

100% Remedial Design Basis of Design Report

Appendix P

Work by Others

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

Appendix P lists all the upland properties adjacent to the RAAs with the current owner and tenant, by river mile and side of the LDW upper reach. Appendix P summarizes the following: 1) the current status of in-water and bank construction activities occurring adjacent to these properties based on available document sources of information, active permits, and personal communications with property owners; 2) anticipated changes in structures and in-water, bank, and upland areas that could represent changes through RD completion in 2023; and 3) the probability of impact of these changes to specific RAA remedy design (designated as "low," "medium," or "high," depending on the anticipated impact level).

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).
2185000005	3.2 E	4/5/6, 7, 8, 10, 12	14/15/16									EPA indicated shoreline remediation and restoration activities have been completed at this site. Any remaining remediation (under RCRA/Toxic Substances Control Act) is limited to upland areas (Integral et al. 2018).
3324049002	3.35 E	4/5/6, 7, 8, 10, 12	14/15/16									Under MTCA Agreed Order July 2007 (amended July 2013), Enforcement Order (March 2015), and additional 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).
0001600020	3.5 E	--	--									Administrative order on Consent RCRA Docket No. 1092-01-22-3008(h) issued to Boeing in 1994.
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	9	Boeing	Boeing Isaacson Thompson	--	--	Y	Y	Ecology, Industrial SW GP No. WAR000148	M	Shoreline stabilization project (timing TBD; Anchor QEA 2023a)
0007400033	3.8 E											Upland Model Toxics Control Act site (Integral et al. 2018)
												In April 2010, Boeing and Ecology entered into Agreed Order DE-7088.
												Ecology reviewed the draft Final FS Report and prepared comments to send to Boeing in early 2020 (Ecology 2022a). Boeing received comments from Ecology on Draft Final FS (Second FS) September 2020. Boeing submitted Draft Final FS – Revision 1 (third FS) in December 2020. Boeing received Ecology comments in December 2021. Boeing submitted Public Review Draft FS (fourth FS) in August 2022 and received Ecology comments in January 2023. The Final FS (fifth FS) was approved in July 2023. The RI and FS are in public comment period (November 6, 2023, to January 4, 2024).
5422600060	4.0 E	24/25/26, 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).
												No interview form; lease ended in early 2018; likely moved (Integral et al. 2018).
												In 2006, PACCAR and Ecology signed Agreed Order No. DE-3599 to evaluate shoreline and nearshore sediments, seeps, and stormwater at the site. In 2008, Agreed Order No. DE-6069 was signed for upland clean up. Agreed Order DE-6069 was amended to update the property own in August 2017. The PLPs submitted the final FS to Ecology in July 2020. In July 2020, Ecology requested an addendum to the FS and the Interim Action Work Plan. The addendum was submitted in December 2020. The selected remedy for the shoreline area consists of excavation of soil in three hotspot areas, placing a clay cap, laying a drainage blanket, installing landscaping within the 100-foot river buffer, maintaining pavement outside the river buffer, and establishing institutional controls. The site completed Phase 2 of the Sediment Evaluation Work, which included sediment core sampling in selected locations in LDW adjacent to the site (Ecology 2022a). The site completed compliance monitoring as part of soil remediation activities in September 2022.

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						Structural Demolition or Other	Dredging	Bank	Upland			
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	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). During coordination for LDW upper reach design, DOF indicated that active cleanup could occur in 2024–2025, as early as Season 2 of the LDW upper reach project (DOF 2023).
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		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			--	--	--	--	Ecology, Construction SW GP No. WAR310165 KCIW, Major Discharge Authorization No. 526-08 ³	N/A	BDC Stormwater Improvements (to be completed by August 2024; Anchor QEA 2023a) Boeing and Ecology signed an Agreed Order No. DE-16275 in July 2019, which required Boeing to complete an RI, FS, Interim Action Work Plan, and to prepare a preliminary draft CAP at the BDC Site. In November 2020, Ecology and Boeing signed Agreed Order No. 19427, which defined the compliance schedule for installation and performance monitoring of four stormwater treatment systems on site, in addition to PCB sampling and source control investigation and documentation (Ecology 2022a).
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 (to be completed by August 2024; Anchor QEA 2023a).
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

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						Structural Demolition or Other	Dredging	Bank	Upland			
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
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	14/15/16	King County	King County Roads	--	--	--	--	--	N/A	Seattle Parks & Recreation South Park Plaza Project is a 0.85-acre new park focused on creating a community gathering space (plaza, pathways, play area), with cultural elements and landscape improvements. Bid opened in October 2023; construction is anticipated to be completed in spring 2024 (Anchor QEA 2023b). ⁴
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	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	13, 14/15/16, 17	12, 13	South Park Marina Ltd Part	South Park Marina	N	Y	N		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 perform 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 (Ecology 2022a).

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						Structural Demolition or Other	Dredging	Bank	Upland	Associated Active Permit (Agency, Title, Number)		
0001600044	3.5-3.9 W	13, 14/15/16, 17, 36, 19/20	11, 12, 13	Port of Seattle	T-117	N	N	Y	Y	--	M	Construction for Duwamish River People's Park Habitat restoration and shoreline access was 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, 36	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)
0001600060	3.95 W	23	8	Nation Industrial Holding	Sea King Industrial Park LLC	--	--	--	--	--	N/A	No available information
0001600061	4.1 W	23	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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						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 2023c, 2023d). ^{5,6}

Notes:

- RAAs and SMAs definition and designation are consistent with BODR Section 6 and 7 (Table 6-1 and Table 7-1).
- Work by others, anticipated changes, and additional associated information (including permits) are tracked based on review of the following:
 - Anchor QEA (Anchor QEA, LLC), 2023a. 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?ld=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, 2023. *Water Quality Permitting and Reporting Information System (PARIS)* (<https://apps.ecology.wa.gov/paris>). Accessed July November 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.
 - DOF (Dalton, Olmsted & Fuglevand, Inc.), 2023. *Draft Construction Access Planning for Duwamish Waterway Cleanup*. Former Rhone-Poulenc Site, Tukwila, Washington. September 2023.
- Area with potential future maintenance dredging; however, USACE permit is not currently identified as active.
- Anchor QEA, 2023b. Personal communication with City of Seattle. October 3, 2023.
- Anchor QEA, 2023c. Personal communication with City of Seattle. January 30, 2023.
- Anchor QEA, 2023d. 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
BDC: Boeing Developmental Center
BODR: Basis of Design Report
Boeing: The Boeing Company
CAP: cleanup action plan
DER: Data Evaluation Report
E: east
EAA: early action area
Ecology: Washington State Department of Ecology
EPA: U.S. Environmental Protection Agency
FNC: federal navigation channel
FS: feasibility study

GP: General Permit
H: high probability of impact of anticipated changes
KCIW: King County Industrial Waste
L: low probability of impact of anticipated changes
LDW: Lower Duwamish Waterway
M: medium probability of impact of anticipated changes
MLLW: mean lower low water
MTCA: Model Toxics Control Act
N: no
N/A: not applicable
PCB: polychlorinated biphenyl
PLP: potentially liable party

RAA: remedial action area
RAL: remedial action level
RCRA: Resource Conservation and Recovery Act
RI: remedial investigation
RM: river mile
SCL: Seattle City Light
SMA: sediment management area
SW: Stormwater
TBD: to be determined
USACE: U.S. Army Corps of Engineers
W: west
Y: yes