

SEPA ENVIRONMENTAL CHECKLIST

Purpose of checklist

Governmental agencies use this checklist to help determine whether the environmental impacts of your proposal are significant. This information is also helpful to determine if available avoidance, minimization, or compensatory mitigation measures will address the probable significant impacts or if an environmental impact statement will be prepared to further analyze the proposal.

Instructions for applicants

This environmental checklist asks you to describe some basic information about your proposal. Please answer each question accurately and carefully, to the best of your knowledge. You may need to consult with an agency specialist or private consultant for some questions. **You may use “not applicable” or “does not apply” only when you can explain why it does not apply and not when the answer is unknown.** You may also attach or incorporate by reference additional studies reports. Complete and accurate answers to these questions often avoid delays with the SEPA process as well as later in the decision-making process.

The checklist questions apply to **all parts of your proposal**, even if you plan to do them over a period of time or on different parcels of land. Attach any additional information that will help describe your proposal or its environmental effects. The agency to which you submit this checklist may ask you to explain your answers or provide additional information reasonably related to determining if there may be significant adverse impact.

Instructions for lead agencies

Please adjust the format of this template as needed. Additional information may be necessary to evaluate the existing environment, all interrelated aspects of the proposal and an analysis of adverse impacts. The checklist is considered the first but not necessarily the only source of information needed to make an adequate threshold determination. Once a threshold determination is made, the lead agency is responsible for the completeness and accuracy of the checklist and other supporting documents.

Use of checklist for nonproject proposals

For nonproject proposals (such as ordinances, regulations, plans and programs), complete the applicable parts of sections A and B, plus the [Supplemental Sheet for Nonproject Actions \(Part D\)](#). Please completely answer all questions that apply and note that the words "project," "applicant," and "property or site" should be read as "proposal," "proponent," and "affected geographic area," respectively. The lead agency may exclude (for non-projects) questions in “Part B: Environmental Elements” that do not contribute meaningfully to the analysis of the proposal.

A. Background [Find help answering background questions](#)

1. Name of proposed project, if applicable:

Boeing Isaacson-Thompson Site (Site), inclusive of the Boeing Thompson Property, Boeing Isaacson Property, and Port of Seattle (Port) Sliver Property (Port Property) located between the Isaacson Property and the Lower Duwamish Waterway (LDW).

2. Name of applicant:

The Boeing Company (Boeing)

3. Address and phone number of applicant and contact person:

Applicant:

The Boeing Company
Environmental Remediation Project Manager: Molly Taptich
P.O. Box 3707, MC 46-202
Seattle, WA 98124
molly.h.taptich@boeing.com
(206) 883-7494

Contact Person:

Piper Roelen
Landau Associates
155 NE 100th Street Suite 302
Seattle, WA 98125
proelen@landauinc.com
(425) 503-6784

4. Date checklist prepared:

September 5, 2023

5. Agency requesting checklist:

Washington State Department of Ecology (Ecology)

6. Proposed timing or schedule (including phasing, if applicable):

Following public review of the draft Cleanup Action Plan (dCAP) and execution of a new administrative order with Ecology, the cleanup, consisting of a remedial excavation of contaminated shoreline soils, construction of a permeable reactive barrier (PRB) running parallel with the shoreline, and establishing institutional controls for the Site, will be completed in approximately 5 years, followed by long term compliance monitoring. The

cleanup will be implemented in a phased approach, including the design and completion of a pre-remedial design investigation and a pilot study PRB, design and construction of the final remedy (remedial excavation and PRB construction), and completion of initial performance monitoring, followed by an additional assumed 50 years of long-term compliance monitoring for groundwater. The phases and estimated time frames are as follows:

- Design, installation, and implementation of the pre-remedial design investigation and the pilot study PRB (1.5 years)
- Design and permitting for shoreline remedial excavation and full-scale PRB, and institutional controls (1 year)
- Construction of full-scale PRB, shoreline remedial excavation, and Site/shoreline restoration (1.5 years)
- Initial performance monitoring (1 year)
- Long term compliance monitoring (50 years).

7. Do you have any plans for future additions, expansion, or further activity related to or connected with this proposal? If yes, explain.

Boeing has no current plans for significant changes to the proposed remedial action beyond that described in the dCAP. However, depending on the results of initial performance monitoring, optimization, expansion, and/or supplemental remedial actions may be necessary to meet remedial objectives.

Boeing has no current plans for any significant changes to land use at the Isaacson or Thompson Properties (See Section 12 for details on what portion of the Site is Isaacson and what is Thompson). The properties will continue to be used for aerospace manufacturing operations and storage. Future uses of the northwest portion of the Site owned by Port of Seattle (Port Property), are unknown.

Boeing is proposing improvements to the Thompson Property shoreland infrastructure as a separate interim action. The proposed Thompson Property project entails installing a sheet pile wall upland of the existing wooden shoreline bulkhead, which extends approximately 340 ft north from the south end of the Thompson property (Thompson Property bulkhead). The Thompson Property project has submitted a separate SEPA for their work (E19_0009_SEPA) and has an anticipated construction schedule of 2025, pending final permitting. Note that this interim action is separate from the Port Property bulkhead replacement (Port Property bulkhead) associated with the shoreline remedial excavation on the Port Property described in the dCAP.

The Site is located adjacent to the LDW. Ecology and the U.S. Environmental Protection Agency (EPA) are working to clean up contaminated sediments and control sources of potential recontamination of sediments in the LDW (Cleanup Site ID 1643). Excavation work proposed under the Boeing Isaacson-Thompson remedial action does not include excavation/dredging of river sediments from the LDW waterway; however, direct coordination of the upland remedial action with the LDW sediment cleanup will be necessary because removal of the Port Property bulkhead and excavation of the Port Property will include in-water work directly adjacent to the LDW sediment cleanup.

8. List any environmental information you know about that has been prepared, or will be prepared, directly related to this proposal.

The proposed Thompson Property shoreland infrastructure stabilization project is going through SEPA separately from the Site cleanup:

- SEPA # 202303749: Boeing Developmental Center and Thompson Sites Shoreland Infrastructure Stabilization Project. Issued August 3rd, 2023.
<https://apps.ecology.wa.gov/separ/Main/SEPA/Record.aspx?SEPANumber=202303749>

Substantial work has been done to characterize contamination at the Site. The following documents contain detailed environmental information about the Site:

- Remedial Investigation (RI) Report: 2014. Landau Associates, Inc. and AMEC Environment & Infrastructure, Inc. Final Remedial Investigation Report, Boeing Isaacson-Thompson Site; Tukwila, Washington. April 21.
- Feasibility Study (FS) Report: 2023. Landau Associates, Inc. Feasibility Study Report, Final – For Public Review (Revision 1); Tukwila, Washington. July 5.
- Draft dCAP: 2023. Landau Associates, Inc. Draft Cleanup Action Plan, Boeing Isaacson-Thompson Site; Tukwila, Washington. September 5.

The RI, FS, and dCAP summarize previous site investigations and studies documented in other reports; this documentation is identified in each report's reference section as applicable.

Although mentioned in the reports above, the following report is listed explicitly because it includes details related to the design and installation of the current stormwater treatment vaults and conveyance system improvements on the Isaacson Property that were installed after removal of the mound within the Stabilized Soil Area and regrading activities performed in 2008 to allow greater usability of the Isaacson property for driving and storage:

- 2009. Landau Associates, Inc. Redevelopment Activities: Stabilized Soil Mound Removal and Stormwater System Upgrades Boeing Isaacson Property; Tukwila, Washington. March 24

9. Do you know whether applications are pending for governmental approvals of other proposals directly affecting the property covered by your proposal? If yes, explain.

None.

10. List any government approvals or permits that will be needed for your proposal, if known.

A full accounting of all applicable regulations is provided in the dCAP. Approvals and permits that will be required are as follows:

- Approval from Ecology of the dCAP, per existing Order
- New Administrative Order for Implementation of Cleanup Action Plan obtained from Ecology
- Joint Aquatic Resource Permit Application (JARPA) (404 and 401 CWA permits)
- City of Tukwila Shoreline Master Program approval

Under Washington Administrative Code (WAC) 173-340-710(9)(b&c), remedial actions conducted at a facility under a consent decree, enforced order, or agreed order are exempted from the procedural requirements of specific state environmental permits and local government permits. However, the remedial action must still comply with the substantive requirements of these permits and associated laws. These include exemptions from the procedural requirements of the following laws:

- RCW 77.55 (Hydraulic Permit)
- RCW 90.48 (State Waste Discharge Permit Only)
- RCW 90.58 (Shorelands)
- Laws requiring or authorizing local government permits or approvals for the remedial action:
 - Tukwila Municipal Code (TMC) Title 16.54 (Buildings and Construction - Grading)
 - TMC Title 18.44 (Shoreline Overlay – Shoreline Conditional Use)
 - King County Code (KCC) – Title 28.84 (Water Pollution Abatement - Industrial Waste Rules and Regulations)

Accordingly, the project is exempted from obtaining the following permits that may be required (depending on final design and construction requirements) for the project:

- City of Tukwila – Grading Permit
- City of Tukwila – Shoreline Conditional Use Permit
- King County – Wastewater Discharge Authorization
- Washington Department of Fish and Wildlife – Hydraulic Project Approval
- Washington State Department of Ecology – State Waste Discharge Permit

Although this project is exempted from obtaining state or local permits because it is being performed under an administrative order, compliance the substantive requirements of the permits will still be achieved.

11. Give a brief, complete description of your proposal, including the proposed uses and the size of the project and site. There are several questions later in this checklist that ask you to describe certain aspects of your proposal. You do not need to repeat those answers on this page. (Lead agencies may modify this form to include additional specific information on project description.)

