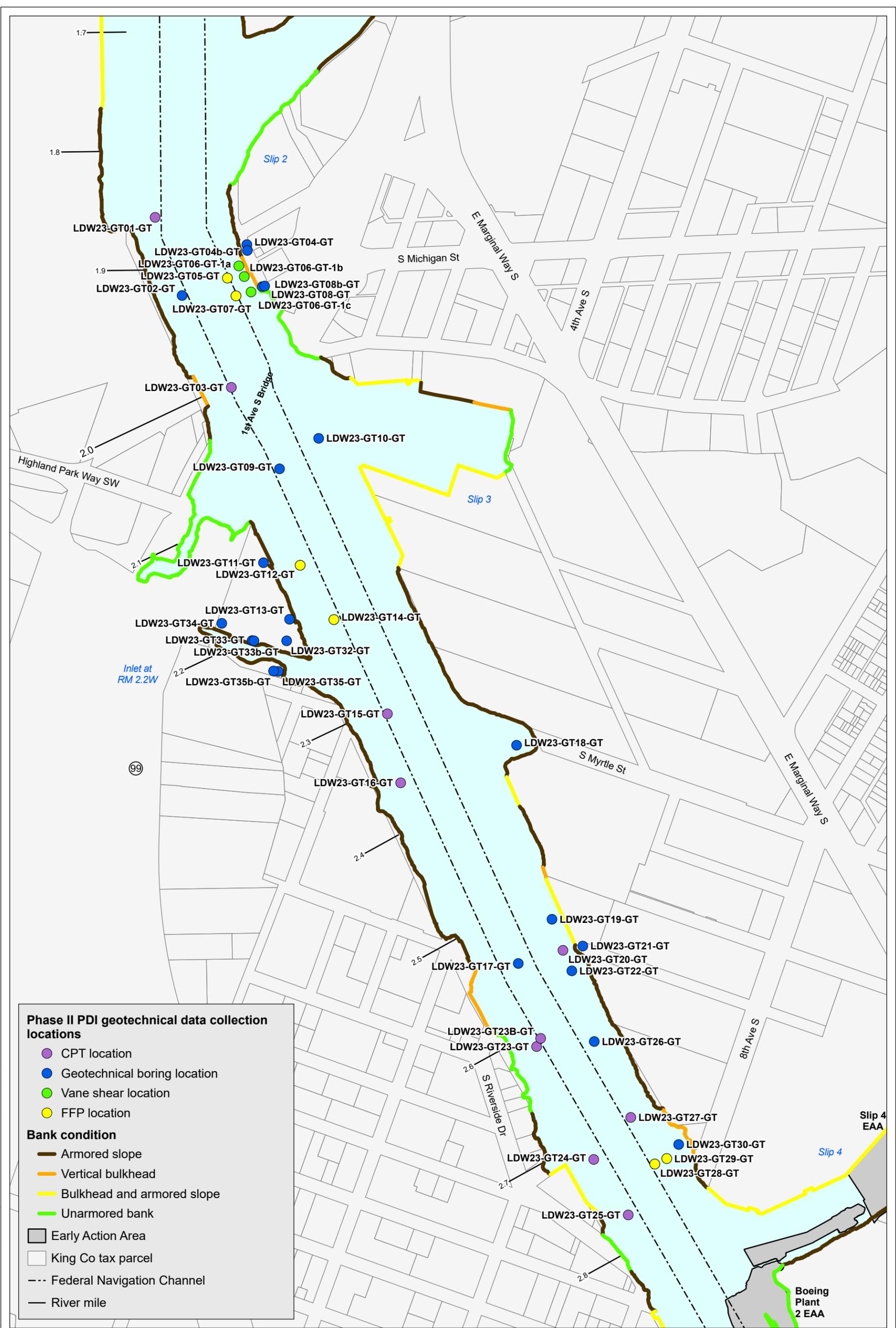
Note: Multiple grain size intervals were collected in geotechnical borings. For simplicity, the uppermost interval at a given location is shown in the table.

- Core with grain size data
- △ Geotechnical boring with grain size data
- Light Blue Intertidal area
- Light Green Potential vessel scour area
- Dark Green Shoal area
- White Below the navigation depth in the FNC and below potential vessel scour depth outside the FNC
- Pink Not covered by bathymetric survey
- Grey Bridge footing
- Light Grey Early Action Area
- Blue LDW middle reach
- Dark Blue LDW Superfund Boundary
- White King Co tax parcel
- Dashed Line Federal Navigation Channel
- Solid Line River mile



Prepared by ClairC, 9/28/2025; W:\Projects\Duwamish_AOC5\GIS\Maps_and_Analyses\Phase 2\Data Evaluation\Report\DER aprx\Map 2-5 7558 Phase I and II PDI grain size results

Prepared by ClaireC. 9/29/2025. W:\Projects\Duwamish AOC\GIS\Maps and Analyses\Phase 2\Data Evaluation\Report\DER.aprx\Map 2-6 7702 Geotechnical data locations



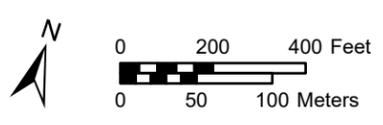
Phase II PDI geotechnical data collection locations

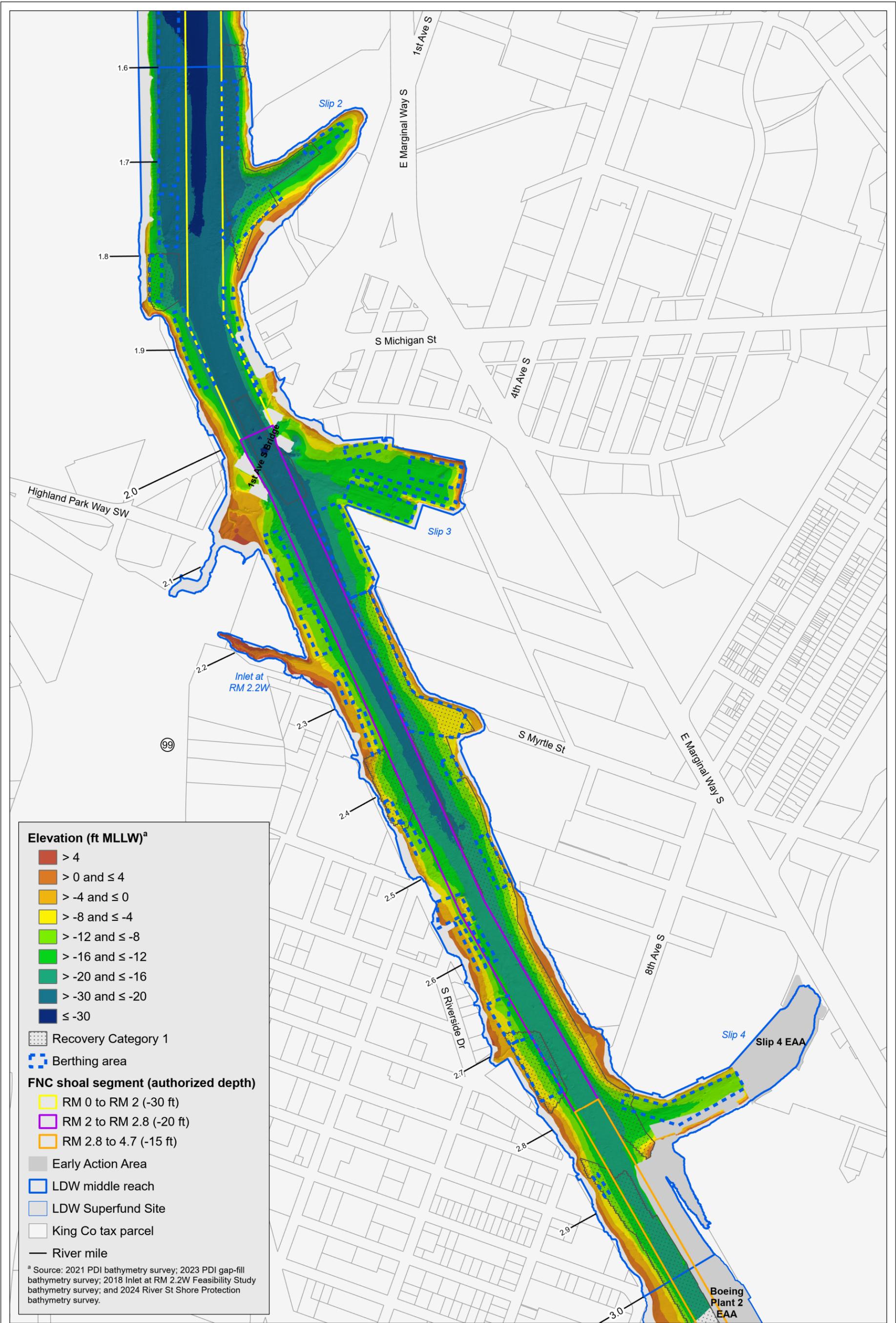
- CPT location
- Geotechnical boring location
- Vane shear location
- FFP location

Bank condition

- Armored slope
- Vertical bulkhead
- Bulkhead and armored slope
- Unarmored bank

- Early Action Area
- King Co tax parcel
- Federal Navigation Channel
- River mile





Elevation (ft MLLW)^a

- > 4
- > 0 and ≤ 4
- > -4 and ≤ 0
- > -8 and ≤ -4
- > -12 and ≤ -8
- > -16 and ≤ -12
- > -20 and ≤ -16
- > -30 and ≤ -20
- ≤ -30

Recovery Category 1

Berthing area

FNC shoal segment (authorized depth)

- RM 0 to RM 2 (-30 ft)
- RM 2 to RM 2.8 (-20 ft)
- RM 2.8 to 4.7 (-15 ft)

Early Action Area

LDW middle reach

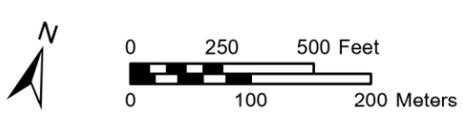
LDW Superfund Site

King Co tax parcel

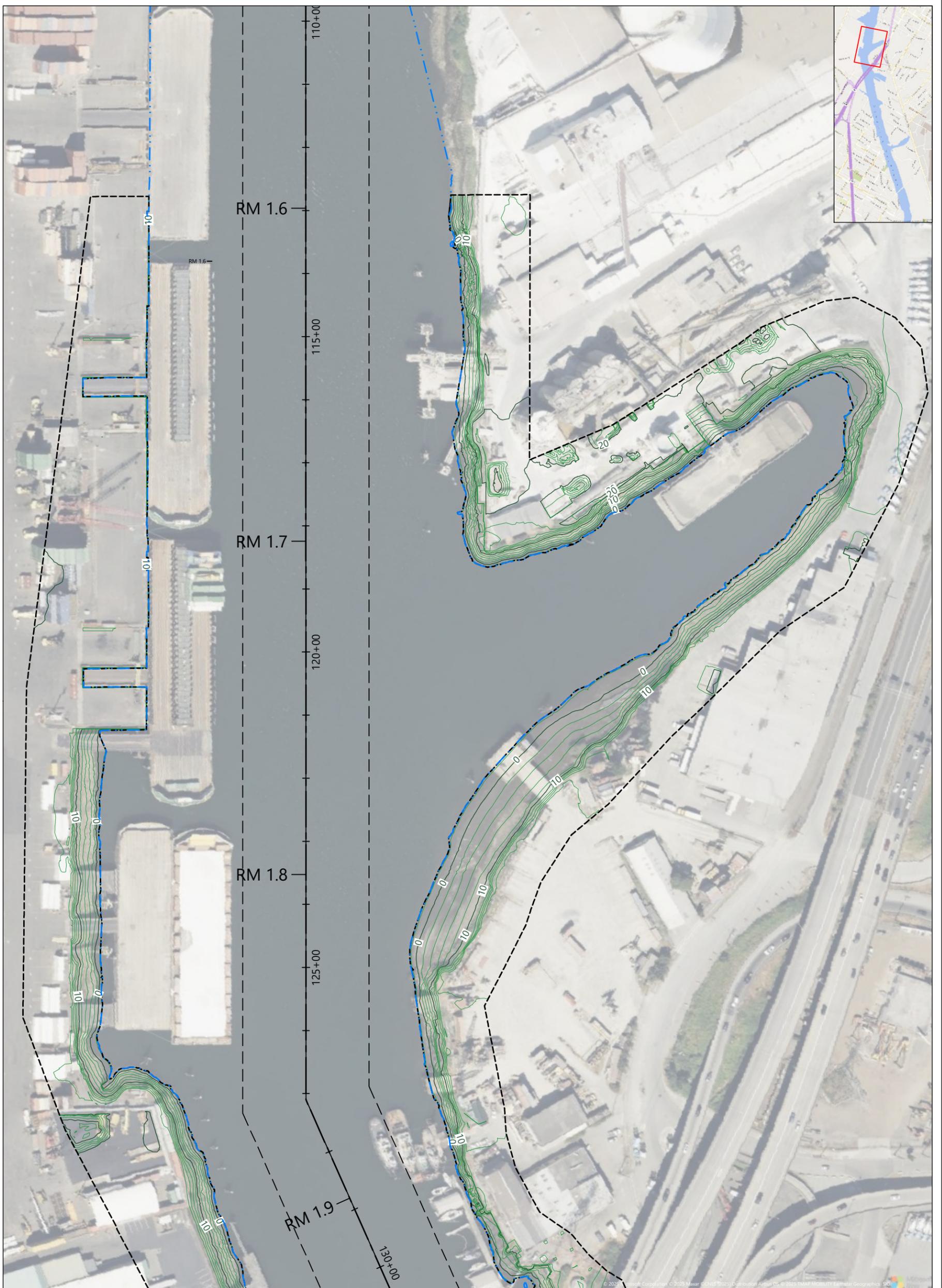
— River mile

^a Source: 2021 PDI bathymetry survey; 2023 PDI gap-fill bathymetry survey; 2018 Inlet at RM 2.2W Feasibility Study bathymetry survey; and 2024 River St Shore Protection bathymetry survey.

Prepared by ClaireC, 9/29/2025; W:\Projects\Duwamish_AOC\GIS\Maps and Analyses\Phase 2\Data Evaluation\Report\DER.aprx\Map 2-7 7078 Bathymetry Illumination



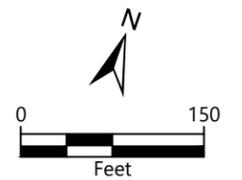
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Sep 29, 2025 10:42am lgrlga



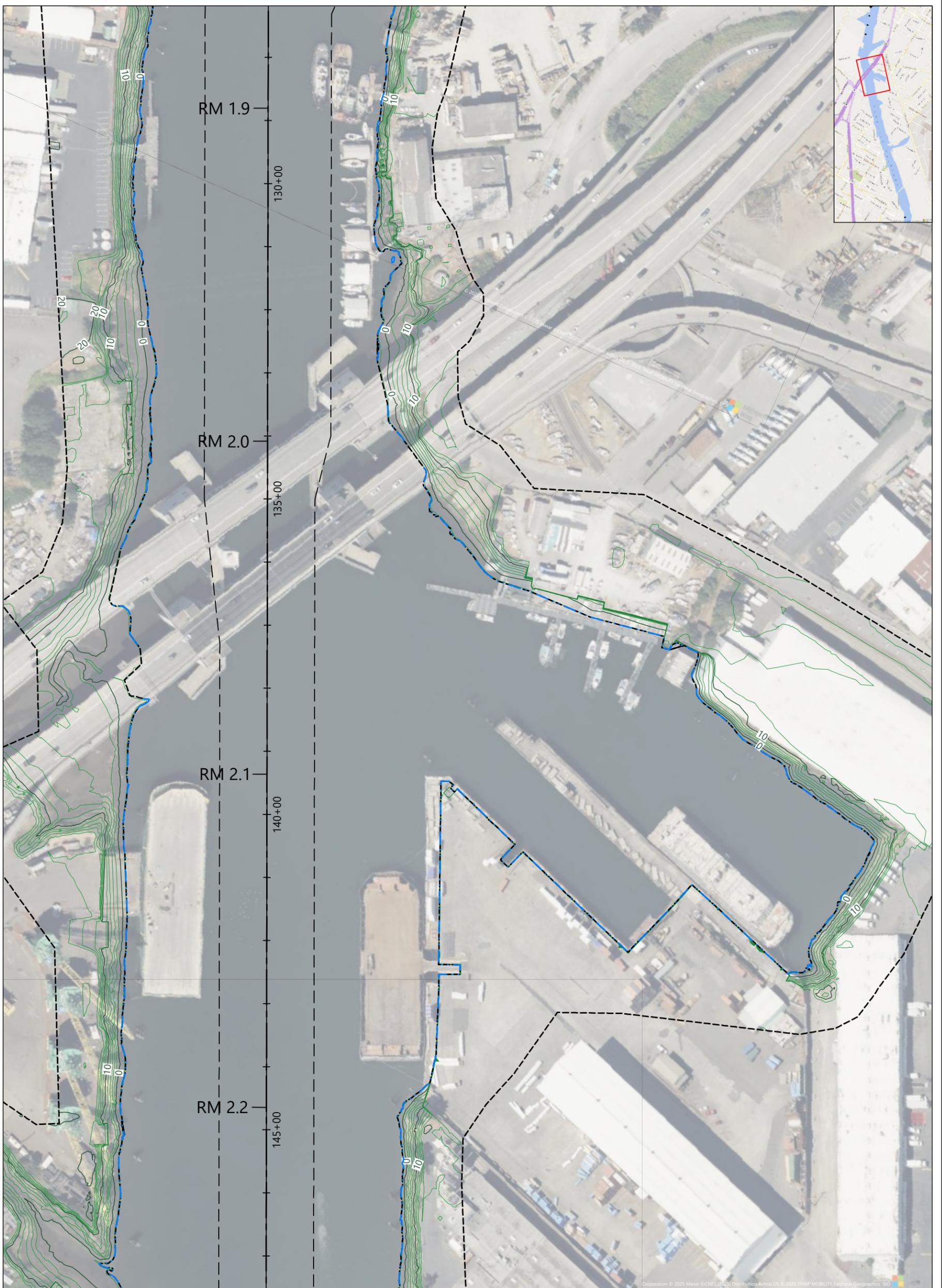
Source: Miller Creek Associates (photogrammetric survey, site flow on June 6, 2024) and True North Surveying (ground survey, shots collected on August 19-23, 2024)

Legend:

-  Federal Navigation Channel
-  2024 Topography Survey Limits
-  2024 Topography (2' & 10' Intervals)
-  Channel Centerline and Stationing
-  Waterward extent of topographic survey



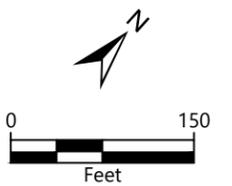
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Sep 29, 2025 10:43am lgrlga



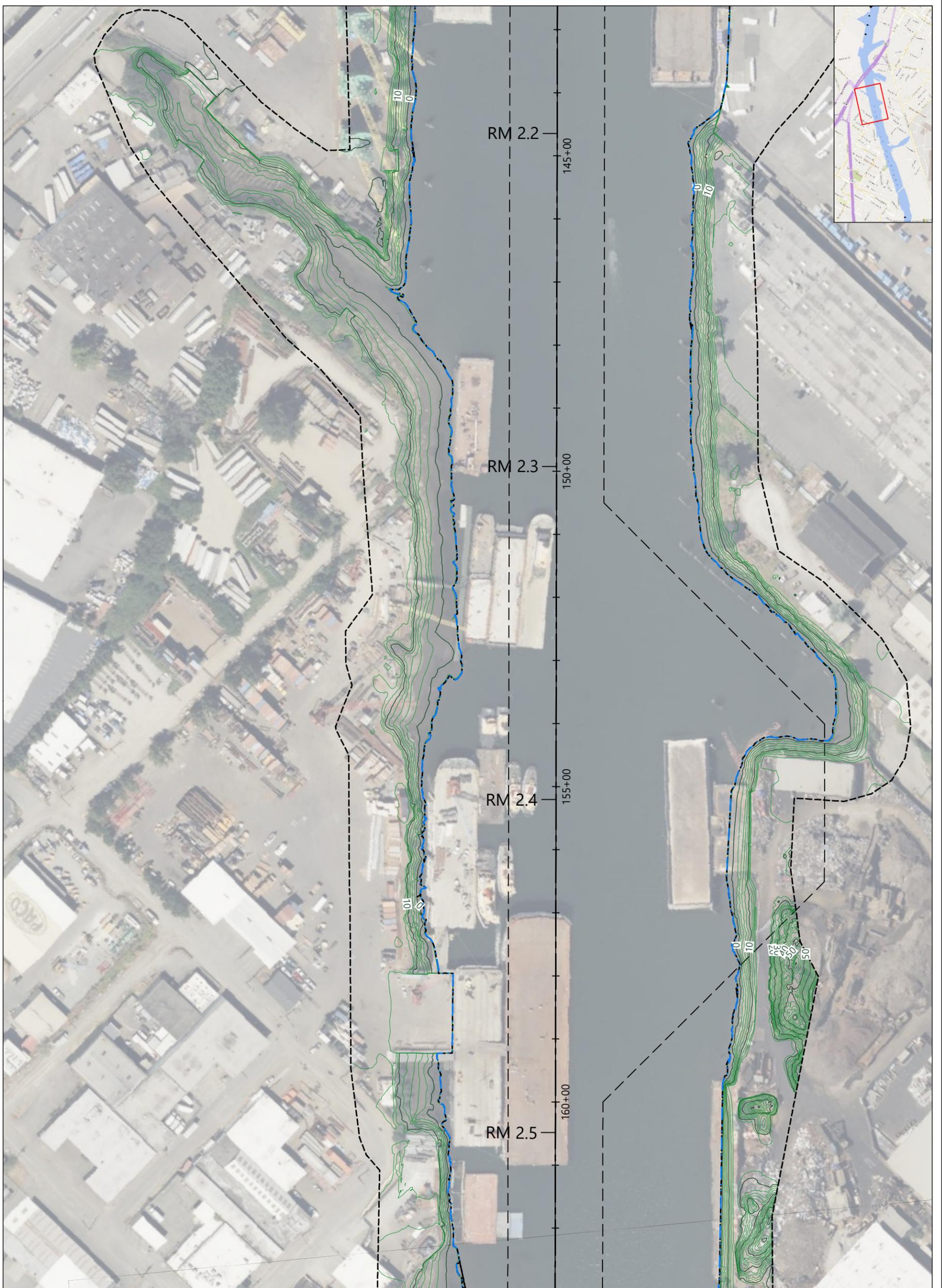
Source: Miller Creek Associates (photogrammetric survey, site flow on June 6, 2024) and True North Surveying (ground survey, shots collected on August 19-23, 2024)

Legend:

- Federal Navigation Channel
- 2024 Topography Survey Limits
- 2024 Topography (2' & 10' Intervals)
- Channel Centerline and Stationing
- Waterward extent of topographic survey



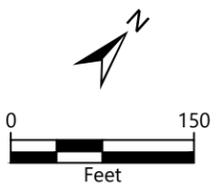
K:\Projects\0075-City of Seattle\Middle Reach of the Lower Duwamish Waterway\0075-RP-004-LDWMR Surveys.dwg Map 2-8c
Sep 29, 2025 10:43am lgrlga



Source: Miller Creek Associates (photogrammetric survey, site flow on June 6, 2024) and True North Surveying (ground survey, shots collected on August 19-23, 2024)

Legend:

-  Federal Navigation Channel
-  Channel Centerline and Stationing
-  Waterward extent of topographic survey
-  2024 Topography Survey Limits
-  2024 Topography (2' & 10' Intervals)



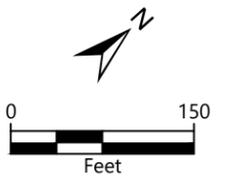
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Sep 29, 2025 10:44am lgjga



