

## SEPA ENVIRONMENTAL CHECKLIST

*Terminal 117 Habitat Restoration  
West Shoreline Duwamish Waterway  
8700 Dallas Avenue South*

### A. BACKGROUND

**1. Name of proposed project, if applicable:**

Terminal 117 Habitat Restoration and Public Access Trails

**2. Name of applicant:** Port of Seattle

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

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**4. Date checklist prepared:** May 28, 2014

**5. Agency requesting checklist: Port of Seattle:** Port of Seattle 14-07

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

The proposed project includes habitat restoration and public shoreline access trails, which will include: grading and excavation, riparian and marsh plantings, construction of a viewpoint pier, bike racks, pathways, elevated viewpoint trail platforms, and interpretive features. Pending approval by participating city, state, and federal agencies, construction would occur between May 2015 – May 2016. Planting will be phased to occur primarily during the dormant season beginning in Fall 2016.

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

There are no current plans for additions, expansion or further changes in shoreline area at the former Terminal 117.

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

A Biological Evaluation was prepared to address the potential impacts of the previous cleanup activities on species and habitats listed under the federal Endangered Species Act. An addendum has been prepared to provide additional information and analysis of the proposed restoration project. A Water Quality Monitoring Plan will be prepared to address and control water quality impacts during construction of the restoration site and pier. A monitoring and maintenance plan will be prepared and will establish performance standards for both physical and biological elements of the project. The long term monitoring and maintenance plan is a component of the

final settlement of natural resource damage (NRD) claims related to the Lower Duwamish Waterway, Lockheed West, and Harbor Island Superfund sites.

A project-specific parking analysis was prepared to evaluate existing parking supply and demand in the vicinity of the site, and to assess the potential accommodation of parking demand created by the proposed public access amenities.

**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.**

There are no other known applications pending for governmental approvals for other development actions or proposals affecting the property.

The Port will submit an application for an amendment to an existing City of Seattle shoreline substantial development permit to establish the T117 public access use as a link to a public access obligation for prior shoreline developments at Terminal 46. This permit obligation will replace the Port's obligation at the Centennial Park fishing pier, which will continue to be owned/managed by the Washington Department of Fish and Wildlife.

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

- King County – Shoreline Substantial Development/Master Use Permit; grading, water and electrical permits
- Washington Department of Fish and Wildlife – Hydraulic Project Approval
- US Army Corps of Engineers – Section 10/404 Permit
- Washington Department of Ecology – Section 401 Water Quality Certification

**11. Give 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.)**

*Project summary and background:*

The Port of Seattle proposes to restore fish and wildlife habitat and provide public access via at the former Terminal 117 site and adjacent publicly owned shoreline property along the Duwamish Waterway, Seattle. The location of the project is between approximately river mile 4.1 and 4.4 along the west bank of the waterway. Construction of the site is intended to resolve historic natural resource damage (NRD) liability in the Lower Duwamish Waterway Superfund area. The proposed restoration will recontour an existing upland area and establish off-channel and on-channel marsh, mudflat, and riparian habitat on approximately 1/2 mile of the lower Duwamish riverbank, encompassing over 10 acres. The restoration project will also incorporate public access trails, with upland habitat viewing areas, a hand carry boat launch, and an approximately 175-foot long public access pier with moorage support.

Approximately 5.4 acres of the 10+ acre project site, including portions of the upland and shoreline areas of Terminal 117, have been the subject to an approved federal Superfund cleanup action. Contaminated soils and aquatic area sediments have been removed from the site under as a remedial action directed by the Environmental Protection Agency (EPA). The upland area has been stabilized with clean, selected fill material, with post cleanup elevation approximately +14

feet MLLW. The post cleanup bank line has been structurally stabilized with riprap, select fill materials, and a steel sheet piling containment wall. In addition, the completed site remediation includes erosion controls and storm water management features. Following cleanup dredging/excavation, intertidal and shallow subtidal aquatic area at the remediation site have been covered with clean sand, matching pre-cleanup aquatic area contours and elevations.

**Fish and Wildlife Habitat restoration:**

The Terminal 117 fish and wildlife habitat restoration project includes removal of fill material placed in estuarine aquatic in the first three decades of the 1900s, with the objective of replacing previously filled upland and rubble armored shoreline with intertidal and riparian features beneficial to migratory and resident fish and wildlife. The project combines two adjacent publicly-owned port shoreline sites: (1) existing upland area at Terminal 117 (north portion of project site, Site 23), approximately 750 linear feet of existing bank line, and (2) adjacent upland area south of Terminal 117 (Site 25), waterward of the Boeing South Park facility, approximately 1250 linear feet existing bank line.

*Terminal 117, north portion of the restoration project*

The post-remediation upland elevations and slope contours at the Terminal 117 portion of the project site will create three restored fish and wildlife habitat features: (1) exposed, unvegetated intertidal mud/sand substrate area, generally between approximately -4 and +8 feet MLLW; (2) emergent vegetation area, including marsh area extending from approximately + 8 feet to +12 feet MLLW; and, (3) native riparian area, landward of approximately +12 feet MLLW to variable top-of-bank elevations in adjacent upland areas, approximately + 23 to 28 feet MLLW.

In order to conduct soil remediation at the Terminal 117 portion of the restoration site, a temporary sheet pile wall was installed as a measure to isolate contaminated soil excavation from the Duwamish Waterway. The upper portions of the sheet piling wall will be cut off below grade at approximately +6 feet MLLW, leaving subgrade portions of the sheet piling in place for the purpose of deep, subsurface slope stability. Areas landward of the former sheet piling isolation structure will be reduced in elevation, from approximately +14 feet MLLW to intertidal elevations between +8 and +12 feet MLLW, with intertidal slopes between 6:1 (6 feet horizontal to 1 foot vertical) and 30:1. Intertidal areas between approximately +7 feet and +12 feet MLLW will be graded and shaped to create stable exposed intertidal mud/sand substrate suitable for planting marsh vegetation.

The Terminal 117 (northern) portion of the project site will provide off-channel intertidal habitat. Two low riparian berms will be constructed and oriented parallel to the Duwamish Waterway, with a total length of approximately 520 linear feet, approximately 15 feet wide, measured between +12 feet and +14 feet MLLW. These shoreline and habitat protection berms will be constructed using subgrade rock bolsters with at-grade anchored large woody debris (LWD) placed parallel to the mean higher high water (MHHW) contour for the purpose of bank stabilization. The berms will be planted with native riparian vegetation. Tidal exchange between the off-channel habitat and the Duwamish Waterway will be provided by a constructed, fish-passable channel.