Boeing proposes to implement the cleanup action described in the dCAP to remediate contaminants of concern (COCs) until compliance with applicable cleanup levels (CULs) is achieved in groundwater and soil at their respective conditional points of compliance (CPOCs).

The selected cleanup action for the Site consists of the following elements:

- *In situ* treatment of contaminated groundwater with a PRB located upgradient of the shoreline CPOC monitoring wells
- Removal of Port Property bulkhead and excavation of contaminated soil located on the Port Property and between the Port Property and the PRB.
- Excavation of soil in an isolated area where a vein of tar-like material was discovered during the 2008 removal of the stabilized soil mound, located in the north-central portion of the proposed project area (Observed Tar-Like Substance Area).
- Offsite disposal of excavated contaminated soil.
- Maintenance (and repair as needed) of a low-permeability surface cap (existing Site paving) to contain remaining contaminated soil.
- Replacement of the Port Property bulkhead with new bulkhead or other engineered shoreline.
- Contingency measures as outlined in the dCAP.
- Institutional controls to prevent exposures.

Each of these elements of the cleanup are described in greater detail in the dCAP.

12. Location of the proposal. Give sufficient information for a person to understand the precise location of your proposed project, including a street address, if any, and section, township, and range, if known. If a proposal would occur over a range of area, provide the range or boundaries of the site(s). Provide a legal description, site plan, vicinity map, and topographic map, if reasonably available. While you should submit any plans required by

the agency, you are not required to duplicate maps or detailed plans submitted with any permit applications related to this checklist.

The proposed project location is the Boeing Isaacson-Thompson Site located at 8701 East Marginal Way South in Tukwila, Washington. The Site is comprised of two Boeing-owned parcels (Thompson Property: Parcel 0007400033; and Isaacson Property: Parcel 0001600014) and the Port Property (upland portion of Parcel 332404HYDR adjacent to the Isaacson Property; a Port-owned parcel of land surrounded by a security fence, with limited access). The Isaacson Property is a 9.84-acre parcel of land located near the east side of the LDW, at approximately river miles 3.7 to 3.8, as measured from the southern tip of Harbor Island. The Thompson Property is a 19.35-acre parcel of land located on the eastern bank of the LDW, directly south of the Isaacson Property. Boeing occupies and operates on the Isaacson and Thompson Properties only. The Port Property is a 1/2-acre strip of land, approximately 60 feet (ft) wide and 400 ft long, located adjacent to the east of the LDW, to the west of the Isaacson Property, and to the northwest of the Thompson Property. For the purposes of this SEPA Checklist, these three parcels are referred to collectively as the Boeing Isaacson-Thompson Site. The total size of the Site is approximately 29.7 acres.

B. Environmental Elements

1. Earth [Find help answering earth questions](#)

a. General description of the site:

The Site is located in an area of industrial properties and is bordered on the north by the Jorgensen Forge Corporation property, currently owned by Sar Forge LLC; on the east by East Marginal Way South and King County International Airport; and on the south by the 8801 Site, previously owned by PACCAR, Inc. and Merrill Creek Holdings and currently owned by Centerpoint 8801 Marginal LLC. As noted above, the west Site boundary along the Isaacson Property and the north part of the Thompson Property is bordered by the Port Property and then the LDW, and along the remainder of the Thompson Property by the LDW.

The Site slopes slightly to the west and is at an average elevation of approximately 19 to 22 ft above mean lower low water (MLLW) or approximately 16.5 to 19.5 ft North American Vertical Datum of 1988 (NAVD88). Surface topography in the vicinity of the Site is generally level and slopes slightly to the west/southwest toward the LDW [U.S. Geologic Survey (USGS) 1983¹].

Circle or highlight one: Flat, rolling, hilly, steep slopes, mountainous, other:

b. What is the steepest slope on the site (approximate percent slope)?

The Site is mostly flat except for at the shoreline bulkheads where the shoreline drop vertically into the LDW.²

c. What general types of soils are found on the site (for example, clay, sand, gravel, peat, muck)? If you know the classification of agricultural soils, specify them, and note any agricultural land of long-term commercial significance and whether the proposal results in removing any of these soils.

The geology of the lower Duwamish River valley is characterized by the historic riverine depositional environment from the river and the anthropogenic changes made to the river that resulted in the current configuration of the LDW. Naturally occurring soils in the vicinity generally consist of low to moderately permeable alluvial deposits of interbedded silt, clay, silty sand, and sand. The Duwamish River historically meandered across the river valley floor, including a historical meander roughly east-west through the Site. However, the river was channelized in the 1900s for shipping and commerce. The channel construction left an embayment at the Site known as "Slip 5" and resulted in the human movement and deposition of dredge fill and other large quantities of sand, silt, gravel, and other fill sources. Slip 5 was filled over time with fill materials including dredge fill and other fill from unknown sources.

Observations during the RI indicated that subsurface soil conditions at the Site consist of approximately 2 to 19.5 ft of fill overlying river deposits with the thickest layers of fill occurring in the former Slip 5 area. The fill generally consists of silty sand to sandy gravel. Fill materials within the former Slip 5 area include bricks, wood debris, and slag material. The native deposits typically consist

¹ USGS. 1983. 7.5-Minute Topographic Map, Seattle, Washington Quadrangle. U.S. Geological Survey.

² Google. 2023. Google Earth. Accessed July 21, 2023.

of fine sand and silty fine sand with silt lenses. The native surficial deposits are characterized by the presence of small in place roots, wood fragments, and peat, which are indicators of the original ground surface elevation prior to filling. Underlying the silt and silty fine sand is a series of interbedded alluvial sand and silt layers that were deposited within the floodplain of the lower Duwamish River. Beneath the interbedded alluvial silt and fine sand, near the mouth of the former Slip 5, is a layer of very dark to black deposit of silt with organic material. This naturally deposited silt is found throughout the lower Duwamish River valley and was likely deposited from flood waters.

No soils of agricultural significance will be removed as a result of the proposed project.

d. Are there surface indications or history of unstable soils in the immediate vicinity? If so, describe.

There are no surface indications of history of unstable soil at or near the Site.

e. Describe the purpose, type, total area, and approximate quantities and total affected area of any filling, excavation, and grading proposed. Indicate source of fill.

The proposed project will include excavation, filling, and repaving for the installation of the pilot PRB, the full scale PRB, and two areas of remedial excavation: the Port Property and contaminated soil extending east to the downgradient edge of the PRB, and the Observed Tar-Like Substance Area. Included as an attachment is Figure 5-3 of the FS which shows the location of these activities.

The purpose of the PRB is to utilize reactive backfill containing zero-valent iron (ZVI) and granular activated carbon (GAC) for *in situ* treatment of contaminated groundwater flowing through the PRB. The dimensions of the pilot PRB will be determined during the pilot study design phase, but the anticipated excavation dimensions are approximately 700 ft long, 5 ft wide, and 25 ft deep (approximately 3,240 cubic yards of soil). The actual dimensions for the PRB will be determined based on the results of the pilot PRB and finalized during the design phase. The backfill for the pilot and full-scale PRB are assumed to consist of a mix of 30 percent ZVI, 10 percent GAC, and sand for the remainder (appropriately graded to provide necessary *in situ* hydraulic properties). The ground surface above the PRB will be repaved with asphalt paving following installation. The PRB will be set back from the shoreline/western Boeing property line approximately 50–100 ft to allow space to evaluate the performance of the PRB in treating groundwater contamination and confirming compliance with the CULs prior to groundwater discharge to the LDW.

The Port Property remedial excavation will include contaminated soil removal across the entirety of the Port Property and the soil between the proposed PRB location and the Port/Isaacson Property line. The extent of the excavation estimated to be 60 ft by 400 ft and to a depth of approximately 18 ft below ground surface (bgs) across the Port Property (approximately 15,000 cubic yards of soil); and an estimated 380 ft by 50 ft to a depth of 15 ft bgs between the Port Property and the PRB (approximately 10,500 cubic yards of soil). This excavation does not include excavation of river sediment from the LDW waterway; however, it is assumed that coordination of this cleanup remedy with the LDW sediment cleanup work will be necessary and will be planned for accordingly.

The Observed Tar-Like Substance Area remedial excavation will include removal of visible tar or hydrocarbon stained soil, and includes an estimated area approximately 35 ft by 57 ft to an assumed depth of 5 ft bgs (approximately 370 cubic yards of soil).

Sufficient quantities of clean structural backfill and other supporting materials will be placed, as necessary, to fill the remedial excavation areas to grade or to an elevation above the high-water line and to protect the exposed areas of shoreline from erosion. The source of structural backfill will be determined during construction, and appropriate documentation from the fill source will be obtained or testing will be conducted as necessary to demonstrate the fill material is clean and suitable for use at the Site. The Port Property bulkhead, a dilapidated wood, concrete, and metal bulkhead on the Port Property, will be removed in conjunction with the excavation activities and will either be replaced with a steel bulkhead, or the shoreline will be otherwise stabilized and armored.

More specific details related to technical and engineering design elements will be provided in an engineering design report (EDR) that will be developed after approval of the dCAP.

f. Could erosion occur because of clearing, construction, or use? If so, generally describe.

During removal of the Port Property bulkhead and shoreline soils at the Port Property, a coffer dam will be constructed to prevent and/or contain erosion into the LDW. Erosion of the restored shoreline will not occur because the design will include structural fill and a replacement competent metal bulkhead or engineered shoreline to protect the shoreline and prevent erosional processes. The upland excavation areas will be in flat areas, surrounded by paving, and will not be subject to erosion. An erosion and sediment control plan will also be prepared and followed during construction to prevent and protect against erosion and sediment migration in runoff.

g. About what percent of the site will be covered with impervious surfaces after project construction (for example, asphalt or buildings)?

