



2011 WHEELER BAY SHORELINE STABILIZATION SLOPE REPAIR  
CLOSURE REPORT  
TERMINAL 4 PHASE I REMOVAL ACTION  
PORT OF PORTLAND, PORTLAND, OREGON

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state and tribal partners and is subject to change in whole or in part*

**Prepared for**

Port of Portland  
Portland, Oregon

**Prepared by**

Anchor QEA, LLC  
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**December 2011**

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## LIST OF ACRONYMS AND ABBREVIATIONS

Anchor QEA	Anchor QEA, LLC
AOC	Administrative Order on Consent
ARAR	Applicable or Relevant and Appropriate Requirement
CDF	Confined Disposal Facility
CHASP	Contractor Health and Safety Plan
CQAP	Construction Quality Assurance Plan
DAR	Design Analysis Report
DEQ	Oregon Department of Environmental Quality
EPP	Environmental Protection Plan
FS	Feasibility Study
GRP	Green Remediation Plan
IMRP	Interim Monitoring and Reporting Plan
LWD	large woody debris
MNR	monitored natural recovery
NEI	Northwest Earthmovers, Inc.
NGVD	National Geodetic Vertical Datum
NMFS	National Marine Fisheries Service
NTCRA	Non-Time-Critical Removal Action
ODOT	Oregon Department of Transportation
Port	Port of Portland
PPE	personal protective equipment
QA	quality assurance
QAPP	Quality Assurance Project Plan
QC	quality control
RAA	Removal Action Area
RAWP	Removal Action Work Plan
RI	Remedial Investigation
T4	Terminal 4
USEPA	U.S. Environmental Protection Agency
WQMCCP	Water Quality Monitoring and Compliance Conditions Plan
WQMP	Water Quality Monitoring Plan

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**CERTIFICATION STATEMENTS**

The 2011 Phase I Removal Action Wheeler Bay Shoreline Stabilization Slope Repair has been constructed in accordance with the final design and specifications in the matter of the Portland Harbor Superfund Site, Terminal 4 Facility, Portland, Oregon. U.S. Environmental Protection Agency, Region X, Comprehensive Environmental Response, Compensation, and Liability Act Docket No. CERCLA 10-2004-0009. Port of Portland Respondent.

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John R. Verduin III, P.E.

Anchor QEA, LLC

Date: \_\_\_\_\_

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Kelly Madalinski

Port of Portland

Date: \_\_\_\_\_

As required by Section VIII.24 of the Administrative Order on Consent for Removal Action at the Terminal 4 Facility, Portland, Oregon, the following statement certifies the contents of this document:

*“Under penalty of law, I certify that to the best of my knowledge, after appropriate inquiries of all relevant persons involved in the preparation of the report, the information submitted is true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.”*

Date: \_\_\_\_\_

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John R. Verduin III, P.E., Anchor QEA, LLC  
Partner

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## 1 INTRODUCTION

### 1.1 Regulatory Background

The Port of Portland (Port) entered into an Administrative Order on Consent (AOC) with the U.S. Environmental Protection Agency (USEPA) in October 2003 to perform a Non-Time-Critical Removal Action (NTCRA) at the Terminal 4 (T4) site on the Willamette River in Portland, Oregon (Figure 1) (USEPA 2003). The AOC requires the Port to perform an Early Action to address known contamination found in T4 sediment samples during a remedial investigation directed by the Oregon Department of Environmental Quality (DEQ). USEPA, in consultation with its federal, state, and tribal partners, evaluated and selected a Removal Action for T4 that included a combination of monitored natural recovery (MNR), capping, and dredging with placement of contaminated sediment in a Confined Disposal Facility (CDF) to be built on site. The USEPA-selected Removal Action was detailed in an Action Memorandum prepared by USEPA in 2006 (Action Memo; USEPA 2006).

Implementation of the Action Memo (USEPA 2006) is occurring in phases because many of the design issues required for full implementation are linked to the overall Portland Harbor-wide Remedial Investigation/Feasibility Study (RI/FS) process, which is taking more time than what was anticipated when the Action Memo was issued. For this reason, in a letter to USEPA dated August 22, 2007, the Port requested that USEPA revise the schedule for implementation of the T4 Removal Action to realign the Early Action project with the Harbor-wide RI/FS schedule. The Port also prepared an Abatement Measures Proposal in October 2007 (Anchor 2007) to detail specific components of the Removal Action that could be implemented as Phase I to address conditions at T4 that posed an imminent threat to human health and the environment. In November 2007, USEPA approved the schedule realignment request on condition that the Port implement the abatement measures in the Abatement Measures Proposal, which split the project into two phases (USEPA 2007). A Phase I final design was completed and implemented in 2008.

Phase I of the Removal Action included the following components:

- Dredging and off-site disposal of sediment exhibiting the highest chemical concentration, providing a permanent solution of contaminant mass removal

- Construction of a nearshore cap to isolate petroleum-contaminated sediments from aquatic receptors and control a potential ongoing source to nearby areas
- Stabilization of the Wheeler Bay bank to minimize contaminant migration to the river
- Dredging and off-site disposal of contaminated sediments in Slip 3 at Berth 410 to support water-dependent maritime use in a manner consistent with the Action Memo (USEPA 2006) and in support of overall risk reduction in the Removal Action Area (RAA)

In June 2010, the water level of the Willamette River rose to roughly elevation 15.5 feet National Geodetic Vertical Datum (NGVD). This higher water level, coupled with higher than anticipated vessel-induced waves, caused erosion of the western 275 feet of the Wheeler Bay shoreline stabilization area just above elevation 15 feet NGVD. Per the Interim Monitoring and Reporting Plan (IMRP) for the Phase I work (Appendix C of the T4 Phase I Removal Action Design Analysis Report [DAR]; Anchor 2008a), the Port updated the Phase I design for this area of Wheeler Bay to repair the slope and prevent this level of erosion from happening in the future. Construction of the 2010 repair was completed on October 29, 2010 (Anchor QEA 2011).