In addition to the berms, the entire length of shoreline on site between +12 feet MLLW and top-of-bank elevations will be prepared for native riparian plantings. Shoreline area between approximately +12 and +14 feet MLLW will be graded as a 4:1 slope. Riparian area between +14 feet and top-of-bank elevations will include an approximate 2:1 slope, allowing for establishment of a continuous margin of native riparian vegetation, surrounding and contiguous with all intertidal marsh area.

*Upland area at south portion of Terminal 117 project site:*

The Terminal 117 fish and wildlife habitat restoration project also includes re-grading of approximately 1250 linear feet of existing filled upland and rubble filled bank-line south of the principal Terminal 117 off channel restoration area, with the objective of creating intertidal marsh and riparian corridor habitat resources parallel to the Duwamish Waterway shoreline. The existing bank line between the upland commercial property ( Boeing property) and aquatic area on the west margin of the Duwamish Waterway extends up slope from approximately +12 feet MHHW to top-of-bank elevations between approximately +28 feet and +23 feet MLLW. The filled bank line, 20 to 60 feet in width, is unstable, with eroding areas of nearly vertical profile. The intertidal areas along this bank line have no marsh vegetation. Existing substrate is mud/sand, with surface layers consisting of eroded fill material. Intertidal area is oriented parallel to the Duwamish Waterway navigation channel, including variable existing slopes, 3:1 to 6:1. Existing filled upland includes managed ornamental and non-native landscape plants, turf, and paving.

The south portion of the project area would be excavated, removing previously placed fill material, moving the top-of-bank landward 15 to 55 feet. The objective is to shape a continuous 2:1 slope extending from the relocated top-of-bank to approximately +14 feet MLLW. The regraded slope would continue to approximately +12 feet MLLW at 4:1. Area between +12 feet MLLW and the relocated top-of-bank, approximately 20 to 25 feet wide, would be planted with native riparian vegetation. Intertidal area that would be created by removal of previously placed fill material in this portion of the project site, approximately 20 to 35 feet wide, between +12 feet and +8 feet MLLW, would be planted with native marsh vegetation.

*Site excavation and grading, stabilization materials, plantings:*

Contouring of the site will require removal of up to 30,000 cubic yards of post remediation / clean up fill and historically placed fill materials. Placement of riparian berms used for protection of intertidal habitat area will include use of log crib and toe-of-slope anchored large woody debris, held in place with subgrade select fill and rock bolsters. In addition, reshaped toe-of-slope bank line areas throughout the combined project area will be stabilized with anchored large woody debris, using footer and cross log arrangements to avoid and minimize potential erosion, capture sediment and organic debris, provide fish and wildlife harborage, and provide a threshold for establishment of stabilizing lower bank line riparian vegetation. Coir or woven vegetation mats will be fastened in place throughout all areas graded and shaped for planting of marsh and riparian vegetation. All planting areas will be charged with blended soil, compost, and sand materials prior to placement of matting. All marsh and riparian plants will be inserted through installed matting to penetrate amended soil layers. Marsh area plantings will be protected with enclosures to prevent waterfowl grazing during the first three years of plant establishment. Riparian planting areas will also receive up to one half foot of shredded wood mulch materials. Riparian areas will be irrigated to ensure successful

establishment.

Shoreline Public Access Trails and Viewpoint Pier Installation:

The northern portion of the site will include shoreline public access trails, which will include viewing areas, crushed-rock pathways, interpretive features, seating, bike racks, a hand carry boat launch, and an approximately 175-foot long steel/concrete pier with utility moorage support. The viewpoint pier will extend from the landward top-of-bank, elevation approximately +17 feet MLLW, to the west edge of the federal channel. Overwater cover associated with the pier will be offset by the removal of 1500 sq. ft. of floating dock from the South Park Marina and the 14 associated vessel slips. Concrete and crushed rock pathways and a small pedestrian bridge (approximately 9 feet by 40 feet) will connect the pier with the adjacent Dallas Avenue right-of-way. The pedestrian bridge will provide a crossing and observation opportunity over the off channel area and the riparian berms described above.

The hand boat launch area consisting of a crushed rock trail with water bars will be established at the terminus of the concrete pathway and north of the viewpoint pier. A small (approximately 100' by 16' pull out area with pervious pavement for vehicle loading and unloading adjacent to Dallas Avenue S. will also be installed for trail access. At the southern end of the T117 parcel (approximately middle of shoreline of completed site) two elevated trail platforms will be installed at the top of bank which will provide additional waterway and habitat viewing opportunities. The platform structures, including stairs, are repurposed gangways associated with the Port's former cruise ship terminal on the Seattle Waterfront. They will be connected to the Dallas Avenue right-of-way by crushed rock path and small pedestrian bridge similar to the one proposed at the north end of the Terminal 117 parcel.

The north end trail will include a public access pier supported on up to fifteen (15) octagonal, 24-inch diameter concrete piling for structural support. After piling are installed, completion of underpier supports, decking, and handrails will be installed using upland-based equipment. Grated steel, fiberglass, or high-density plastic decking will be used to minimize the effects of shading beneath the pier. Shading will also be minimized by the deck's height above water, approximately +17 feet MLLW and east-west orientation. The pier footings will consist of rock fill or concrete supports, with toe elevations above approximately plus 14 feet MLLW. Along the waterward side of the site, up to ten steel piles will be installed at approximately elevations between +6 and +12 MLLW to provide for tribal fishing net attachments along the shoreline of the site.

- 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, 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 former Terminal 117 property is located on the west bank line of the Duwamish Waterway, between river miles 4.1 and 4.4. The property address is 8700 Dallas Avenue S, Seattle, WA 98108. The project site also includes portions of former Commercial Waterway District Property #1, approximately 1,250 linear feet of bank line adjacent and upstream of former Terminal 117. The site is within Section 29, Township 24 North, Range 4 East, King County, Washington.

## TO BE COMPLETED BY APPLICANT

### B. ENVIRONMENTAL ELEMENTS

#### 1. Earth

- a. **General description of the site (circle one): Flat, rolling, hilly, steep slopes, and mountainous, other \_\_\_\_\_.**

The Terminal 117 Restoration Site is located on the west shoreline of the Duwamish Waterway. Following completion of the remedial action at the site, the topography consists of a gently sloping backfilled area with sheet pile wall and riprap slopes.

The project site also includes the upland bank line between the Boeing facility and the waterway, which ranges in width from 25 to 80 feet, with the top of the shoreline ranging from elevation +23 to +9 MLLW.

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

The steepest slopes at the project site are in the bank line adjacent to the Boeing property, which consists of an abrupt nearly vertical slope between the toe of the bank and upland elevations, between approximately +20 and +27 MLLW.