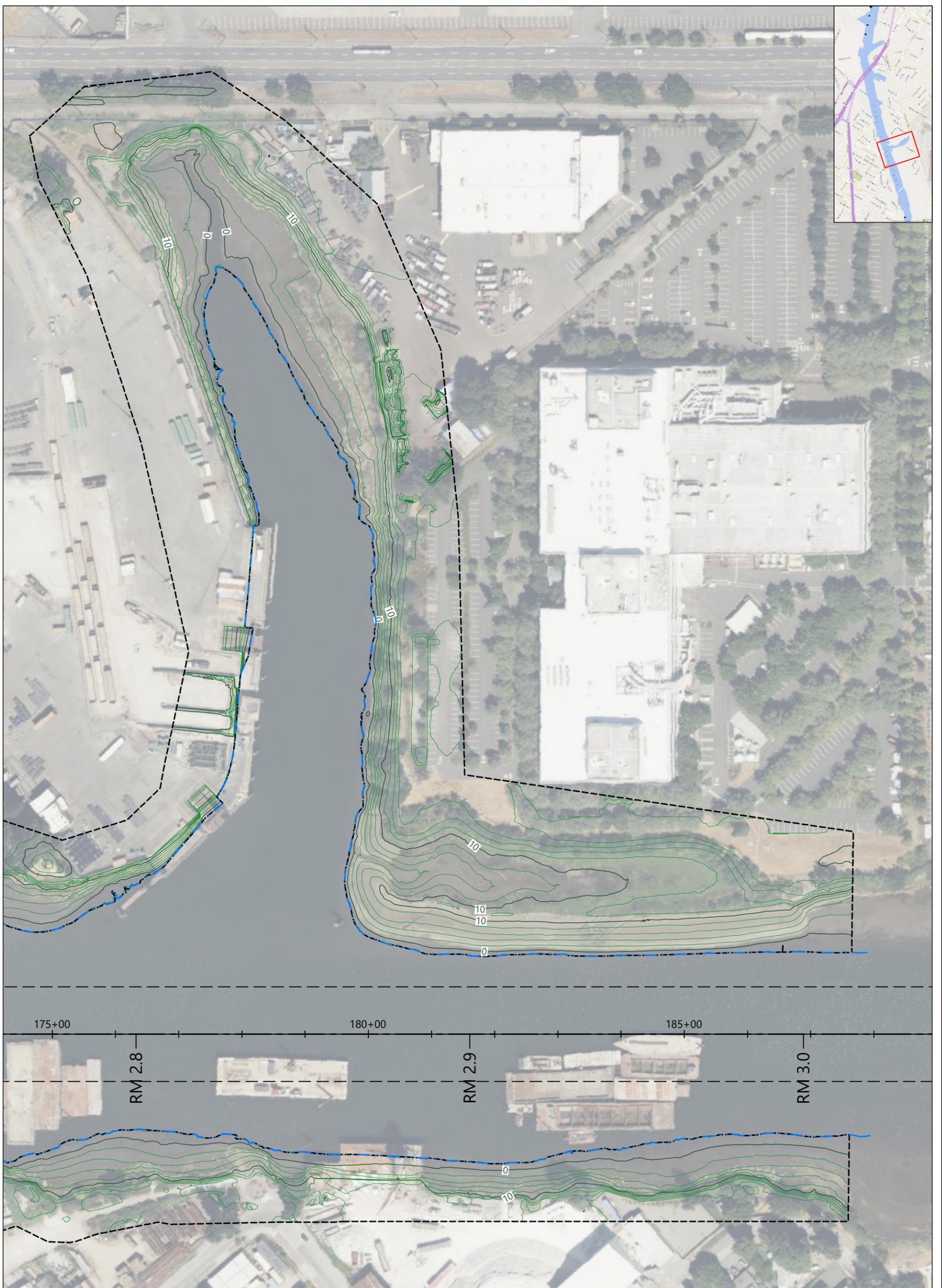
Source: Miller Creek Associates (photogrammetric survey, site flow on June 6, 2024) and True North Surveying (ground survey, shots collected on August 19-23, 2024)

Legend:

-  Federal Navigation Channel
-  Channel Centerline and Stationing
-  Waterward extent of topographic survey
-  2024 Topography Survey Limits
-  2024 Topography (2' & 10' Intervals)



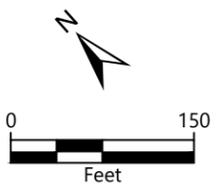
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Sep 29, 2025 10:45am lgrlga

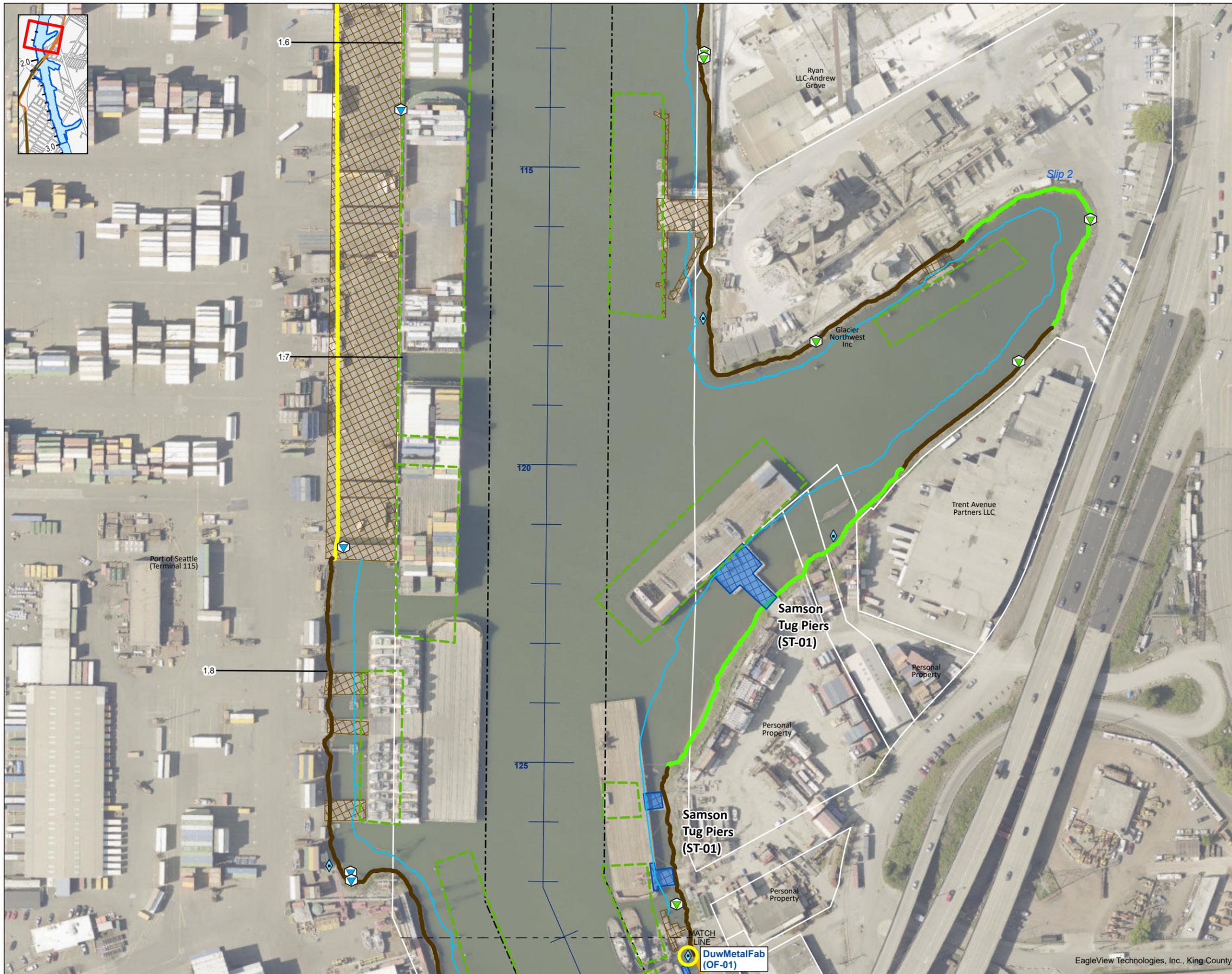


Source: Miller Creek Associates (photogrammetric survey, site flow on June 6, 2024) and True North Surveying (ground survey, shots collected on August 19-23, 2024)

Legend:

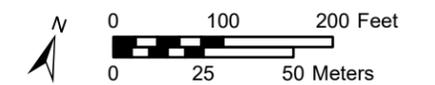
- Federal Navigation Channel
- Channel Centerline and Stationing
- Waterward extent of topographic survey
- 2024 Topography Survey Limits
- 2024 Topography (2' & 10' Intervals)





- Structure inspected during Phase II
- Structure to be inspected (if necessary) during Phase III
- Outfall to be inspected (if necessary) during Phase III
- Bank condition (total linear extent for middle reach)**
 - Armored slope (2.44 miles)
 - Vertical bulkhead (0.26 miles)
 - Bulkhead and armored slope (0.89 miles)
 - Unarmored bank (1.2 miles)
- Outfall classification^a**
 - ◇ Private storm drain; Permitted private storm drain
 - ◇ Public storm drain
 - ◇ Abandoned/inactive outfall
 - ▣ Dock/pier
 - + USACE Nav Channel Stations
 - Berthing area
 - -4 ft MLLW
 - - - Federal Navigation Channel
 - River mile

^a Outfalls based on the Ecology 2020 survey as amended by LDWG as of September 19, 2022. Pending final approval by LDWG, EPA, and Ecology.



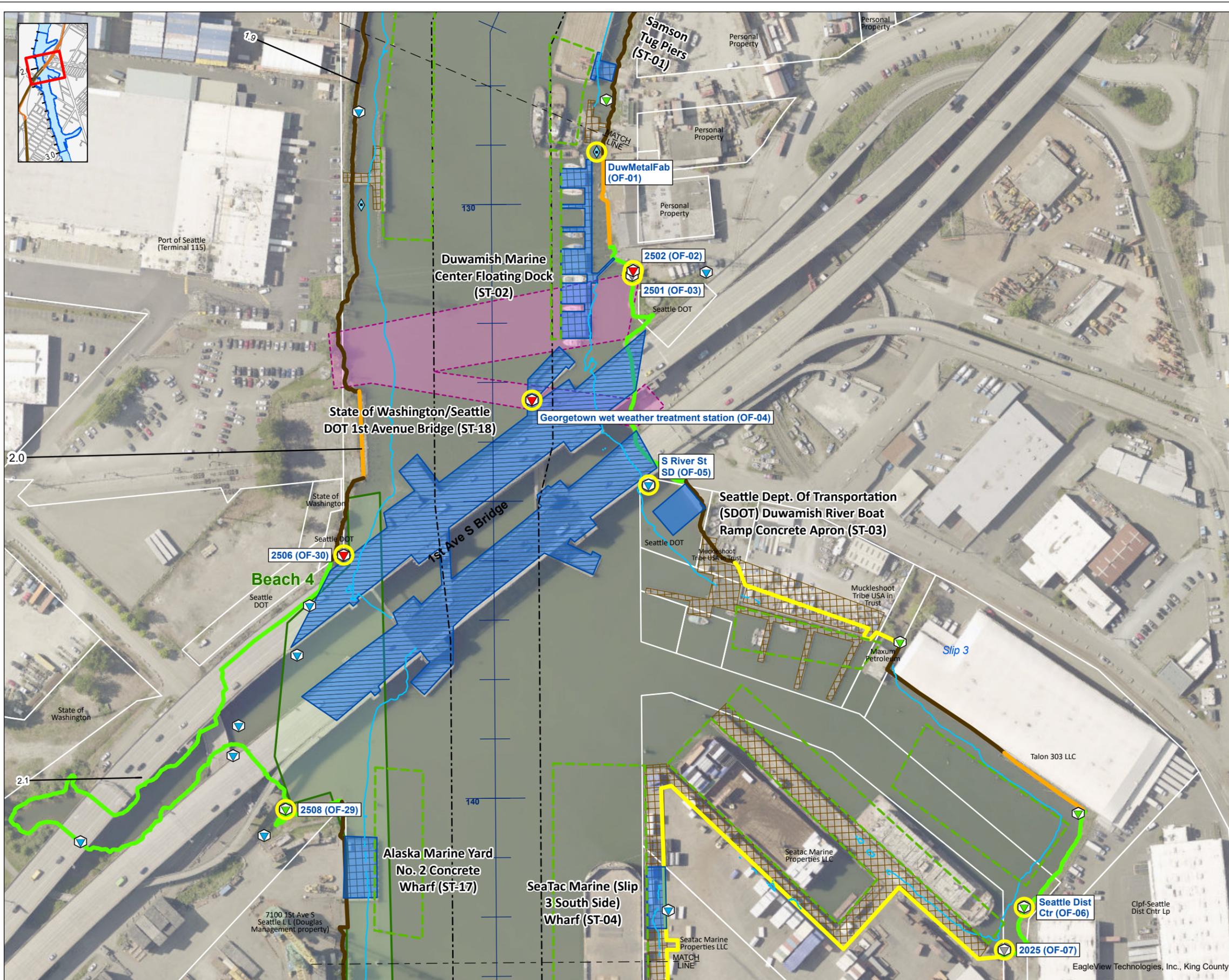
Map 2-9a. Visual bank and detailed structure inspection overview, RM 1.6 to RM 1.85

PRE-DESIGN INVESTIGATION DATA EVALUATION REPORT FOR THE LDW - MIDDLE REACH SEPTEMBER 30, 2025



Lower Duwamish Waterway Group
City of Seattle / King County / The Boeing Company

Prepared by ClaireC_9/28/2025: W:\Projects\Duwamish_AOC\GIS\Maps and Analyses\Phase 2\Data Evaluation Report\DER aprx\Map 2-9 7549 Visual bank and structure inspection overview



Structure inspected during Phase II
 Structure to be inspected (if necessary) during Phase III
 Outfall to be inspected (if necessary) during Phase III
 Utility corridor

Bank condition (total linear extent for middle reach)

- Armored slope (2.44 miles)
- Vertical bulkhead (0.26 miles)
- Bulkhead and armored slope (0.89 miles)
- Unarmored bank (1.2 miles)

Outfall classification^a

- CSO
- Private storm drain; Permitted private storm drain
- Public storm drain
- Abandoned/inactive outfall
- Pipe of unresolved origin and/or use

Bridge
 Dock/pier
 USACE Nav Channel Stations
 Berthing area
 Beach play area
 -4 ft MLLW
 Federal Navigation Channel
 River mile

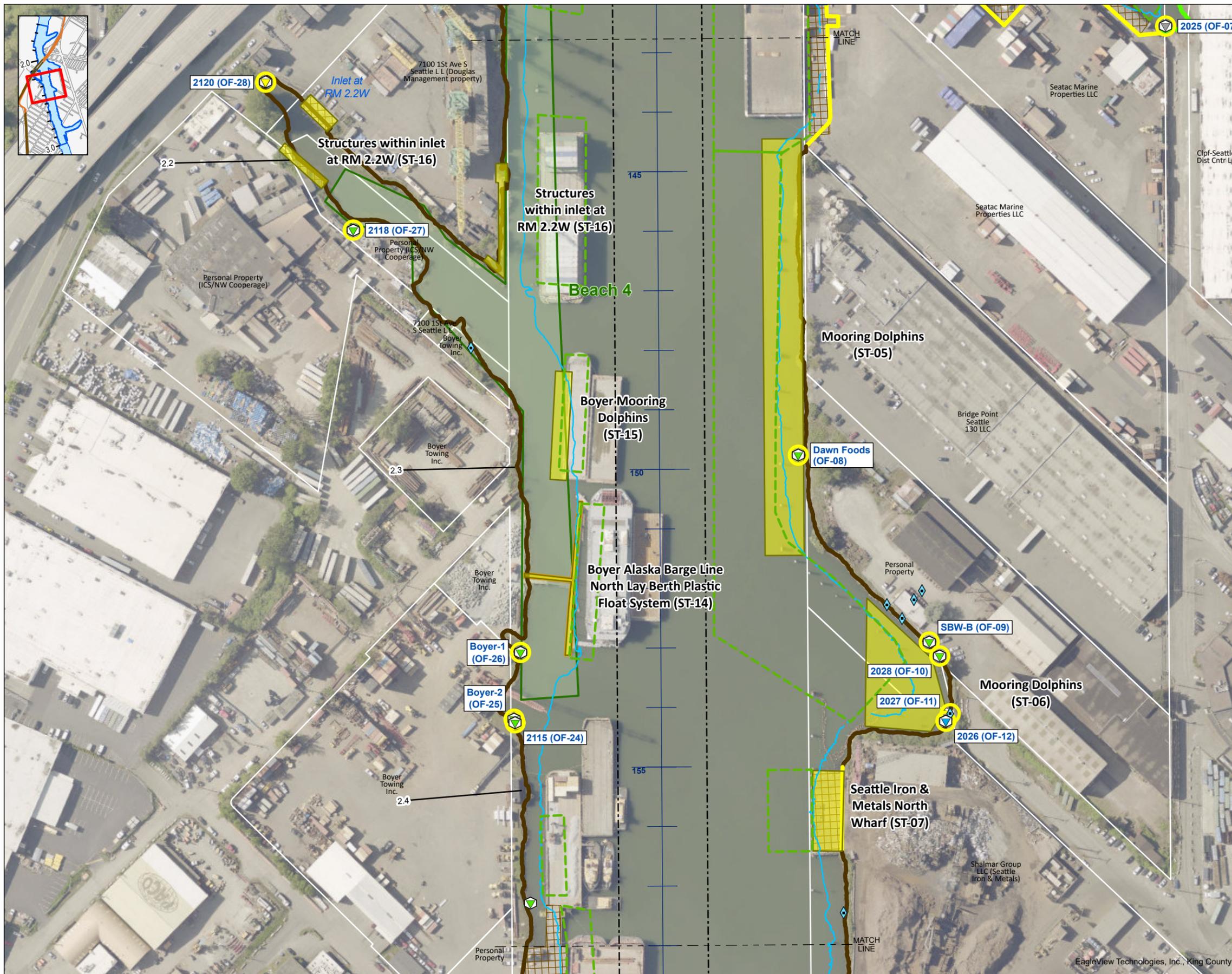
^a Outfalls based on the Ecology 2020 survey as amended by LDWG as of September 19, 2022. Pending final approval by LDWG, EPA, and Ecology.

Map 2-9b. Visual bank and detailed structure inspection overview, RM 1.85 to RM 2.15

PRE-DESIGN INVESTIGATION DATA EVALUATION REPORT FOR THE LDW - MIDDLE REACH SEPTEMBER 30, 2025

Windward environmental LLC ANCHOR QEA

Lower Duwamish Waterway Group
 City of Seattle / King County / The Boeing Company



Legend

- Structure inspected during Phase II
- Structure to be inspected (if necessary) during Phase III
- Outfall to be inspected (if necessary) during Phase III

Bank condition (total linear extent for middle reach)

- Armored slope (2.44 miles)
- Bulkhead and armored slope (0.89 miles)
- Unarmored bank (1.2 miles)

Outfall classification^a

- ◊ Private storm drain; Permitted private storm drain
- ◊ Public storm drain
- ◊ Reservoir overflow
- ◊ Abandoned/inactive outfall
- ◊ Pipe of unresolved origin and/or use

- Dock/pier
- Marina
- + USACE Nav Channel Stations
- Berthing area
- Beach play area
- -4 ft MLLW
- - - Federal Navigation Channel
- River mile

^a Outfalls based on the Ecology 2020 survey as amended by LDWG as of September 19, 2022. Pending final approval by LDWG, EPA, and Ecology.



Map 2-9c. Visual bank and detailed structure inspection overview, RM 2.15 to RM 2.45

PRE-DESIGN INVESTIGATION DATA EVALUATION
REPORT FOR THE LDW - MIDDLE REACH SEPTEMBER 30, 2025



Lower Duwamish Waterway Group
City of Seattle / King County / The Boeing Company



- Structure inspected during Phase II
- Structure to be inspected (if necessary) during Phase III
- Outfall to be inspected (if necessary) during Phase III

Bank condition (total linear extent for middle reach)

- Armored slope (2.44 miles)
- Vertical bulkhead (0.26 miles)
- Bulkhead and armored slope (0.89 miles)
- Unarmored bank (1.2 miles)

Outfall classification^a

- Private storm drain; Permitted private storm drain
- Public storm drain
- Stream, channel, or ditch
- Abandoned/inactive outfall
- Dock/pier
- USACE Nav Channel Stations
- Berthing area
- Beach play area
- 4 ft MLLW
- Federal Navigation Channel
- River mile

^a Outfalls based on the Ecology 2020 survey as amended by LDWG as of September 19, 2022. Pending final approval by LDWG, EPA, and Ecology.



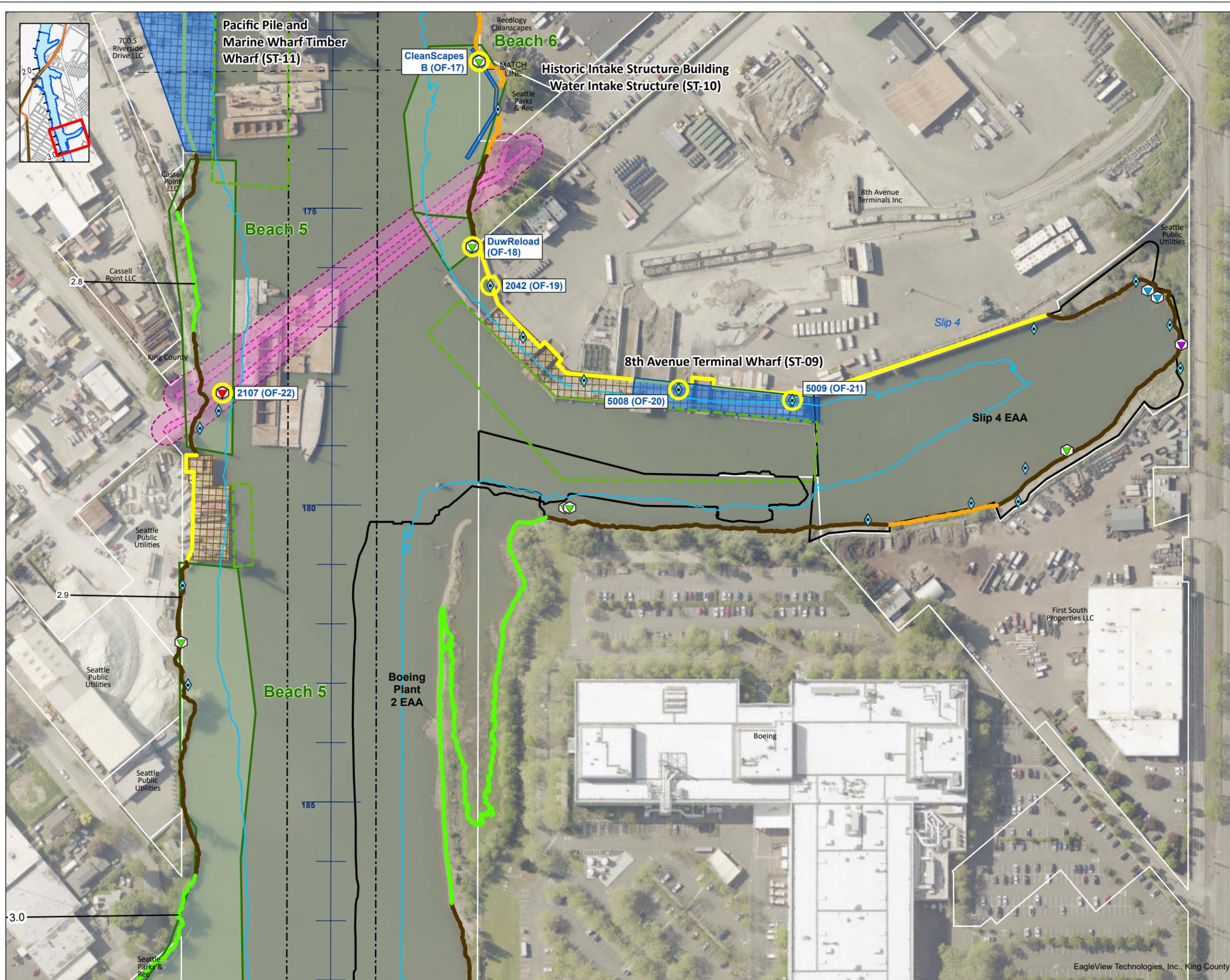
Map 2-9d. Visual bank and detailed structure inspection overview, RM 2.45 to RM 2.75

PRE-DESIGN INVESTIGATION DATA EVALUATION REPORT FOR THE LDW - MIDDLE REACH SEPTEMBER 30, 2025



Lower Duwamish Waterway Group
City of Seattle / King County / The Boeing Company

Prepared by ClaireC. 9/28/2025. W:\Projects\Duwamish AOC\GIS\Maps and Analyses\Phase 2\Data Evaluation Report\DER aprx\Map 2-9 7549 Visual bank and structure inspection overview



Structure inspected during Phase II
 Structure to be inspected (if necessary) during Phase III
 Outfall to be inspected (if necessary) during Phase III
 Utility corridor

Bank condition (total linear extent for middle reach)

- Armored slope (2.44 miles)
- Vertical bulkhead (0.26 miles)
- Bulkhead and armored slope (0.89 miles)
- Unarmored bank (1.2 miles)

Outfall classification^a

- CSO
- EOF/storm drain
- Private storm drain; Permitted private storm drain
- Public storm drain
- Abandoned/inactive outfall

Other symbols:

- Dock/pier
- USACE Nav Channel Stations
- Berthing area
- Beach play area
- Early Action Area
- 4 ft MLLW
- Federal Navigation Channel
- River mile

^a Outfalls based on the Ecology 2020 survey as amended by LDWG as of September 19, 2022. Pending final approval by LDWG, EPA, and Ecology.