Monitoring activities after a high water event in May and June 2011 occurred at the end of June and early July 2011, when erosion was observed in the landscaped shoreline at Wheeler Bay. The Willamette River reached approximately elevation 18.7 feet NGVD during the high water event, and the water level remained above the ordinary high water elevation (16.6 feet NGVD) for over 4 weeks. For the most part, the Wheeler Bay shoreline stabilization area is functioning as expected; the armor rock has protected the slope in the repaired area between the mouth of the bay and Station 2+81, the anchored logs have also provided protection of the slope, and the established vegetation provided stability of the shoreline during the high water event. There were, however, three small areas of erosion noted during the monitoring event. A portion of the orange construction fabric used for demarcation of soil not to be disturbed was visible in one primary location between Stations 2+90 and 3+31, as well as two secondary locations at Stations 0+08 and 3+49. Per the IMRP for the Phase I work, the Port updated the Phase I design for this area of Wheeler Bay to repair the slope and prevent this level of erosion from happening in the future. This report

summarizes the repair work completed during the 2011 in-water work window. See Table 1 for a summary of major events and milestones, from the signing of the AOC through the completion of the 2011 Wheeler Bay shoreline stabilization slope repair.

### **1.1.1 Phase I Removal Action Wheeler Bay Shoreline Stabilization Slope Repair Objectives and Activities**

The repair work included placing additional filter material and armor in the area of erosion between 2+90 and 3+31 and additional select fill over the two small isolated areas of exposed demarcation fabric. The upslope extent of the armor placement was the scarp with the downslope edge to the existing armor layer. This design modification was intended to better protect the shoreline based on the causes of the current erosion.

The design modifications were consistent with the T4 Phase I Removal Action final design, which was approved by USEPA. The modified design occurred within the original footprint of the Phase I Wheeler Bay work and consisted of similar activities. The work followed the Contractor Health and Safety Plan (CHASP), Construction Quality Assurance Plan (CQAP), and environmental requirements approved by USEPA as part of the June 30, 2008 T4 Phase I Removal Action DAR (Anchor 2008a), including the Water Quality Monitoring Plan (WQMP; Appendix H of Anchor 2008b), the USEPA-issued Water Quality Monitoring and Compliance Conditions Plan (WQMCCP; USEPA 2008), and the July 22, 2008 Biological Opinion prepared by the National Marine Fisheries Service (NMFS; 2008).

The construction of the repair was performed by Northwest Earthmovers, Inc. (NEI)—the same contractor that conducted the 2010 repairs. As such, the work was performed according to the Final Wheeler Bay Shoreline Stabilization Slope Repair Removal Action Work Plan (RAWP; Anchor QEA 2010), which contains the CHASP, the CQAP, and the Environmental Protection Plan (EPP) as appendices. In addition, the 2011 repairs were performed in accordance with the Green Remediation Plan (GRP; see Appendix A), approved by USEPA on October 5, 2011.

### **1.1.2 Roles and Responsibilities**

USEPA designated Sean Sheldrake as the project coordinator to oversee implementation of the final design and work plan. Anchor QEA, LLC (Anchor QEA) and the Port jointly prepared the design documents. The Port was responsible for completing the Wheeler Bay shoreline stabilization slope repair work in conformance with the AOC, Applicable or Relevant and Appropriate Requirements (ARARs), approved 2010 Wheeler Bay RAWP (Anchor QEA 2010), Biological Opinion (NMFS 2008), WQMCCP (USEPA 2008), and other applicable documents.

NEI was hired by the Port to complete the Wheeler Bay shoreline stabilization repair work. The Port also hired Anchor QEA to perform environmental monitoring and to support the Port's construction management and oversight activities throughout the 2011 Wheeler Bay shoreline stabilization slope repair project.

## **1.2 Organization of this Document**

The remainder of this document provides detailed information on the shoreline stabilization slope repair work design and construction activities conducted to implement the design as follows:

- **Section 2 – Summary of the 2011 Shoreline Stabilization Slope Repair Design and Construction Planning** summarizes the 2011 Wheeler Bay shoreline stabilization slope repair project objectives and performance standards, and details the project design activities and environmental protection measures.
- **Section 3 – 2011 Wheeler Bay Shoreline Stabilization Slope Repair Construction Activities** describes the project timeline, details the mobilization and demobilization process, and summarizes 2011 Wheeler Bay shoreline stabilization slope repair activities and construction deviations from design.
- **Section 4 – Summary of Monitoring and Construction Quality Assurance Activities** describes monitoring and construction quality assurance activities that were performed during implementation of the Wheeler Bay shoreline stabilization slope repair to confirm compliance with the design and attainment of performance standards.

- **Section 5 – Documentation of Performance Standards Attainment** summarizes the specific verification activities used to attain performance standards.
- **Section 6 – Certifications and Institutional Controls** presents the actions required for certification and institutional controls.
- **Section 7 – Construction Costs** details the costs associated with implementation of the Wheeler Bay shoreline stabilization slope repair project.
- **Section 8 – Operations and Maintenance of Wheeler Bay Shoreline Stabilization Slope Repair Area** summarizes monitoring recommendations and procedures.
- **Section 9 – 2011 Wheeler Bay Shoreline Stabilization Slope Repair Contact Information** summarizes the contact information for private and public representatives involved with the Wheeler Bay shoreline stabilization slope repair project.
- **Section 10 – References** summarizes the references used in the document.

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## **2 SUMMARY OF THE 2011 SHORELINE STABILIZATION SLOPE REPAIR DESIGN AND CONSTRUCTION PLANNING**

This section provides an overview of the GRP, shoreline stabilization slope repair design details, and the construction planning details for implementation of the design. It also gives the specific details for the shoreline stabilization slope repair work activities and a description of how those activities were implemented. These details are summarized in the following subsections.