- 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 existing upland area at the former Terminal 117 consists of select fill materials that were placed following the recent remedial action. Soils along the Boeing property shoreline consist of sediments dredged from the previous tideland area, excavated in the first two decades of the last century in order to create deep draft navigational access in the Duwamish Waterway and more recently placed fill materials from adjacent upland locations. The site included in the present proposal consists entirely of filled upland and has no previous, existing, or potential agricultural use.

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

As a filled former aquatic area site, the proposed shoreline access site could be subject to liquefaction and is identified by King County Critical Area maps as within a liquefaction zone. Liquefaction potential zones are considered environmentally sensitive but not environmentally critical areas.

- 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 proposal results in restoration/enhancement of over 10 acres of aquatic and riparian area. Removal of up to 30,000 cubic yards of existing shoreline fill material is proposed in order to create riparian, mudflat and salt marsh habitat conditions. Fill material will be placed in both the intertidal excavation areas as well as riparian slopes to provide proper substrate for habitat development. It is anticipated that shoreline stabilization along the northern portion of the restoration site will consist of log cribs installed between +6 and +14 feet MLLW and that

clean compacted soils will be placed within and on top of the log cribs to ensure durability. Along the southern portion of the restoration site, log toe structures will be installed at +12 feet MLLW. Log sills will be installed between approximately +7 feet MLLW and +8 feet MLLW along the entire site. These edges will be secured using soil anchors, rock bolsters, and coir fabric lifts.

**f. Could erosion occur as a result of clearing, construction, or use? If so, generally describe.**

No erosion due to the proposed project in existing upland area or adjacent aquatic area is anticipated.

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

Up to 4000 square feet of the site will consist of durable crushed rock pathways or pavers. Runoff which is not retained within the pathways will drain via sheetflow onto riparian slopes. The rest of the completed site will have no impervious surfaces.

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

Best management practices for control of potential sources of erosion will be implemented during all demolition and construction activities as consistent with the applicable sections of the King County Code. All new impervious surface areas will be sloped and drained for on-site infiltration, avoiding any new storm water runoff or discharge to the Duwamish Waterway.

Existing shoreline areas are being reshaped to create more gradual transitions between MHHW and the relocated top-of-bank. Slopes will range between 2:1 and 4:1. Slope toes will be bioengineered with large woody debris, including root wads and cross logs, as well as subgrade rock bolsters.

During excavation of the former Terminal 117 site, the water ward portion of the site will be isolated by the existing sheet pile wall. The shoreline areas along the Boeing property will be protected during excavation with a floating debris boom and upland areas will be fitted with temporary silt fences. All exposed soil surfaces will be protected from storm water-related sediment disruption through use of temporary straw bales. Graded slopes will be stabilized by application of plant material based erosion control fabric, mats, and formed plant material logs. Finally, all reshaped bank line and excavated upland areas will receive native riparian plants as a long-term soil stabilization measure.

## 2. Air

- 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.**

The proposal includes the following construction activities: (1) excavating previously placed fill material; (2) grading and constructing site slopes (3) placement of pathways, pedestrian bridge or other structures as public access improvements; (4) construction of public access viewpoint pier; and (5) installation of vegetation.

Air emissions are expected from vehicles and equipment used during excavation, grading, and installation of structures at the public shoreline access site and pier. Equipment anticipated for use at the site will include motor-powered construction machinery and heavy trucks, as well as barge mounted pile driver.

Air emissions resulting from the completed public shoreline access site will be limited to maintenance vehicles and vehicles used by site visitors. Air emissions from the finished public shoreline access site are not expected to change significantly, and may result in an improvement due to replacement of paved or bare ground with vegetated areas.

An estimation of greenhouse gas emissions (in MT CO<sup>2</sup> equivalent) has been calculated and is attached. Note that several project elements (pedestrian bridge, elevated viewpoints) are not new materials, but have repurposed or recycled in keeping with Port of Seattle sustainable practices, and are not included in the GHG calculation.

Due to the sequestration of carbon from the net gain of vegetated riparian uplands and near shore areas, the project provides a net carbon sequestration benefit of over 1,000 metric tons of CO<sup>2</sup> equivalent.

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

No off-site sources of air emissions are present that have the potential to adversely affect the present proposal.

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

Motor-powered equipment used for the proposed construction activities and subsequent maintenance operations will be operated and maintained consistent with existing air emissions requirements.

## 3. Water

- a. Surface Water:**

- 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 proposed project site is located on the west margin of the Duwamish Waterway, between river miles 4.1 and 4.4.

- 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.**

The proposed project will take place in an existing shoreline area. Excavation, grading, planting, and construction activities will take place within 200 feet of the shoreline.

- 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.**

No dredging is proposed. Fill activities in areas affected by tidal waters or in areas waterward of MHHW include placement of specifically graded fill between approximately +4 and +12 MLLW with the objective of reshaping the existing intertidal slopes from the existing 25-40% to a new slope averaging approximately 5%. Up to 5,000 cubic yards of select sand and gravel substrate will be placed between +4 feet and +12 feet MLLW.

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

No surface water withdrawals or diversions are proposed as part of the proposed project.

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

The proposed restoration project will take place in existing shoreland area, a portion of which is considered "floodway". The proposed work will include reshaping the existing eroded bank line, removing historically placed fill, and inundating areas that are currently uplands, in order to create marsh, mudflat and riparian habitat. The project will result in a significant expansion of the bankfull width of the Duwamish Waterway in this location and result in beneficial effects on flood-flow characteristics.

- 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 proposed project does not include discharge of waste materials to aquatic area in the adjacent Duwamish Waterway. There is a small potential for localized temporary increases in turbidity during construction activities, including excavation and fill.

**b. Ground Water:**

- 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 general description, purpose, and approximate quantities if known.**

The proposed project does not include withdrawal of groundwater or discharge of materials to groundwater at the project site.

- 2) Describe waste material that will be discharged into the ground from septic tanks or other sources, if any (for example, 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.**

The proposed project does not include any discharge of waste material to ground water from septic tanks or other sources.

**c. Water Runoff (including storm water):**

**1) 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.**

Up to 4000 square feet of public shoreline access pathways and structures distributed throughout the north and south ends of the Terminal 117 portion of the site have the potential to create storm water runoff. However, these features are linear in nature and the volume of stormwater produced relative to the location and size of the site is expected to be insignificant. The small amount of runoff which is generated by impervious surfaces will be dispersed and infiltrated into the adjacent vegetated riparian areas. Stormwater runoff will not be collected, concentrated and discharged into the river.

It is important to note that the post-construction runoff will be significantly reduced compared to the completely impervious industrial site that formally occupied the Terminal 117 parcel. Potential impacts from excavation and grading activities necessary to reshape existing bank line areas will be controlled using silt fences, debris booms and plant materials, including woven mats and fabric. These erosion control practices are expected to minimize and avoid potential discharges of storm water to the Duwamish Waterway.

