

90% Remedial Design Basis of Design Report

Appendix P

Work by Others

Appendix P
Tracking Work by Others During Remedial Design (as of July 2023)

Tax Parcel ID No.	Approximate River Mile	Adjacent RAA ¹	SMA Designation ¹	Owner	Tenant	Anticipated Changes ²				Associated Active Permit (Agency, Title, Number)	Probability of Impact of Anticipated Changes	Additional Information ²
						Structural Demolition or Other	Dredging	Bank	Upland			
East Side of River (Downstream to Upstream)												
0022000005	3.0 E	1/2/3	17,18	Boeing	Boeing Plant 2	--	--	Y	Y	KCIW, Metal Finishing Permit No. 7811-04 Ecology, Industrial SW GP No. WAR000482	M	Shoreline habitat restoration; interviewee suspects that sand placed at Boeing Plant 2 early action area is moving downstream and shoaling the navigation channel. Interviewee notes that sand bars shift often and that the nearshore area is eroding and deepening, while the outer berthing areas and navigation channel are shoaling (Integral et al. 2018). EPA indicated shoreline remediation and restoration activities have been completed at this site. Any remaining remediation (under Resource Conservation and Recovery Act/Toxic Substances Control Act) is limited to upland areas (Integral et al. 2018). MTCA Agreed Order (July 2007, amended July 2013), Enforcement Order (March 2015). MTCA Agreed Order (July 2017). In June 2019, Boeing submitted a proposed upland cleanup plan. In 2020, EPA worked on preparing a response-to-comment on the draft Statement of Basis Proposed Cleanup Plan and its final corrective action decision for the clean of this site. EPA finalized the corrective action decision in July 2022 (Ecology 2022a). Administrative order on Consent RCRA Docket No. 1092-01-22-3008(h) issued to Boeing in 1994.
2185000005	3.2 E	4/5/6, 7, 8, 10, 12	14,15,16									
3324049002	3.35 E	4/5/6, 7, 8, 10, 12	14,15,16									
0001600020	3.5 E	--	--									
0001600023	3.6 E	14/15/16, 17	12	Star Forge LLC	Star Forge LLC	--	Y	Y	--	KCIW, Minor Discharge Authorization Permit No.1122-01 Ecology, Industrial SW GP No. WAR003231	H	Jorgensen Forge outfall work is complete. Separate Earle M. Jorgensen action for sediments may involve additional sediment work. The extent to which this will involve the shoreline is unknown (Integral et al. 2018). PCB-contaminated sediment and bank soils at the property were largely removed in 2014. Samples collected after the excavation indicated that some sediments were still contaminated. Jorgensen conducted sampling to assess the need for further cleanup at this site in spring 2019. In 2020, Jorgensen provided EPA with a draft Data Summary Report with results from the 2019 sampling effort. Jorgensen prepared an Engineering Evaluation/Cost Analysis document in late 2020 to determine what action can be taken at the EAA (alternatives include dredging; Ecology 2022a).

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						Structural Demolition or Other	Dredging	Bank	Upland			
0001600014	3.75 E	22	10	Boeing	Boeing Isaacson Thompson	--	--	Y	Y	Ecology, Industrial SW GP No. WAR000148	M	Shoreline stabilization project (timing TBD; Anchor QEA 2022)
0007400033	3.8 E											Upland Model Toxics Control Act site (Integral et al. 2018)
5422600060	4.0 E	23/24/25, 27	5,6,7	CenterPoint Properties	PACCAR-Kenworth	--	--	Y	Y	Ecology, Construction SW GP No. WAR310454	M	Upland construction consisting of 24.5 acres of soil disturbance for the construction of a warehouse facility and site improvements (Ecology 2022b).
5422600010	4.1 E	27	5,6	Container Properties LLC	Container Properties LLC	Y	N	Y	Y	KCIW, Major Discharge Authorization No. 4167-03 Ecology, Industrial SW GP WAR312158	H	In 3 to 5 years, a habitat rehabilitation project to regrade the slope of the bank from near vertical to 4.5 or 5:1 slope and vegetate (riparian habitat down to shelf habitat) will be completed. All current in-water structures will be removed and not replaced. The anticipated future use of the property will be for land-based operations or storage—no waterway use (Integral et al. 2018).
												Upland cleanup (timing TBD; Anchor QEA 2022). Corrective Measures Study, for the upland, is being performed to address the requirement's of the RCRA Administrative Order on Consent No.1091-11-20-3008 (Wood 2020).
												In April 2021, the <i>Final Pre-CMS Data Collection Work Plan</i> was submitted to address data gaps (DOF 2021).