### **2.1 Green Remediation Plan**

USEPA Region 10 developed a “Clean and Green Policy” in 2009, applicable to all Superfund cleanup projects in the Region, with the goal to promote the application of green or sustainable practices and technologies to remedial actions (USEPA 2009). A detailed discussion of the green remediation measures used for the 2011 repair work is provided in the GRP, included as Appendix A. The following green remediation measures and technologies identified in USEPA’s “Clean and Green Policy” were addressed to the extent possible during the 2011 repair:

- 100% use of renewable energy (green power)
- Use cleaner fuels, diesel emissions controls and retrofits, and emission reduction strategies
- Utilize water conservation and efficiency approaches
- Incorporate sustainable site design
- Utilize reused or recycled industrial materials within regulatory requirements
- Recycling or reuse of materials generated at or removed from the site
- Use environmentally preferable purchasing
- Support greenhouse gas emission reduction technologies

### **2.2 Repair Summary**

Appendix D presents the contractor specifications and drawings for the 2011 Wheeler Bay shoreline stabilization repair work. The sequencing of the work was designed as follows:

- Install an erosion control silt fence between the location of additional riprap and the water’s edge.

- Implement the CHASP, EPP, and CQAP, as required.
- Construct an access road utilizing the existing gate above the work site.
- Move and store the existing woody debris for reuse.
- Using an excavator, prepare the area to receive riprap and select fill, working from the west limit to the east.
- Install geo-fabrics, as required.
- Utilizing an endloader equipped with floatation tires to place the bulk materials at the bottom of the slope, the excavator will transport and place the rock riprap and select fill into final position.
- Utilizing a track hoe, make spot repairs placing select fill over exposed demarcation fabric, and repair the fabric as necessary.
- Upon completion of the riprap areas, reinstall the stabilization woody debris, anchoring them to the slope by re-attaching them to the existing anchors.
- Cleanup as required. The crew will consist of a track hoe, labor, and truck.
- Hydro-seed the disturbed access area.

## **2.2.1 Construction Planning**

### **2.2.1.1 Earthwork and Landscaping Sequence and Methods**

The methods for the Wheeler Bay shoreline stabilization slope repair earthwork and landscaping are summarized in the following bullet points. This work was completed from shore with land-based equipment.

- **Erosion Control** – Erosion control was installed prior to beginning any site earthwork. In accordance with the planning, silt fence was installed at the down slope of the project area. Permanent security fencing delineated the project area along the railroad.
- **Dust Control** – Weather and site conditions did not trigger implementation of dust control measures during construction.
- **Grade Control** – Prior to the start of excavation, the area was surveyed and staked by a surveyor. Grade control performed during the excavation and fill process was performed by NEI, with oversight from the Port.
- **Subgrade Cut and Fill** – Subgrade grading was performed with the excavator at the slope bottom.

- **Installation of Surface Materials** – In accordance with planning, installation of fill materials occurred after verification that the subgrade was at the appropriate elevation. Select fill and armor stone was placed as depicted on the Drawings and described in the Contract Specifications (Appendix D).

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### **3 2011 WHEELER BAY SHORELINE STABILIZATION SLOPE REPAIR CONSTRUCTION ACTIVITIES**

The 2011 Wheeler Bay shoreline stabilization slope repair work began on October 6, 2011, and was completed on October 13, 2011. Activities were documented in daily reports. The daily reports are provided in Appendix B. Photographs provided in Appendix C were taken throughout the project.

All work was conducted in accordance with the project Contract Specifications and Drawings (Appendix D). Figure 2 shows the as-built configuration of the Wheeler Bay shoreline stabilization area. Final figures are provided as Figures 1 and 2.

A final site inspection was completed with a representative of USEPA (Jennifer Jones of CDM) on October 13, 2011—the final day of construction.

#### **3.1 Project Schedule**

The original schedule for the 2011 Wheeler Bay shoreline stabilization slope repair project had a planned timeline of approximately 2 weeks to reach completion (October 5 through October 19, 2011). Actual completion was achieved in 1 week (October 6 through October 13, 2011). The project was completed ahead of schedule.

#### **3.2 Mobilization**

Mobilization primarily occurred on October 6, 2011, and included delivery of equipment, setup of erosion/sedimentation control, temporary removal of large woody debris (LWD), and construction of temporary access roads. Some activities such as erosion/sedimentation control continued throughout the project.

##### **3.2.1 Equipment**

Primary equipment mobilized and on site during the project included a 160LC excavator, 544J front-end loader, and single- or tandem-box end-dump trucks for delivery of materials. Other equipment and materials used included a haul truck for delivery of equipment.

### **3.2.2 Erosion/Sedimentation Control**

Erosion and sedimentation control consisted of a silt fence installed down slope of the work area in which soil and/or aggregate was excavated or placed on the river side. The silt fence was installed on October 6, 2011. The silt fence was inspected daily. Additional silt fences were installed to protect the repaired access road on October 10, 2011. Daily reports documented both silt fence installation activities on October 6 and October 10, 2011.

### **3.2.3 Temporary Access**

On October 6, 2011, the temporary access road to the beach was established by disconnecting irrigation lines, trimming vegetation, digging out a conifer tree at the top of the bank (to be replanted following completion of work) and disconnecting and removing LWD anchored at the bottom of the slope. Following completion of the repair work, LWD was reinstalled to anchor lines, irrigation lines were reconnected and the conifer tree was replanted.