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

There is a small potential that waste materials could be generated during excavation, grading, and construction activities.

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

By removing up to 30,000 cubic yards of historically placed fill material, the proposal will expand the flood conveyance capacity of the Duwamish Waterway in this reach. It will not adversely affect drainage patterns in the vicinity of the site.

**d. Proposed measures to reduce or control surface, ground, and runoff water impacts, if any:**

All construction activities will be controlled to avoid and minimize potential releases of debris to the aquatic environment. All operating equipment at the site will be subject to best management practices (BMPs) and Spill Prevention, Containment and Countermeasures (SPCC) plans implemented to avoid and minimize potential releases of fuel and petroleum products used by construction equipment to the marine environment.

Potential adverse effects will be minimized during construction by the following in-water construction controls and best management practices:

- All in-water construction activities will be limited to periods determined by participating state and federal agencies to avoid potential adverse effects on migratory fish.

- Best management practices, spill response procedures, and erosion and sediment control measures will be implemented during all phases of construction, in shoreline and upland locations, to avoid discharges and prevent entry of debris to surface waters. All construction debris will be captured and prevented from entering the aquatic area.

All activities affecting area waterward of MHHW will be coordinated with Treaty tribe fishing access in order to avoid and minimize potential effects on usual and accustomed fishing activities in the Duwamish Waterway.

#### 4. Plants

##### a. Check or circle 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, bulrush, 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?

No significant vegetation is present at the former Terminal 117 site. Existing vegetation along the shoreline adjacent to the Boeing property includes a combination of introduced landscape trees and shrubs, non-native invasive species, and open turf-planted areas.

The proposed public shoreline access project includes reshaping the existing uplands and bank line to create native riparian and shoreline planting area throughout the entire length of the site.

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

No threatened or endangered plant species are known to be in the project area.

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

First and foremost, the objective of the proposed project is to habitat restoration, emphasis ecological functions and environmental interpretation. The portions of the site that have been graded to suitable elevations for salt marsh and riparian habitats will be planted with native vegetation in order to create restored habitat functions. The proposed planting list is below:

Riparian Habitat Species:

- Snowberry, *Symphoricarpos albus*
- Nootka Rose, *Rosa nutkana*
- Red flowering currant, *Ribes sanguinum*
- Beach strawberry, *Fragaria choloensis*
- Douglas fir, *Pseudotsuga menziesii*
- West red cedar, *Thuja plicata*

Red alder, *Alnus rubra*  
Big leaf maple, *Acer macrophyllum*  
Hooker/Sitka willow, *Salix hookeriana* and *S. sitchensis*  
Red Osier dogwood, *Cornus solonifera*

Marsh Habitat Species:

Lyngby's sedge, *Carex lyngbyei*  
Saltgrass, *Distichlis spicata*  
Tufted hair grass, *Deschampsia cespitosa*  
Pacific silverweed, *Potentilla pacifica*  
Puget Sound beach grass, *Leymus mollis*

A drip irrigation system will be installed at the site to ensure success of the native plantings, in addition to long term monitoring and maintenance.

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

Existing vegetation on the uplands of the Boeing property includes non-native Himalayan blackberry, *Rubus armeniacus*, and English ivy, *Hedera helix*.

**5. Animals**

**a. List any birds and other animals which 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:**

Upland areas at the site do not include significant upland habitat for birds or mammals. Aquatic area in the adjacent Duwamish Waterway, connecting with the East and West Waterway in south Elliott Bay, and upstream to the Green/Duwamish River, provides habitat important to numerous species of resident and migratory fish and wildlife.

The proposed improvements are intended to reshape the existing uplands and bank lines in order to create riparian, estuarine marsh, and mudflat habitat zones. These zones will be enhanced by placement of native plantings. In combination, these improvements are expected to enhance the aquatic resource value of existing adjacent intertidal and shallow subtidal area of the Duwamish Waterway. These actions will, therefore, provide positive long term aquatic area effects, offsetting any potential negative effects due to temporary in-water construction included in the proposed project.

South Elliott Bay, the East Waterway and West Waterway, and the Duwamish Waterway are part of a migration corridor important to anadromous salmon species, serving as a connection between Elliott Bay and the Green/Duwamish watershed. In particular, Puget Sound Chinook and bull trout are known to use the project area.

Excavation and fill activities have the potential to temporarily increase turbidity in the water column that could be occupied by sub-adult or adult salmonids, but no adverse effects are expected.

Likewise, installation of piling could create underwater noise within the range of sound pressure that may affect fish and wildlife. However, because specific project timing and piling construction methods will be used to control underwater noise, it is not expected to create significant adverse affects.

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

Species listed under the Endangered Species Act (ESA) that may be present in the vicinity of the proposed T117 project include: (1) Puget Sound Chinook salmon – threatened; (2) Coastal-Puget Sound bull trout- threatened; (3) Puget Sound Steelhead – threatened.

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

South Elliott Bay, the East and West Waterways, and the Duwamish Waterway, comprise a portion of the migration corridor important to anadromous salmon species, linking Elliott Bay and the Green/Duwamish watershed. In particular, Puget Sound Chinook and bull trout are known to use the project area.

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

The primary purpose of the project is to provide habitat restoration of up to one-half mile of the Lower Duwamish waterway river bank by establishing off channel and on channel marsh, mudflat, and riparian habitat. The proposal will enhance habitat conditions for fish and wildlife species within the project area, providing marsh, mudflat and riparian vegetation. It is anticipated that the proposed improvements will improve over 10 acres of fish and wildlife habitat within the project site. Additionally, approximately 1,500 square feet overwater coverage associated with the South Park Marina's south dock, along with associated fourteen (14) permanent moorage slips and four (4) creosote treated piling will be removed from the shallow subtidal area at the north end of the project site.

Measures to avoid and minimize potential adverse effects on ESA species of concern and, as a result, function as conservation measures, may include a combination of the following:

- Timing restrictions specifying allowable in-water work periods. Piling extraction, removal rubble and debris, and shoreline reshaping activities would take place only between October 1 and February 15, or other period determined by state and federal agencies.
- Water quality standards and procedures that limit the effect of turbidity to a defined mixing zone, stipulate limits for chemical constituents, dissolved oxygen, and other parameters, implemented by the Washington Department of Ecology.
- Best management practices (BMPs) required to reduce the potential for construction-related potential affects on aquatic species and their habitats, including: (1) prevention of releases of petroleum products, chemical, or other toxic or deleterious materials to the water; (2) immediate stop of work to report and contain any spills or releases, and, (3) preparation and application of a Spill Prevention, Control, and Countermeasure (SPCC) plan for use through the piling removal and installation activities.