After the proposed project, there will be no change in impervious surfaces. About 99 percent of the Site is currently paved or covered with buildings. However, the proposed project includes maintaining capping over contaminated soil to prevent human contact with contaminated soil and groundwater, and to limit surface water infiltration and thereby limit potential contaminant leaching and migration. The capping will consist of repaving excavated areas, sealing cracks or seams, and repairing or repaving areas where pavement is in disrepair.

The Port Property is currently paved, but is suffering significant deterioration, with large cracks and holes allowing weeds and scrub brush and vegetation to grow through. This pavement (and underlying contaminated soils) will be entirely removed during the remedial excavation. This work will include replacement of paved surface and replacement of the Port Property bulkhead with appropriate shoreline protection consisting of either a new steel bulkhead or other engineered shoreline.

h. Proposed measures to reduce or control erosion, or other impacts to the earth, if any.

As noted above, a coffer dam will be placed around the shoreline remedial excavation, clean structural fill and supporting materials will be used to backfill the excavation, and the shoreline will be protected with a competent metal bulkhead or engineered shoreline, to prevent erosion during construction and protect the restored shoreline in the future. An erosion and sediment control plan will also be prepared and followed during construction to prevent and protect against erosion and sediment migration in runoff.

2. Air [Find help answering air questions](#)

a. What types of emissions to the air would result from the proposal during construction, operation, and maintenance when the project is completed? If any, generally describe and give approximate quantities if known.

Large construction equipment and vehicles are expected to be used in association with implementing the PRB construction, remedial excavation, and shoreline and paving restoration elements of the proposed project.

Construction activities will be temporary and are anticipated to last up to 18 months. The anticipated equipment for the Project will include excavators, dump trucks, asphalt paving equipment, drill rigs, and other construction vehicles and equipment.

Short-term construction associated with the proposed project could result in temporary, localized air quality impacts including emissions from diesel engines and dust generated during construction. In addition, short term emissions would be generated by the transport of excavated soil to an offsite disposal location.

Detailed emissions estimates of construction activities and offsite soil disposal associated with the Project have not been prepared because anticipated construction equipment for the Project and the final disposal location for excavated soil has not yet been determined (full design has not been completed and no bidding or contracting has yet occurred). Because of the limited time frame and contained area for construction within an existing industrial facility, estimated short-term construction-related emissions of carbon monoxide (CO), nitrogen oxides (NO_x), volatile organic compounds (VOCs), sulfur dioxide (SO₂), and carbon dioxide (CO₂) associated with the proposed action are anticipated to be below applicable U.S. Environmental Protection Agency (EPA) de minimis thresholds.

Dust emissions will be negligible because the pavement will be maintained over the majority of the Site during construction and the total area of exposed soil will be relatively small at only be around 1 acre in surface area.

The only additional source of air emissions from the long-term operation activities of continued maintenance and monitoring will be a negligible addition of single use vehicle trips to and from the Site, and light equipment used in sampling and monitoring.

There will be a limited and temporary increase in greenhouse gases (GHG) at the industrial Site only when the proposed project would be constructed and only a negligible increase beyond; therefore, the Proposed project will have a negligible effect on air quality.

b. Are there any off-site sources of emissions or odor that may affect your proposal? If so, generally describe.

There are no off-Site sources of emissions or odor expected to affect the Project.

c. Proposed measures to reduce or control emissions or other impacts to air, if any.

Construction impacts will be minimized through the use of dust control strategies in accordance with the project erosion and sediment control plan, maintaining pavement over the majority of the Site during construction, equipment maintenance, and minimization of idling. These emissions are anticipated to be temporary, minor, and largely contained at and within short distances from the Site.

3. Water [Find help answering water questions](#)

a. Surface Water: [Find help answering surface water questions](#)

- 1. Is there any surface water body on or in the immediate vicinity of the site (including year-round and seasonal streams, saltwater, lakes, ponds, wetlands)? If yes, describe type and provide names. If appropriate, state what stream or river it flows into.**

The Site is located along the east bank of the LDW at approximately 19 to 22 ft above MLLW (approximately 16.5 to 19.5 ft NAVD88). The LDW flows into Elliot Bay (Puget Sound). The LDW at the Site is tidally influenced as is comprised of both marine and fresh surface water. Following the initial dredging and realignment of the LDW, saltwater from Puget Sound extended back into the waterway and infiltrated the upland groundwater. As a result of the saltwater intrusion into the LDW, a saltwater wedge is present in the LDW. The saltwater also intrudes from the LDW to groundwater at properties along its shoreline including the Site. The presence of brackish or saline water in the aquifer can affect groundwater flow because the less dense fresh groundwater tends to move above the higher density saline water. The density difference between the freshwater aquifer system and the saltwater of the LDW tends to concentrate the outflow of the surficial aquifer into the intertidal areas.

- 2. Will the project require any work over, in, or adjacent to (within 200 feet) the described waters? If yes, please describe and attach available plans.**

Yes. The excavation and restoration of the Port Property takes place directly adjacent to the LDW, and the installation of the PRB will take place within 200 feet of the LDW. Included as an attachment is Figure 5-3 of the FS which shows the location of these activities in relation to the LDW.

- 3. Estimate the amount of fill and dredge material that would be placed in or removed from surface water or wetlands and indicate the area of the site that would be affected. Indicate the source of fill material.**

As mentioned in Question B part e, the Port Property remedial excavation will include soil removal between the proposed PRB location and the Port Property shoreline and removal of the Port Property bulkhead along the Port Property shoreline. This excavation does not include excavation of river sediment from the LDW waterway; however, it is anticipated that coordination of the proposed project with the LDW sediment cleanup work will be necessary. Coordination will take place upon approval of the dCAP by Ecology, during the design phase. Soil removed will be replaced with clean structural backfill. The source of structural backfill will be determined during construction, and documentation from the fill source or testing will be conducted as necessary to demonstrate the fill is clean and suitable for Site use.

- 4. Will the proposal require surface water withdrawals or diversions? Give a general description, purpose, and approximate quantities if known.**

A coffer dam is likely to be constructed temporarily within the LDW to complete remedial excavation, removal of the Port Property bulkhead, and restoration of the Port Property. Because the construction will be temporary and the plan is to reconstruct current structures, no surface water withdrawals or diversions will result from the proposed project.

5. Does the proposal lie within a 100-year floodplain? If so, note location on the site plan.

Federal Emergency Management Agency (FEMA) flood insurance mapping identifies the shoreline of the LDW as floodway areas in Zone AE. FEMA describes this floodway as “the channel of a stream plus any adjacent floodplain areas that must be kept free of encroachment so that the 1% annual chance flood can be carried without substantial increases in flood heights.” The proposed project includes restoring the Port Property with fill and replacement of the Port Property bulkhead with a metal bulkhead or engineered shoreline above the high-water line to prevent erosion.

6. Does the proposal involve any discharges of waste materials to surface waters? If so, describe the type of waste and anticipated volume of discharge.

The project does not involve any discharge of waste materials to surface waters.

b. Ground Water: [Find help answering ground water questions](#)

1. Will groundwater be withdrawn from a well for drinking water or other purposes? If so, give a general description of the well, proposed uses and approximate quantities withdrawn from the well. Will water be discharged to groundwater? Give a general description, purpose, and approximate quantities if known.

No withdrawal of groundwater for drinking water purposes will occur for this project.

Well points may be used for withdrawal of groundwater for construction dewatering for the PRB (estimated 25,000-30,000 gallons per day for approximately 15 days during installation). Extracted groundwater would be treated and discharged to sanitary sewer or storm sewer under an appropriate permit.

A minor volume of groundwater will be withdrawn from approximately 10 to 30 monitoring wells installed at the Site with the purpose of being sent to a laboratory to gather data and assess treatment efficacy and natural attenuation. The amount of water withdrawn will be the minimum amount sufficient to flush and ensure stabilized flow of groundwater through the well screens (generally less than 10 liters), and to fill the sampling volume required for analyses (generally less than 2 liters).

2. Describe waste material that will be discharged into the ground from septic tanks or other sources, if any (domestic sewage; industrial, containing the following chemicals...; agricultural; etc.). Describe the general size of the system, the number of such systems, the number of houses to be served (if applicable), or the number of animals or humans the system(s) are expected to serve.

Not applicable. No waste materials associated with domestic sewage or other activities will be discharged into the ground.

c. Water Runoff (including stormwater):

- a) Describe the source of runoff (including storm water) and method of collection and disposal, if any (include quantities, if known). Where will this water flow? Will this water flow into other waters? If so, describe.**

There will be no stormwater or surface water runoff as a result of this project. Facility storm water systems in place currently will not be affected by the proposed project, and current stormwater infrastructure on Site (catch basins etc.) will be protected during construction.

- b) Could waste materials enter ground or surface waters? If so, generally describe.**

Excavated contaminated soil awaiting disposal, and investigation derived waste materials generated during well installation (soil cuttings, purge water, and decontamination water) will be prevented from entering groundwater, storm water, or surface waters by using best management practices (BMPs) for handling, temporary onsite storage, and loading/transportation.

- c) Does the proposal alter or otherwise affect drainage patterns in the vicinity of the site? If so, describe.**

The proposed actions will not alter flow or drainage patterns.

- d) Proposed measures to reduce or control surface, ground, and runoff water, and drainage pattern impacts, if any.**

Not applicable.

4. Plants [Find help answering plants questions](#)

a. Check the types of vegetation found on the site:

- deciduous tree: alder, maple, aspen, other
- evergreen tree: fir, cedar, pine, other
- shrubs
- grass
- pasture
- crop or grain
- orchards, vineyards, or other permanent crops.
- wet soil plants: cattail, buttercup, bullrush, skunk cabbage, other
- water plants: water lily, eelgrass, milfoil, other
- other types of vegetation

b. What kind and amount of vegetation will be removed or altered?