## **3.3 Summary of Wheeler Bay Shoreline Stabilization Slope Repair Activities**

This section discusses construction of the various elements of the Wheeler Bay shoreline stabilization slope repair project. The project layout is discussed using the following terminology:

- **Station** – The project begins at Station 0+08 and ends at Station 3+39. The first number in the station designation represents 100 feet along the baseline. The baseline for the project generally corresponds to the top of the bank for the finished project. The second number represents the number of feet past the station number. For example, Station 3+50 represents the point 350 feet along the baseline from the beginning of the project.
- **Elevation** – Elevations provided use the NGVD 29-47 datum. In addition to station, project feature locations are described based on the target finish grade elevation at the location.

In general, the project consisted of placing select fill in one primary location between Stations 2+90 and 3+31 with armor placed on top. In addition, two secondary locations at Stations 0+08 and 3+49 received select fill. The select fill was stockpiled on site from the

2008 Phase I work. The intent of these repairs was to improve resistance to erosive forces. Figure 2 shows a plan view of the as-built configuration of the Wheeler Bay shoreline.

### **3.3.1 Large Woody Debris Removal and Re-installation**

Anchored LWD downslope of the three work areas were detached from their anchors and stockpiled along the shore to facilitate access to the work area on October 6, 2011. After completion of select fill and armor placement on October 10, 2011, LWD was reinstalled using the existing anchors.

### **3.3.2 Select Fill**

Select fill was placed in areas where demarcation fabric was exposed at Stations 0+08 (Area #1), 3+49 (Area #3) and between stations 2+90 and 3+31 (Area #2; see Figure 2). Select fill consisted of a 2-inch minus sandy gravel. The source of the material was surplus, on-site habitat cover material utilized in the 2008 construction.

### **3.3.3 Armor**

Armor was placed in Area #2 between Station 2+71 and 3+38, from elevation 13 to 21 feet NGVD. The armor section within this area consists of a variable thickness of Oregon Department of Transportation (ODOT)-type 100 armor to meet the design grades. Figure 2 shows the armor installation for this area.

Appendix E documents material import quantities for the project. The total quantity of armor rock delivered to the project was 58.33 tons. The armor rock quantities are consistent with the design quantities required for the armor section. As stated previously, the select fill was material already stockpiled on site, eliminating the need to import.

## **3.4 Demobilization**

Demobilization occurred October 10 and 13, 2011. Demobilization included the removal of equipment and hydro-seeding of access ramp. Port staff reconnected the irrigation control wiring at the point where it had been disconnected to construct the construction access ramp.

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## 4 SUMMARY OF MONITORING AND CONSTRUCTION QUALITY ASSURANCE ACTIVITIES

Monitoring and construction quality assurance (QA) activities were conducted during the 2011 Wheeler Bay shoreline stabilization slope repair construction. Specific monitoring and QA activities and results are described in the following subsections. These results were used to verify that the construction design had been implemented as described in the Contract Specifications and Drawings, and that performance standards were attained as described in Section 5. Actions taken to meet the objectives of the GRP are also described in Section 4.3. The water quality monitoring activities were conducted in accordance with the WQMCCP (USEPA 2008) and WQMP (Appendix H of Anchor 2008b), as well as activities required by the Biological Opinion (NMFS 2008), are described in Section 5.

### 4.1 Visual Monitoring Results

Because all of the Wheeler Bay construction activities occurred out of the water in the dry, a number of visual monitoring activities occurred. Visual monitoring was conducted at least daily for ongoing project activities. In all cases, visual monitoring either confirmed compliance with the project specifications or corrections were made to bring the issue into compliance. Visual monitoring included the following:

- **Site Conditions** – Visual monitoring was used to verify that erosion-control features were installed prior to site work. The silt curtain fence was observed at least daily to verify that it was in working order or corrected if necessary.
- **Shoreline Stabilization** – Visual monitoring included checks of slope grades, verification of general material characteristics of each fill type, and qualitative confirmation of compaction using a hand probe.
- **Environmental Protection Measures** – The silt fence was observed at least daily and additional silt fence was added as needed (see Section 3.2.2). The project site, stockpiles, and the adjacent paved road were observed at least daily and after rain events for evidence of erosion or tracking of soil. The surface water of the adjacent Wheeler Bay was observed for turbidity or sheen on at least a daily basis. Equipment was observed constantly for evidence of leakage, excessive noise, or excessive exhaust.

## 4.2 Borrow Source Material Characterization Documentation

Class 100 armor was imported from Cemex Fisher East Quarry in Vancouver, Washington. Based on visual observation, the armor met the project specifications. The select fill was surplus on-site habitat cover material, which had been tested, approved, and utilized during the 2008 Phase I activities. Based on visual inspection, the select fill met project specifications.

## 4.3 Green Remediation Plan Implemented Actions

In accordance with the requirements of the GRP (Appendix A), the following actions were taken to meet the objectives of the “Clean and Green Policy” (USEPA 2009):

- **100% use of renewable energy (green power)** – The use of EnergyStar equipment, where available for limited project activities (i.e., field office), and fuel consumption minimization efforts were included in the construction contract, where practicable and feasible. The Port currently purchases certified renewable energy credits equaling 100% of the Port-wide electric energy. In addition, the following measures were used to minimize energy consumption:
  - The Port used energy efficient cars and carpooling, as well as trip-pooling, to the extent possible, if traveling to the site.
  - An existing building at T4 was used for the field office, and no trailers were brought on site to manage the project. As noted above, the Port currently purchases certified renewable energy credits equaling 100% of the Port-wide electric energy.
  - The field office was equipped with EnergyStar office equipment.
- **Use cleaner fuels, diesel emissions controls and retrofits, and emission reduction strategies** – The contractor was required to use ultra low sulfur diesel fuel for all applicable equipment and purchase B20 bio-diesel containing up to 20% renewable biomass (see Appendix F). Additionally, requirements regarding cleaner fuels and emission reduction strategies were part of the construction contract, where practicable and feasible. The contractor also tracked the gallons of fuel used on the project. As shown in Appendix F, 65 gallons of B20 bio-diesel fuel were purchased

for the project. NEI consumed approximately 24.3 gallons in the 160 excavator over 8.1 hours of use, and 10.6 gallons in the 544 loader over 5.3 hours of use.