Please also see Section B.3.d. (Water) above for measures to avoid and minimize potential adverse effects on water resources important to the biological resources noted above.

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

Nutria (*Myocaster coypus*) is known to exist in the vicinity of the project site. Canada geese (*Branta canadensis*) are also abundant in the area. The project will include measures to exclude both nutria and Canada geese until vegetation has become established (to the extent possible).

## **6. Energy and Natural Resources**

- a. 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.**

No significant change in use of energy is anticipated to result from the proposed project. No structures or other energy-requiring facilities are included in the proposed project.

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

The proposed project will have no adverse effect on potential use of solar energy at adjacent sites.

- c. 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:**

Fuel-efficient electrical and motorized equipment will be used to the extent possible during construction of the proposed project. Please note that the proposed project includes public use as recreational and does not include operations at the site with requirements for energy use.

## **7. Environmental Health**

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

The proposed project does not include operations or activities with the potential to produce hazardous materials or waste products at the site. Motorized equipment used for construction activities may include potentially hazardous materials in the form of fuel, lubricants, and associated materials. These materials will be subject to local, state, and federal controls and regulations pertaining to use, handling, and storage. No increase in exposure is anticipated.

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

Approximately 5.4 acres of the 10+ acre project site, including portions of the upland and shoreline areas of Terminal 117, have been the subject to an approved federal Superfund cleanup action. Contaminated soils and aquatic area sediments have been removed from the site under as a remedial action directed by the Environmental Protection Agency (EPA).

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

The site currently includes no hazardous chemicals or conditions that will affect the proposed restoration project. There are no hazardous liquid or gas transmission pipelines within the project area.

**3) Describe any toxic or hazardous materials 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.**

Materials that may be present during construction would include gasoline and diesel fuels, hydraulic fluids, oils, lubricants, and other chemical products. A spill of one of these chemicals could potentially occur during construction as a result of either equipment failure or worker error. A spill prevention plan would be prepared and implemented during construction. The completed project would not result in any environmental health hazards due to the presence of toxic or hazardous materials.

**4) Describe special emergency services that might be required.**

No special emergency services are anticipated or necessary due to the proposed project.

**5) Proposed measures to reduce or control environmental health hazards, if any:**

Potentially hazardous fuels, lubricants, and associated materials used for operation of motorized equipment as part of the proposed construction activity will be subject to existing local, state, and federal controls for use, handling, and storage, with the objective of avoiding potential environmental health exposure and hazards.

**b. Noise**

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

The site is in the Duwamish industrial area and existing sources of noise at the site include motor-driven vehicles, particularly heavy trucks and industrial equipment.

**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.**

Short-term noise levels will be affected at the site during construction. Noise-generating construction equipment will include piling demolition/extraction activities, excavation and grading, hauling of construction materials to and from the site, and installation concrete structures.

Construction activities are expected to take place during normal working hours. It is expected that noise generated from construction equipment will be within existing industrial area day time baseline levels and noise levels are not expected to exceed noise code requirements included in the King County noise code (KCC Chapter 12.88). Receiving properties adjacent to the site are within the City of Seattle and would be subject to limits established by the Seattle Noise ordinance, SMC Chapter 25.08.

No significant increase in noise resulting from public use of the site is expected to result from the proposed project.

**3) Proposed measures to reduce or control noise impacts, if any:**

All motorized construction equipment will be maintained and operated consistent with prudent measures to control potential noise emissions.

**8. Land and Shoreline Use**

**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.**

The proposed habitat restoration and public shoreline access site is located in the South Park community, primarily surrounded by sites and businesses built and committed to general industrial uses and activities. There are also several residential parcels and a recreational marina in the immediate vicinity. Historically the Terminal 117 site was used for industrial purposes, including asphalt shingle manufacturing. At present it is undeveloped, having been recently cleaned up as an Early Action Superfund area. The proposed restoration/public access site also includes portions of Duwamish Waterway shoreline and aquatic area. The Duwamish Waterway was channelized in 1911 and is maintained for maritime industrial purposes. The proposed project will not affect current land uses on or around the site.

- 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 as a result 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 project site is a filled former aquatic area and has no historic agricultural or silvicultural use. No agricultural or forest land of long-term commercial significance will be converted to other uses as a result of the proposal.

- b.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:**

No.

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

Existing structures on the site include: a sheet pile wall place during the previous cleanup action, riprap slopes, and a pile-supported debris deflector.

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

An existing concrete path and curb, four picnic tables and four benches will be removed from along the top of the bank along the southern (site 25) portion of the project site. The existing sheetpile containment wall will be modified so that it is entirely below grade. No other existing structures are proposed to be demolished.

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

The existing zoning classification is Industrial.

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

The King County Comprehensive Plan includes goals and policies for aquatic resources and industrial uses within the county. The proposed habitat restoration project is consistent with these policies.

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

The present King County shoreline environment designations are High Intensity for the upland portions of the site and Aquatic for the aquatic area.

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

King County Critical Area Maps indicate that the project site is designated as subject to liquefaction/seismic hazard under the Critical Areas ordinance (KCC Title 21A. 24).

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

No residential uses are present at the project site and no residential occupancy is proposed. No workers would be employed at the finished site.

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

The completed project is not expected to result in displacement of workers.

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

No displacement of residents will result from the proposed project; therefore, no measures for avoiding or reducing displacement impacts are included in the present proposal.

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

The proposed public shoreline access site is consistent with applicable land use plans, and with zoning and shoreline management regulations.

The project is consistent with Port of Seattle's Century Agenda, long-range Seaport facility environmental objectives, the Port's Lower Duwamish River Habitat Restoration Plan, and the WRIA 9 Salmon Habitat Plan.

*Port of Seattle Plans:*

The Century Agenda is the Port of Seattle's 25-year vision statement, and includes environmental strategies and objectives for the Port's operations and properties. A specific goal is to "Restore, create, and enhance 40 additional acres of habitat in the Green/Duwamish watershed and Elliott Bay." The Terminal 117 Habitat Restoration will restore over 10 acres of marsh, mudflat, and riparian habitat within the Duwamish watershed.

The project location is identified in the Port of Seattle Lower Duwamish River Habitat Restoration Plan as Sites 23 and 25, and the current proposal is consistent with the habitat restoration plans identified.

*King County Zoning Code (KCC 21A.04):*

The purpose of the underlying King County industrial zone is to provide for location and grouping of industrial enterprises, and to protect the land base for industrial development and employment. This is to be accomplished by: allowing for a wide range of industrial and manufacturing uses; establishing appropriate development standards; and limiting non-industrial uses to those necessary for the convenience of industrial activities (KCC. 21A.04.30).