The Site is an industrial property that has been cleared and developed. The entire Site is paved or covered in buildings. The only vegetation present on the Site are areas where cracked/deteriorated pavement (primarily on the Port Property) has allowed weeds, shrubs, and grass to grow. The areas where the deterioration of the paving is advanced enough that the appearance of a vegetated area is present will be excavated, restored, and repaved as part of the proposed project.

c. List threatened and endangered species known to be on or near the site.

No threatened or endangered species are on or near the Site. Data available online³ through the Washington Natural Heritage Program (WNHP) does not identify any threatened or endangered plant species on the Site. The Site is an industrially developed site that is completely paved with no habitat and is located in a highly developed area. No aquatic habitat is present on the Site (shoreline is vertical hardscape – i.e., wood and metal bulkhead).

d. Proposed landscaping, use of native plants, or other measures to preserve or enhance vegetation on the site, if any.

No landscaping or enhancement of vegetation is currently planned as part of this proposed action.

e. List all noxious weeds and invasive species known to be on or near the site.

Noxious weed surveys have not been conducted on the Site. Spotted Knapweeds (*Centaurea stoebe*), Tansy Ragwort (*Senecio jacobaea*), Diffuse Knapweed (*Centaurea diffusa*), and Dalmation toadflax (*Linaria dalmatica*) have been observed in border areas of the Site and in surrounding areas nearby, according to maps provided by King County's noxious weeds control program, accessed on King County iMap July 28, 2023⁴.

³ Washington Department of Natural Resources. 2023. Washington Natural Heritage Program Data Explorer. Washington Department of Natural Resources, Natural Heritage Program. Olympia, WA. <https://www.dnr.wa.gov/NHPdata>. Accessed July 28, 2023

⁴ <https://gismaps.kingcounty.gov/iMap/>

5. Animals [Find help answering animal questions](#)

- a. List any birds and other animals that have been observed on or near the site or are known to be on or near the site.

Examples include:

- Birds: hawk, heron, eagle, songbirds, other:
- Mammals: deer, bear, elk, beaver, other:
- Fish: bass, salmon, trout, herring, shellfish, other:

- b. List any threatened and endangered species known to be on or near the site.

No threatened or endangered species are known to be on the Site. However, federally listed threatened species under the Endangered Species Act (ESA) that are known to be or that may occur in the vicinity of the proposed project include Yellow-billed cuckoo, Coastal-Puget Sound bull trout, Puget Sound Chinook, and Puget Sound steelhead⁸. The LDW is essential fish habitat for Chinook and Steelhead. Federal species of concern under the ESA known to be or that may occur in the vicinity of the proposed project include the bald eagle⁵. The Department of Fish and Wildlife Priority Habitats and Species (PHS) on the internet does not contain information for the project area, meaning that no species or habitats have been observed in the field and reported to PHS (Attachment 3).

- c. Is the site part of a migration route? If so, explain.

Migratory birds have been observed near the water at the Site. The Project area, as well as the entire Pacific Northwest region, is in the Pacific flyway bird migration corridor.

- d. Proposed measures to preserve or enhance wildlife, if any.

Remediation will not impact wildlife; therefore, no measures are needed. The purpose of the proposed project is remediation of environmental contamination and can be considered to have at a positive impact on wildlife in the vicinity.

- e. List any invasive animal species known to be on or near the site.

No invasive animals species are known on or near the Site.

⁵ Elliot Bay Natural Resource Trustee Council 2021. Lower Duwamish River Natural Resource Damage Assessment and Restoration: Bluefield Holdings Inc.'s Project One, King County, WA. March.

6. Energy and Natural Resources [Find help answering energy and natural resource questions](#)

1. **What kinds of energy (electric, natural gas, oil, wood stove, solar) will be used to meet the completed project's energy needs? Describe whether it will be used for heating, manufacturing, etc.**

The project includes no permanent equipment or machinery requiring energy. The proposed project actions and operations will largely be completed by small/handheld monitoring equipment transported from offsite, operating from vehicles and batteries charged offsite.

2. **Would your project affect the potential use of solar energy by adjacent properties? If so, generally describe.**

The project will not affect nearby property solar energy potential use.

3. **What kinds of energy conservation features are included in the plans of this proposal? List other proposed measures to reduce or control energy impacts, if any.**

Short term activities such as proposed PRB installations and excavations will largely be completed by equipment transported from offsite, operating from vehicles and batteries charged offsite. Energy needs for long-term Project remediation activities, monitoring and maintenance, will be low. These activities will involve a limited number and will also be largely completed by equipment and vehicles originating offsite.

Energy conservation in vehicles and equipment (e.g., no idling allowed and shutting off equipment when not in use) will be implemented. In addition, cultural trends toward electric vehicles and renewable energy sources will continue over time during long-term monitoring.

7. Environmental Health [Find help with answering environmental health questions](#)

- a. **Are there any environmental health hazards, including exposure to toxic chemicals, risk of fire and explosion, spill, or hazardous waste, that could occur because of this proposal? If so, describe.**

As described in the RI, FS, and dCAP, the Site is a formal cleanup Site. All planned work will be conducted under Ecology approval and oversight as outlined in the Agreed Order. Soil and groundwater have been contaminated with various hazardous substances at concentrations above regulatory cleanup levels (CULs) from historical industrial activities and filling of the former Duwamish River meander that historically traversed the Site. Additional details regarding current soil and groundwater quality are described below.

The following chemicals of concern have been identified for Site **groundwater** at concentrations exceeding CULs: vinyl chloride, PCBs, arsenic, copper, mercury, nickel, and zinc.

- Copper, nickel, and zinc exceed CULs primarily at monitoring wells located in the area north of the former Slip 5 area, where historical operations occurred such

as the former sawmills, wood preserving facility, and steel forging and galvanizing plant.

- Dissolved arsenic exceedances occurred in groundwater throughout the Site, including along the shoreline, with the highest exceedances occurring north of the former Slip 5 area and mostly within and downgradient of the Stabilized Soil Area.
- PCBs exceed the CUL at monitoring well locations located primarily within the former Slip 5 area.

The following chemicals of concern have been identified for Site **soil** at concentrations exceeding CULs: total petroleum hydrocarbons (TPH), PCBs, cPAHs, BEHP, arsenic, barium, cadmium, chromium (total), chromium VI, copper, lead, mercury, nickel, and zinc. Chemicals of concern identified in soil north of the former Slip 5 area are arsenic, copper, mercury, nickel, zinc, and cPAHs. The vertical extent of the exceedances is generally limited to the unsaturated zone (above 11 ft bgs), but arsenic, copper, mercury, and zinc exceedances extend into the saturated soil zone (below the groundwater table) at several locations.

- The observed tar-like substance area is generally characterized by TPH and cPAH exceedances and visual observations of a tar-like substance. These exceedances, as well other exceedances in this area (cPAHs, arsenic, and copper), appear to be associated with the tar-like substance encountered at a depth interval between 1 and 2 ft bgs.
- The chemicals of concern in soil in the former Slip 5 area and the Port property are arsenic, copper, mercury, zinc, lead, nickel, PCBs, and cPAHs. The majority of the CULs exceedances occurred above and below the groundwater table in the fill materials in the central and northern portion of the former slip.
- The soil chemicals of concern in the area south of the former Slip 5 area are arsenic, copper, mercury, zinc, and lead. The highest arsenic concentrations were detected in samples from the western portion of the Site and from intervals above and below the groundwater table. The majority of copper exceedances were detected above the groundwater table and in the vicinity of the former washdown area and near the eastern Site boundary. Lead exceedances occurred only in the unsaturated zone in a few locations south and west of the Thompson Building. While the highest concentrations of zinc occurred in soil north of the former Slip 5 area, zinc concentrations in shallow soils along the eastern Site boundary south of the former Slip 5 area exceed the CUL. Elevated mercury concentrations in soil were also detected in the southeastern portion of the Site.

1. Describe any known or possible contamination at the site from present or past uses.

Contamination in soil and groundwater is widespread throughout the Site. Sources of

contamination include fill from unknown sources placed in the former Duwamish River channel and former Slip 5 and historical industrial activity including scrap metal storage, wood preserving with solutions of arsenic and sulfate salts of copper and zinc, resulting in arsenic and other metals, polychlorinated biphenyls (PCBs), polycyclic aromatic hydrocarbons (PAHs), and volatile organic compounds (VOCs) in concentrations above regulatory CULs. Known contamination is described above in Section B.7.a. The proposed action at the Site directly addresses cleanup of contamination at the Site, which is well documented in the RI, FS, and accompanying dCAP.

2. Describe existing hazardous chemicals/conditions that might affect project development and design. This includes underground hazardous liquid and gas transmission pipelines located within the project area and in the vicinity

This is a cleanup site with soil and groundwater contamination as described above and in the RI, FS, and dCAP. There are no transmission pipelines within the project area.

3. Describe any toxic or hazardous chemicals that might be stored, used, or produced during the project's development or construction, or at any time during the operating life of the project.

Contaminated soil will be generated from excavations and PRB installation. Contaminated groundwater may be generated from construction dewatering for PRB installation. Small amounts of potentially contaminated soil and water will also be generated from well installation associated with compliance evaluation and monitoring activities. In addition, small amounts of contaminated water will be extracted and disposed of as the result of long-term groundwater sampling at the Site.

Chemicals such as zero-valent iron (ZVI) and granular activated carbon (GAC) will be used onsite as backfill for the PRB, which will provide in situ treatment of contaminated groundwater as part of the remedial action. Other chemicals such as ferric chloride or ferrous sulfate may also be used for injection and treatment of groundwater contamination.

There also may be small amounts of fuels, oils, and other chemicals stored in association with construction equipment and vehicles.