Map 2-9e. Visual bank and detailed structure inspection overview, RM 2.75 to RM 3.0

PRE-DESIGN INVESTIGATION DATA EVALUATION REPORT FOR THE LDW - MIDDLE REACH SEPTEMBER 30, 2025



Lower Duwamish Waterway Group
 City of Seattle / King County / The Boeing Company

EagleView Technologies, Inc., King County

Surface (0-10 cm) sampling location

- Exceeds RAL
- Does not exceed RAL

Intertidal (0-45 cm) core location

- ⬠ Exceeds RAL
- ⬡ Does not exceed RAL

Subtidal (0-60 cm) core location

- Exceeds RAL
- Does not exceed RAL

Other sampling locations

- ∇ Vertical extent (non-RAL interval)
- Surface (0-10 cm), archive
- ⬠ Intertidal (0-45 cm) archive
- ⬡ Subtidal (0-60 cm) archive
- ∇ Vertical extent (non-RAL interval) archive
- ∇ Vertical extent (non-RAL interval) not collected because of core refusal
- Shoaling core
- Core without appropriate RAL interval
- Surface (0-10cm) bioassay passed
- Subtidal (0-60cm) bioassay passed
- Sample above MHHW not included in the interpolation dataset
- Upland soil sample
- 1 RAL exceedance area boundary
- Combined surface and subsurface sediment PCB indicator kriging RAL exceedance area
- Additional Thiessen polygon RAL exceedance area for other COCs

location ID	year	RAL
LDW23-SS1003 (2023)		exceedance factor
0-10 cm: Phenol: 2.0		
depth interval	chemical	

Exceedance boxes include RAL exceedances and near-exceedances for all COCs and intervals collected at that location.

Outfall classification

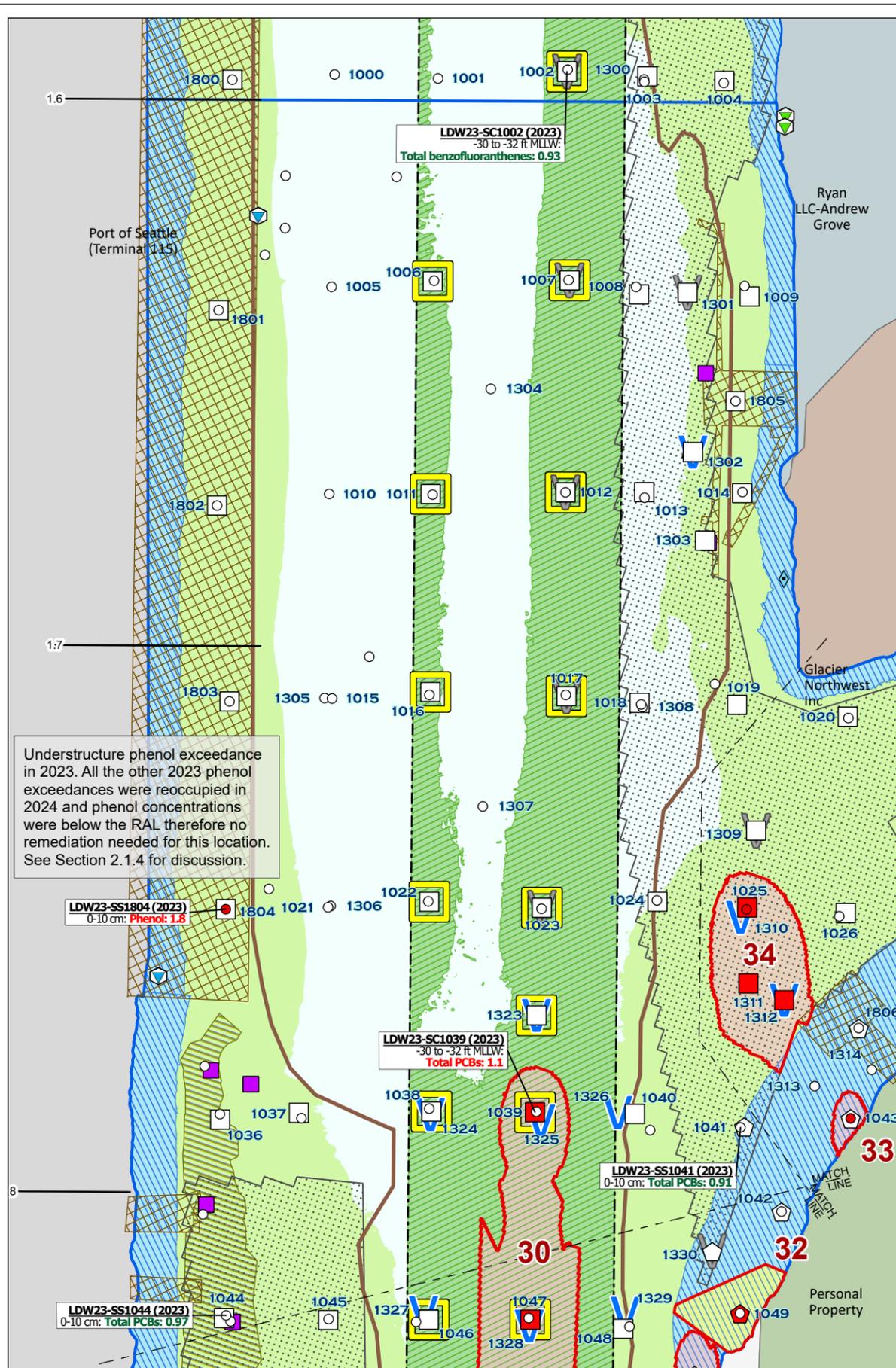
- ⬠ CSO^a
- ⬠ CSO/storm drain^a
- ⬠ CSO/EOF^a
- ⬠ EOF/storm drain^a
- ⬠ Private storm drain^a
- ⬠ Public storm drain^a
- ⬠ Reservoir overflow^a
- ⊕ Stream, channel, or ditch^a
- ⬠ Abandoned/inactive outfall^a
- ⬠ Removed outfall^a
- ⬠ Pipe of unresolved origin and/or use^a
- ⬠ Not an outfall^a
- ▨ Recovery Category 1
- ▨ Historical USACE overdrudge extent
- ▨ Beach play area
- ▨ Georgetown WWTS diffuser pipe
- ▨ Utility corridor
- ▨ Bridge
- ▨ Dock/pier
- ▨ Marina
- ▨ Sand cover placement
- ▨ Boundary area thin-layer placement
- ▨ Talon Shoreline Stabilization Project
- ▨ Boyer maintenance dredging (2012)
- ▨ Intertidal area
- ▨ Potential vessel scour area
- ▨ Shoal area
- ▨ Below the navigation depth in the FNC and below potential vessel scour depth outside the FNC
- ▨ Not covered by bathymetric survey
- ▨ Bridge footing
- ▨ LDW Superfund Boundary (MHHW)^b
- ▨ Early Action Area
- ▨ King Co tax parcel
- ▨ Federal Navigation Channel authorized depth boundary
- ▨ Federal Navigation Channel
- ▨ River mile

Legend for Vertical Extent Cores

Area	Loc No.	Description
	-5.6	actual mudline elevation (ft MLLW)
	0-60 A	RAL interval(s); red if > RAL, green if < RAL (PCBs unless noted)
	0-60 A	bold outline: RAL interval(s) of non-Phase II core collected within 30 ft; red if > RAL, green if < RAL (PCBs unless noted)
	B	sample below RAL interval (purple if > surface sediment RAL; green if < surface sediment RAL)
	C	light yellow indicates samples that were not analyzed
	D	hashing indicates native material
	E	
	F	asterisk indicates PCB EF ≥0.9 and ≤1.0

- Abbreviations: ref. indicates refusal at or above target depth, sh. indicates shoaling material, o.d. indicates overdrudge, est. indicates estimated mudline, and geo indicates geological break.
- Light grey shading indicates FNC authorized depth.
- Alternating light blue and white backgrounds indicate transects.
- Vertical extent core intervals B and deeper are 30 cm in length. PDI shoaling cores identified the intervals alphabetically (i.e., B, C, or D depending on the number of shoaling intervals).

^a Outfalls are based on the Ecology 2020 survey, as updated by LDWG as of February 20, 2024; the revised outfall layer is pending approval by LDWG, EPA, and Ecology.
^b The 2010 MHHW boundary has been updated based on 2021 LIDAR data collected by King County.



RM 1.6 to RM 1.75 - FNC										
Location	1002	1006	1007	1011	1012	1016	1017	1022	1023	
Mudline	-26.9	-29.3	-27.8	-29.3	-28.3	-29.8	-28.5	-29.4	-28.8	
Core Target:	-34 ft									
-27 to -28 ft	sh. A									
-28 to -29 ft	sh. B		sh. A		sh. A		sh. A		sh. A	
-29 to -30 ft	sh. C	sh. B	sh. C	sh. A	sh. B	sh. A	sh. B	sh. A	sh. A	
-30 to -31 ft	o.d.									
-31 to -32 ft	C	A	B	A	B	A	B	A	B	
-32 to -33 ft	C	B	C	B	C	B	C	B	C	
-33 to -34 ft										

RM 1.6 E		Area 30 N - FNC				
Location	1301	1302	1323	1324	1325	1326
Mudline	-23.2	-23.0	-29.2	-29.3	-26.0	-23.2
Core Target	-40 ft	-40 ft	-41 ft	-41 ft	-41 ft	20 ft
Older Loc.	-	-	-	1038	1039	1040
-23 to -24 ft	0-60 A	0-60 A				0-60 A
-24 to -25 ft	B	B				B
-25 to -26 ft	C	C			sh. A	C
-26 to -27 ft	D	D			sh. B	D
-27 to -28 ft	E	E			sh. C	E
-28 to -29 ft	F	F	sh. o.d.	sh. o.d.	sh. o.d.	F
-29 to -30 ft	G	G	A	A	C	G
-30 to -31 ft	H	H	B	B	D	H
-31 to -32 ft	I	I	C	C	E	I
-32 to -33 ft	J	J	D	D	F	J
-33 to -34 ft	K	K	E	E	G	K
-34 to -35 ft	L	L	F	F	H	L
-35 to -36 ft	ref.	M	G	G	I	M
-36 to -37 ft		N	H	H	J	N
-37 to -38 ft		O	I	I	K	O
-38 to -39 ft	ref.		J	J	L	P
-39 to -40 ft			K	K	M	R
-40 to -41 ft			L	L	N	
-41 to -42 ft						
-42 to -43 ft						

- Surface (0-10 cm) sampling location**
- Exceeds RAL
 - Does not exceed RAL
- Intertidal (0-45 cm) core location**
- ⬠ Exceeds RAL
 - ⬡ Does not exceed RAL
- Subtidal (0-60 cm) core location**
- ⬢ Exceeds RAL
 - ⬣ Does not exceed RAL
- Other sampling locations**
- ∇ Vertical extent (non-RAL interval)
 - ∇ Vertical extent (non-RAL interval) archive
 - Shoaling core
 - Core without appropriate RAL interval
 - ⬤ Upland soil sample
- RAL Exceedance Area Indicators**
- 1 RAL exceedance area boundary
 - Combined surface and subsurface sediment PCB indicator kriging RAL exceedance area
 - Additional Thiessen polygon RAL exceedance area for other COCs

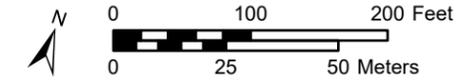
Legend for Vertical Extent Cores

Area

- 5.6 actual mudline elevation (ft MLLW)
- sh. RAL interval(s); red if > RAL, green if < RAL (PCBs unless noted)
- bold outline: RAL interval(s) of non-Phase II core collected within 30 ft; red if > RAL, green if < RAL (PCBs unless noted)
- A sample below RAL interval (purple if > surface sediment RAL; green if < surface sediment RAL)
- D light yellow indicates samples that were not analyzed
- E hashing indicates native material
- F asterisk indicates PCB EF ≥ 0.9 and ≤ 1.0

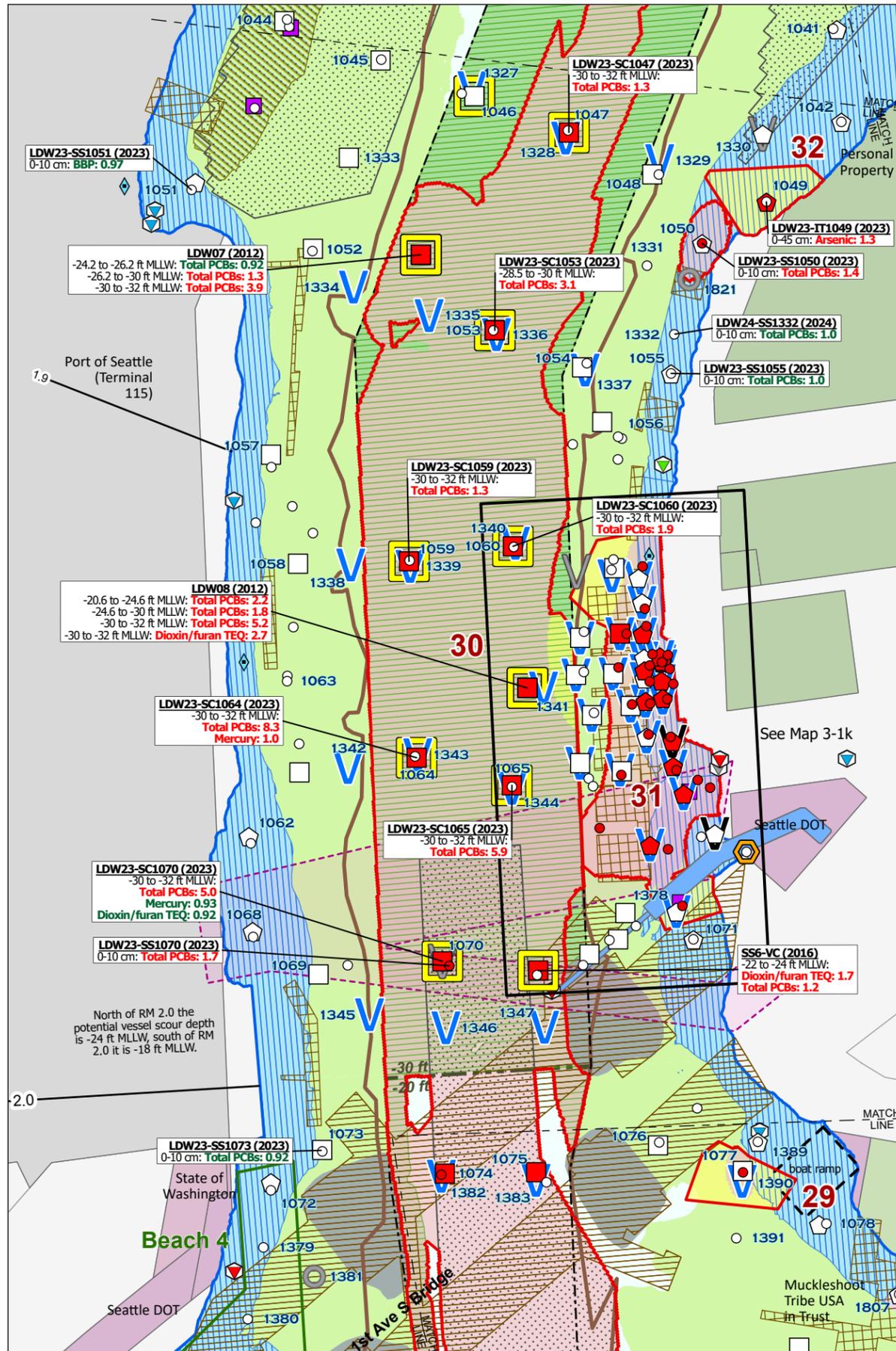
Core Intervals

- ref. indicates refusal at or above target depth, sh. indicates shoaling material, o.d. indicates over dredge, est. indicates estimated mudline, and geo indicates geological break.
- Light grey shading indicates FNC authorized depth.
- Alternating light blue and white backgrounds indicate transects.
- Vertical extent core intervals B and deeper are 30 cm in length. PDI shoaling cores identified the intervals alphabetically (i.e., B, C, or D depending on the number of shoaling intervals).



Map 3-1a. Design dataset with the results of PCB indicator kriging and Thiessen polygons for other COCs, RM 1.6 to RM 1.8

PRE-DESIGN INVESTIGATION DATA EVALUATION REPORT FOR THE LDW - MIDDLE REACH SEPTEMBER 30, 2025



Area 30 - FNC and Sideslopes																				
Location	1327	1328	1329	1334	1335	1336	1337	1338	1339	1340	1348	1341	1342	1343	1344	1070	1345	1346	1347	
Mudline	-26.0	-24.5	-11.6	-19.0	-25.6	-25.2	-13.9	-18.2	-23.3	-20.5	-14.4	-16.4	-16.2	-26.1	-22.5	-28.0	-15.1	-28.1	-19.9	
Core Target	-41 ft	-41 ft	20 ft	20 ft	-41 ft	-41 ft	20 ft	20 ft	-41 ft	-41 ft	20 ft	-41 ft	20 ft	-41 ft	-41 ft	-34 ft	20 ft	-41 ft	-41 ft	
Older Loc.	1046	1047	1048	-	-	1053	1054	-	1059	1060	-	LDW08	-	1064	1065	-	-	-	-	
-11 to -12 ft																				
-12 to -13 ft																				
-13 to -14 ft																				
-14 to -15 ft																				
-15 to -16 ft																				
-16 to -17 ft																				
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-41 to -42 ft																				
-42 to -43 ft																				
-43 to -44 ft																				
-44 to -45 ft																				

Area 32	
Location	1330
Mudline	-0.2
Core Target	7.5 ft
Older Loc.	-
0 to -1 ft	0-45 A
-1 to -2 ft	B
-2 to -3 ft	C
-3 to -4 ft	ref.

- Surface (0-10 cm) sampling location**
- Exceeds RAL
 - Does not exceed RAL
- Intertidal (0-45 cm) core location**
- Exceeds RAL
 - Does not exceed RAL
- Subtidal (0-60 cm) core location**
- Exceeds RAL
 - Does not exceed RAL
- Other sampling locations**
- ∇ Vertical extent (non-RAL interval)
 - Surface (0-10 cm), archive
 - ∇ Vertical extent (non-RAL interval) archive
 - ∇ Vertical extent (non-RAL interval) not collected because of core refusal
 - Shoaling core
 - Core without appropriate RAL interval
 - Sample above MHHW not included in the interpolation dataset
 - Upland soil sample
 - 1 RAL exceedance area boundary
 - Combined surface and subsurface sediment PCB indicator kriging RAL exceedance area
 - Additional Thiessen polygon RAL exceedance area for other COCs
 - Georgetown WWTS diffuser pipe
 - Utility corridor
 - Federal Navigation Channel authorized depth boundary

Legend for Vertical Extent Cores

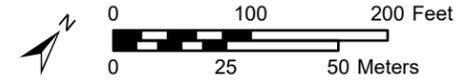
- 5.6 actual mudline elevation (ft MLLW)
- RAL interval(s); red if > RAL, green if < RAL (PCBs unless noted)
- 0-60 bold outline: RAL interval(s) of non-Phase II core collected within 30 ft; red if > RAL, green if < RAL (PCBs unless noted)
- A sample below RAL interval (purple if > surface sediment RAL; green if < surface sediment RAL)
- D light yellow indicates samples that were not analyzed
- E hashing indicates native material
- F asterisk indicates PCB EF ≥ 0.9 and ≤ 1.0

Abbreviations: ref. indicates refusal at or above target depth, sh. indicates shoaling material, o.d. indicates over dredge, est. indicates estimated mudline, and geo indicates geological break.

Light grey shading indicates FNC authorized depth.

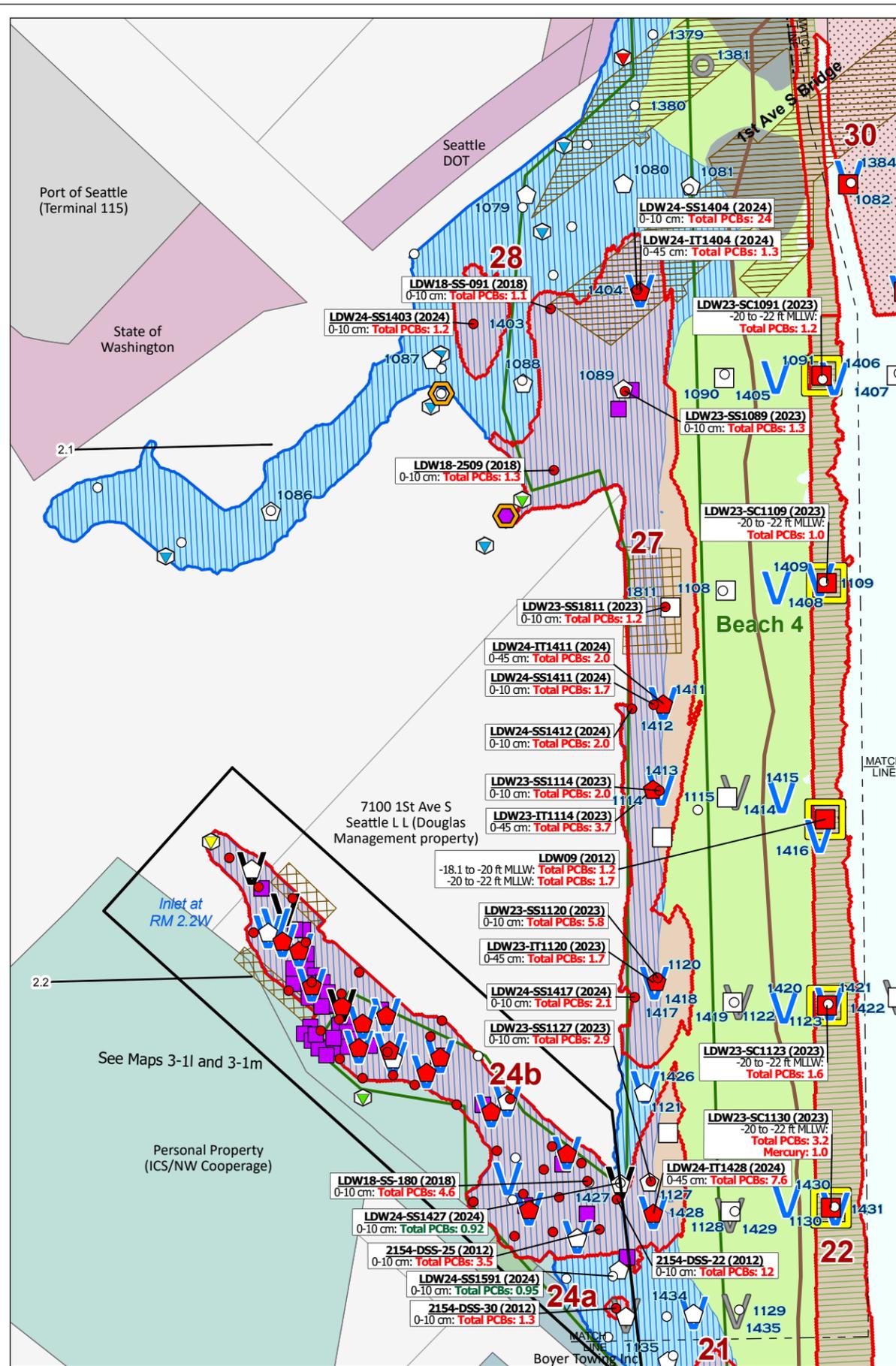
Alternating light blue and white backgrounds indicate transects.