The Terminal 117 restoration will convert a long vacant former industrial property to marsh and riparian habitat and shoreline public access uses. As previously noted above, the restoration is intended to serve as a component of the final settlement of federal, state, and Tribal Trustees NRD damages, consistent with the Lower Duwamish River NRDA Programmatic Restoration Plan (2009) and the accompanying Programmatic Environmental Impact Statement. The EIS described the Trustees' clear preference for restoration projects in the Lower Duwamish Study area, and for restoration of habitat in areas devoid of natural habitat. The project site is located in one of the most critical of these habitat areas, and includes the salt water/fresh water transition zone in the Duwamish, a critical habitat for juvenile salmon that is extremely limited within the watershed.

Given that the restoration of habitat is a key element of the NRD settlement, the highly developed nature of the Lower Duwamish River, and the limited availability of sites, the proposed site is a choice within a uniquely constrained area, and one which would prevent conversion of other occupied and productive industrial land to non industrial use as NRD restoration. The proposed restoration will not interfere with other industrial and maritime uses in the vicinity. It therefore meets the industrial zoning policy of limiting non-industrial uses to those necessary for the convenience of industrial activities, while providing a substantial public amenity and natural resource benefit within the industrial zone.

King County Zoning Code (KCC 21A.08):

Habitat restoration is considered a “shoreline modification” in the context of KCC21A.25 (Shoreline Master Program) and not a “use” per se. As such, it not addressed specifically in the zoning tables in KCC21A.08 and is assumed to be permitted outright.

Shoreline access features proposed for the project, as configured on the project site, are best categorized from a zoning perspective as “trails”, inasmuch as they are linear features which are intended to convey visitors, maintenance personnel and regulatory staff to specific viewpoints and environmental interpretation features. Trails are permitted outright in the industrial zone.

King County Shoreline Master Program:

The Terminal 117 Habitat Restoration lies is located within the jurisdictional boundaries of the state Shoreline Management Act (“SMA”, RCW 90.58 RCW) and the King County Shoreline Master Program (“SMP”, KCC 21A.25). The SMA and the King County SMP encourage habitat restoration and shoreline public access, which are the primary objectives of the proposal.

KCC 21A.25 establishes standards for uses and developments within the shoreline jurisdiction. The T117 habitat restoration project elements are: trails, piers and docks, and shoreline habitat and natural systems enhancement. These elements are all allowed in the High Intensity zone subject to certain conditions, which are met by the proposal. The proposal also complies with requirements established for public access in KCC 21A.25.140. The proposed habitat restoration and public access trails comply with the applicable standards (KCC 21A.25.150):

*H. Public contact with unique and fragile areas shall be permitted where it is possible without destroying the natural character of the area;*

*I. Water viewing, nature study, recording and viewing shall be accommodated by open space, platforms, benches, or shelter, consistent with public safety and security.*

The primary purpose of the project is habitat and natural systems enhancement project, and meets conditions imposed by the county Shoreline Master Program for projects restoring ecological functions under KCC 21A.25.160, condition P7.

The viewpoint pier is an allowed development within the High Intensity environment, and is subject to the applicable standards for a public, non-residential pier, KCC 21A.25.180. A and B. The pier is a water-dependent public access element, is not associated with residential moorage, and will provide moorage attachments for tribal vessels, police and fire vessels, and for vessels associated with biological monitoring or sampling in the adjacent waterway. The pier is the minimum size necessary to meet and support the use and meet ADA access requirements, and the overall project provides a substantial net benefit to aquatic habitat and ecological functions.

WRIA 9 Salmon Plan:

The 2005 WRIA 9 Salmon Habitat Plan, project “Duw-11”, calls for shallow water habitat creation between river miles 3 and 5.5, including the Terminal 117 project area as a potential project in the “core” Duwamish Transition Zone.

**m. Proposed measures to ensure the proposal is compatible with nearby agricultural and forest lands of long-term commercial significance, if any:**

The project site is within the Duwamish industrial corridor. It is not nearby agricultural or forest lands of long-term commercial significance.

**9. Housing**

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

No housing units are included in the proposed project.

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

No housing units would be eliminated due to the proposed project.

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

Since no housing resources will be affected, no measures to reduce or control adverse effects on housing are included in the present proposal.

**10. Aesthetics**

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

Proposed public shoreline access improvements include grade-level construction throughout, with the exception of the viewpoint pier and trail bridges. It is anticipated that the pier will be between approximately +16 and +20 feet MLLW elevation.

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

No adverse effects on views of adjacent water and shoreline areas are expected to result from the proposed public shoreline access improvements. Public use of the area will include improved shoreline views/perspectives of the river and surrounding areas.

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

No significant changes in view conditions at the site are anticipated and no offsetting aesthetic measures are included in the present proposal.

**11. Light and Glare**

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

The pier, trails bridges and pathways will be lighted by post-mounted and down-shielded lights approximately every 10 feet. The LED lighting will meet Dark Sky Initiative standards while providing for public safety and security within the shoreline public access areas. Two small navigational beacons will be mounted on the end viewpoint pier consistent with US Coast Guard Aid to Navigation system requirements.

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

No light or glare from the finished project will be a safety hazard or interfere with existing views.

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

No off-site sources of light and glare in the area of the project site are expected to adversely affect the present proposal.

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

None are proposed.

**12. Recreation**

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

The Port of Seattle has constructed and maintains three public shoreline access sites in the Duwamish Waterway downstream from the proposed Terminal 117 project site: (1) Duwamish Public Access at Terminal 105, 4260 West Marginal Way Southwest—including 210 feet of shoreline, 1.3 acres, fishing pier, covered tables, hand-carried boat launch, and fish and wildlife habitat; (2) Diagonal Avenue South Public Access at Terminal 108, west of East Marginal Way South on Diagonal Avenue—including 1.2 acres with 700 feet of shoreline, interpretive signs, hand-carried boat launch, and fish and wildlife habitat restoration area; and, (3) Duwamish Public Access at Terminal 107, 4700 West Marginal Way Southwest—including 7.2 acres, wildlife observation, shoreline pathway, tables and benches, interpretive information, and fish and wildlife habitat restoration areas. Additional public use areas near the project site include public right-of-way at the east shoreline Eighth Avenue South street-end and public access and fish and wildlife habitat areas in the area of Turning Basin Number Three, upstream of the project site.

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

The proposed project will not alter or disrupt existing public shoreline or recreational uses in the project area.

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

None are proposed. The project will provide new shoreline public access and restored habitat in a section of the waterway where historically such opportunities have been sparse.