All waste generated from these activities will be handled and disposed in compliance with applicable local, state, and federal regulations and guidance pertaining to use, handling, and storage of potentially hazardous waste. Contaminated soil will be disposed of offsite at an appropriately permitted disposal facility.

4. Describe special emergency services that might be required.

The need for special emergency services is not anticipated.

5. Proposed measures to reduce or control environmental health hazards, if any.

To prevent unacceptable exposure of construction workers, drillers, and environmental technicians to subsurface contamination during construction and implementation of the proposed action, procedures will be established for the specific activities involved in the Proposed project to ensure that development and construction activities on the Site are conducted carefully and safely. These procedures will be documented in a Site-specific health and safety plan and specific job safety plans. All Site workers will have 40-hour hazardous waste operations and emergency response (HAZWOPER) training.

A site-specific Stormwater Pollution Prevention Plan (SWPPP) will be prepared, which will specify effluent sampling requirements and standards, and set general conditions for reporting and compliance. Best Management Practices (BMPs) for the areas of potential pollutant sources will also be implemented at the facility to further reduce or eliminate the potential to contaminate stormwater and prevent violation of stormwater standards. Operational source control BMPs will be identified in the SWPPP and typically include good housekeeping, preventive maintenance, preparation of a site-specific emergency cleanup plan, and conditions related to employee training, inspections, and recordkeeping. The facility will also comply with BMPs presented in the Ecology's 2019 *Stormwater Management Manual for Western Washington* (SWMMWW). A Temporary Sediment and Erosion Control (TESC) Plan will also be prepared to minimize construction dust and sediment migration with wind and stormwater.

The Proposed project includes institutional controls to maintain the existing Site cover features including Site buildings and asphalt and concrete paving. Cracks or seams in the pavement will be sealed to minimize infiltration of stormwater and areas where pavement is in disrepair will be repaired or repaved. A restrictive environmental covenant will be filed for the Site to ensure industrial land use, as required when using MTCA Method C soil CULs. Long-term groundwater compliance monitoring will also be performed, and specifics of the ongoing monitoring will be described in the compliance monitoring plan.

b. Noise

1. What types of noise exist in the area which may affect your project (for example: traffic, equipment, operation, other)?

The noises that currently exist in the vicinity of the Site (vehicular traffic, boat/ship traffic, and activities at nearby industrial and manufacturing sites) would not have an impact on the proposal.

2. What types and levels of noise would be created by or associated with the project on a short-term or a long-term basis (for example: traffic, construction, operation, other)? Indicate what hours noise would come from the site)?

The types of noise generated by the Project will be related to use of construction and drilling equipment during excavation, PRB installation, and monitoring well installation. Initial construction activities are anticipated to take approximately 18 months to complete and will generate temporary

short-term increases in noise levels at adjacent and nearby areas.

Construction will be conducted in accordance with City of Tukwila noise ordinances⁶, which set levels and durations of allowable daytime/nighttime operational noise. Construction activities are expected to occur during daytime hours and will not occur between the hours of 10 PM to 7 AM, per City of Tukwila noise ordinance. If circumstances arise that require night work, the contractor will be required to adhere to all applicable City of Tukwila noise regulations, including obtaining a variance if needed.

Once the project has been constructed, noise impacts will be negligible, as the equipment associated with long term maintenance and monitoring will be very quiet (likely undetectable over ambient noise).

3. Proposed measures to reduce or control noise impacts, if any.

Construction-industry best management practices (BMPs) incorporated into construction plans and contractor specifications, which could include the following: construction equipment engines fitted with adequate mufflers; intake silencers; engine enclosures; and turning off idle equipment, would also help control noise impacts.

8. Land and Shoreline Use [Find help answering land and shoreline use questions](#)

a. What is the current use of the site and adjacent properties? Will the proposal affect current land uses on nearby or adjacent properties? If so, describe.

Boeing occupies and operates on the Isaacson and Thompson Properties. The Isaacson Property is paved with no buildings, and is used by Boeing primarily for shipping container storage and parking. The Thompson Property is occupied by a large manufacturing building and is operated by Boeing for airplane manufacturing, specifically for the P-8 program. The Port Property consists of a flat area with deteriorating asphalt paving with vegetation growing up through cracks and holes in the pavement. A chain-link fence separates the Port parcel from the Boeing parcels. The Port Property is currently vacant and not used.

Current land uses in the vicinity of the Site include a former steel and aluminum forging and milling facility (Jorgensen Forge site) to the north, a property that is currently being re-developed for industrial use and trailer storage (8801 site) to the south, and King County International Airport to the east (across E. Marginal Way).

The proposed project activities are not anticipated to have any impact on the current uses on properties nearby and adjacent to the Site. While the selected remedy will include excavation of contaminated soil up to the adjacent Jorgenson property boundary, soil stabilization and backfill using clean, structural fill materials are not anticipated to have any impact on the Jorgenson property.

Future long-term land use at the Boeing properties will be the same as current; long-term land use at the Port Property is dependent on the final design for post-remedial excavation property restoration

⁶ City of Tukwila. 2023. Ordinance 2293. <http://records.tukwilawa.gov/WebLink/1/doc/15265/Page1.aspx> Accessed August 1, 2023.

and shoreline stabilization.

- b. Has the project site been used as working farmlands or working forest lands? If so, describe. How much agricultural or forest land of long-term commercial significance will be converted to other uses because of the proposal, if any? If resource lands have not been designated, how many acres in farmland or forest land tax status will be converted to nonfarm or nonforest use?**

The Site has not been used as working farmlands or forest lands. It has been developed as an industrial site since at least 1917.

- 1. Will the proposal affect or be affected by surrounding working farm or forest land normal business operations, such as oversize equipment access, the application of pesticides, tilling, and harvesting? If so, how?**

The project will not affect or be affected by surrounding working farm or forest land operations. The Site is located on the industrialized LDW, which is used for industrial and commercial purposes.

- c. Describe any structures on the site.**

The Isaacson Property is vacant of any buildings, and developed only with paved surfaces pavement and catch basins that collect stormwater runoff.

The Thompson Property is developed with several structures that include a 316,000-square foot (ft²) industrial building (Building 14-01) and several support structures including a boiler house (Building 14-02); two mechanical buildings (Buildings 14-03 and 14-14); a fire pump house (Building 14-13) and water tank; an electrical substation (Building 14-22); and a guard shack. Two pedestrian tunnels are located on the north side of Building 14-01. There are three storage tanks and five sumps on the Thompson Property.

The Port Property is vacant of any buildings and consists of a flat area with deteriorating asphalt paving with vegetation growing up through cracks and holes in the pavement. A chain-link fence separates the Port Property from the Boeing parcels. The Port parcel is currently vacant and not used.

Stormwater from the Site is collected in two Boeing-owned storm drain systems that discharge to the LDW via two outfalls (Outfalls A and B). The Isaacson Property stormwater system includes two CONTECH® Vortechs® (Vortechs) treatment vaults that treat stormwater by allowing suspended solids to settle out prior to discharge to the LDW. Stormwater discharge from the facility is covered under Industrial Stormwater General Permit (ISGP) No. WAR000148. A 48-inch King County storm drain alignment runs through the Isaacson Property and discharges to the LDW through the steel bulkhead north of the wooden Thompson Property bulkhead. Stormwater from the Isaacson and Thompson Properties does not enter the King County storm drain line.

The two bulkheads on the Thompson Property consist of a wooden shoreline bulkhead that runs from the southern end of the Thompson Property approximately 340 ft north, where the bulkhead then transitions to steel construction and runs an additional 160 ft to the southern end of the Port Property. At that transition point, the Port Property bulkhead transitions to a dilapidated bulkhead with mixed materials including wood, concrete, and metal, and continues north along the length of the Port Property.

d. Will any structures be demolished? If so, what?

No structures will be demolished. The dilapidated wood, concrete, and steel shoreline bulkhead on the Port Property, will be removed during the remedial excavation on the Port Property.

e. What is the current zoning classification of the site?

The Site is zoned as Manufacturing Industrial Center/Heavy by the City of Tukwila.⁷

f. What is the current comprehensive plan designation of the site?

The Site is designated as Manufacturing Industrial Center/Heavy under the City of Tukwila Comprehensive Plan Use Designation¹⁰.

g. If applicable, what is the current shoreline master program designation of the site?

Portions of the shoreline are designated as High Intensity or High Intensity - Outside Buffer.⁸

h. Has any part of the site been classified as a critical area by the city or county? If so, specify.

A swath of the Thompson Property is designated as Landslide Hazard Area by the City of Tukwila. A portion of the Port Property and a small sliver of the western edge of the Thompson Property are designated as seismic hazard areas. The proposed project engineering design stage will account for soil stability and shoreline restoration in plans for installation of the PRB and in excavation and restoration of shoreline areas. Maps of critical areas at the Site are included at Attachment 2.

i. Approximately how many people would reside or work in the completed project?

The project is not anticipated to increase the number of people working at the Site. The Site is not designated as residential property, and no one lives on the Site or is expected to live on the Site in the future.

j. Approximately how many people would the completed project displace?

No displacement of people would occur as a result of the proposed Project.

⁷ King County 2023. <https://gismaps.kingcounty.gov/iMap/>. Accessed July 31, 2023.

⁸ City of Tukwila iMap 2023. <http://www.tukwilawa.gov/> Accessed July 31, 2023.

k. Proposed measures to avoid or reduce displacement impacts, if any.

Not applicable. No displacement of people would occur as a result of the proposed Project.

l. Proposed measures to ensure the proposal is compatible with existing and projected land uses and plans, if any.

Future use of the Site is consistent with existing/proposed zoning and its comprehensive plan designation as a Manufacturing Industrial Center/Heavy Industry by King County and City of Tukwila. Cleanup of existing contamination, institutional controls, and restoration at the Site will ensure future use for intended purposes.

m. Proposed measures to reduce or control impacts to agricultural and forest lands of long-term commercial significance, if any.