Vertical extent core intervals B and deeper are 30 cm in length. PDI shoaling cores identified the intervals alphabetically (i.e., B, C, or D depending on the number of shoaling intervals).



Map 3-1c. Design dataset with the results of PCB indicator kriging and Thiessen polygons for other COCs, RM 1.8 to RM 2.0

PRE-DESIGN INVESTIGATION DATA EVALUATION REPORT FOR THE LDW - MIDDLE REACH SEPTEMBER 30, 2025



Area 22 - FNC and Sideslopes														
Location	1405	1406	1408	1409	1414	1415	1416	1419	1420	1421	1429	1430	1431	1435
Mudline	-14.3	-20.8	-15.5	-17.0	-12.9	-16.6	-18.7	-9.6	-14.2	-18.1	-9.6	-16.3	-18.2	-7.4
Core Target	15 ft	31 ft	15 ft	31 ft	10 ft	15 ft	31 ft	10 ft	15 ft	31 ft	10 ft	15 ft	31 ft	10 ft
Older Loc.	-	1091	-	1109	1115	-	LDW09	1122	-	1123	1128	-	1130	-
-7 to -8 ft														0-60
-8 to -9 ft														A
-9 to -10 ft														B
-10 to -11 ft														C
-11 to -12 ft														D
-12 to -13 ft														E
-13 to -14 ft														F
-14 to -15 ft														geo G
-15 to -16 ft														H
-16 to -17 ft														I
-17 to -18 ft														
-18 to -19 ft														
-19 to -20 ft														
-20 to -21 ft														
-21 to -22 ft														
-22 to -23 ft														
-23 to -24 ft														
-24 to -25 ft														
-25 to -26 ft														
-26 to -27 ft														
-27 to -28 ft														
-28 to -29 ft														
-29 to -30 ft														
-30 to -31 ft														
-31 to -32 ft														
-32 to -33 ft														
-33 to -34 ft														
-34 to -35 ft														

Area 27					Area 24			
Location	1404	1411	1413	1418	1426	1427	1428	1434
Mudline	0.3	-3.6	-3.5	-3.5	-2.5	nd	-2.9	-2.4
Core Target	7.5 ft	7.5 ft	7.5 ft	7.5 ft				
Older Loc.	-	-	1114	1120	1121	est.	-	-
3 to 2						0-45		
** break **						A		
1 to 0 ft						ref.		
0 to -1 ft								
-1 to -2 ft								
-2 to -3 ft								
-3 to -4 ft								
-4 to -5 ft								
-5 to -6 ft								
-6 to -7 ft								
-7 to -8 ft								
-8 to -9 ft								
-9 to -10 ft								
-10 to -11 ft								
-11 to -12 ft								
-12 to -13 ft								
-13 to -14 ft								

Surface (0-10 cm) sampling location

- Exceeds RAL
- Does not exceed RAL

Intertidal (0-45 cm) core location

- Exceeds RAL
- Does not exceed RAL

Subtidal (0-60 cm) core location

- Exceeds RAL
- Does not exceed RAL

Other sampling locations

- ∇ Vertical extent (non-RAL interval)
- Surface (0-10 cm), archive
- ∇ Vertical extent (non-RAL interval) archive
- ∇ Vertical extent (non-RAL interval) not collected because of core refusal
- Shoaling core
- Core without appropriate RAL interval
- Sample above MHHW not included in the interpolation dataset
- Upland soil sample

1 RAL exceedance area boundary

Combined surface and subsurface sediment PCB indicator kriging RAL exceedance area

Legend for Vertical Extent Cores

Area

- 5.6 actual mudline elevation (ft MLLW)
- RAL interval(s); red if > RAL, green if < RAL (PCBs unless noted)

Core Intervals

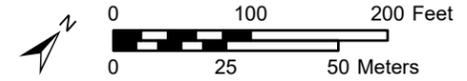
- 0-60 bold outline: RAL interval(s) of non-Phase II core collected within 30 ft; red if > RAL, green if < RAL (PCBs unless noted)
- A sample below RAL interval (purple if > surface sediment RAL; green if < surface sediment RAL)
- B light yellow indicates samples that were not analyzed
- C hashing indicates native material
- D asterisk indicates PCB EF ≥ 0.9 and ≤ 1.0

Abbreviations: ref. indicates refusal at or above target depth, sh. indicates shoaling material, o.d. indicates over dredge, est. indicates estimated mudline, and geo indicates geological break.

Light grey shading indicates FNC authorized depth.

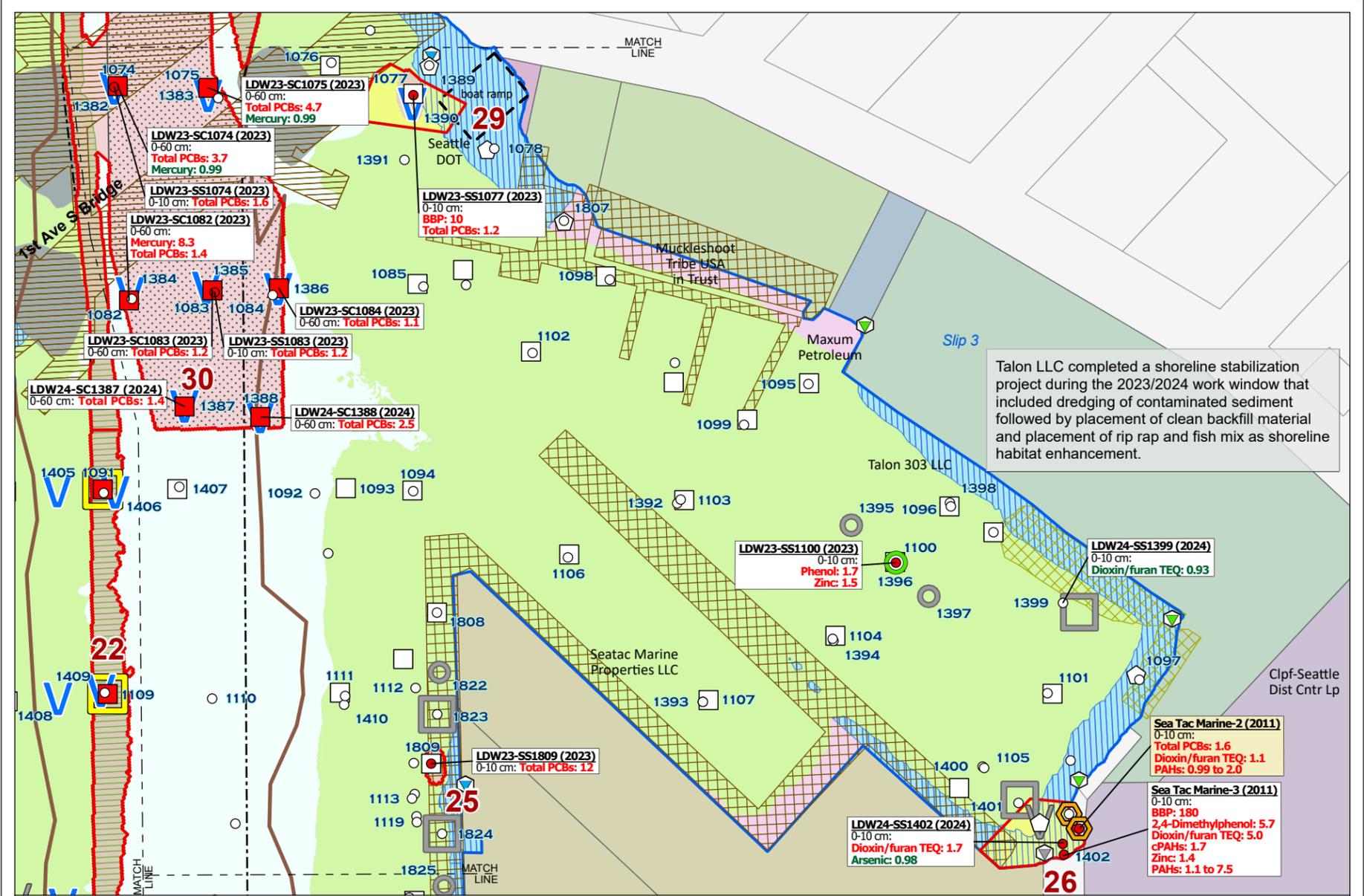
Alternating light blue and white backgrounds indicate transects.

Vertical extent core intervals B and deeper are 30 cm in length. PDI shoaling cores identified the intervals alphabetically (i.e., B, C, or D depending on the number of shoaling intervals).



Map 3-1d. Design dataset with the results of PCB indicator kriging and Thiessen polygons for other COCs, RM 2.0 to RM 2.25 West

PRE-DESIGN INVESTIGATION DATA EVALUATION REPORT FOR THE LDW - MIDDLE REACH SEPTEMBER 30, 2025



Talon LLC completed a shoreline stabilization project during the 2023/2024 work window that included dredging of contaminated sediment followed by placement of clean backfill material and placement of rip rap and fish mix as shoreline habitat enhancement.

Area 30 S - FNC and Sideslopes								Area 29		Area 26 - Slip 3	
Location	1382	1383	1384	1385	1386	1387	1388	Location	1390	Location	1402
Mudline	-27.3	-28.5	-23.3	-28.5	-21.0	-28.1	-24.4	Mudline	-8.6	Mudline	-3.3
Core Target	-31 ft	-31 ft	-31 ft	-31 ft	10 ft	-31 ft	10 ft	Core Target	10 ft	Core Target	7.5 ft
Older Loc.	1074	1075	1082	1083	1084	-	-	Older Loc.	1077	Older Loc.	-
-20 to -21 ft					0-60 A			-8 to -9 ft	0-60 A	-3 to -4 ft	0-45 A
-21 to -22 ft								-9 to -10 ft		-4 to -5 ft	B
-22 to -23 ft								-10 to -11 ft	B	-5 to -6 ft	B
-23 to -24 ft			0-60 A					-11 to -12 ft	C	-6 to -7 ft	C
-24 to -25 ft								-12 to -13 ft	C	-7 to -8 ft	D
-25 to -26 ft							0-60 A Hg, PCBs	-13 to -14 ft	D	-8 to -9 ft	E
-26 to -27 ft								-14 to -15 ft	E	-9 to -10 ft	ref.
-27 to -28 ft								-15 to -16 ft	F		
-28 to -29 ft	0-60 A							-16 to -17 ft	G		
-29 to -30 ft		0-60 A		0-60 A				-17 to -18 ft	H		
-30 to -31 ft								-18 to -19 ft	I		
-31 to -32 ft								-19 to -20 ft	J		
-32 to -33 ft											
-33 to -34 ft											
-34 to -35 ft											
-35 to -36 ft											
-36 to -37 ft											
-37 to -38 ft											

Surface (0-10 cm) sampling location

- Exceeds RAL
- Does not exceed RAL

Intertidal (0-45 cm) core location

- Does not exceed RAL

Subtidal (0-60 cm) core location

- Exceeds RAL
- Does not exceed RAL

Other sampling locations

- ∇ Vertical extent (non-RAL interval)
- Surface (0-10 cm), archive
- Subtidal (0-60 cm) archive
- ∇ Vertical extent (non-RAL interval) archive
- Surface (0-10cm) bioassay passed
- Shoaling core
- Core without appropriate RAL interval
- Sample above MHHW not included in the interpolation dataset

- 1 RAL exceedance area boundary
- Combined surface and subsurface sediment PCB indicator kriging RAL exceedance area
- Additional Thiessen polygon
- RAL exceedance area for other COCs

Legend for Vertical Extent Cores

- Loc No. -5.6 actual mudline elevation (ft MLLW)
- 0-60 RAL interval(s); red if > RAL, green if < RAL (PCBs unless noted)
- 0-60 bold outline: RAL interval(s) of non-Phase II core collected within 30 ft; red if > RAL, green if < RAL (PCBs unless noted)
- B sample below RAL interval (purple if > surface sediment RAL; green if < surface sediment RAL)
- D light yellow indicates samples that were not analyzed
- E hashing indicates native material
- F asterisk indicates PCB EF ≥ 0.9 and ≤ 1.0

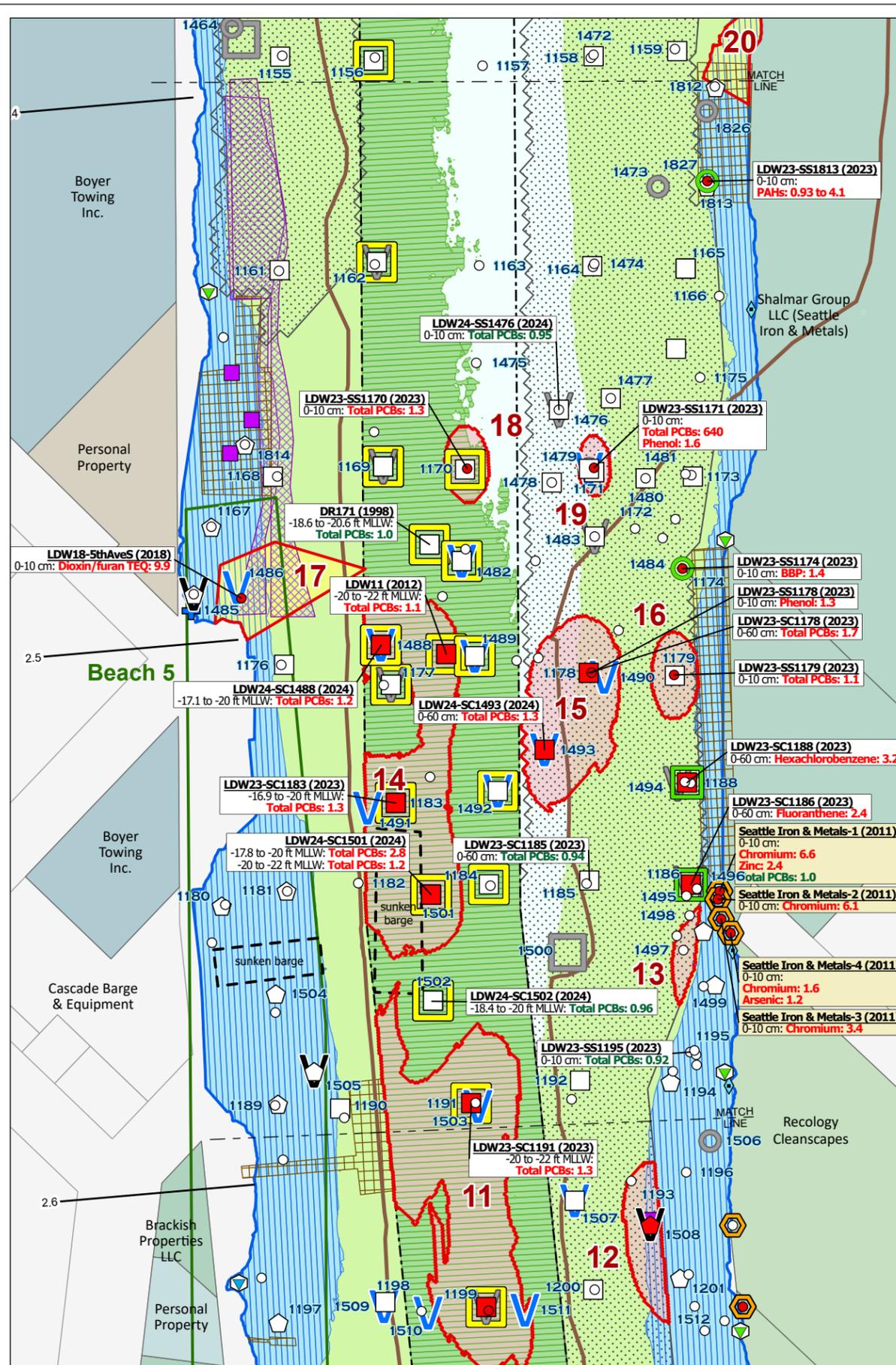
Abbreviations: ref. indicates refusal at or above target depth, sh. indicates shoaling material, o.d. indicates over dredge, est. indicates estimated mudline, and geo indicates geological break.

Light grey shading indicates FNC authorized depth.

Alternating light blue and white backgrounds indicate transects.

Vertical extent core intervals B and deeper are 30 cm in length. PDI shoaling cores identified the intervals alphabetically (i.e., B, C, or D depending on the number of shoaling intervals).

Prepared by ClairC, 9/28/2025; W:\Projects\Duwamish ACCO5\GIS\Maps and Analyses\Phase 2\Data Evaluation\Report\DER aprx\Map 3-1 17652 Phase II design data series - portrait



Area 17	
Location	1485 1486
Mudline	nd -1.1
Core Target	7.5 ft 7.5 ft
Older Loc.	est. -
4 to 3 ft	0-45 A
3 to 2 ft	ref.
2 to 1 ft	
1 to 0 ft	
0 to -1 ft	
-1 to -2 ft	0-45 A
-2 to -3 ft	B
-3 to -4 ft	C
-4 to -5 ft	D
-5 to -6 ft	ref.

RM 2.5 E	
Location	1494 1495
Mudline	-9.1 -6.6
Core Target	-25 ft 10 ft
Older Loc.	1188 1186
-6 to -7 ft	0-60 A tox
-7 to -8 ft	B
-8 to -9 ft	C
-9 to -10 ft	0-60 A tox
-10 to -11 ft	D
-11 to -12 ft	B
-12 to -13 ft	C
-13 to -14 ft	D
-14 to -15 ft	E
-15 to -16 ft	F
-16 to -17 ft	G
-17 to -18 ft	H
-18 to -19 ft	I
	ref.

Note: dark green shading indicates subsurface bioassay passed

Areas 18 & 14 - FNC						
Location	1162	1169	1170	1177	1183	1184
Mudline	-18.4	-15.5	-19.8	-13.8	-10.7	-19.1
Core Target	-24 ft	-24 ft	-24 ft	-24 ft	-24 ft	-24 ft
-10 to -11 ft				sh. A		
-11 to -12 ft				sh. B		
-12 to -13 ft				sh. A		
-13 to -14 ft				sh. B		
-14 to -15 ft				sh. A		
-15 to -16 ft		sh. A				
-16 to -17 ft		sh. B				
-17 to -18 ft		sh. A		sh. B	sh. C	
-18 to -19 ft	sh. A	sh. B				sh. o.d.
-19 to -20 ft	o.d.	o.d.	sh. o.d.	o.d.	o.d.	
-20 to -21 ft	B	C	A	C	D	A
-21 to -22 ft	C	D	B	D	E	B
-22 to -23 ft						
-23 to -24 ft						

Area 19	Areas 14 & 15 - FNC & Sideslopes										Area 11			
	1476	1479	1483	1482	1488	1489	1490	1491	1492	1493	1501	1502	1505	1503
Mudline	-19.6	-19.0	-17.3	-18.9	-14.1	-18.8	-16.8	-9.7	-19.4	-18.8	-15.6	-16.8	-3.0	-17.9
Core Target	10 ft	10 ft	10 ft	-31 ft	-31 ft	-31 ft	10 ft	10 ft	-31 ft	10 ft	-24 ft	-24 ft	7.5 ft	-31 ft
Older Loc.	-	1171	-	-	-	LDW11	1178	-	-	-	-	-	-	1191
-3 to -4 ft														0-45 A
break														ref.
-8 to -9 ft														
-9 to -10 ft									0-60 A					
-10 to -11 ft									B					
-11 to -12 ft									C					
-12 to -13 ft									D					
-13 to -14 ft									E					
-14 to -15 ft									F					
-15 to -16 ft									G					
-16 to -17 ft									H					
-17 to -18 ft									I					
-18 to -19 ft									J					
-19 to -20 ft									K					
-20 to -21 ft	0-60 A	0-60 A	0-60 A	sh. A	sh. B	sh. C	sh. D	sh. E	sh. F	sh. G	sh. H	sh. I	sh. J	sh. K
-21 to -22 ft	B	B	B	C	C	C	C	C	C	C	C	C	C	C
-22 to -23 ft	C	C	C	D	D	D	D	D	D	D	D	D	D	D
-23 to -24 ft	D	D	D	E	E	E	E	E	E	E	E	E	E	E
-24 to -25 ft	E	E	E	F	F	F	F	F	F	F	F	F	F	F
-25 to -26 ft	F	F	F	G	G	G	G	G	G	G	G	G	G	G
-26 to -27 ft	G	G	G	H	H	H	H	H	H	H	H	H	H	H
-27 to -28 ft	H	H	H	I	I	I	I	I	I	I	I	I	I	I
-28 to -29 ft	I	I	I	J	J	J	J	J	J	J	J	J	J	J
-29 to -30 ft	J	J	J	K	K	K	K	K	K	K	K	K	K	K
-30 to -31 ft	K	K	K	L	L	L	L	L	L	L	L	L	L	L
-31 to -32 ft				M	M	M	M	M	M	M	M	M	M	M
-32 to -33 ft														

- Surface (0-10 cm) sampling location**
- Exceeds RAL
 - Does not exceed RAL
- Intertidal (0-45 cm) core location**
- ⬠ Exceeds RAL
 - ⬡ Does not exceed RAL
- Subtidal (0-60 cm) core location**
- ⬢ Exceeds RAL
 - ⬣ Does not exceed RAL
- Other sampling locations**
- ∇ Vertical extent (non-RAL interval)
 - Surface (0-10 cm), archive
 - ⬢ Subtidal (0-60 cm) archive
 - ∇ Vertical extent (non-RAL interval) archive
 - ∇ Vertical extent (non-RAL interval) not collected because of core refusal
 - Surface (0-10cm) bioassay passed
 - ⬢ Subtidal (0-60cm) bioassay passed
 - ⬢ Shoaling core
 - ⬢ Core without appropriate RAL interval
 - ⬢ Sample above MHHW not included in the interpolation dataset
 - ⬢ Upland soil sample
 - 1 RAL exceedance area boundary
 - Combined surface and subsurface sediment PCB indicator kriging RAL exceedance area
 - Additional Thiessen polygon RAL exceedance area for other COCs

Legend for Vertical Extent Cores

Area
Loc No.

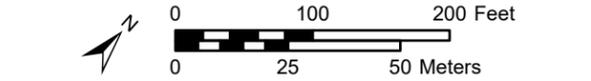
- 5.6 actual mudline elevation (ft MLLW)
- 0-60 RAL interval(s); red if > RAL, green if < RAL (PCBs unless noted)
- bold outline: RAL interval(s) of non-Phase II core collected within 30 ft; red if > RAL, green if < RAL (PCBs unless noted)
- A sample below RAL interval (purple if > surface sediment RAL; green if < surface sediment RAL)
- D light yellow indicates samples that were not analyzed
- E hashing indicates native material
- F asterisk indicates PCB EF ≥ 0.9 and ≤ 1.0

Abbreviations: ref. indicates refusal at or above target depth, sh. indicates shoaling material, o.d. indicates over dredge, est. indicates estimated mudline, and geo indicates geological break.

Light grey shading indicates FNC authorized depth.