**13. Historic and Cultural Preservation**

**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 located on or near the site?**

No listed historic or cultural resource sites are known to be present at or adjacent to the project site. The possibility that historic or cultural resources are present at the site is low since the present shoreline site consists of fill placed in former aquatic area of the Duwamish estuary.

Aquatic areas in the vicinity of the project site consist of Treaty-protected “usual and accustomed” fishing areas. The Muckleshoot Indian Tribe, together with the Washington Department of Fish and Wildlife, manages fishing activity in this area. Fishing by Tribal members in this area is consistent with past federal government treaties and subsequent court decisions. Treaty fishing is an ongoing activity, and thus, a baseline condition within this area.

Members of the Muckleshoot Indian Tribe harvest Chinook, coho, chum, and steelhead salmon in the Elliott Bay/Duwamish traditional fishing areas during summer, fall, and winter of each year, generally from August through February. The aquatic area adjacent to the proposed restoration site is an active set net fishing area.

- 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 landmarks or evidence of historic, archaeological, scientific, or cultural features of importance are known to be at the project site or potentially affected by project actions.

An archaeological study was prepared in advance of the Superfund cleanup work which has recently been completed. The current proposal will not excavate within native soils/sediments and as such has extremely low likelihood of encountering cultural/archaeological resources.

- 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.**

An archaeological study was prepared in advance of the Superfund cleanup work which has recently been completed. The archaeological study included review of ethnographic literature, inspection of geotechnical borings, and monitoring during excavation of soils within the project area.

- 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.**

No potential adverse effects on historic resources are anticipated and no measures are proposed to reduce or control such effects.

The port acknowledges the need to evaluate the present proposal in detail with the Muckleshoot Indian Tribe to determine actions necessary to avoid and minimize potential negative effects on Treaty fishing access. It is important that construction activities necessary for the proposed project avoid and minimize potential disruption of Treaty fishing activities. Construction activities will also be coordinated with fishing periods in order to minimize potential disruption of fishing locations.

#### **14. Transportation**

- 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 restoration site is located on the west margin of the Duwamish Waterway, adjacent to former Terminal 117 in the South Park neighborhood. The site is east of Highway 99, south of the 16th Avenue South Bridge, and east of the South Park. Public streets serving the site are: Dallas Avenue S., 17<sup>th</sup> Avenue S., and S. Donovan Street.

- 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?**

No public transit is located directly adjacent to the proposed public shoreline access site. The nearest transit stop is at 14<sup>th</sup> Avenue S. and S. Trenton Street and is served by Metro Routes 132 northbound and 60 southbound.

**c. How many additional parking spaces would the completed project or non-project proposal have? How many would the project or proposal eliminate?**

The proposed project does not include on-site parking and will not alter off-site parking areas located in adjacent streets. A small area of pervious pavement adjacent to Dallas Avenue South will provide an informal area for vehicle loading/unloading with a connection to the public access trail. A project-specific parking analysis performed for the Port evaluated the parking supply and existing demand in the vicinity of the site. This analysis concluded that the completed site would be expected to generate parking demand of less than 10 vehicles at a time, and that no adverse parking impacts are expected to result from the project.

**d. 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).**

None are proposed.

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

No changes in adjacent rail or air transportation will result from the proposed project. It is important to note that the proposed project is not expected to result in significant changes in vehicle use patterns or the number of vehicles in the area.

**f. 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 nonpassenger vehicles). What data or transportation models were used to make these estimates?**

No significant change in the volume vehicles in the area is expected. During construction, it is expected that vehicle use will include truck trips necessary for material hauling (including removal of demolition materials and delivery of construction materials) and construction employee trips. The total number of construction vehicle trips is not expected to exceed 25 trips per day.

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

The project site is a filled former aquatic area and has no historic agricultural use. No movement of agricultural products would be affected as a result of the proposal

**h. Proposed measures to reduce or control transportation impacts, if any:**

No negative effects on transportation in the area of the project site are anticipated. No additional measures for reduction/minimization of potential adverse transportation effects are included in the project.

**15. Public Services**

- 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 increase in public services is anticipated as a result of the proposed project. However, the project site will continue to be patrolled by both Port of Seattle and City of Seattle Police Departments.

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

No measures for offsetting, reducing or controlling adverse effects on public services are required.

**16. Utilities**

- a. **Circle utilities currently available at the site: electricity, natural gas, water, refuse service, telephone, sanitary sewer, septic system, other.**

The project site will receive electric and water service.

- 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 that might be needed.**

Changes necessary for extending electrical and water service to the site will be required.

**C. SIGNATURE**

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.

Signature: Signature on File

Date Submitted: May 28, 2014

**Port of Seattle - Terminal 117 Habitat Restoration Project  
Greenhouse Gas Emissions (CO<sup>2</sup> equivalent)**

**Construction Emissions:**

<i>On-site equipment</i>	Working Days	Hours Operating per Day	Rate of Fuel Use (gph)	Type of Fuel	Total Fuel Use (gallons)	Total Emissions (metric tons CO <sub>2</sub> )
Tracked excavator	120	6	9	B20 <sup>1</sup>	5443.2	50.2
Barge mounted crane	14	8	7	Diesel <sup>2</sup>	784	7.2
Small sized tug	14	2	4	B20 <sup>1</sup>	112	1.0
Other vehicles/engines	25	4	6	Diesel <sup>2</sup>	600	6.6
<i>Transportation</i>	No. of One Way Trips	Trip Distance (miles)	Rate of Fuel Use per trip (gallons)	Type of Fuel	Total Fuel Use (gallons)	Total Emissions (metric tons CO <sub>2</sub> )
Disposal	2500	20	1.7	Diesel <sup>2</sup>	4167	45.9
Materials delivery	120	20	1.7	Diesel <sup>2</sup>	200	2.2
Personal vehicles	200	10	0.5	Gasoline <sup>3</sup>	100	1.1

**Embodied Emissions:**

<i>Materials</i>	Quantity	Unit	Carbon Emissions per Unit (mt CO <sub>2</sub> ) <sup>5,6</sup>	Carbon Sequestration per Unit	Total Carbon Sequestered (mt CO <sub>2</sub> )	Total Emissions (mt CO <sub>2</sub> )
Concrete (path, footings)	1000	sf	0.00189	0	0	1.9
Steel pipe pile	100	tons	0.035	0	0	3.50
Steel decking, hardware	50	tons	0.035	0	0	1.75
Crushed rock	250	cy	0.00768	0	0	1.9