- **Utilize water conservation and efficiency approaches** – Dust control was not necessary during construction.
- **Incorporate sustainable site design** – The following sustainable site design features were incorporated in the 2011 repairs:
  - The 2011 repair used a minimal amount of material to address the extent of exposed demarcation fabric.
  - This repair reduced the need for future repairs.
  - Disruption to areas that are not in need of repair was minimized. This resulted in less input of imported materials to restore the site.
- **Utilize reused or recycled industrial materials within regulatory requirements** – On-site material, consisting of a stockpile of gravel from the 2008 Phase I activities, was reused for the filter material for the 2011 repair activities. By reusing this material, the number of truck trips to the site was reduced by half. Rock, LWD, and other materials were reused on this project further, reducing truck trips. In addition, the field office contained recycling bins to encourage office recycling activities.
- **Recycling or reuse of materials generated at or removed from the site** – As mentioned under the previous item, on-site materials were reused where possible on this project.
- **Use environmentally preferable purchasing** – As described in Section 4.2, Class 100 armor rock was imported from a local quarry in Vancouver, Washington.
- **Support greenhouse gas emission reduction technologies** – The contractor utilized late model construction equipment with cleaner engines and cleaner diesel control technology. In addition, equipment was not idled for periods greater than 5 minutes to limit fuel consumption and emissions.

#### 4.4 Health and Safety Monitoring Results

Primary health and safety concerns during the project were physical hazards (e.g., slips, trips, or construction equipment). Procedures to address these concerns were identified in the NEI CHASP and reinforced with daily safety meetings at the beginning of the work shift. Site conditions did not trigger formal air, dust, or water quality monitoring.

Monitoring of health and safety concerns was addressed as follows according to the NEI CHASP:

- **Observation for compliance with personal protective equipment (PPE) requirements** – The Contractor’s Project Manager verified that these requirements were addressed at all times. Compliance was documented in the Daily Field Construction Observation Reports (see Appendix B).
- **Documentation of incidents** – Each daily report included documentation of health and safety incidents. No health or safety incidents were documented.
- **Observation for dust** – All contractor personnel observed for indicators of potential dust hazards throughout the project. These indicators included visible drying of previously wetted surfaces, activities known to cause dust generation (e.g., soil excavation, grading, etc.), or presence of visible dust in the air. The exposed area of potentially contaminated soils was very small, limited only to the areas where the demarcation fabric was visible. The remainder of the site was covered as part of the 2008 stabilization work. Therefore, dust hazards were minimal.

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## **5 DOCUMENTATION OF PERFORMANCE STANDARDS ATTAINMENT**

As mentioned previously, USEPA and the Port identified performance standards for each Wheeler Bay shoreline stabilization slope repair activity during the design process. The CQAP (Appendix A of the DAR; Anchor 2008a) provides specific details about the quality assurance/quality control (QA/QC) and responsibilities necessary to accurately evaluate achievement of the performance standards for each construction activity. These verification and monitoring activities were performed throughout the implementation of the Wheeler Bay shoreline stabilization slope repair, as described in Section 4. Attainment of performance standards, which were verified through construction QA/QC activities, is described by activity in the following subsections.

### **5.1 Wheeler Bay Shoreline Stabilization**

#### **5.1.1 Performance Standards**

Specific performance standards for the Wheeler Bay shoreline stabilization work included the following:

- For areas where armoring is necessary, design the armor layer to resist bed shear velocities induced by the largest of 100-year flood flow, 100-year waves, vessel-induced waves from typical passing vessels, and anticipated propeller wash from vessels that operate in the area.
- Use import material for fill and grading that meets defined chemical goals (presented in the Anchor 2008 DAR Appendix E Site Clearing, Earthwork, and Shoreline Stabilization specification – Section 312000; Anchor 2008a).
- Eliminate direct contact with contaminated river bank soils.
- Conduct the work consistent with the Biological Opinion developed by NMFS.

#### **5.1.2 Quality Assurance Documentation**

As described in the CQAP (Appendix A of the DAR; Anchor 2008a), QA for the shoreline stabilization construction included chemical and physical testing of import materials, observation of material placement to verify material placement thickness and extent, verification of material quantities used, and pre- and post-construction surveys to confirm design elevations were achieved. QA documentation (e.g., field notes, photographs, material

quantity measures, and surveys) have verified that the shoreline stabilization slope repair area meets all of the performance standards. Compliance with the performance standards is summarized below.

#### *5.1.2.1 Design Shoreline to be Stable, Resist Erosive Forces, and Eliminate Direct Contact with Contaminated River Bank Soils*

In areas where the demarcation fabric was exposed, the potential for direct contact with contaminated riverbank soils was eliminated through placement of 18 to 24 inches of select fill. Between stations 2+71 and 3+38, the design was modified to include armoring (Class 100 armor rock) up to a higher elevation (21 feet NGVD) on top of the select fill. Documentation of the placement of the shoreline stabilization materials is provided in the Daily Field Construction Observation Reports in Appendix B.

#### *5.1.2.2 Shoreline Stabilization Design Elevations Were Achieved*

The top elevation of the new armor layer (elevation 21 feet NGVD) was continuously confirmed with visual inspections. The lateral extent of the new armoring was taped off based on station markers previously established by a Port survey. A final survey of the lateral and vertical extent of the placed armor was completed by the Port after construction was complete (see Figure 2).

#### *5.1.2.3 Cap Import Material Met Defined Chemical Goals and Physical Characteristics*

The material imported for the armor section was Class 100 armor imported from Cemex Fisher East Quarry in Vancouver, Washington. Based on visual observation, the armor met the project specifications. The select fill was surplus on-site habitat cover material, which had been tested, approved, and utilized in the 2008 Phase I activities. Based on previous characterization, the material was sufficient to meet design specifications.