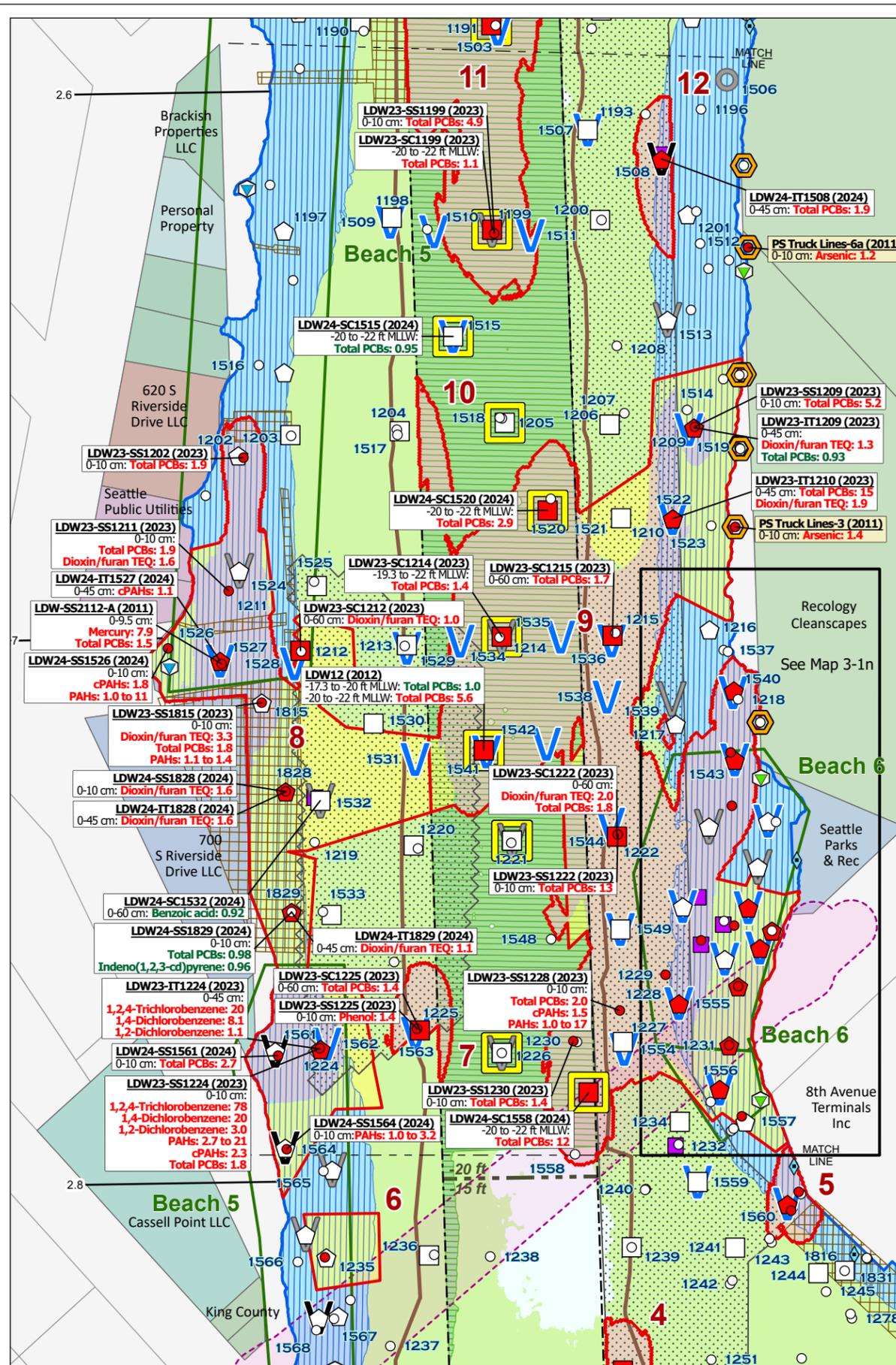
Alternating light blue and white backgrounds indicate transects.

Vertical extent core intervals B and deeper are 30 cm in length. PDI shoaling cores identified the intervals alphabetically (i.e., B, C, or D depending on the number of shoaling intervals).



Map 3-1g. Design dataset with the results of PCB indicator kriging and Thiessen polygons for other COCs, RM 2.4 to RM 2.6

PRE-DESIGN INVESTIGATION DATA EVALUATION REPORT FOR THE LDW - MIDDLE REACH SEPTEMBER 30, 2025



Area 11 - FNC and Sideslopes						
Location	1507	1509	1510	1199	1511	1515
Mudline	-16.5	-12.4	-16.7	-18.9	-20.0	-17.9
Core Target	10 ft	10 ft	-31 ft	-24 ft	-31 ft	-31 ft
Older Loc.	-	1198	-	-	-	-
-12 to -13 ft						
-13 to -14 ft	0-60 A					
-14 to -15 ft	B					
-15 to -16 ft	C					
-16 to -17 ft	0-60 A	D	sh. A			
-17 to -18 ft	E				sh. A	
-18 to -19 ft	B	F	sh. B	sh. A		
-19 to -20 ft	C	G				
-20 to -21 ft	D	H	o.d.	o.d.	o.d.	
-21 to -22 ft	E	I	C	A	B	
-22 to -23 ft	F	J	E	C	D	
-23 to -24 ft	G	K	F	D	E	
-24 to -25 ft	geo H		G	E	F	
-25 to -26 ft	I		H	F	G	
-26 to -27 ft	J		I	G	H	
-27 to -28 ft			J	H	geo I	
-28 to -29 ft			K	geo I	J	
-29 to -30 ft			L	geo I	K	
-30 to -31 ft			M	J	L	
-31 to -32 ft			N	K		
-32 to -33 ft			O			
-33 to -34 ft			P			
-34 to -35 ft						

Area 8 - Intertidal						
Location	1524	1527	1528	1561	1562	1564
Mudline	0.5	-2.3	-3.3	nd	-2.6	nd
Core Target	7.5 ft	7.5 ft	-29 ft	7.5 ft	7.5 ft	7.5 ft
Older Loc.	-	-	1212	-	-	-
3 to 2 ft				est. A	est. A	
2 to 1 ft				ref.	ref.	
1 to 0 ft						
0 to -1 ft	0-45 A					
-1 to -2 ft	B					
-2 to -3 ft	C					
-3 to -4 ft	D	0.45 A only cPAHs	0-45 A			
-4 to -5 ft	geo E	F	C	B		
-5 to -6 ft	F	G	D	C		
-6 to -7 ft	G	H	E	D		
-7 to -8 ft	H	I	F	E		
-8 to -9 ft	I	J	G	F		
-9 to -10 ft	J	K	H	G		
-10 to -11 ft						
-11 to -12 ft						
-12 to -13 ft						
-13 to -14 ft						
-14 to -15 ft						
-15 to -16 ft						
-16 to -17 ft						
-17 to -18 ft						

Areas 7 & 8 Subtidal					
Location	1563	1532			
Mudline	-12.1	-5.5			
Core Target	10 ft	-29 ft			
Older Loc.	1225	-			
-5 to -6 ft		0-60 A			
-6 to -7 ft		B			
-7 to -8 ft		C			
-8 to -9 ft		D			
-9 to -10 ft		E			
-10 to -11 ft		F			
-11 to -12 ft		G			
-12 to -13 ft	0-60 A	H			
-13 to -14 ft		I			
-14 to -15 ft		J			
-15 to -16 ft		K			
-16 to -17 ft		L			
-17 to -18 ft		M			
-18 to -19 ft		N			
-19 to -20 ft		O			
-20 to -21 ft		P			
-21 to -22 ft		Q			
-22 to -23 ft		ref.			
-23 to -24 ft		ref.			

Areas 12 & 9 N - Intertidal					
Location	1508	1513	1519	1522	
Mudline	-3.3	-1.1	-0.1	-1.5	
Core Target	7.5 ft	7.5 ft	7.5 ft	7.5 ft	
Older Loc.	-	-	1209	1210	
0 to -1 ft			0-45 A		
-1 to -2 ft			B		
-2 to -3 ft			C		
-3 to -4 ft	0-45 A		D		
-4 to -5 ft	ref.		E		
-5 to -6 ft			F		
-6 to -7 ft			G		
-7 to -8 ft			H		
-8 to -9 ft			I		
-9 to -10 ft			J		
-10 to -11 ft			ref.		

Area 9 S - Subtidal					
Location	1538	1544	1549	1554	1558
Mudline	-14.6	-14.6	-14.0	-14.2	-18.1
Core Target	10 ft	10 ft	10 ft	10 ft	-24 ft
Older Loc.	-	1222	-	1227	-
-14 to -15 ft	0-60 A	0-60 A	0-60 A	0-60 A	
-15 to -16 ft	B	B	B	B	
-16 to -17 ft	C	C	C	C	
-17 to -18 ft	D	D	D	D	
-18 to -19 ft	E	E	E	E	
-19 to -20 ft	F	F	F	F	
-20 to -21 ft	G	G	G	G	
-21 to -22 ft	H	H	H	H	
-22 to -23 ft	I	I	I	I	
-23 to -24 ft	J	J	J	J	
-24 to -25 ft	K	K	K	K	
-25 to -26 ft					
-26 to -27 ft					

Areas 8 & 9 - Subtidal FNC & Sideslopes												
Location	1205	1520	1529	1534	1214	1535	1536	1531	1541	1542	1221	1226
Mudline	-19.3	-19.0	-14.7	-18.5	-19.3	-19.5	-12.1	-15.7	-19.0	-19.4	-18.8	-18.7
Core Target	-24 ft	-24 ft	10 ft	-31 ft	-24 ft	-31 ft	10 ft	10 ft	-31 ft	-31 ft	-24 ft	-24 ft
Older Loc.	-	-	1213	-	-	-	1215	-	LDW12	-	-	-
-12 to -13 ft									0-60 A			
-13 to -14 ft									B			
-14 to -15 ft									C			
-15 to -16 ft									D			
-16 to -17 ft									E			
-17 to -18 ft									F			
-18 to -19 ft									G			
-19 to -20 ft	sh. o.d.	H										
-20 to -21 ft	A	B	C	D	E	F	G	H	I	J	K	L
-21 to -22 ft												
-22 to -23 ft												
-23 to -24 ft												
-24 to -25 ft												
-25 to -26 ft												
-26 to -27 ft												
-27 to -28 ft												
-28 to -29 ft												
-29 to -30 ft												
-30 to -31 ft												
-31 to -32 ft												
-32 to -33 ft												
-33 to -34 ft												

Surface (0-10 cm) sampling location

- Exceeds RAL
- Does not exceed RAL

Intertidal (0-45 cm) core location

- Exceeds RAL
- Does not exceed RAL

Subtidal (0-60 cm) core location

- Exceeds RAL
- Does not exceed RAL

Other sampling locations

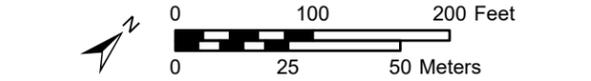
- ∇ Vertical extent (non-RAL interval)
- Surface (0-10 cm), archive
- ∇ Vertical extent (non-RAL interval) archive
- ∇ Vertical extent (non-RAL interval) not collected because of core refusal
- Shoaling core
- Core without appropriate RAL interval
- Sample above MHHW not included in the interpolation dataset
- Upland soil sample

1 RAL exceedance area boundary

- Combined surface and subsurface sediment PCB indicator kriging RAL exceedance area
- Additional Thiessen polygon RAL exceedance area for other COCs
- Utility corridor
- Federal Navigation Channel authorized depth boundary

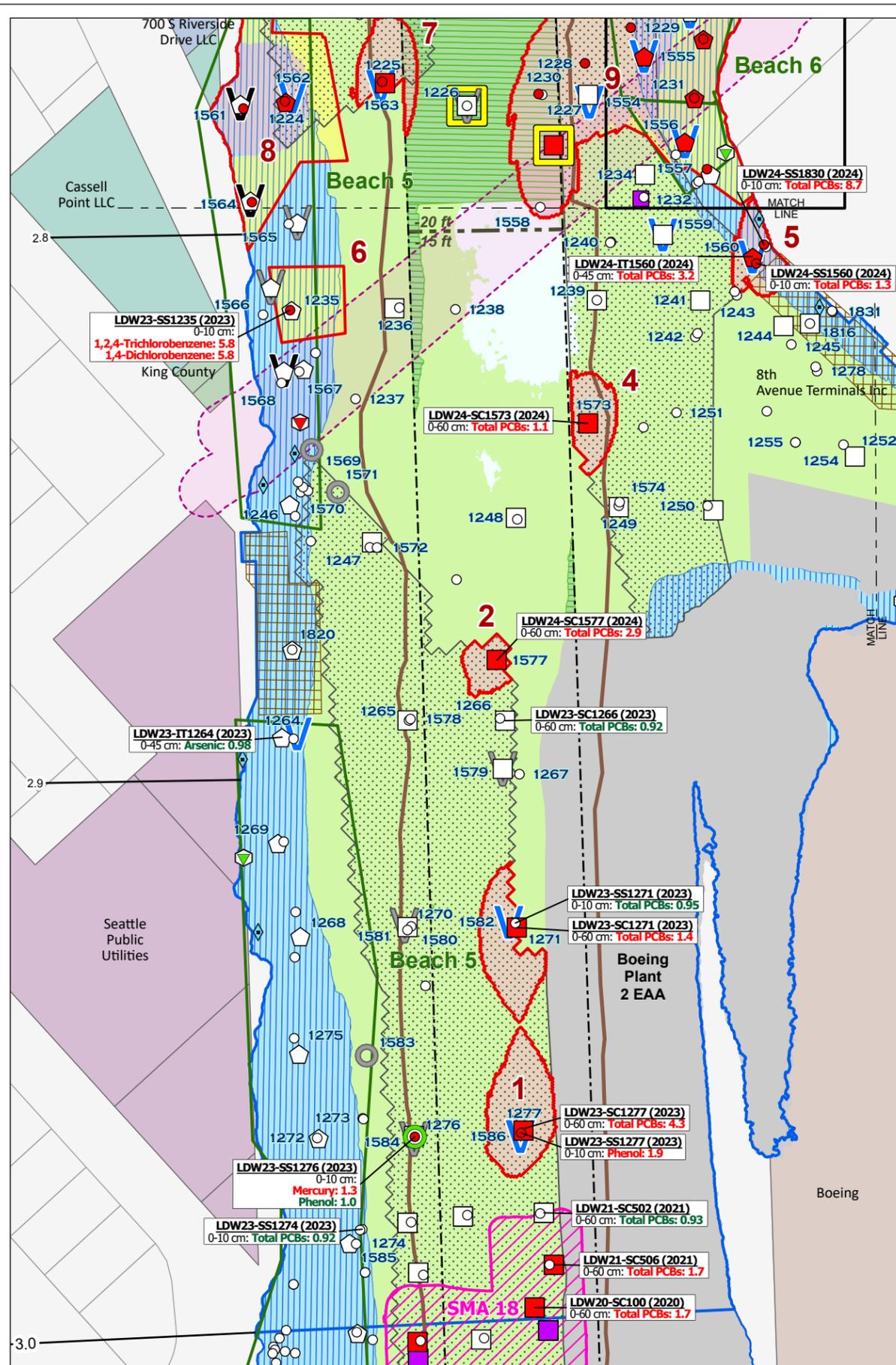
Legend for Vertical Extent Cores

- Area No. -5.6 - actual mudline elevation (ft MLLW)
- 0-60 - RAL interval(s); red if > RAL, green if < RAL (PCBs unless noted)
- bold outline: RAL interval(s) of non-Phase II core collected within 30 ft; red if > RAL, green if < RAL (PCBs unless noted)
- A - sample below RAL interval (purple if > surface sediment RAL; green if < surface sediment RAL)
- B - light yellow indicates samples that were not analyzed
- C - hashing indicates native material
- D - asterisk indicates PCB EF ≥0.9 and ≤1.0
- Abbreviations: ref. indicates refusal at or above target depth, sh. indicates shoaling material, o.d. indicates overredge, est. indicates estimated mudline, and geo indicates geological break.
- Light grey shading indicates FNC authorized depth.
- Alternating light blue and white backgrounds indicate transects.
- Vertical extent core intervals B and deeper are 30 cm in length. PDI shoaling cores identified the intervals alphabetically (i.e., B, C, or D depending on the number of shoaling intervals).



Map 3-1h. Design dataset with the results of PCB indicator kriging and Thiessen polygons for other COCs, RM 2.6 to RM 2.8

PRE-DESIGN INVESTIGATION DATA EVALUATION REPORT FOR THE LDW - MIDDLE REACH SEPTEMBER 30, 2025



Areas 6 & 8 S			
Location	1565	1566	1568
Mudline	1.3	2.8	nd
Core Target	7.5 ft	7.5 ft	7.5 ft
Older Loc.	-	1235	-
3 to 2 ft		0-45 A	0-45 A
2 to 1 ft	0-45 A	B geo C	ref.
1 to 0 ft	B	D	
0 to -1 ft	geo C	E	
-1 to -2 ft	D	ref.	
-2 to -3 ft	E		
-3 to -4 ft	F		
-4 to -5 ft	G		
-5 to -6 ft			
-6 to -7 ft			

Area 5	
Location	1559 1560
Mudline	-11.5 -3.9
Core Target	10 ft 7.5 ft
Older Loc.	- -
-4 to -5 ft	0-45 A
-5 to -6 ft	B
-6 to -7 ft	C
-7 to -8 ft	geo D
-8 to -9 ft	E
-9 to -10 ft	ref.
-10 to -11 ft	
-11 to -12 ft	0-60 A*
-12 to -13 ft	B
-13 to -14 ft	C
-14 to -15 ft	D
-15 to -16 ft	E
-16 to -17 ft	F
-17 to -18 ft	geo G
-18 to -19 ft	H
-19 to -20 ft	I
-20 to -21 ft	J
-21 to -22 ft	K
-22 to -23 ft	

Areas 1 & 2 - FNC and Sideslopes					
Location	1579	1581	1582	1584	1586
Mudline	-18.1	-14.5	-17.4	-14.5	-18.2
Core Target	-26 ft	10 ft	-26 ft	10 ft	-26 ft
Older Loc.	-	1270	1271	1276	1277
-14 to -15 ft		0-60 A		0-60 A	
-15 to -16 ft		B		B	
-16 to -17 ft		C		C	
-17 to -18 ft	0-60 A	D	0-60 A	D	0-60 A
-18 to -19 ft	B	E	B	E	B
-19 to -20 ft	C	F	C	F	C
-20 to -21 ft	D	G	D	G	D
-21 to -22 ft	E	H	E	H	E
-22 to -23 ft	F	I	F	I	F
-23 to -24 ft	G	J	G	J	G
-24 to -25 ft	H	K	H	K	H
-25 to -26 ft	I	L	I	L	I
-26 to -27 ft					
-27 to -28 ft					

Area 5	
Location	1559 1560
Mudline	-11.5 -3.9
Core Target	10 ft 7.5 ft
Older Loc.	- -
-4 to -5 ft	0-45 A
-5 to -6 ft	B
-6 to -7 ft	C
-7 to -8 ft	geo D
-8 to -9 ft	E
-9 to -10 ft	ref.
-10 to -11 ft	
-11 to -12 ft	0-60 A*
-12 to -13 ft	B
-13 to -14 ft	C
-14 to -15 ft	D
-15 to -16 ft	E
-16 to -17 ft	F
-17 to -18 ft	geo G
-18 to -19 ft	H
-19 to -20 ft	I
-20 to -21 ft	J
-21 to -22 ft	K
-22 to -23 ft	

Surface (0-10 cm) sampling location

- Exceeds RAL
- Does not exceed RAL

Intertidal (0-45 cm) core location

- Exceeds RAL
- Does not exceed RAL

Subtidal (0-60 cm) core location

- Exceeds RAL
- Does not exceed RAL

Other sampling locations

- ∇ Vertical extent (non-RAL interval)
- Surface (0-10 cm), archive
- ∇ Vertical extent (non-RAL interval) archive
- ∇ Vertical extent (non-RAL interval) not collected because of core refusal
- Surface (0-10cm) bioassay passed
- Shoaling core
- Core without appropriate RAL interval
- Upland soil sample
- 1 RAL exceedance area boundary
- Combined surface and subsurface sediment PCB indicator kriging RAL exceedance area
- Additional Thiessen polygon RAL exceedance area for other COCs
- Utility corridor
- Federal Navigation Channel authorized depth boundary

Legend for Vertical Extent Cores

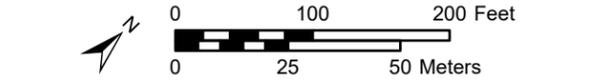
- Area No. -5.6 actual mudline elevation (ft MLLW)
- RAL interval(s); red if > RAL, green if < RAL (PCBs unless noted)
- 0-60 bold outline: RAL interval(s) of non-Phase II core collected within 30 ft; red if > RAL, green if < RAL (PCBs unless noted)
- A sample below RAL interval (purple if > surface sediment RAL; green if < surface sediment RAL)
- B light yellow indicates samples that were not analyzed
- C hashing indicates native material
- D asterisk indicates PCB EF ≥ 0.9 and ≤ 1.0

Abbreviations: ref. indicates refusal at or above target depth, sh. indicates shoaling material, o.d. indicates over dredge, est. indicates estimated mudline, and geo indicates geological break.

Light grey shading indicates FNC authorized depth.

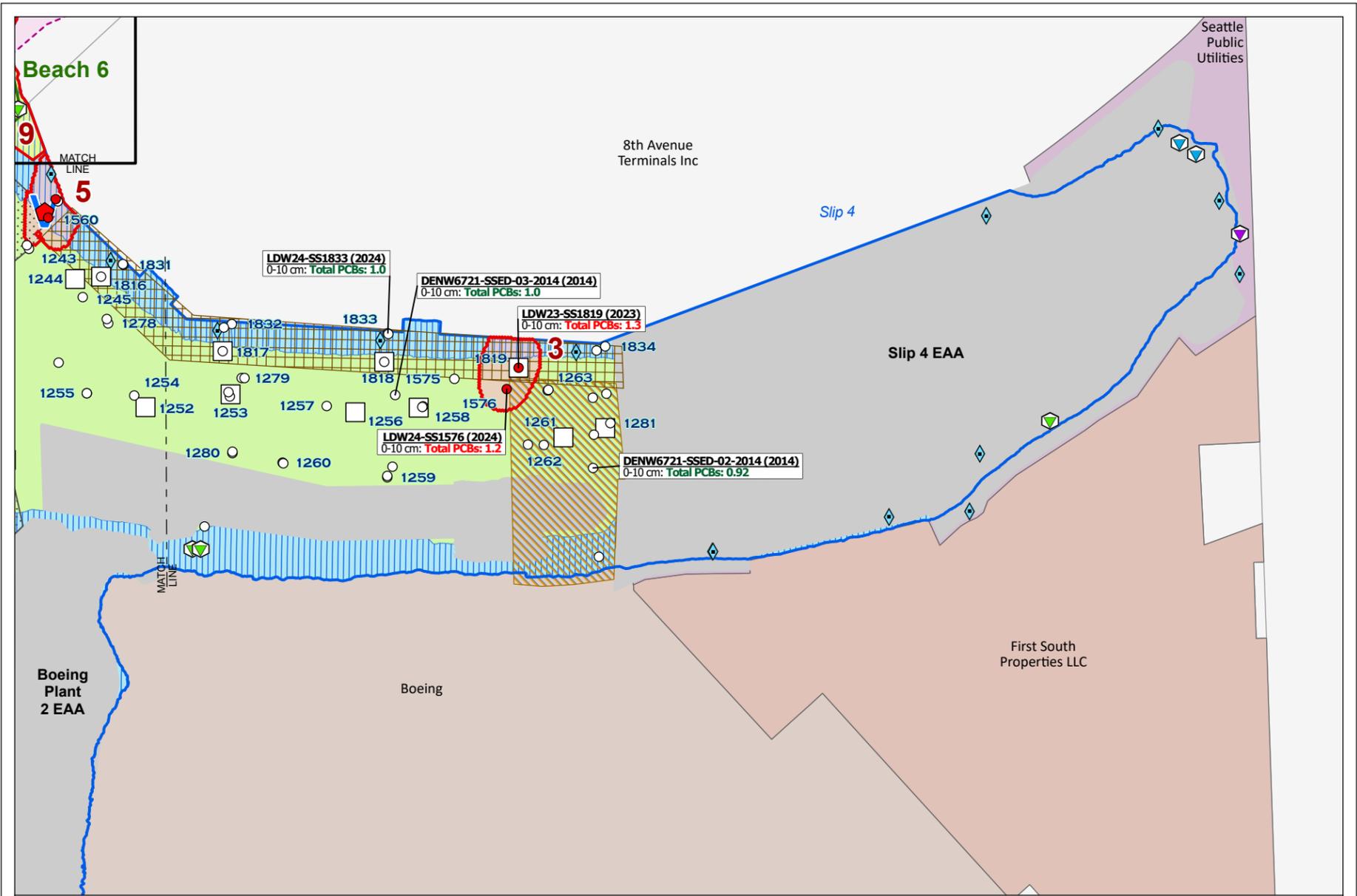
Alternating light blue and white backgrounds indicate transects.

Vertical extent core intervals B and deeper are 30 cm in length. PDI shoaling cores identified the intervals alphabetically (i.e., B, C, or D depending on the number of shoaling intervals).