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						Structural Demolition or Other	Dredging	Bank	Upland				
5624201032	4.3 E	28	4	Boeing	BDC	Mainten- ance	N	Mainten- ance	N	Ecology, Industrial SW GP No. WAR000146	L	Slip 6 piers are subject to routine maintenance activities. No plans for change or development. Will maintain as needed in perpetuity. Boeing performs routine maintenance of the adjacent shoreline (Integral et al. 2018).	
5624200990	4.4 E	--	--			N	N	Y	N		Ecology, Construction SW GP No. WAR310165	L	Shoreline stabilization project and sheet pile wall installation (timing TBD; Anchor QEA 2022)
0003400018	4.6 E- 4.9 E	29, 32, 33/34/35	1,3			--	--	--	--			KCIW, Major Discharge Authorization No. 526-08 ³	N/A
5624200992	4.4 E	--	--	Seattle City Light	City of Seattle, Seattle City Light	--	--	--	--	--	N/A	Overhead power line; authorized clearance: 134 feet (See DER Map 2-6e.)	
0423049016	4.95 E	32, 33/34/35	1	Boeing	Boeing Vacant Site	--	--	--	--	--	N/A	BDC Stormwater Improvements (August 2024; Anchor QEA 2022)	
West Side of River (Downstream to Upstream)													
3224049037	3.15 W	4/5/6, 7, 8, 10, 12	14,15,16	Seattle Public Utilities	City of Seattle, Seattle Public Utilities	--	--	--	--	--	N/A	No available information	
3224049004	3.15 W	4/5/6, 7, 8, 10, 12	14,15,16	Personal Property	Individual Owner	--	--	--	--	--	N/A	No available information	
3224049003	3.15 W	4/5/6, 7, 8, 10, 12	14,15,16	Personal Property	Individual Owner	--	--	--	--	--	N/A	No available information	
2185000520	3.17 W	4/5/6, 7, 8, 10, 12	14,15,16	Personal Property	Individual Owner	--	--	--	--	--	N/A	No available information	
2185000495	3.2 W	4/5/6, 7, 8, 10, 12	14,15,16	Personal Property	Individual Owner	--	--	--	--	--	N/A	No available information	
2185000475	3.2 W	4/5/6, 7, 8, 10, 12	14,15,16	Personal Property	Individual Owner	--	--	--	--	--	N/A	No available information	
2185000505	3.2 W	4/5/6, 7, 8, 10, 12	14,15,16	Personal Property	Individual Owner	--	--	--	--	--	N/A	No available information	

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						Structural Demolition or Other	Dredging	Bank	Upland	Associated Active Permit (Agency, Title, Number)		
2185000825	3.25 W	4/5/6, 7, 8, 10, 12	14,15,16	Personal Property	Individual Owner	--	--	--	--	--	N/A	No available information
2185000685	3.3 W	4/5/6, 7, 8, 10, 12	14,15,16	Personal Property	Individual Owner	--	--	--	--	--	N/A	No available information
2185000695	3.25 W	4/5/6, 7, 8, 10, 12	14,15,16	Hmh LLC	Hmh LLC	--	--	--	--	--	N/A	No available information
2185000895	3.3 W	4/5/6, 7, 8, 10, 12	14	King County	King County Roads	--	--	--	--	--	N/A	No available information
2185600025	3.4 W	--	--	South Park Marina Ltd Part	Tire Factory	--	--	--	Y	--	N/A	No known water-dependent uses (Integral et al. 2018)
2185600070	3.45 W	4/5/6, 7, 8, 10, 12	14	South Park Marina Ltd Part	Ricks Master Marine	N	N	N		--	N/A	Rick's Master Marine uses the boat ramp and performs maintenance in the yard (Integral et al. 2018)
0001600001	3.5-3.7 W	4/5/6, 7, 8, 10, 12	13,14	South Park Marina Ltd Part	South Park Marina	N	Y	N	Y	Ecology, Boatyard GP WAG30045 ³	M	Vessels are dependent upon authorized depths being maintained. The last maintenance dredge event occurred in 1992, only at the downstream end of the marina. A 2003 application to dredge was filed, but dredging did not occur. South Park Marina had planned to dredge in 2017. Marina has authorized navigation depth of -8 feet MLLW in the inner portions and -12 feet MLLW in the outer portions (Integral et al. 2018). Ecology finalized Agreed Order No. DE 16185 to preform an RI in April 2019. In 2020, the PLPs developed an RI work plan for this site. The RI Work Plan was completed in February 2021; RI started in March 2021. The RI Work Plan Addendum was completed in August 2022; the RI is ongoing. is scheduled to take place in spring 2021 (Ecology 2022a).
0001600044	3.5-3.9 W	13, 14/15/16, 17	12,13	Port of Seattle	T-117	N	N	Y	Y	--	M	Construction for Duwamish River People's Park Habitat restoration and shoreline access, completed and park opened July 16, 2022. This project restored 14 acres of habitat and shoreline access and created an off-channel intertidal/riparian habitat area. A small sediment cap remains in place (Port of Seattle 2022).
7883608601	3.7 W	19/20	11	Boeing	Boeing South Park	--	--	--	--	--	L	No known water-dependent uses (Integral et al. 2018) RM 3.7-3.9 Duwamish River People's Park and Shoreline Habitat Project, completed in July 2022 (Port of Seattle 2022)
7883608603	3.85 W	--	--	Boeing	Boeing Radiation Effects Lab	--	--	--	--	--	N/A	No known water-dependent uses (Integral et al. 2018) RM 3.7-3.9 Duwamish River People's Park and Shoreline Habitat Project, completed in July 2022 (Port of Seattle 2022)