#### *5.1.2.4 Work Conducted was Consistent with the WQMP, WQMCCP, and Biological Opinion*

The water quality monitoring program that was implemented during the 2011 Wheeler Bay shoreline stabilization slope repair at T4 was developed based on the WQMP (Appendix H of Anchor 2008b) and the WQMCCP (USEPA 2008). Visual water quality monitoring occurred throughout the duration of the shoreline stabilization activities, as described in this report, to confirm consistency with the WQMP and WQMCCP.

NEI and all construction monitoring personnel were given the Biological Opinion (NMFS 2008) as part of the specifications. Additionally, all monitoring personnel were aware of the specific terms and conditions detailed in the Biological Opinion and were directed to notify the Construction Manager if a construction activity was identified that did not comply, so that action could be taken to bring the activity back into compliance.

The Biological Opinion also required mitigation for the placement of riprap armoring in Wheeler Bay. Additional riprap was placed where there was no existing riprap over 230 square feet (0.005 acre) between elevations 15 and 16.7 feet NGVD (ordinary high water), which does not substantially add acreage to the overall Phase I Removal Action mitigation requirement of 0.39 acre. In addition, riprap was placed on top of existing riprap below elevation 15 feet NGVD over 500 square feet (0.01 acre), which does not add to the mitigation requirement because this area is already included in that requirement.

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## **6 CERTIFICATIONS AND INSTITUTIONAL CONTROLS**

### **6.1 Institutional Controls**

Institutional controls for the site, which cover the period of time between the Phase I and Phase II actions, are presented in Section 10.2 of the Phase I Removal Action Closure Report (Anchor QEA 2009).

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## **7 CONSTRUCTION COSTS**

This section presents a summary of Wheeler Bay shoreline stabilization slope repair implementation costs for the shoreline stabilization work at T4. The total construction cost for the repair of the shoreline stabilization erosion was approximately \$35,357. This cost does not include investigation, design, permitting, construction management, construction monitoring, and projected interim monitoring.

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## **8 OPERATIONS AND MAINTENANCE OF WHEELER BAY SHORELINE STABILIZATION SLOPE REPAIR AREA**

Continued quarterly monitoring is recommended for the Wheeler Bay shoreline stabilization slope repair area (between 0 and 340 feet from the mouth of the bay) to confirm that the repair is functioning as designed. Quarterly monitoring will occur within the repair area between 0 and 340 feet from the mouth of the bay and will consist of a visual survey of the slope for sloughing, stability, and erosion. A visual survey of the armor layers will also be completed quarterly to determine if excessive erosion is occurring.

Quarterly monitoring is expected to be frequent enough to identify any large-scale issues that could impact the repaired slope (e.g., erosion). The quarterly monitoring events will be conducted in approximately January, April, July, and October. One of the quarterly monitoring events will be timed specifically to occur shortly after a high water event. The annual Wheeler Bay surveys for the entire shoreline stabilization area will continue to be conducted in October each year as identified in the IMRP (Appendix C of the DAR; Anchor 2008a).

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## **9 2011 WHEELER BAY SHORELINE STABILIZATION SLOPE REPAIR CONTACT INFORMATION**

### **USEPA Project Manager**

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Philip Hansen, NEI Project Estimator  
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## 10 REFERENCES

- Anchor, 2007. Abatement Measures Proposal: Terminal 4 Removal Action Project. Prepared for the Port of Portland, by Anchor Environmental, L.L.C. October 25, 2007.
- Anchor, 2008a. Final Design Analysis Report: Terminal 4 Phase I Removal Action. Prepared for the Port of Portland by Anchor Environmental, L.L.C. June 2008.
- Anchor, 2008b. Final Phase I Removal Action Work Plan: Terminal 4 Phase I Removal Action. Prepared for the Port of Portland by Anchor Environmental, L.L.C. August 2008.
- Anchor QEA, LLC (Anchor QEA), 2009. Final Removal Action Closure Report – Terminal 4 Phase I Removal Action, Port of Portland, Portland, Oregon. June 2009.
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- Anchor QEA, 2011. Wheeler Bay Shoreline Stabilization Slope Repair Final Closure Report – Terminal 4 Phase I Removal Action, Port of Portland, Portland, Oregon. January 2011.
- NMFS (National Marine Fisheries Service), 2008. Endangered Species Act Section 7 Formal Consultation and Magnuson-Stevens Fishery Conservation and Management Act Essential Fish Habitat Consultation for the U.S. Environmental Protection Agency and Port of Portland Terminal 4 Superfund Phase I of the Removal Action, Willamette River (HUC 17090012), Multnomah County, Oregon. National Marine Fisheries Service, No. 2007/08174. July 22, 2008.
- USEPA (U.S. Environmental Protection Agency), 2003. Administrative Order on Consent for Removal Action in the Matter of Portland Harbor Superfund Site, Terminal 4, Removal Action Area, Portland, Oregon.
- USEPA, 2006. Action Memorandum for Removal Action at the Port of Portland Terminal 4 site within the Portland Harbor Superfund Site, Portland, Multnomah County, Oregon. U.S. Environmental Protection Agency. May 11, 2006.

- USEPA, 2007. August 22, 2007 Request for Realignment of T4 Removal Schedule; Resolution of 60% Design Disputed Comments; Administrative Order on Consent for Removal Action (AOC), Docket No. 10-2004-0009. Letter from Deborah Yamamoto of USEPA Region 10 to Tom Imeson of the Port of Portland. November 15, 2007.
- USEPA, 2008. Water Quality Monitoring and Compliance Conditions Plan for Port of Portland Terminal 4 Non-Time Critical Removal Action Abatement Measures, Phase I. Prepared by Parametrix for the U.S. Environmental Protection Agency. July 2, 2008.
- USEPA, 2009. Superfund, RCRA, LUST, and Brownfields Clean and Green Policy. U.S. Environmental Protection Agency, Region 10. August 13, 2009.