Map 3-1i. Design dataset with the results of PCB indicator kriging and Thiessen polygons for other COCs, RM 2.8 to RM 3.0

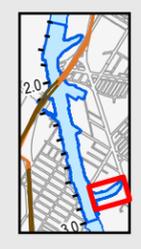
PRE-DESIGN INVESTIGATION DATA EVALUATION REPORT FOR THE LDW - MIDDLE REACH SEPTEMBER 30, 2025



- Surface (0-10 cm) sampling location**
- Exceeds RAL
 - Does not exceed RAL
- Intertidal (0-45 cm) core location**
- ◆ Exceeds RAL
- Subtidal (0-60 cm) core location**
- Does not exceed RAL

- Other sampling locations**
- ∇ Vertical extent (non-RAL interval)
 - Core without appropriate RAL interval

- 1 RAL exceedance area boundary
- Combined surface and subsurface sediment PCB indicator kriging RAL exceedance area
- Additional Thiessen polygon RAL exceedance area for other COCs



Legend for Vertical Extent Cores

Area	Loc No.	Description
-5.6	-	actual mudline elevation (ft MLLW)
B, A	-	RAL interval(s); red if > RAL, green if < RAL (PCBs unless noted)
0-60	-	bold outline: RAL interval(s) of non-Phase II core collected within 30 ft; red if > RAL, green if < RAL (PCBs unless noted)
B	-	sample below RAL interval (purple if > surface sediment RAL; green if < surface sediment RAL)
D	-	light yellow indicates samples that were not analyzed
E	-	hashing indicates native material
F	-	asterisk indicates PCB EF ≥0.9 and ≤1.0

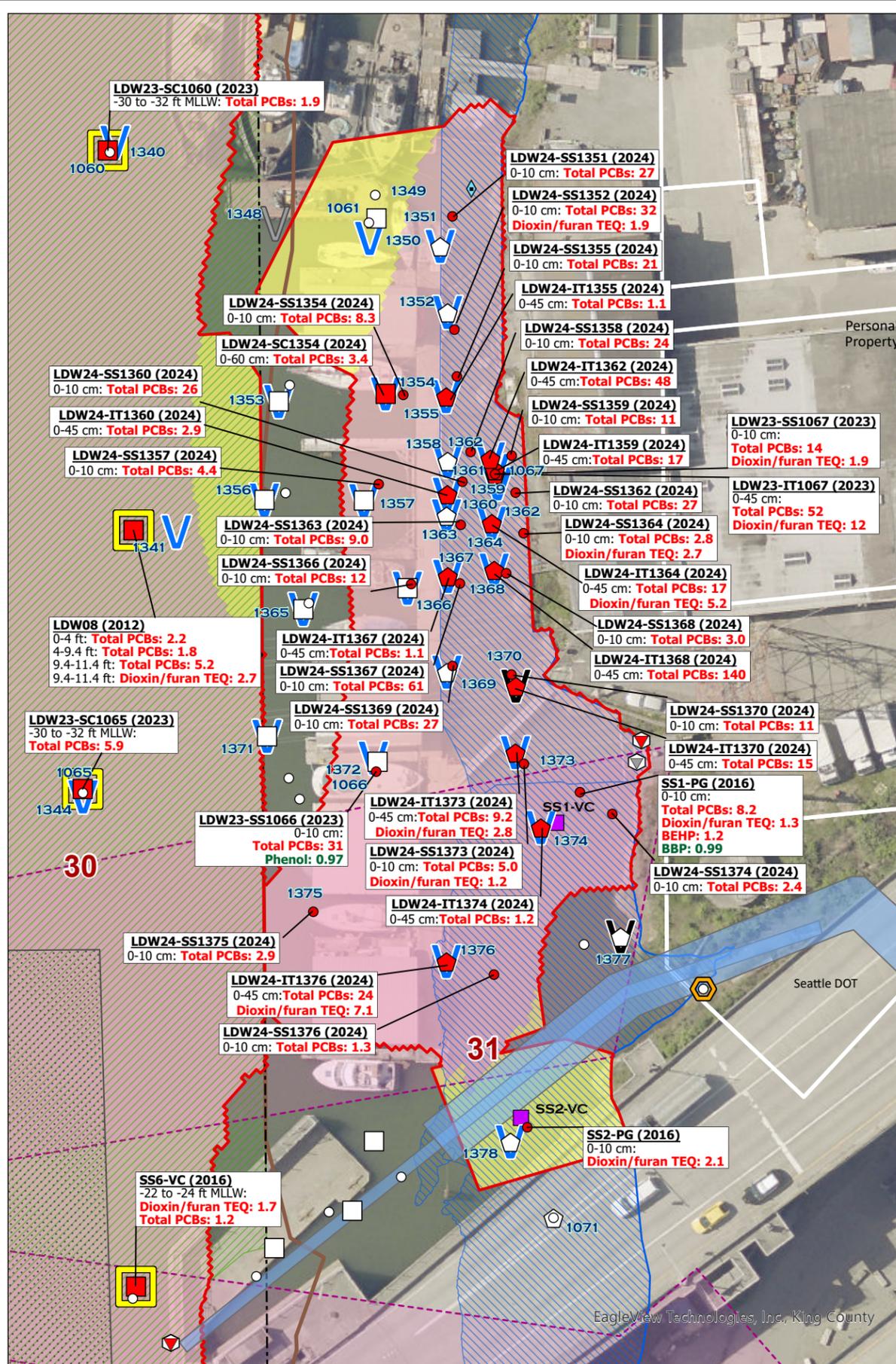
Abbreviations: ref. indicates refusal at or above target depth, sh. indicates shoaling material, o.d. indicates overdredge, est. indicates estimated mudline, and geo indicates geological break.

Light grey shading indicates FNC authorized depth.

Alternating light blue and white backgrounds indicate transects.

Vertical extent core intervals B and deeper are 30 cm in length. PDI shoaling cores identified the intervals alphabetically (i.e., B, C, or D depending on the number of shoaling intervals).





Area 30 - Sideslopes			
Location	1340	1341	1344
Mudline	-20.5	-16.4	-22.5
Core Target	-41 ft	-41 ft	-41 ft
Older Loc.	1060	LDW08	1065
-16 to -17 ft		sh. A	
-17 to -18 ft			
-18 to -19 ft			
-19 to -20 ft			
-20 to -21 ft	sh. A		
-21 to -22 ft		sh. B	
-22 to -23 ft			sh. A
-23 to -24 ft			
-24 to -25 ft	sh. B		
-25 to -26 ft		sh. C	
-26 to -27 ft			sh. B
-27 to -28 ft	sh. C		
-28 to -29 ft			
-29 to -30 ft			
-30 to -31 ft	o.d.	o.d.	o.d.
-31 to -32 ft	D	D	C
-32 to -33 ft	E	E D/F PCBs	D D/F PCBs
-33 to -34 ft	F	F D/F PCBs	E D/F PCBs
-34 to -35 ft	G	G	F
-35 to -36 ft	H	H	G D/F PCBs
-36 to -37 ft	I	I	H
-37 to -38 ft	J	J D/F PCBs	I
-38 to -39 ft	K	K	J
-39 to -40 ft	L	ref.	K
-40 to -41 ft			L
-41 to -42 ft			M

Areas 30 & 31 - Subtidal										
Location	1350	1353	1354	1356	1357	1365	1366	1371	1372	
Mudline	-9.1	-12.0	-7.7	-12.7	-8.9	-11.0	-5.6	-11.6	-8.0	
Core Target	15 ft	20 ft	15 ft	20 ft	15 ft	20 ft	15 ft	20 ft	15 ft	
Older Loc.	1061								1066	
-5 to -6 ft										
-6 to -7 ft										
-7 to -8 ft										
-8 to -9 ft										
-9 to -10 ft	0-60 A					0-60 A				
-10 to -11 ft										
-11 to -12 ft	B									
-12 to -13 ft	C	0-60 A								
-13 to -14 ft	D	A								
-14 to -15 ft	E	B	geo F							
-15 to -16 ft	F	C	G							
-16 to -17 ft	G	D	H							
-17 to -18 ft	H	E	I							
-18 to -19 ft	ref.	F	J							
-19 to -20 ft		G	K							
-20 to -21 ft		H	L							
-21 to -22 ft		I	M							
-22 to -23 ft		J	N							
-23 to -24 ft		K	O							
-24 to -25 ft		L	P							
-25 to -26 ft		M	Q							
-26 to -27 ft		N								
-27 to -28 ft		O								
-28 to -29 ft		P								
-29 to -30 ft		Q								
-30 to -31 ft		R								
-31 to -32 ft		S								

Area 31 - Intertidal																			
Location	1351	1352	1355	1358	1359	1360	1362	1361	1363	1364	1367	1368	1369	1370	1373	1374	1376	1377	1378
Mudline	-4.0	-4.0	-3.9	-4.1	nd	-4.6	nd	nd	-3.9	nd	-3.9	nd	-3.4	nd	-2.3	-0.6	-3.0	nd	-0.6
Core Target	7.5 ft																		
Older Loc.								1067											
3 to 2 ft																			
2 to 1 ft																			
1 to 0 ft																			
0 to -1 ft																			
-1 to -2 ft																			
-2 to -3 ft																			
-3 to -4 ft																			
-4 to -5 ft	0-45 A	0-45 A	0-45 A	0-45 A															
-5 to -6 ft	B	B	B	B		B		B		B		B		B		B		B	
-6 to -7 ft	C	C	C	C		C		C		C		C		C		C		C	
-7 to -8 ft	D	D	D	D		D		D		D		D		D		D		D	
-8 to -9 ft	E	E	E	E		E		E		E		E		E		E		E	
-9 to -10 ft	F	F	ref.																
-10 to -11 ft	ref.	ref.																	

Note: Location 1373 intervals C, D, and E were unable to be analyzed because they were majority gravel.

Surface (0-10 cm) sampling location

- Exceeds RAL
- Does not exceed RAL

Intertidal (0-45 cm) core location

- ◆ Exceeds RAL
- ◇ Does not exceed RAL

Subtidal (0-60 cm) core location

- Exceeds RAL
- Does not exceed RAL

Other sampling locations

- ∇ Vertical extent (non-RAL interval)
- ∇ Vertical extent (non-RAL interval) archive
- ∇ Vertical extent (non-RAL interval) not collected because of core refusal
- Shoaling core
- Core without appropriate RAL interval
- Sample above MHHW not included in the interpolation dataset
- 1 RAL exceedance area boundary
- Combined surface and subsurface sediment PCB indicator kriging RAL exceedance area
- Additional Thiessen polygon RAL exceedance area for other COCs
- Georgetown WWTS diffuser pipe
- Utility corridor

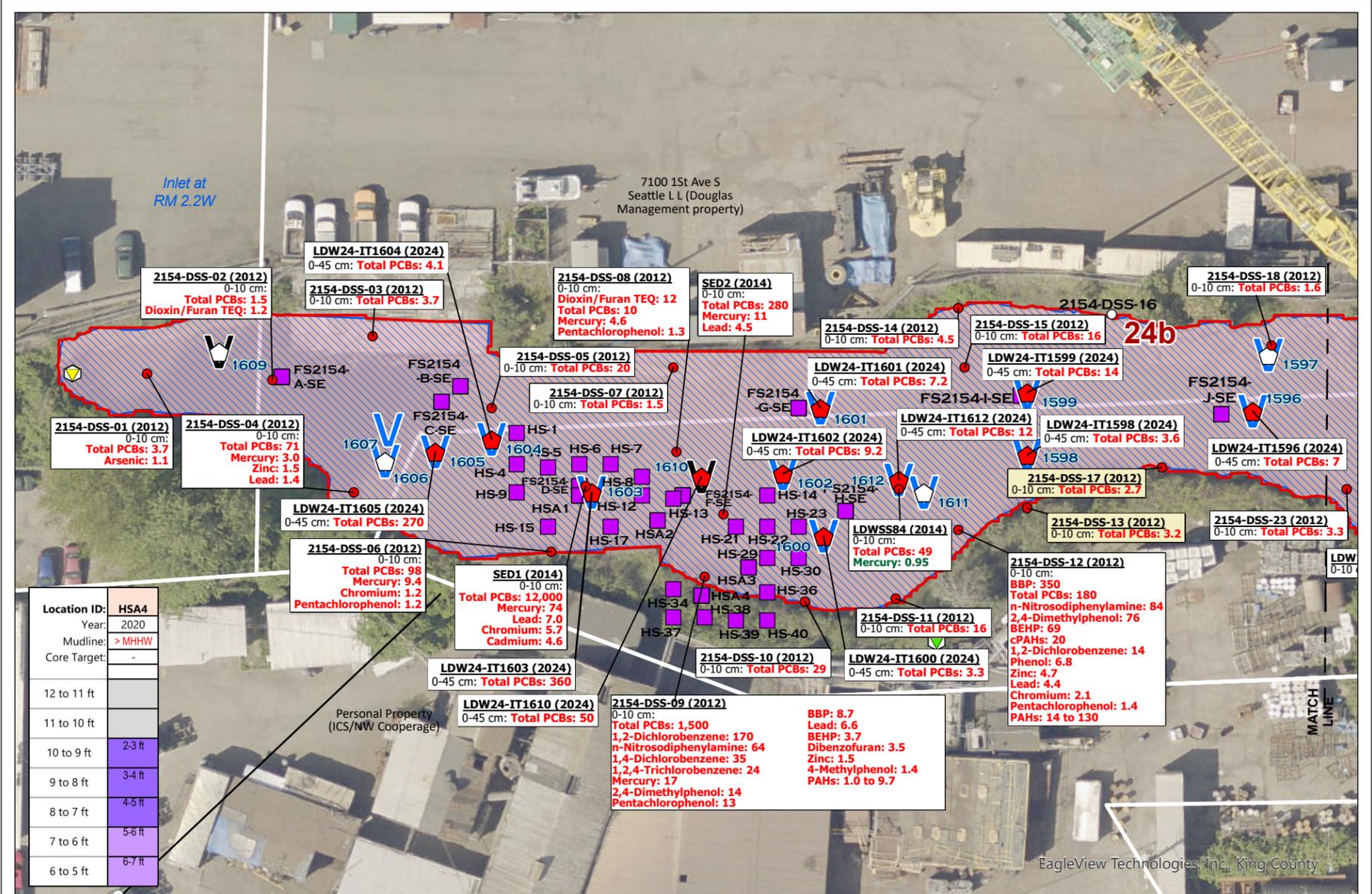
Legend for Vertical Extent Cores

- Area: actual mudline elevation (ft MLLW)
- Core intervals: RAL interval(s); red if > RAL, green if < RAL (PCBs unless noted)
- bold outline: RAL interval(s) of non-Phase II core collected within 30 ft; red if > RAL, green if < RAL (PCBs unless noted)
- sample below RAL interval (purple if > surface sediment RAL; green if < surface sediment RAL)
- light yellow indicates samples that were not analyzed
- hashing indicates native material
- asterisk indicates PCB EF ≥ 0.9 and ≤ 1.0
- Abbreviations: ref. indicates refusal at or above target depth, sh. indicates shoaling material, o.d. indicates overdepth, est. indicates estimated mudline, and geo indicates geological break.
- Light grey shading indicates FNC authorized depth.
- Alternating light blue and white backgrounds indicate transects.
- Vertical extent core intervals B and deeper are 30 cm in length. PDI shoaling cores identified the intervals alphabetically (i.e., B, C, or D depending on the number of shoaling intervals).



Map 3-1k. Design dataset with the results of PCB indicator kriging and Thiessen polygons for other COCs, Duwamish Marine Center

PRE-DESIGN INVESTIGATION DATA EVALUATION REPORT FOR THE LDW - MIDDLE REACH SEPTEMBER 30, 2025



Location ID:	HSA4
Year:	2020
Mudline:	> MHHW
Core Target:	-
12 to 11 ft	
11 to 10 ft	
10 to 9 ft	2-3 ft
9 to 8 ft	3-4 ft
8 to 7 ft	4-5 ft
7 to 6 ft	5-6 ft
6 to 5 ft	6-7 ft

Area 24 - Inner Inlet		1609	FS2154-A-SE	1606	1607	FS2154-C-SE	FS2154-B-SE	1605	1603	HSA1	FS2154-D-SE	1604	1610	HSA2	FS2154-F-SE	1602	HSA3	1600	FS2154-H-SE	FS2154-G-SE	1601	1612	1611	1598	FS2154-I-SE	1599	1596	FS2154-J-SE	1597		
Location																															
Mudline		5.6	4.0	4.3	4.1	4.2	5.2	4.3	4.0	est. +5	3.7	4.1	3.7	est. 6	2.9	3.4	est. 7	3.1	2.4	5.9	5.6	3.3	6.4	6.0	1.7	2.5	1.9	2.5	4.4		
Core Target		-3 ft	-	-3 ft	-3 ft	-	-	-3 ft	-3 ft	-	-	-3 ft	-3 ft	-	-	-3 ft	-	-5 ft	-	-	-5 ft	-3 ft	-3 ft	-5 ft	-	-5 ft	-	-5 ft	-5 ft		
7 to 6 ft																															
6 to 5 ft		0-45 A		0-45 A		0.5-1.7ft		0-45 A	0-45 A	1-2 ft		0-45 A	0-45 A	2-3 ft		0-45 A	2-3 ft				0-45 A		0-45 A	0-45 A					0-45 A		
5 to 4 ft		ref.		A	0-45 A			A	A	2-3 ft		A	A	3-4 ft		A	3-3.5 ft				B		B	ref.					B		
4 to 3 ft			0.9-1.6ft	B				B	B Hg, PCBs	3-4 ft		B	ref.	4-5 ft		B		0-45 A		2.5-3.4 ft	C Hg, PCBs		C					C			
3 to 2 ft				C		2-2.5 ft	2.8-3.8ft	C	C Hg, PCBs	4-5 ft		C	ref.	1-2.4 ft		C	5-6 ft				D Hg, PCBs		D					D			
2 to 1 ft				D		4-4.8 ft	5-6 ft	D	ref.	ref.		D		ref.		D					E Hg, PCBs		E					E			
1 to 0 ft			3.3-4.5ft	E		4-4.8 ft	6.1-7.1ft	E				E				E					F Hg, PCBs		F					F			
0 to -1 ft			4.6-5.5ft	E				F				F				F					G		geo					G			
-1 to -2 ft			5.8-6.8ft	F				G				G				G							geo						H		
-2 to -3 ft			6.8-7.6ft	F				H				H				H													I		
-3 to -4 ft				ref.				ref.				ref.				ref.													J		
-4 to -5 ft																														K	
-5 to -6 ft																														L	
-6 to -7 ft																														M	
-7 to -8 ft																														N	
-8 to -9 ft																														O	

- Surface (0-10 cm) sampling location**
- Exceeds RAL
 - Does not exceed RAL
- Intertidal (0-45 cm) core location**
- Exceeds RAL
 - Does not exceed RAL
- Subtidal (0-60 cm) core location**
- Exceeds RAL
 - Does not exceed RAL

- Other sampling locations**
- ∇ Vertical extent (non-RAL interval)
 - ∇ Vertical extent (non-RAL interval) not collected because of core refusal
 - Core without appropriate RAL interval
 - 1 RAL exceedance area boundary
 - Combined surface and subsurface sediment PCB indicator kriging RAL exceedance area
 - Additional Thiessen polygon RAL exceedance area for other COCs



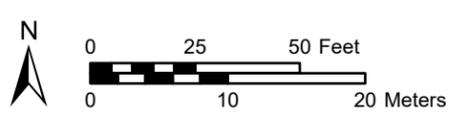
Legend for Vertical Extent Cores

Area	Loc No.	Description
	3.5	actual mudline elevation (ft MLLW)
	0-60 A	RAL interval(s); red if > RAL, green if < RAL (PCBs unless noted)
	B	sample below RAL interval (green if > surface sediment RAL); asterisk indicates PCB EF ≥ 0.9 and ≤ 1.0
	C	sample below RAL interval (light purple if maximum EF < 10 relative to surface sediment RAL) (for PCBs unless noted)
	D	sample below RAL interval (purple if maximum EF ≥ 10 relative to surface sediment RAL) (for PCBs unless noted)
	E	sample below RAL interval (dark purple if maximum EF ≥ 100 relative to surface sediment RAL) (for PCBs unless noted)
	F	light yellow indicates samples that were not analyzed

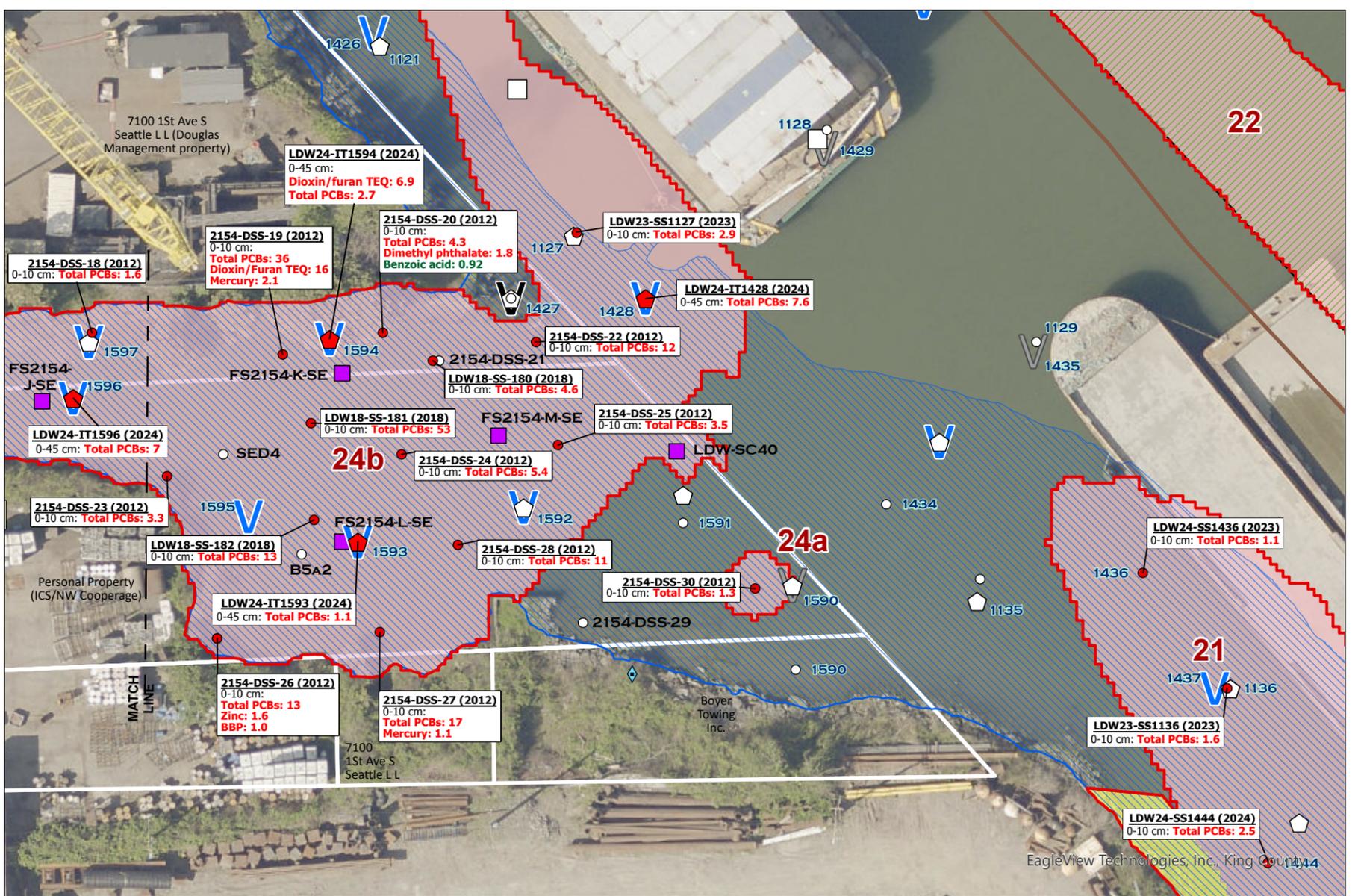
- Abbreviations: ref. indicates refusal at or above target depth, sh. indicates shoaling material, o.d. indicates overredge, est. indicates estimated mudline, and geo indicates geological break.

- Alternating light blue and white backgrounds indicate transects.

- PDI vertical extent core intervals B and deeper are 30 cm in length.