The Site is located in an industrial port area and no impacts to agricultural or forest lands will occur; therefore, no measures have been proposed to reduce or control such impacts.

9. Housing [Find help answering housing questions](#)

a. Approximately how many units would be provided, if any? Indicate whether high, middle, or low-income housing.

No housing units will be provided as part of this project.

b. Approximately how many units, if any, would be eliminated? Indicate whether high, middle, or low-income housing.

No housing units will be eliminated as part of this project.

c. Proposed measures to reduce or control housing impacts, if any.

No measures are necessary since the project will not have any impact on housing.

10. Aesthetics [Find help answering aesthetics questions](#)

a. What is the tallest height of any proposed structure(s), not including antennas; what is the principal exterior building material(s) proposed?

The proposed project does not include any proposed structures other than a replacement Port Property bulkhead. All parts of the proposed project that have capacity to change height, such as a replacement Port Property bulkhead, and excavation and restoration activities, will be the same or within a few feet in height as the current structures.

b. What views in the immediate vicinity would be altered or obstructed?

No views will be altered or obstructed due to Project activities.

c. Proposed measures to reduce or control aesthetic impacts, if any.

No proposed measures are needed since aesthetic impacts are not anticipated.

11. Light and Glare [Find help answering light and glare questions](#)

a. What type of light or glare will the proposal produce? What time of day would it mainly occur?

The proposed project is not anticipated to produce any light or glare.

b. Could light or glare from the finished project be a safety hazard or interfere with views?

Not applicable; the Project is not anticipated to produce any light or glare.

c. What existing off-site sources of light or glare may affect your proposal?

There are no off-site sources of light or glare that will affect the proposed Project.

d. Proposed measures to reduce or control light and glare impacts, if any.

None are proposed as light and glare will not be generated by the Project.

12. Recreation [Find help answering recreation questions](#)

a. What designated and informal recreational opportunities are in the immediate vicinity?

Recreational opportunities in the immediate vicinity of the Site are limited. No known recreational opportunities exist immediately adjacent to the Site. The Duwamish Yacht Club, a private boating marina, is located at the eastern end of South 93rd Street, directly across and separated from the Site by the LDW. The South Park Marina, another private marina, is located ½ mile further north, also across from and separated by the LDW. The Museum of Flight and related buildings are located approximately ½ mile to the south.

Recreational opportunities will not be affected by the proposed project. The Site itself is fenced and access is restricted to individuals authorized by Boeing for the Site properties.

b. Would the proposed project displace any existing recreational uses? If so, describe.

Project activities will not displace any existing recreational uses.

c. Proposed measures to reduce or control impacts on recreation, including recreation opportunities to be provided by the project or applicant, if any.

Not applicable. The Project will not create any impacts on recreational opportunities in the vicinity.

13. Historic and Cultural Preservation [Find help answering historic and cultural preservation questions](#)

a. Are there any buildings, structures, or sites, located on or near the site that are over 45 years old listed in or eligible for listing in national, state, or local preservation registers? If so, specifically describe.

The Project will not affect any buildings or structures on or off the Site.

- b. Are there any landmarks, features, or other evidence of Indian or historic use or occupation? This may include human burials or old cemeteries. Are there any material evidence, artifacts, or areas of cultural importance on or near the site? Please list any professional studies conducted at the site to identify such resources.**

No known cultural resources are present at the Site. All subsurface activities will occur in previously developed areas. The subsurface consists mainly of fill brought in to straighten the LDW in the 1910s and is therefore unlikely to be culturally significant.

- c. Describe the methods used to assess the potential impacts to cultural and historic resources on or near the project site. Examples include consultation with tribes and the department of archeology and historic preservation, archaeological surveys, historic maps, GIS data, etc.**

No assessment was needed. There are no known cultural resources at the Site and all subsurface activities will occur in previous developed area, and subsurface is mainly fill.

- d. Proposed measures to avoid, minimize, or compensate for loss, changes to, and disturbance to resources. Please include plans for the above and any permits that may be required.**

Although there are no known cultural resources at the Site and all subsurface activities will occur in previous developed area, and subsurface is mainly fill, all intrusive activities at the Site will be performed in compliance with an Inadvertent Discovery Plan.

14. Transportation [Find help with answering transportation questions](#)

- a. Identify public streets and highways serving the site or affected geographic area and describe proposed access to the existing street system. Show on site plans, if any.**

The Site will be accessed using East Marginal Way South. East Marginal Way South can be seen bordering the eastern edge of the Site on any of the attached figures accompanying this SEPA, or in the dCAP figures.

- b. Is the site or affected geographic area currently served by public transit? If so, generally describe. If not, what is the approximate distance to the nearest transit stop?**

King County Metro Transit Route 124 operates along East Marginal Way South, with a stop located adjacent to the Site.

- c. Will the proposal require any new or improvements to existing roads, streets, pedestrian, bicycle, or state transportation facilities, not including driveways? If so, generally describe (indicate whether public or private).**

No new access routes will be needed and no change in access is proposed.

- d. Will the project or proposal use (or occur in the immediate vicinity of) water, rail, or air transportation? If so, generally describe.**

The proposed project will not use any type of transportation other than roadway transportation. In the vicinity, Helicopters Northwest is located adjacent to the east of the Site, followed by King County International Airport, and followed by rail lines along Perimeter Road.

- e. How many vehicular trips per day would be generated by the completed project or proposal? If known, indicate when peak volumes would occur and what percentage of the volume would be trucks (such as commercial and non-passenger vehicles). What data or transportation models were used to make these estimates?**

Project construction activities will generate a small, temporary increase of vehicular trips. During initial construction activities for excavation, PRB installation, restoration, and monitoring well installation, anticipated to take approximately 18 months to complete, less than 20 vehicular trips per day are anticipated during this time. Long term project needs will be served by periodic maintenance and sampling staff in one or two vehicles, generally between quarterly and annually (i.e., will generate negligible daily vehicular trips).

- f. Will the proposal interfere with, affect, or be affected by the movement of agricultural and forest products on roads or streets in the area? If so, generally describe.**

No, the project will not affect or be affected by the movement of agricultural and forest products in the area.

- g. Proposed measures to reduce or control transportation impacts, if any.**

Transportation impacts are not expected to occur as a result of the proposed project and, therefore, no measures are proposed.

15. Public Services [Find help answering public service questions](#)

- a. Would the project result in an increased need for public services (for example: fire protection, police protection, public transit, health care, schools, other)? If so, generally describe.**

No significant increase in public services related to temporary construction activities or long-term monitoring and maintenance is anticipated. The purpose of the project is to decrease potential impacts to human health and the environment by removing risks for environmental contamination to be released or encountered. Therefore, this project can be considered protective/beneficial in the area of public health care.

- b. Proposed measures to reduce or control direct impacts on public services, if any.**

Proposed measures to reduce and control any direct impacts on public services will include ensuring that construction and operation of all proposed systems will be done in full compliance with all applicable city, state, and federal building, safety, and environmental codes and standards and also in accordance with a Site-specific HASP.


16. Utilities [Find help answering utilities questions](#)

- a. Circle utilities currently available at the site: electricity, natural gas, water, refuse service, telephone, sanitary sewer, septic system, other:
- b. Describe the utilities that are proposed for the project, the utility providing the service, and the general construction activities on the site or in the immediate vicinity which might be needed.

No new utility services are proposed for the Project.

C. Signature [Find help about who should sign](#)

The above answers are true and complete to the best of my knowledge. I understand that the lead agency is relying on them to make its decision.

X 

Type name of signee: Thiess Lindsay

Position and agency/organization: Director - Remediation & Policy Risk

Date submitted: December 5, 2023

D. Supplemental sheet for nonproject actions [Find help for the nonproject actions worksheet](#)

IT IS NOT REQUIRED to use this section for project actions.

Because these questions are very general, it may be helpful to read them in conjunction with the list of the elements of the environment.

When answering these questions, be aware of the extent the proposal, or the types of activities likely to result from the proposal, would affect the item at a greater intensity or at a faster rate than if the proposal were not implemented. Respond briefly and in general terms.

1. How would the proposal be likely to increase discharge to water; emissions to air; production, storage, or release of toxic or hazardous substances; or production of noise?

- **Proposed measures to avoid or reduce such increases are:**

2. How would the proposal be likely to affect plants, animals, fish, or marine life?

- **Proposed measures to protect or conserve plants, animals, fish, or marine life are:**

3. How would the proposal be likely to deplete energy or natural resources?

- **Proposed measures to protect or conserve energy and natural resources are:**

4. How would the proposal be likely to use or affect environmentally sensitive areas or areas designated (or eligible or under study) for governmental protection, such as parks, wilderness, wild and scenic rivers, threatened or endangered species habitat, historic or cultural sites, wetlands, floodplains, or prime farmlands?

- **Proposed measures to protect such resources or to avoid or reduce impacts are:**

5. How would the proposal be likely to affect land and shoreline use, including whether it would allow or encourage land or shoreline uses incompatible with existing plans?