# TABLES

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**Table 1**  
**Summary of Major Events and Milestones – Wheeler Bay Shoreline Stabilization Slope Repair**

Event or Milestone	Date
Administrative Order on Consent Signed	October 2, 2003
Engineering Evaluation/Cost Assessment Submittal	February 23, 2004
Final Removal Action Phase I Design Submitted to USEPA	June 30, 2008
Phase I Removal Action Complete	October 22, 2008
2010 Wheeler Bay Slope Repair Construction Completed	October 29, 2010
2010 Wheeler Bay Stabilization Slope Repair Final Closure Report Submitted to USEPA	January 27, 2011
2011 Observed Areas of Erosion of Western Portion of Wheeler Bay Shoreline	June 29, 2011
Draft 2011 Removal Action Phase 1 Wheeler Bay Shoreline Stabilization Slope Repair Design submitted to USEPA	September 9, 2011
Final 2011 Removal Action Phase I Wheeler Bay Shoreline Stabilization Slope Repair Design Submitted to USEPA	September 30, 2011
USEPA Approval of 2011 Final Removal Action Phase I Wheeler Bay Shoreline Stabilization Slope Repair Design	October 5, 2011
2011 Wheeler Bay Slope Repair Mobilization	October 6, 2011
2011 Wheeler Bay Slope Repair Construction and Demobilization Completed	October 13, 2011

Note:

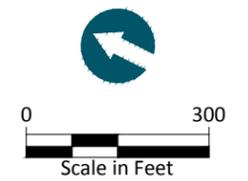
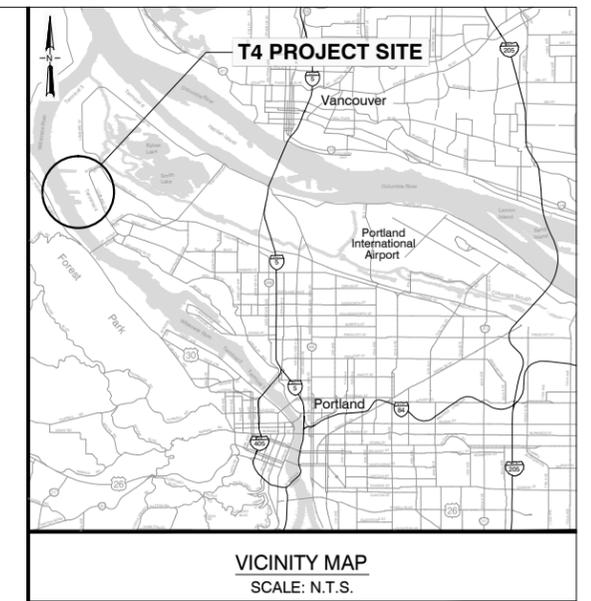
USEPA = U.S. Environmental Protection Agency

# FIGURES

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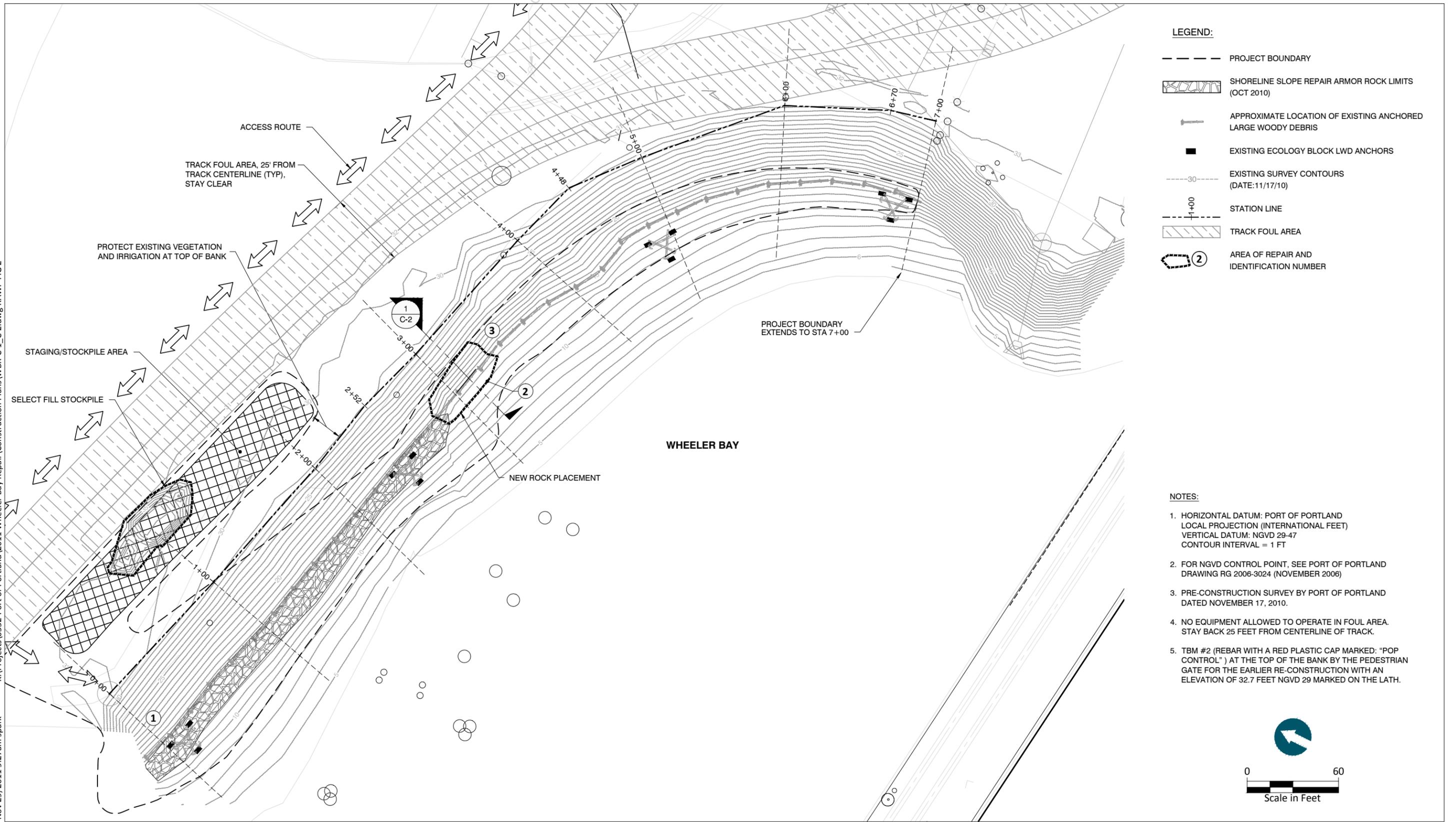
K:\Pro-cts\0332-Port of Portland\2011 Wheeler Bay Repair\Construction Plans\WBR-RAC-CP-Fig1.dwg RACP FIG 1