Prepared by ClaireC_9/28/2025: W:\Projects\Duwamish AOC\GIS\Maps and Analyses\Phase 2\Data Evaluation\Report\DER.aprx\Map 3-1 17652 Phase II design data - Inner Inlet



Area 24 - Outer Inlet

Location	1595	1593	FS2154-L-SE	FS2154-K-SE	1594	1592	FS2154-M-SE	1427	1590	LDW-SC40	1428	1434
Mudline	3.0	1.9	2.6	-0.6	0.6	0.7	-1.7	nd	3.8	-0.8	-2.9	-2.4
Core Target	-5 ft	-6 ft	-	-	-6 ft	-5 ft	-	7.5 ft	-5 ft	-	7.5 ft	7.5 ft
			Transect 6			Transect 7						
6 to 5 ft								>+6 ft				
5 to 4 ft								0-45 A				
4 to 3 ft								ref.				
3 to 2 ft	0-45 A								0-45 A			
2 to 1 ft	B	0-45 A							B			
1 to 0 ft	geo C	B	1.4-2.5 ft						C			
0 to -1 ft	D	C	2.8-4.3 ft		0-45 A D/F, PCBs				D			
-1 to -2 ft	E	D			B			ref.	ref.			
-2 to -3 ft	F		4.3-5.9 ft	1.5-2.8	C			0-1.2 ft	0-1.3 ft			
-3 to -4 ft	ref.				D			1.2-2.2 ft	1.3-2 ft			
-4 to -5 ft					E			2.2-3.4 ft	2-4 ft	0-45 A		
-5 to -6 ft					ref.					B		
-6 to -7 ft										C Hg, PCBs		
-7 to -8 ft										D		
-8 to -9 ft										E		
-9 to -10 ft										F		
-10 to -11 ft										geo G		

Surface (0-10 cm) sampling location

- Exceeds RAL
- Does not exceed RAL
- Intertidal (0-45 cm) core location**
- ◆ Exceeds RAL
- ◇ Does not exceed RAL
- Subtidal (0-60 cm) core location**
- Exceeds RAL
- Does not exceed RAL

Other sampling locations

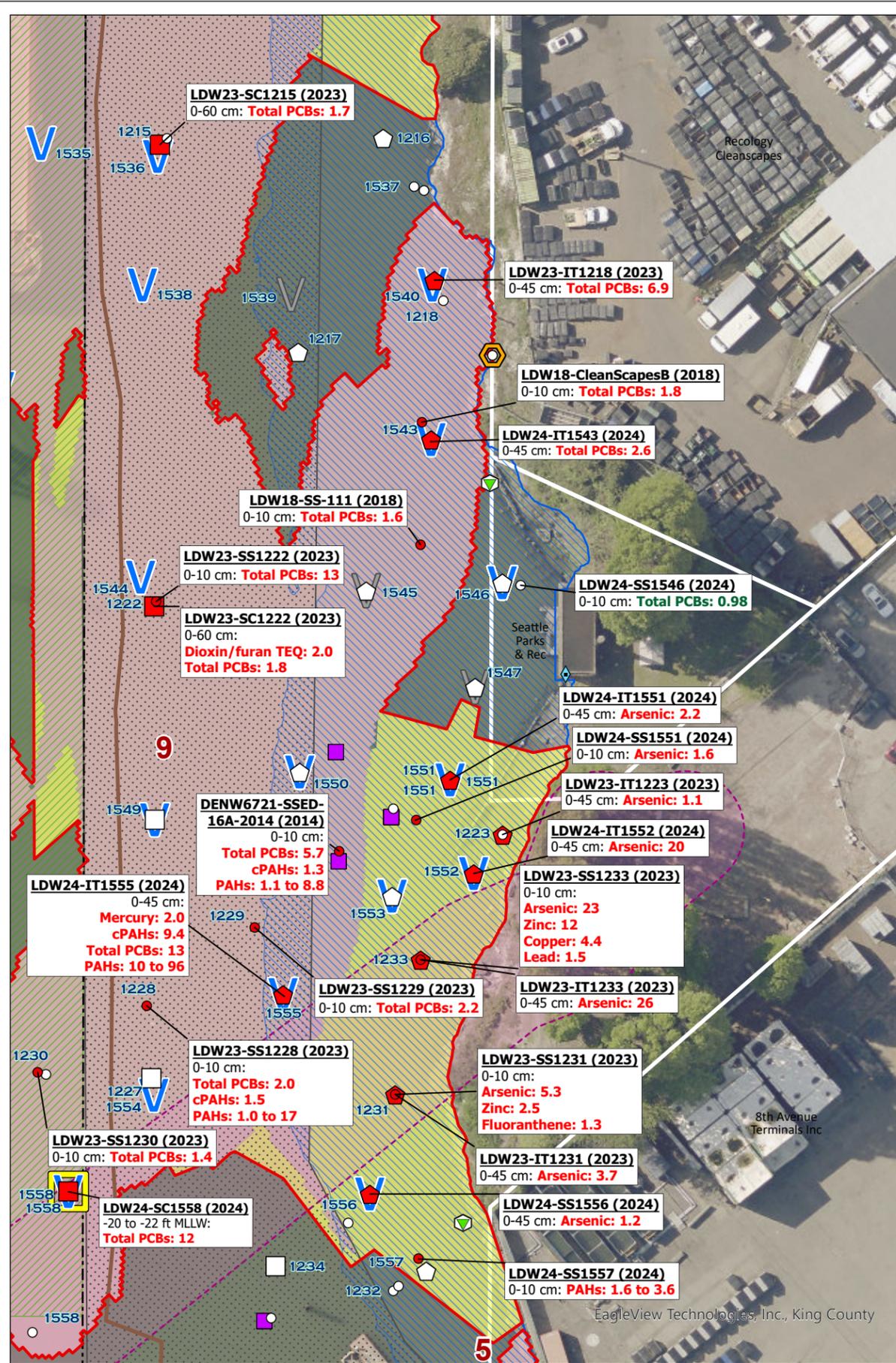
- ∇ Vertical extent (non-RAL interval)
- ∇ Vertical extent (non-RAL interval) archive
- ∇ Vertical extent (non-RAL interval) not collected because of core refusal
- Core without appropriate RAL interval
- 1 RAL exceedance area boundary
- Combined surface and subsurface sediment PCB indicator kriging RAL exceedance area
- Additional Thiessen polygon RAL exceedance area for other COCs



Legend for Vertical Extent Cores

- | Area | Loc No. | Description |
|--------|---------|--|
| 3.5 | | actual mudline elevation (ft MLLW) |
| 0-80 A | | RAL interval(s); red if > RAL, green if < RAL (PCBs unless noted) |
| B | | sample below RAL interval (green if > surface sediment RAL); asterisk indicates PCB EF ≥ 0.9 and ≤ 1.0 |
| C | | sample below RAL interval (light purple if maximum EF < 10 relative to surface sediment RAL) (for PCBs unless noted) |
| D | | sample below RAL interval (purple if maximum EF ≥ 10 relative to surface sediment RAL) (for PCBs unless noted) |
| E | | sample below RAL interval (dark purple if maximum EF ≥ 100 relative to surface sediment RAL) (for PCBs unless noted) |
| F | | light yellow indicates samples that were not analyzed |
- Abbreviations: ref. indicates refusal at or above target depth, sh. indicates shoaling material, o.d. indicates overredge, est. indicates estimated mudline, and geo indicates geological break.
 - Alternating light blue and white backgrounds indicate transects.
 - PDI vertical extent core intervals B and deeper are 30 cm in length.





Area 9 - Subtidal FNC & Sideslopes						Area 9 S - Intertidal														
Location	1535	1536	1538	1544	1549	1554	Location	1539	1540	1543	1545	1546	1547	1550	1551	1553	1552	1555	1556	
Mudline	-19.5	-12.1	-14.6	-14.6	-14.0	-14.2	Mudline	-3.7	1.7	-0.1	-3.9	-0.5	0.5	-3.1	2.5	3.8	6.2	-1.5	-1.7	
Core Target	-31 ft	10 ft	10 ft	10 ft	10 ft	10 ft	Core Target	7.5 ft	7.5 ft	7.5 ft	7.5 ft	15 ft	15 ft	7.5 ft	7.5 ft	7.5 ft	7.5 ft	7.5 ft	7.5 ft	
Older Loc.	-	1215	-	1222	-	1227	Older Loc.	1217	1218	-	-	-	-	-	-	-	-	-	-	-
-12 to -13 ft		0-60 A					6 to 5 ft										0-45 A As only			
-13 to -14 ft							5 to 4 ft										B As only			
-14 to -15 ft			0-60 A	0-60 A		0-60 A	4 to 3 ft										0-45 A			
-15 to -16 ft							3 to 2 ft										B	geo D		
-16 to -17 ft							2 to 1 ft										0-45 A As only			
-17 to -18 ft							1 to 0 ft		0-45 A								geo C	ref.		
-18 to -19 ft							0 to -1 ft													
-19 to -20 ft							-1 to -2 ft													
-20 to -21 ft							-2 to -3 ft													
-21 to -22 ft							-3 to -4 ft													
-22 to -23 ft							-4 to -5 ft													
-23 to -24 ft							-5 to -6 ft													
-24 to -25 ft							-6 to -7 ft													
-25 to -26 ft							-7 to -8 ft													
-26 to -27 ft							-8 to -9 ft													
-27 to -28 ft							-9 to -10 ft													
-28 to -29 ft							-10 to -11 ft													
-29 to -30 ft							-11 to -12 ft													
-30 to -31 ft							-12 to -13 ft													
-31 to -32 ft							-13 to -14 ft													
-32 to -33 ft							-14 to -15 ft													

Surface (0-10 cm) sampling location

- Exceeds RAL
- Does not exceed RAL

Intertidal (0-45 cm) core location

- Exceeds RAL
- Does not exceed RAL

Subtidal (0-60 cm) core location

- Exceeds RAL
- Does not exceed RAL

Other sampling locations

- V Vertical extent (non-RAL interval)
- V Vertical extent (non-RAL interval) archive
- Shoaling core
- Core without appropriate RAL interval
- Sample above MHHW not included in the interpolation dataset
- 1 RAL exceedance area boundary
- Combined surface and subsurface sediment PCB indicator kriging RAL exceedance area
- Additional Thiessen polygon RAL exceedance area for other COCs
- Utility corridor

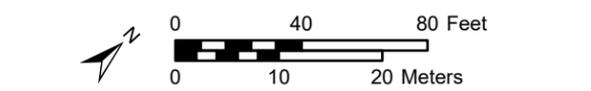
Legend for Vertical Extent Cores

Area

- 5.6 actual mudline elevation (ft MLLW)
- 0-60 RAL interval(s); red if > RAL, green if < RAL (PCBs unless noted)
- 0-60 bold outline: RAL interval(s) of non-Phase II core collected within 30 ft; red if > RAL, green if < RAL (PCBs unless noted)
- B sample below RAL interval (purple if > surface sediment RAL; green if < surface sediment RAL)
- D light yellow indicates samples that were not analyzed
- E hashing indicates native material
- F asterisk indicates PCB EF ≥ 0.9 and ≤ 1.0

Core intervals

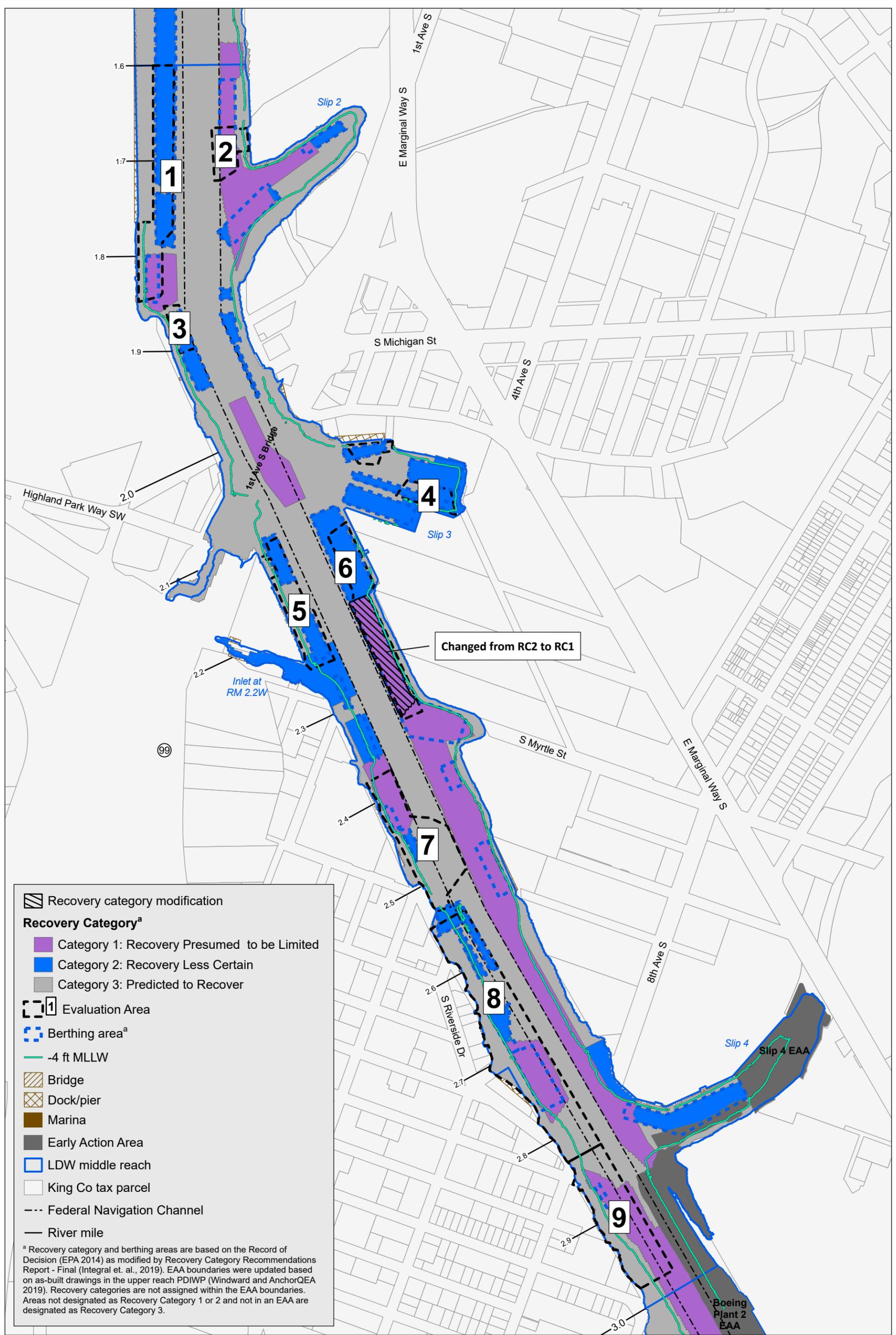
- Abbreviations: ref. indicates refusal at or above target depth, sh. indicates shoaling material, o.d. indicates overredge, est. indicates estimated mudline, and geo indicates geological break.
- Light grey shading indicates FNC authorized depth.
- Alternating light blue and white backgrounds indicate transects.
- Vertical extent core intervals B and deeper are 30 cm in length. PDI shoaling cores identified the intervals alphabetically (i.e., B, C, or D depending on the number of shoaling intervals).



Map 3-1n. Design dataset with the results of PCB indicator kriging and Thiessen polygons for other COCs, Gateway Park

PRE-DESIGN INVESTIGATION DATA EVALUATION REPORT FOR THE LDW - MIDDLE REACH SEPTEMBER 30, 2025

Prepared by ClairC, 9/28/2025; W:\Projects\Duwamish_AOC\GIS\Maps and Analyses\Phase 2\Data Evaluation\Report\DER.aprx\Map 3-2 7448 Recovery category modifications



Recovery category modification

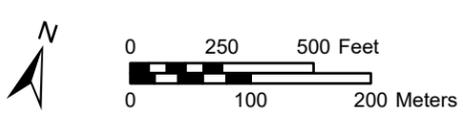
Recovery Category^a

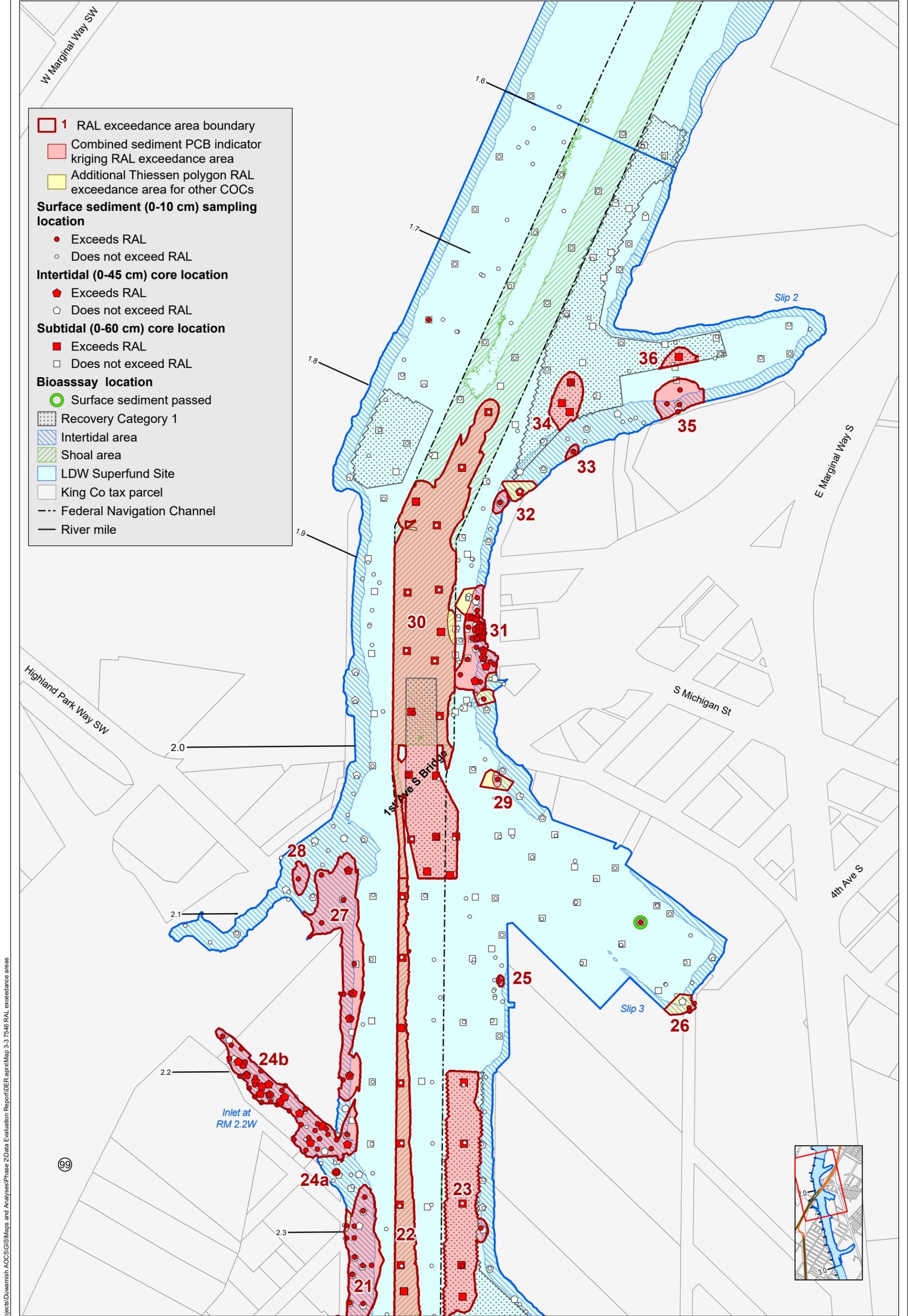
- Category 1: Recovery Presumed to be Limited
- Category 2: Recovery Less Certain
- Category 3: Predicted to Recover

Evaluation Area

- Berthing area^a
- 4 ft MLLW
- Bridge
- Dock/pier
- Marina
- Early Action Area
- LDW middle reach
- King Co tax parcel
- Federal Navigation Channel
- River mile

^a Recovery category and berthing areas are based on the Record of Decision (EPA 2014) as modified by Recovery Category Recommendations Report - Final (Integral et. al., 2019). EAA boundaries were updated based on as-built drawings in the upper reach PDIWP (Windward and AnchorQEA 2019). Recovery categories are not assigned within the EAA boundaries. Areas not designated as Recovery Category 1 or 2 and not in an EAA are designated as Recovery Category 3.

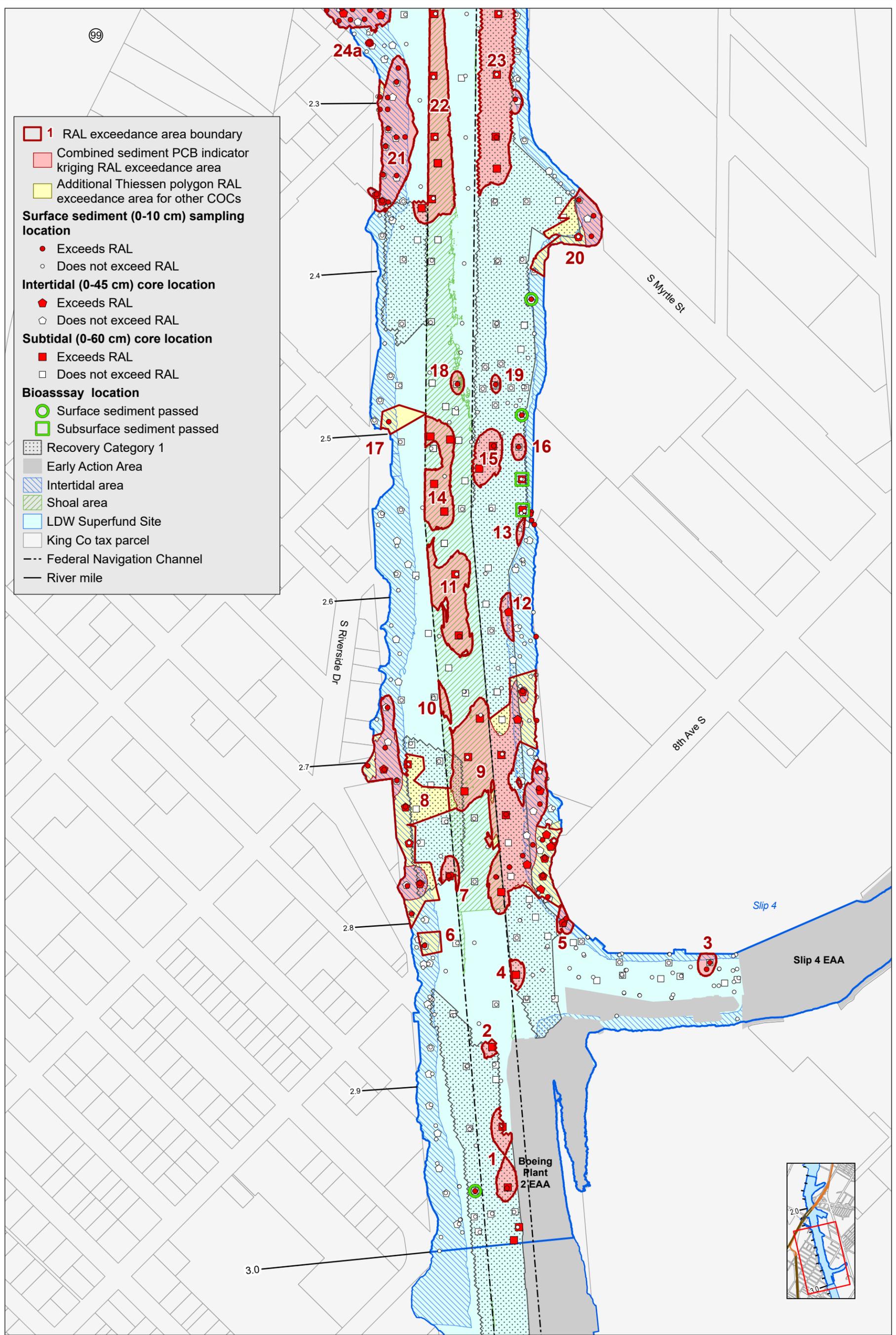




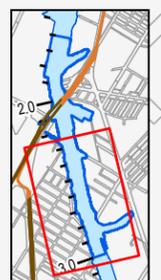
Prepared by ClairC, 9/29/2025. W:\Projects\Duwamish AOC\GIS\Maps and Analyses\Phase 2\Data Evaluation\Report\DER.aprx\Map 3-3 7546 RAL exceedance areas