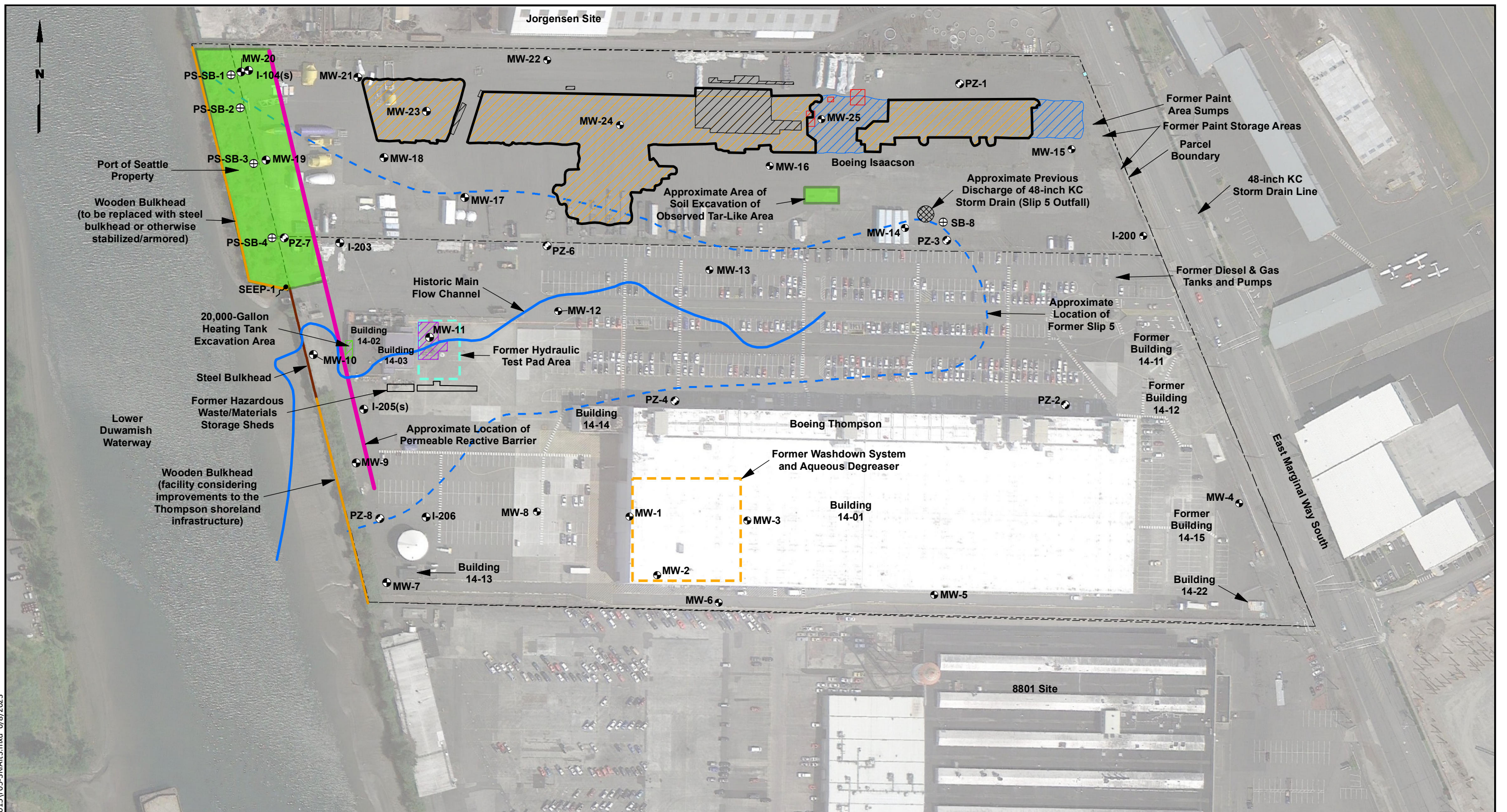
- **Proposed measures to avoid or reduce shoreline and land use impacts are:**

6. How would the proposal be likely to increase demands on transportation or public services and utilities?

- **Proposed measures to reduce or respond to such demand(s) are:**

7. Identify, if possible, whether the proposal may conflict with local, state, or federal laws or requirements for the protection of the environment.

**FS Figure 5-3
Alternative 3 -
In Situ Groundwater Treatment,
Shoreline Excavation, and Containment**



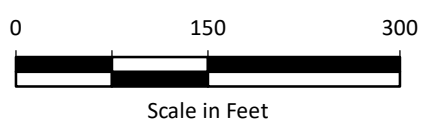
Legend

- MW-22 Monitoring Well Location
- PZ-1 Piezometer Location
- SB-8 Direct-Push Boring Groundwater Sample Location
- SEEP-1 Seep

LANDAU ASSOCIATES

- 1984 Excavation
- 1988 Excavation
- 1990 Excavation
- 1991 Excavation
- 1993-1995 Excavation
- 2004 Excavation
- 2008 Removal of Stabilized Soil Mound
- Current Extent of Stabilized Soil Material
- Approximate Location of Former Slip 5
- Approximate Location of Permeable Reactive Barrier

- Approximate Area of Soil Excavation



Note

1. Black and white reproduction of this color original may reduce its effectiveness and lead to incorrect interpretation.

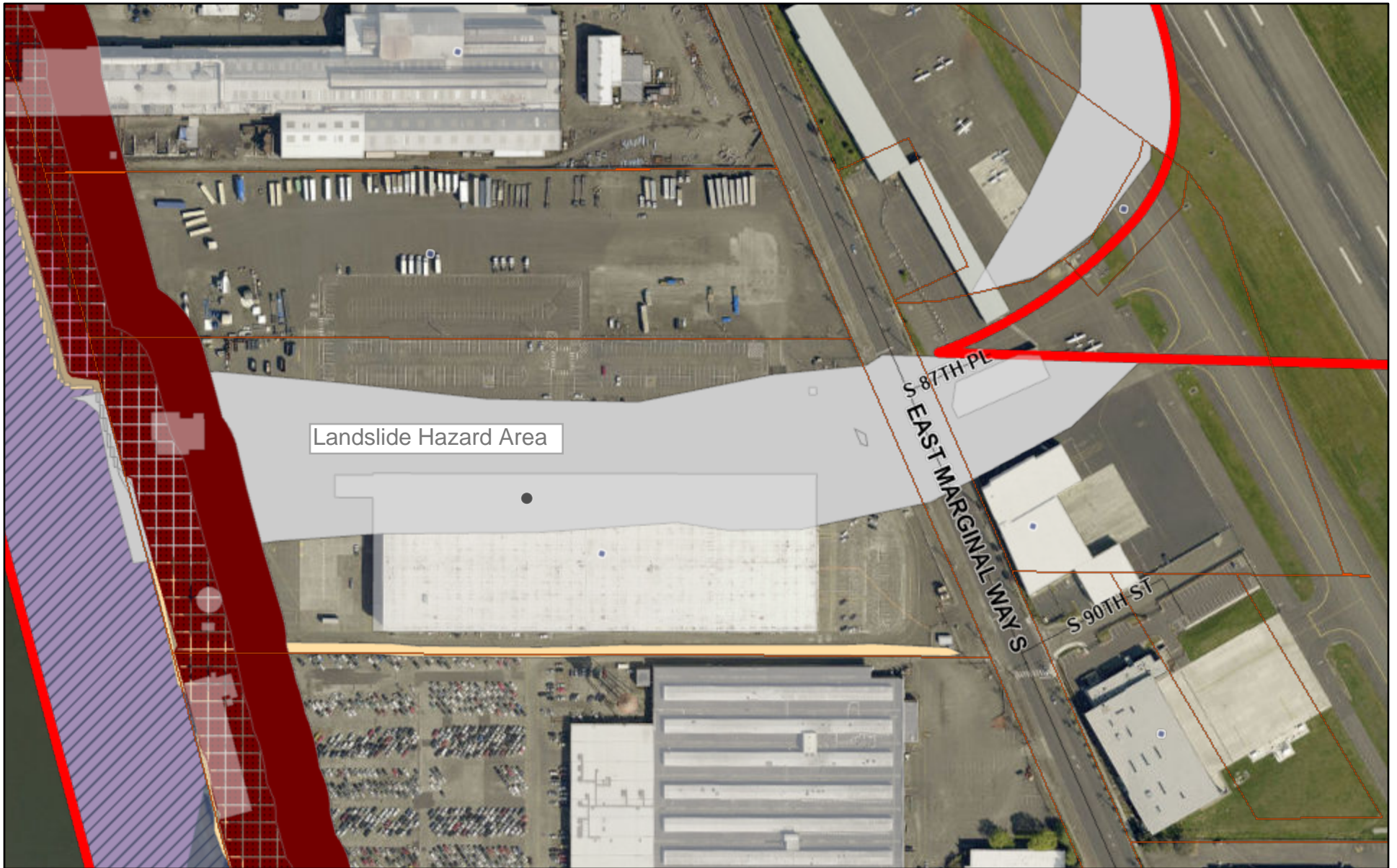
Data Sources: Google Earth Pro, 2012; King County Parcel Data

Boeing Isaacson-Thompson Site Tukwila, Washington	Alternative 3 - In Situ Groundwater Treatment, Shoreline Excavation, and Containment	Figure 5-3
--	---	----------------------