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						Structural Demolition or Other	Dredging	Bank	Upland	Associated Active Permit (Agency, Title, Number)		
0001600060	3.95 W	23/24/25	8	Nation Industrial Holding	Sea King Industrial Park LLC	--	--	--	--	--	N/A	No available information
0001600061	4.1 W	23/24/25	8	Duwamish Yacht Club	Duwamish Yacht Club	--	--	--	--	--	N/A	No available information
5624200005	4.2 W	--	--	Delta Marine Industries Inc.	Delta Marine Industries Inc.	--	--	--	--	Ecology, Boatyard GP WAG030091	N/A	Ecology conducted a stormwater compliance inspection at Delta Marine Industries in February 2020 (Ecology 2022a).
5624200006	4.25 W				N/A							
5624200931	4.3 W	--	--	Seattle City Light	City of Seattle, Seattle City Light	--	--	--	--	--	N/A	Shoreline designated habitat in perpetuity: Hamm Creek Restoration Area (no additional information).
5624200930	4.4 W	--	--	Seattle City Light	City of Seattle, Seattle City Light	--	--	--	--	--	N/A	Overhead power line; authorized clearance 134 feet (see BODR Map 2-6e). Small habitat site adjacent to SCL, under power lines (no additional information).
5624200950	4.55 W	--	--	Seattle City Light	City of Seattle	--	--	--	--	--	N/A	Small habitat site adjacent to SCL (no additional information).
5624200970	4.6W	--	--	Muckleshoot Tribe USA in Trust	Muckleshoot Tribe USA in Trust	--	--	--	--	--	N/A	Designated habitat in perpetuity (no additional information).
0423049001	4.8 W	--	--	Desimone Trust Oxbow 2601	AIF Trailer Leasing	--	--	Y	--	--	N/A	Bank construction conducted along RM 4.8W, between 2020 and 2021 (see DER Map 2-6f).
0423049150	4.8 W	--	--		Boeing Employees Activity Center	--	--	Y	--	--	N/A	
423049073	4.8 W	--	--		Pamco Construction	--	--	Y	--	--	N/A	