**Emissions Sequestered in vegetation and soils**

	Acres Restored	Avg. Carbon Sequestration per Year (metric tons of carbon) <sup>3</sup>	Total No. Years at Avg Rate	Total Carbon Sequestered (metric tons carbon)	Total Carbon Sequestered (metric tons CO <sub>2</sub> )
Riparian vegetation	2.5	2.0	50	250	916.7
Salt Marsh	2.5	0.8	50	101.3	371.3

**TOTALS**

Construction Emissions CO <sup>2</sup>	65.0
Embodied Emissions CO <sup>2</sup>	9.1
Sequestered CO <sup>2</sup>	1287.9
<b>Net Total Emissions</b>	<b>-1213.8</b>

<sup>1</sup> B20 CO<sub>2</sub> emissions = 20.17 lbs/gallon

<sup>2</sup> Diesel CO<sub>2</sub> emissions - 24.3 lbs/gallon

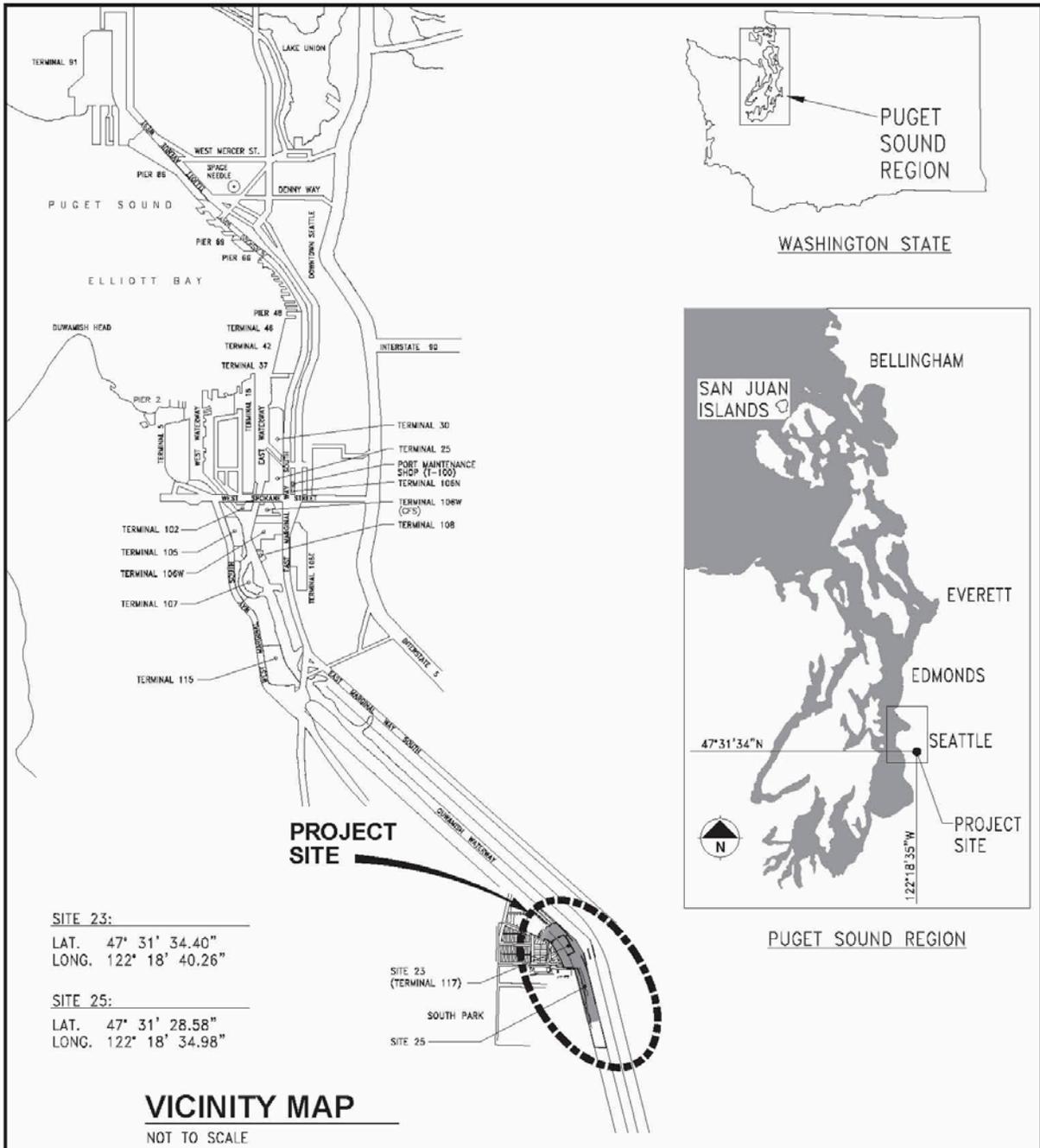
<sup>3</sup> Gasoline CO<sub>2</sub> emissions - 19.4 lbs/gallon

<sup>4</sup> Birdsey (1996), Chmura (2003), Thom (2002), Trulio (2007), EPA (2004)

<sup>5</sup> Sustainable Geosystems in Civil Engineering Applications

<sup>6</sup> www.greenspec.co.uk

(metric tons CO<sub>2</sub>e)



<p><b>PURPOSE:</b> RESTORATION OF FISH &amp; WILDLIFE HABITAT AND ESTABLISHMENT OF SHORELINE PUBLIC ACCESS FEATURES.</p> <p><b>DATUM:</b> MLLW = 0.0 FEET        NAVD88 = +2.33 FEET</p> <p><b>ADJACENT PROPERTY OWNERS:</b></p> <p>① PORT OF SEATTLE                      ④ THE BOEING COMPANY        ② CITY OF SEATTLE                    ⑤ JORGENSEN FORGE        ③ SOUTH PARK MARINA</p> <p>I:\117\2012\117 Restoration-103944\Permit-JARPA\Permit 001</p>	<p><b>Port of Seattle</b></p> <p>P.O. BOX 1209        SEATTLE, WA 98111</p> <p><b>FACILITY ADDRESS:</b>        8700 DALLAS AVE. S. (SITE 23)        AND PORTIONS OF FORMER        COMMERCIAL WATERWAY DISTRICT PROPERTY #1 (SITE 25)        SEATTLE, WA 98108</p>	<p><b>PROJECT DESCRIPTION:</b>        SITE 23/SITE 25 RESTORATION</p> <p><b>SHEET TITLE:</b> VICINITY MAP</p> <p><b>IN:</b> ELLIOTT BAY, PUGET SOUND  <b>AT:</b> PORT OF SEATTLE, SITES 23 &amp; 25  <b>COUNTY OF:</b> KING STATE OF: WASHINGTON  <b>APPLICATION BY:</b> PORT OF SEATTLE  <b>SHEET 1 of 18</b>      <b>DATE:</b> 12/08/2012  <b>REVISED DATE:</b></p>
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