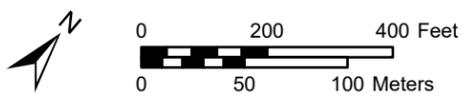
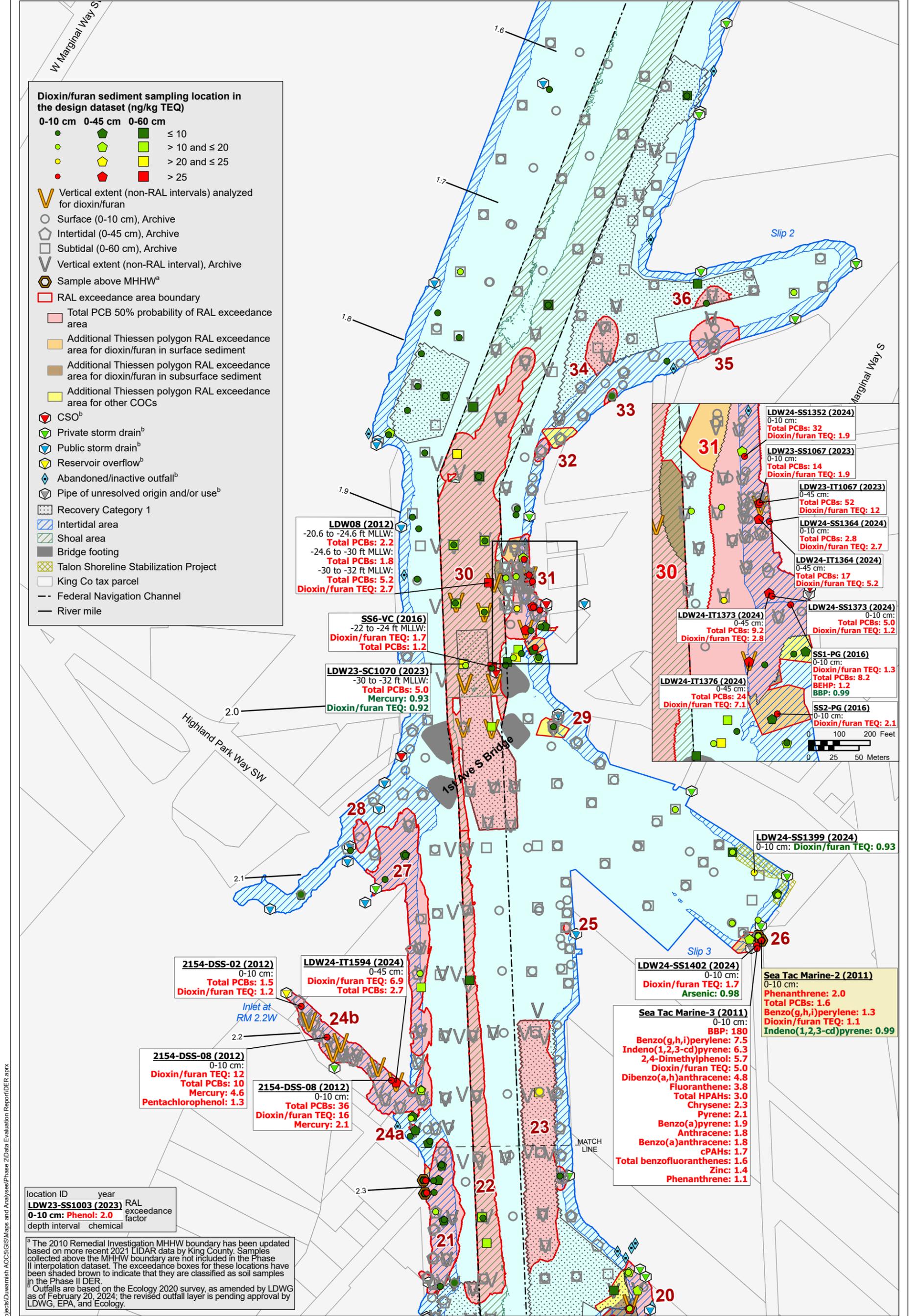


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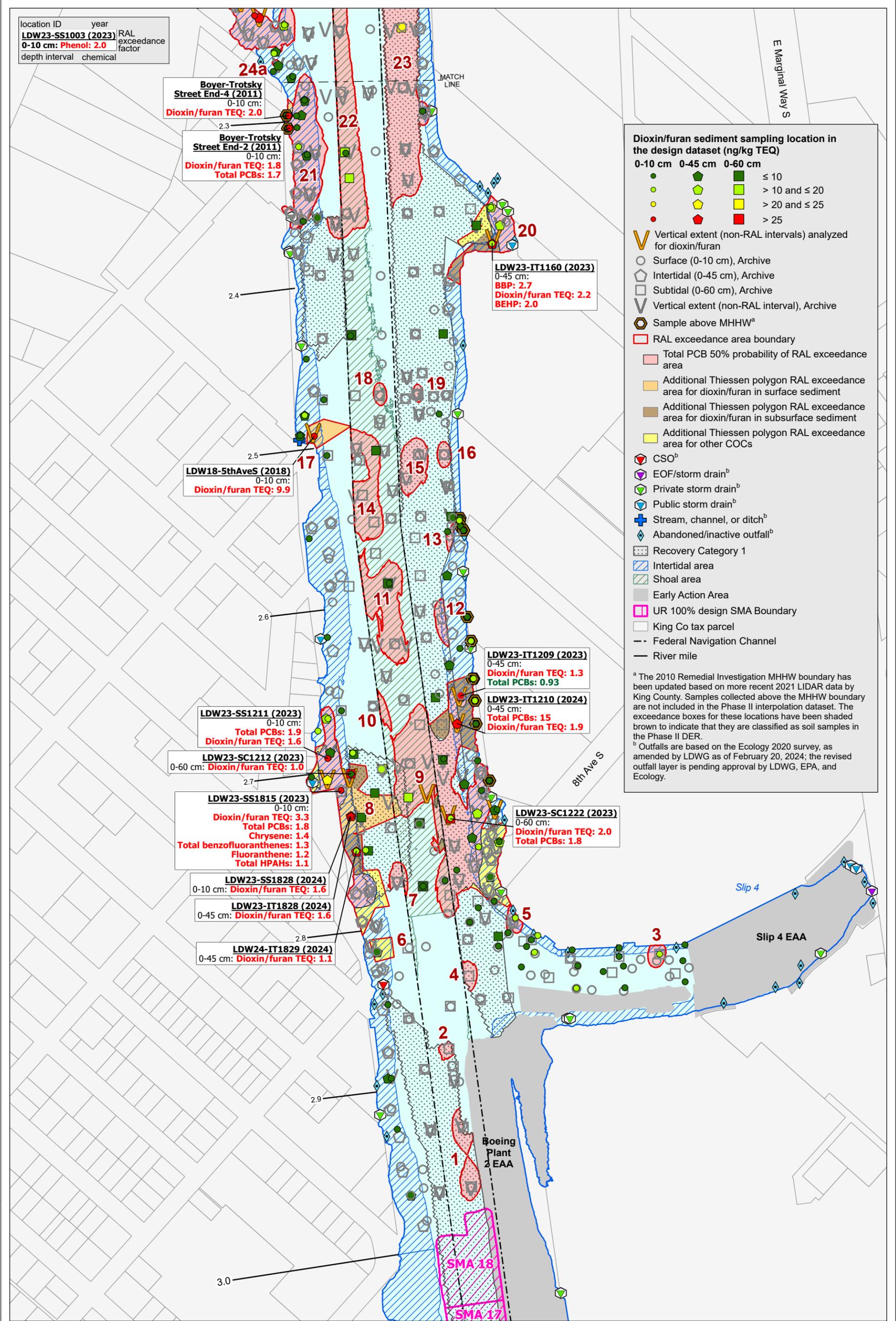


- 1 RAL exceedance area boundary
- Combined sediment PCB indicator kriging RAL exceedance area
- Additional Thiessen polygon RAL exceedance area for other COCs
- Surface sediment (0-10 cm) sampling location**
- Exceeds RAL
- Does not exceed RAL
- Intertidal (0-45 cm) core location**
- ◆ Exceeds RAL
- ◇ Does not exceed RAL
- Subtidal (0-60 cm) core location**
- Exceeds RAL
- Does not exceed RAL
- Bioassay location**
- Surface sediment passed
- Subsurface sediment passed
- Recovery Category 1
- Early Action Area
- Intertidal area
- Shoal area
- LDW Superfund Site
- King Co tax parcel
- Federal Navigation Channel
- River mile





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location ID	year	RAL exceedance factor
LDW23-SS1003	2023	0-10 cm: Phenol: 2.0

Dioxin/furan sediment sampling location in the design dataset (ng/kg TEQ)

0-10 cm	0-45 cm	0-60 cm	
●	◆	■	≤ 10
●	◆	■	> 10 and ≤ 20
●	◆	■	> 20 and ≤ 25
●	◆	■	> 25

- V Vertical extent (non-RAL intervals) analyzed for dioxin/furan
- Surface (0-10 cm), Archive
- ◻ Intertidal (0-45 cm), Archive
- ◻ Subtidal (0-60 cm), Archive
- ∇ Vertical extent (non-RAL interval), Archive
- ⊙ Sample above MHHW^a
- RAL exceedance area boundary
- Total PCB 50% probability of RAL exceedance area
- Additional Thiessen polygon RAL exceedance area for dioxin/furan in surface sediment
- Additional Thiessen polygon RAL exceedance area for dioxin/furan in subsurface sediment
- Additional Thiessen polygon RAL exceedance area for other COCs
- ⬮ CSO^b
- ⬮ EOF/storm drain^b
- ⬮ Private storm drain^b
- ⬮ Public storm drain^b
- ⊕ Stream, channel, or ditch^b
- ⬮ Abandoned/inactive outfall^b
- ⋯ Recovery Category 1
- ▨ Intertidal area
- ▨ Shoal area
- Early Action Area
- ▭ UR 100% design SMA Boundary
- ▭ King Co tax parcel
- - - Federal Navigation Channel
- River mile

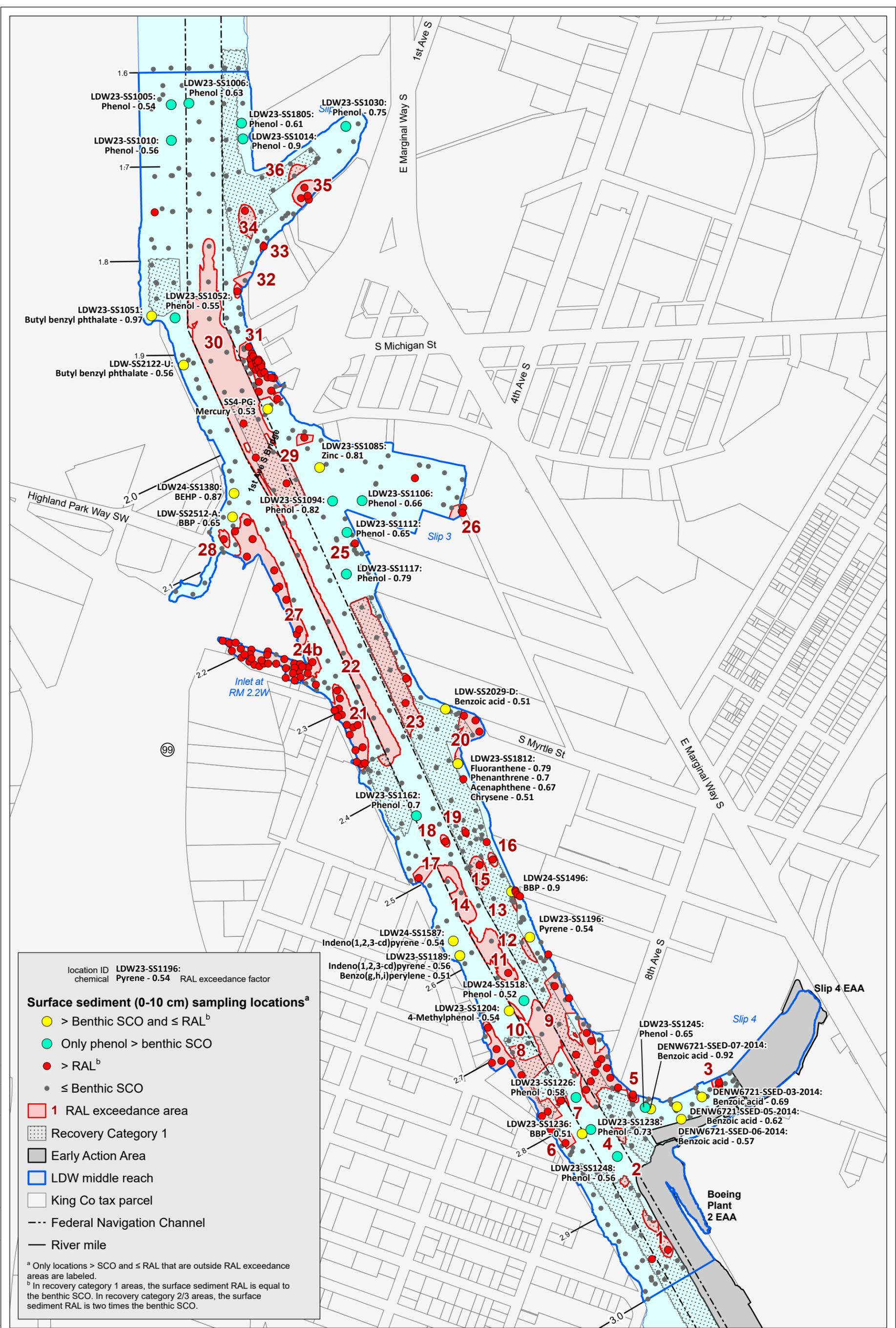
^a The 2010 Remedial Investigation MHHW boundary has been updated based on more recent 2021 LIDAR data by King County. Samples collected above the MHHW boundary are not included in the Phase II interpolation dataset. The exceedance boxes for these locations have been shaded brown to indicate that they are classified as soil samples in the Phase II DER.

^b Outfalls are based on the Ecology 2020 survey, as amended by LDWG as of February 20, 2024; the revised outfall layer is pending approval by LDWG, EPA, and Ecology.



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Prepared by ClaireC_9/28/2025: W:\Projects\Duwamish AOC\GIS\Maps and Analyses\Phase 2\Data Evaluation\Report\DER.aprx\Map 4-2 7701 Surf sed benthic SCO



Map 4-2. Locations in the middle reach with surface sediment concentrations > benthic SCO and < RAL

Total PCBs Aroclors in the design dataset

Surface sediment (0-10 cm)

- > 50,000 µg/kg dw
- ≤ 50,000 µg/kg dw

Intertidal core (0-45 cm)^a

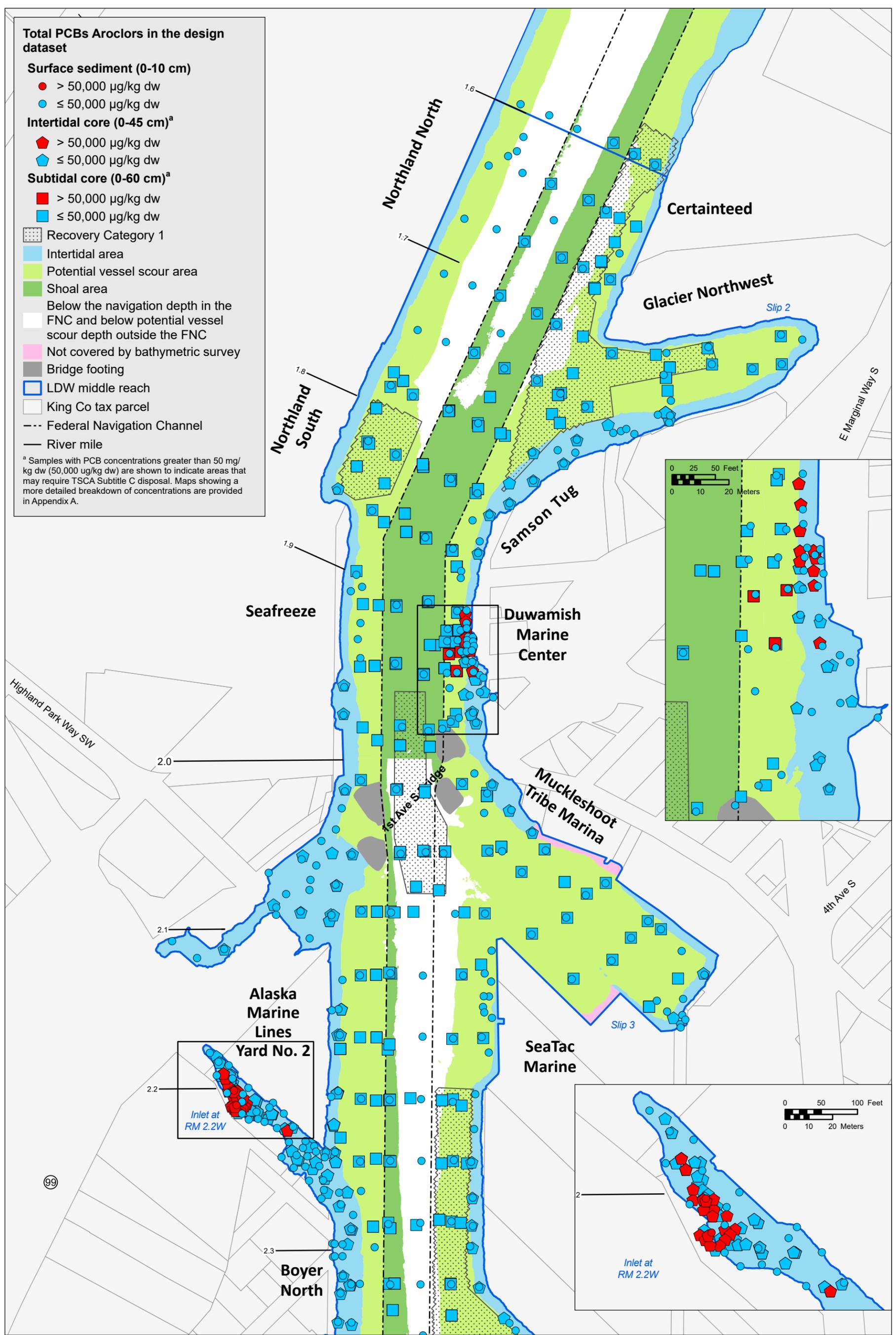
- ◆ > 50,000 µg/kg dw
- ◆ ≤ 50,000 µg/kg dw

Subtidal core (0-60 cm)^a

- > 50,000 µg/kg dw
- ≤ 50,000 µg/kg dw

- ▨ Recovery Category 1
- Intertidal area
- Potential vessel scour area
- Shoal area
- Below the navigation depth in the FNC and below potential vessel scour depth outside the FNC
- Not covered by bathymetric survey
- Bridge footing
- LDW middle reach
- King Co tax parcel
- Federal Navigation Channel
- River mile

^a Samples with PCB concentrations greater than 50 mg/kg dw (50,000 µg/kg dw) are shown to indicate areas that may require TSCA Subtitle C disposal. Maps showing a more detailed breakdown of concentrations are provided in Appendix A.



Map 4-3a. Locations of total PCB concentrations greater than 50 mg/kg dw in middle reach surface and subsurface sediment, RM 1.6 to RM 2.3
 PRE-DESIGN INVESTIGATION DATA EVALUATION REPORT FOR THE LDW - MIDDLE REACH SEPTEMBER 30, 2025

Prepared by ClairC, 9/28/2025; W:\Projects\Duwamish_AOC\GIS\Maps and Analyses\Phase 2\Data Evaluation Report\DER aprx\Map 4-3 7637 PCB dw concentrations

Total PCBs Aroclors in the design dataset

Surface sediment (0-10 cm)

- > 50,000 µg/kg dw
- ≤ 50,000 µg/kg dw

Intertidal core (0-45 cm)^a

- ◆ > 50,000 µg/kg dw
- ◆ ≤ 50,000 µg/kg dw

Subtidal core (0-60 cm)^a

- > 50,000 µg/kg dw
- ≤ 50,000 µg/kg dw

▨ Recovery Category 1

■ Early Action Area

■ Intertidal area

■ Potential vessel scour area

■ Shoal area

■ Below the navigation depth in the FNC and below potential vessel scour depth outside the FNC

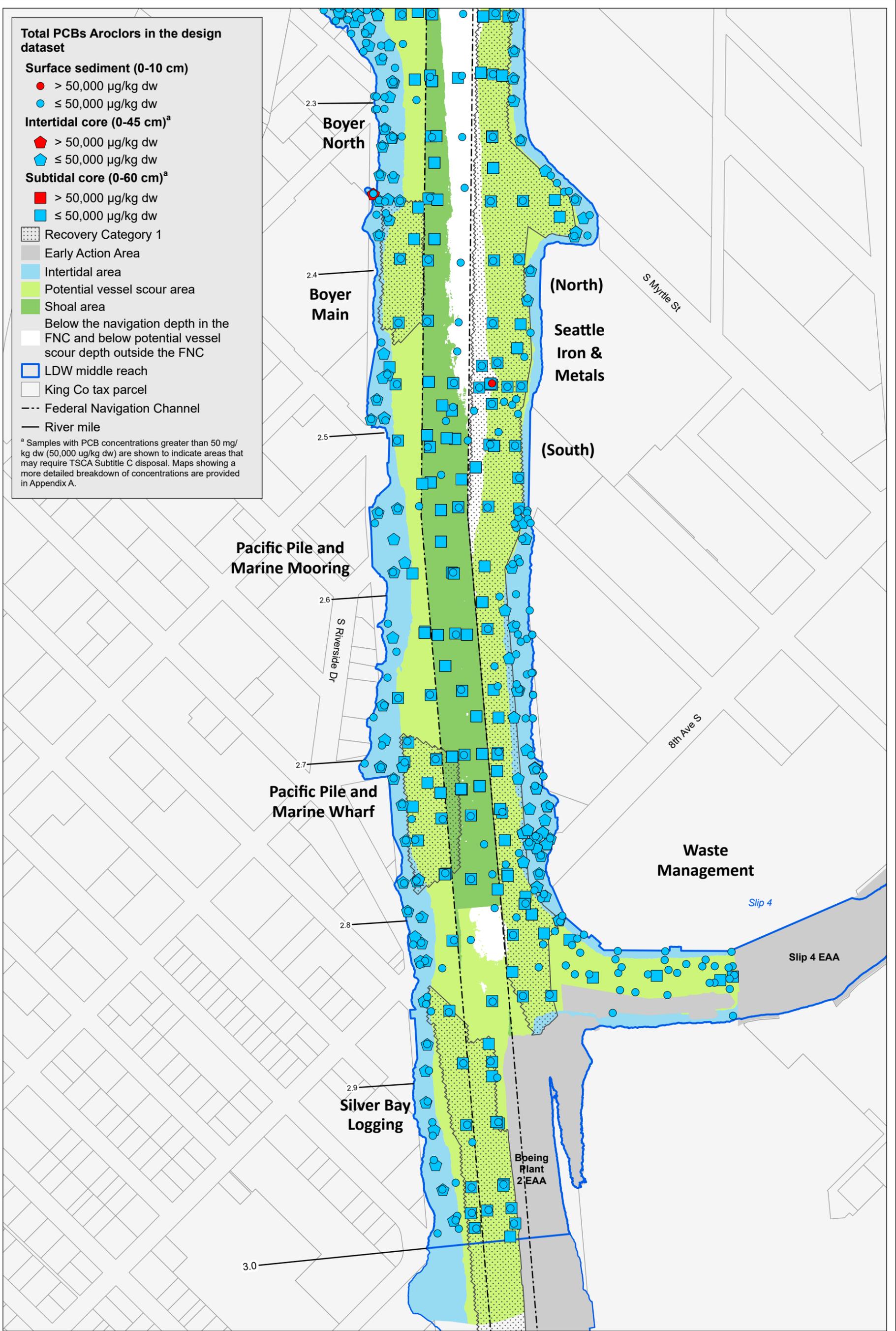
■ LDW middle reach

■ King Co tax parcel

--- Federal Navigation Channel

— River mile

^a Samples with PCB concentrations greater than 50 mg/kg dw (50,000 ug/kg dw) are shown to indicate areas that may require TSCA Subtitle C disposal. Maps showing a more detailed breakdown of concentrations are provided in Appendix A.



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