G:\Projects\025\190\218\015\F05-3R\Alt3.mxd 6/8/2023

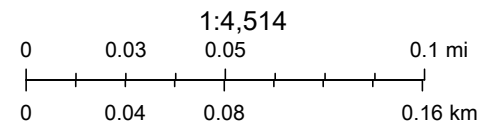
Critical Area Maps

Tukwila iMap



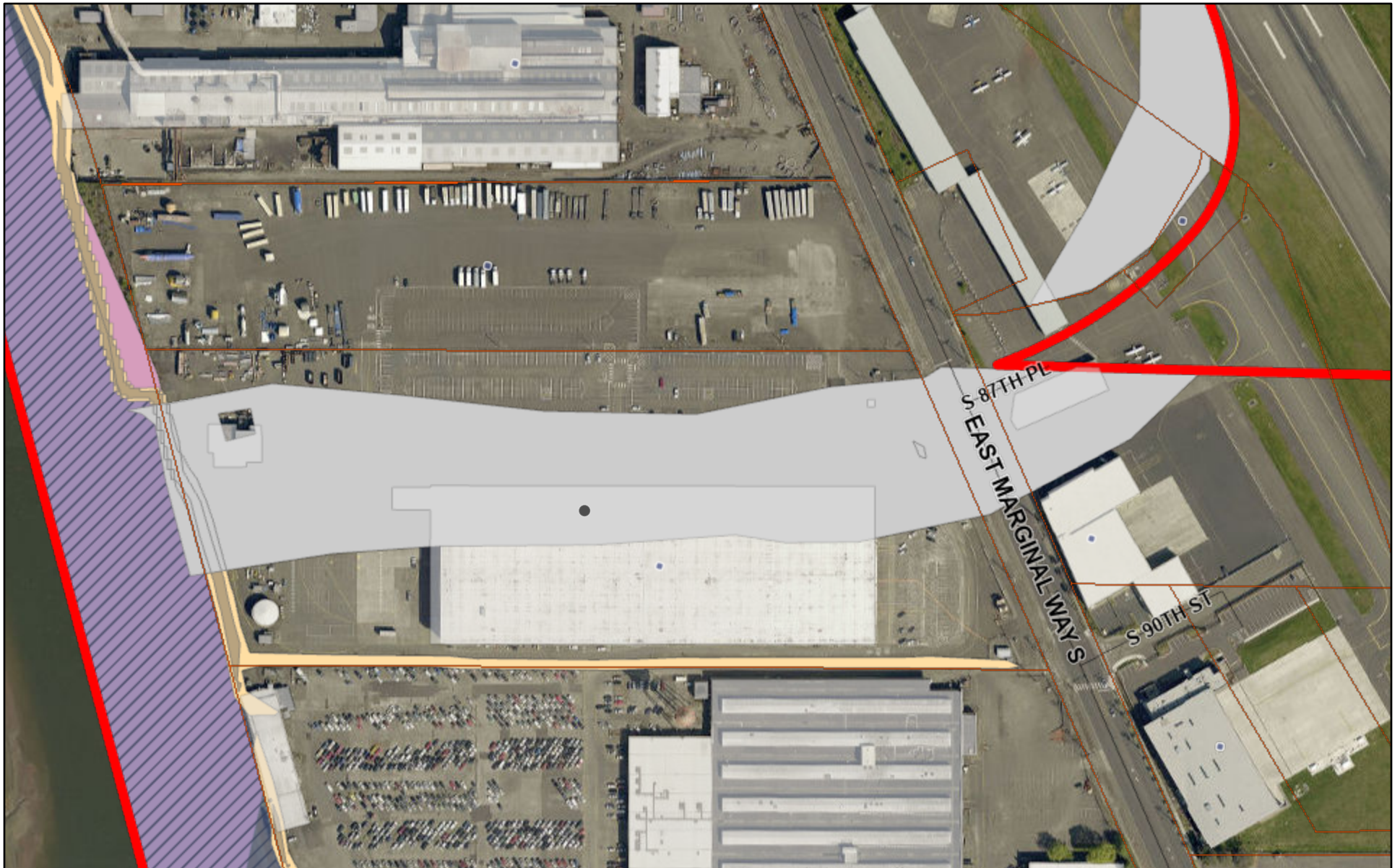
7/31/2023, 9:55:11 AM

- | | | | |
|-------------|---------------------|--|--------------------------|
| Parcels | Street | Shoreline Jurisdiction Environment Designation | Ordinary High Water Mark |
| City Limits | Addresses (Tukwila) | High Intensity | Seismic Hazard Area |
| Buildings | | High Intensity - Outside Buffer | FEMA Floodway (2020) |



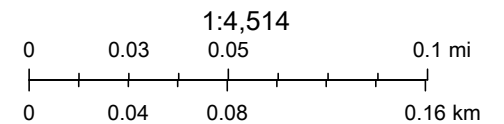
City of Tukwila, King County, Pictometry International Corp., King County

Tukwila iMap Hazard Areas



7/31/2023, 10:12:25 AM

- | | | | |
|-------------|---------------------|--------------------------------|-----------------------|
| Parcels | Street | Ordinary High Water Mark | Landslide Hazard Area |
| City Limits | Addresses (Tukwila) | FEMA Floodplain (100yr - 2020) | Class 2 - Moderate |
| Buildings | Seismic Hazard Area | FEMA Floodway (2020) | Class 3 - High |



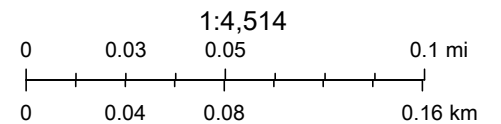
City of Tukwila, King County, Pictometry International Corp., King County

Tukwila iMap Seismic Hazard



7/31/2023, 10:17:26 AM

- Parcels
- Street
- Ordinary High Water Mark
- City Limits
- Addresses (Tukwila)
- Buildings
- Seismic Hazard Area

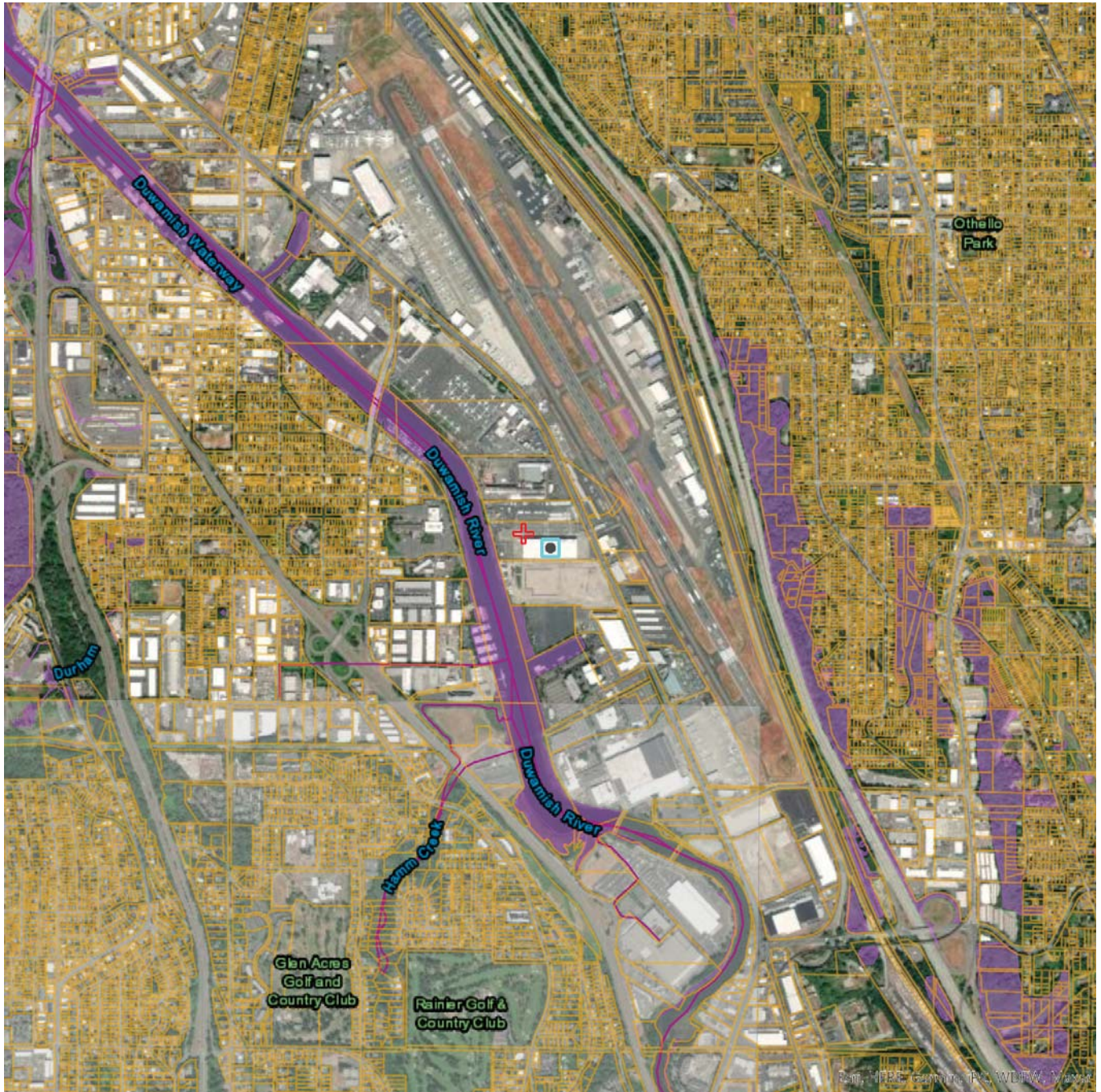


City of Tukwila, King County, Pictometry International Corp., King County

WA Department of Fish and Wildlife Priority Habitats and Species (PHS) Map



Priority Habitats and Species on the Web



Buffer radius: 15 Miles

Report Date: 07/31/2023

The Priority Habitats and Species (PHS) datasets do not contain information for your project area. This does not mean that species and habitats do not occur in your project area. PHS data, points, lines and polygons are mapped only when occurrences of these species or habitats have been observed in the field. Unfortunately, we have not been able to comprehensively survey all sections in the state and therefore, it is important to note that priority species and habitats may occur in areas not currently known to the Department.

DISCLAIMER. This report includes information that the Washington Department of Fish and Wildlife (WDFW) maintains in a central computer database. It is not an attempt to provide you with an official agency response as to the impacts of your project on fish and wildlife. This information only documents the location of fish and wildlife resources to the best of our knowledge. It is not a complete inventory and it is important to note that fish and wildlife resources may occur in areas not currently known to WDFW biologists, or in areas for which comprehensive

surveys have not been conducted. Site specific surveys are frequently necessary to rule out the presence of priority resources. Locations of fish and wildlife resources are subject to variation caused by disturbance, changes in season and weather, and other factors. WDFW does not recommend using reports more than six months old.