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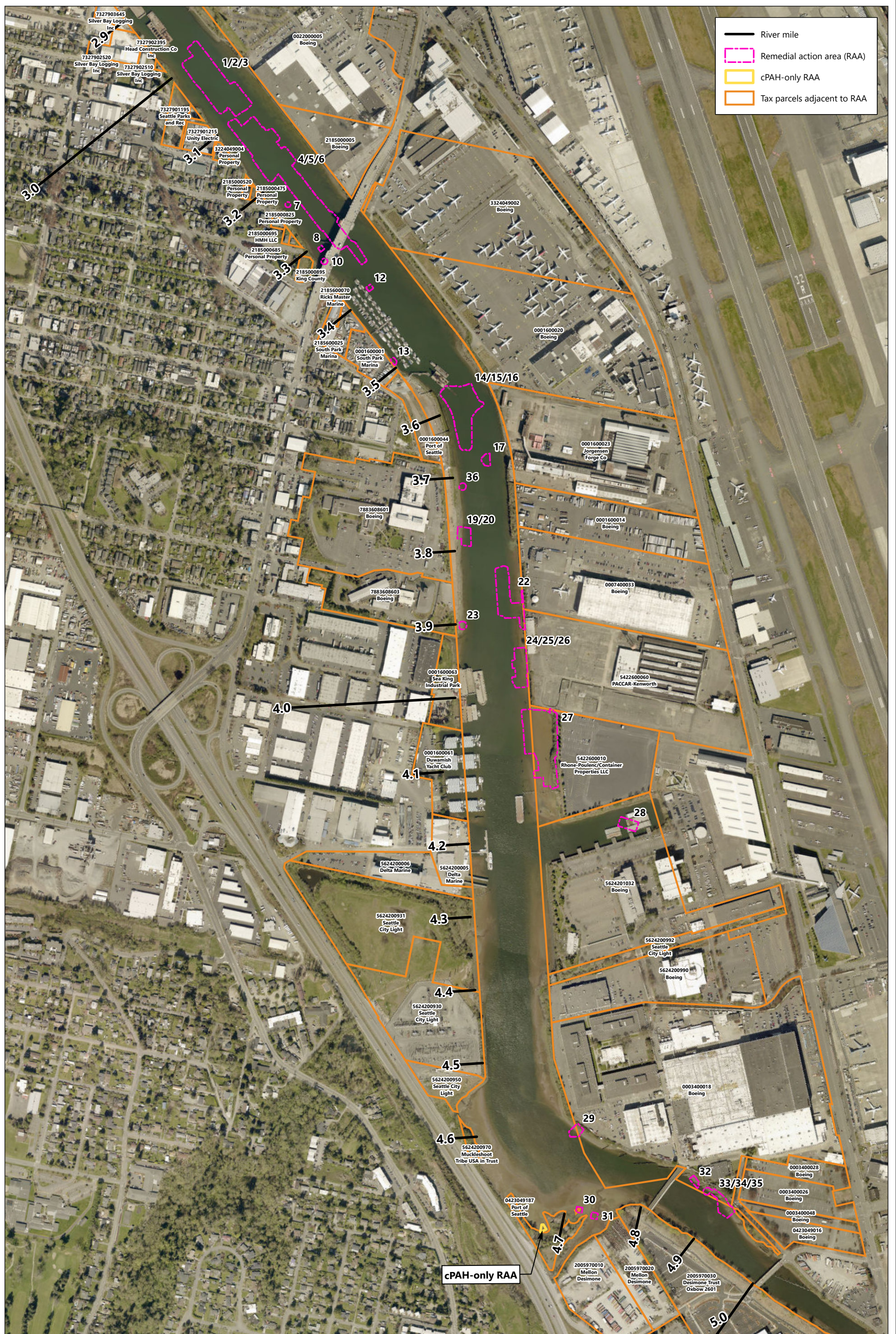
Tax Parcel ID No.	Approximate River Mile	Adjacent RAA ¹	SMA Designation ¹	Owner	Tenant	Anticipated Changes ²					Probability of Impact of Anticipated Changes	Additional Information ²
						Structural Demolition or Other	Dredging	Bank	Upland	Associated Active Permit (Agency, Title, Number)		
Other Future Activities on the River												
-	Approximately 4.2	--	--	USACE		--	Y	--	--	--	L	USACE routinely dredges the upper reach in three sections (Section B [242+00 to 254+00], Section A [254+00 to 270+56], and Turning Basin [270+56 to 275+56]) every 2 years (USACE 2023).
-	Approximately from 3.68 W to 3.69 E	Adjacent to RAA 17	Adjacent to SMA 12	Boeing	Boeing Isaacson Thompson to Boeing Vacant Land	Underwater Power Line ("Donovan Crossing Circuit")					M(?)	City of Seattle is planning the design and installation of a future underwater power line ("Donovan Crossing Circuit") from Boeing Isaacson Thompson property (E) across the river to Boeing vacant land (W). Design and construction are anticipated to be completed in 2024 and 2026, respectively (Anchor QEA 2023a, 2023b). ^{4,5}

Notes:

- RAAs definition and designation are consistent with BODR Section 6 (Table 6-1).
- Work by others, anticipated changes, and additional associated information (including permits) are tracked based on review of the following:
 - Anchor QEA (Anchor QEA, LLC), 2022. Personal communication with The Boeing Company.
 - Ecology (Washington State Department of Ecology), 2022a. *Lower Duwamish Waterway Source Control Status Report 2020*. Washington State Department of Ecology. Publication No. 22-09-178. August 2022.
 - Ecology, 2022b. *Recommendation for Enforcement action Water Quality Program*. Accessed July 2022. Available at: <https://apps.ecology.wa.gov/paris/DownloadDocument.aspx?id=37823>.
 - Integral Consulting Inc., Moffat & Nichol, and Windward Environmental LLC, 2018. *Waterway User Survey and Assessment of In-water Structures – Data Report*. Prepared for U.S. Environmental Protection Agency Region 10. July 2, 2018.
 - Port of Seattle, 2022. *Duwamish River People's Park and Shoreline Habitat* (<https://www.portseattle.org/peoplespark>). Accessed July 2022.
 - Ecology, 2022b. *Water Quality Permitting and Reporting Information System (PARIS)* (<https://apps.ecology.wa.gov/paris>). Accessed July 2023.
 - King County, 2022. King County Lower Duwamish Source Control Annual Report Year 2021. King County, Department of Natural Resources and Parks, Department of Executive Services, Department of Local Services, and Department of Public Health-Seattle & King County. Prepared for Washington State Department of Ecology. October 2022.
 - Wood, 2020. *Carbon Dioxide Neutralization Pilot Study Results, Former Rhone-Poulenc Site*. Prepare for Container Properties LLC. Prepared by Wood. May 2020.
 - DOF (Dalton, Olmsted & Fuglevand, Inc.), 2021. *Final Pre-CMS Data Collection Work Plan*. Former Rhone-Poulenc Site, Tukwila, Washington. Prepared for Container Properties, LLC. April 2021.
 - USACE (U.S. Army Corps of Engineers), 2023. Memorandum for Record. Regarding: DMMP Recency Extension for Operations and Maintenance (O&M) Dredging of the Lower Duwamish Waterway (Sections A, B, and Turning Basin) in Seattle, Washington. April 26, 2023. Available at: https://www.nws.usace.army.mil/Portals/27/docs/civilworks/dredging/Suitability%20Determinations/DY23/Duwamish_RecencyExt_2023_04_26_WEB.pdf?ver=SNtQ6BHCGNhhxLwJsvHttQ%3d%3d.
- Area with potential future maintenance dredging; however, USACE permit is not currently identified as active.
- Anchor QEA, 2023a. Personal communication with City of Seattle. January 30, 2023.
- Anchor QEA, 2023b. City of Seattle Website for RFQ: RFQ #SCL-767028507. Available at: <https://consultants.seattle.gov/2023/02/17/multidisciplinary-engineering-consulting-services-rfq-scl-767028507/>. Accessed April 2023.

- | | |
|--|--|
| --: no change anticipated | MTCA: Model Toxics Control Act |
| BDC: Boeing Developmental Center | N: no |
| BODR: Basis of Design Report | N/A: not applicable |
| Boeing: The Boeing Company | PCB: polychlorinated biphenyl |
| CAP: cleanup action plan | PLP: potentially liable party |
| DER: Data Evaluation Report | RAA: remedial action area |
| E: east | RAL: remedial action level |
| EAA: early action area | RCRA: Resource Conservation and Recovery Act |
| Ecology: Washington State Department of Ecology | RI: remedial investigation |
| EPA: U.S. Environmental Protection Agency | RM: river mile |
| FNC: federal navigation channel | SCL: Seattle City Light |
| FS: feasibility study | SMA: sediment management area |
| GP: General Permit | SW: Stormwater |
| H: high probability of impact of anticipated changes | TBD: to be determined |
| KCIW: King County Industrial Waste | USACE: U.S. Army Corps of Engineers |
| L: low probability of impact of anticipated changes | W: west |
| LDW: Lower Duwamish Waterway | Y: yes |
| M: medium probability of impact of anticipated changes | |
| MLLW: mean lower low water | |

Figure



— River mile
 - - - Remedial action area (RAA)
 cPAH-only RAA
 Tax parcels adjacent to RAA

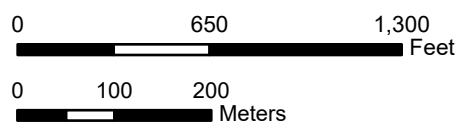


Figure P-1. Upland Properties Adjacent to Remedial Action Areas within the LDW Upper Reach
 90% BASIS OF DESIGN REPORT
 for the LDW UPPER REACH
 JULY 17, 2023

Prepared by: jlanon, 7/11/2023, \\nrcas\GIS\Jobs\KingCounty_0067\LDW\Map\Reports\BasisDesign\Report\LDW_BDR_90pct.aprx