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**Figure 1**  
 Site Plan and Vicinity Map  
 Terminal 4 Phase I Removal Action - 2011 Wheeler Bay Stabilization Slope Repair - Removal Action Closure Report  
 Portland, Oregon

K:\Projects\0332-Port of Portland\2011 Wheeler Bay Repair\Construction Plans\WBR-C-1\_C-2.dwg RAWP FIG 2  
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APPENDIX A  
GREEN REMEDIATION PLAN

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## MEMORANDUM

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**To:** Kelly Madalinski, Port of Portland  
Marcel Hermans, Port of Portland

**Date:** October 5, 2011

**From:** Elizabeth Appy, Anchor QEA,  
Peter Hummel, Anchor QEA,  
John Verduin, Anchor QEA

**Project:** 050332-01

**Re:** Wheeler Bay 2011 Repair—Green Remediation Plan

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This memorandum provides the Green Remediation Plan for the Wheeler Bay repair activity to be completed during the 2011 work window as required by the U.S. Environmental Protection Agency (USEPA).

### BACKGROUND

USEPA Region 10 developed a “Clean and Green Policy” in 2009 applicable to all Superfund cleanup projects in the Region with the goal to promote the application of green or sustainable practices and technologies to remedial actions. While this policy does not “fundamentally change how and why cleanup decisions are made,” it “calls for more sustainable methods of implementing those cleanups.” (USEPA 2009)

The objectives of the policy include the following:

- Protect human health and the environment by achieving remedial action goals
- Support sustainable human and ecological use and reuse of remediated land
- Minimize impacts to water quality and water resources
- Reduce air toxics emissions and greenhouse gas production
- Minimize material use and waste production
- Conserve natural resources and energy

This policy details cleanup practices that are encouraged, such as use of renewable energy and energy conservation; use of cleaner fuels and emissions reduction strategies; water

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conservation and efficiency; incorporation of sustainable site design; reuse and recycling of materials; support greenhouse gas emissions reduction technology; and others (USEPA 2009).

## **Port of Portland Environmental and Sustainable Practices**

The Port of Portland (Port) recognizes that the activities associated with the broad and diverse services it provides affect the environment. In 2000, the Port Commission adopted the Port's environmental policy: "The Port will achieve its mission through responsible environmental stewardship and the implementation of proactive Environmental Programs. The Port will integrate environmental considerations into all aspects of its strategic planning and business decision-making." Attachment A lists the environmental awards received since the adoption of the Port's environmental policy.

The Port designed and established a series of Environmental Programs to eliminate or control the significant environmental aspects and impacts, achieve specific objectives and targets, and manage environmental issues in the context of the Port's business needs through the development of a Port-wide Environmental Management System. The current Environmental Programs are: Water Resources, Natural Resources, Waste Minimization, Air Quality, and Energy Management.

The primary goals of the Port's Environmental Programs are to:

1. Eliminate or control the Port's significant environmental aspects and impacts,
2. Achieve specific objectives and targets,
3. Manage environmental issues in the context of business needs,
4. Provide consistency across business lines,
5. Identify trends that may impact business needs and proactively deal with the trend,  
and
6. Help shape the regulatory climate within which the Port operates.

The Port's Environmental Programs have been highly successful in achieving these goals on a continuing basis for more than 10 years. The implementation of proactive Environmental Programs serves as the cornerstone to successfully integrating environmental considerations into all aspects of the Port's strategic planning and business decision-making. Examples include standard environmental elements (e.g., recycling of waste products or unused

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material) in contracts; contractor and employee sustainable travel requirements and guidance; procurement standards for office supplies, equipment, and corporate fleet vehicles; a Leadership in Energy and Environmental Design (LEED) platinum headquarters, and developing a sustainable procurement policy. The success of these Environmental Programs is demonstrated year after year, through the attainment of substantial and measurable improvements in environmental performance. Attachment B includes the previous 3 years of the Port's objectives and target results.

### **Summary of 2011 Wheeler Bay Repair**

Activities associated with the 2011 Wheeler Bay repair work are expected to occur over a short duration in mid-October. The specific construction activities, equipment (two John Deere 160 excavators [or equivalent] will be used), and sequence expected to occur includes the following:

- Install erosion control silt fence between the location of additional riprap and the water's edge.
  - Implement Contractor's Health and Safety Plan (CHASP), Environmental Protection Plan (EPP), and the Construction Quality Control Plan (CQCP) as required.
  - Construct access road utilizing existing gate above work site.
  - Move and store the existing woody debris for re-use.
  - Using a John Deere 160 Track Hoe, prepare the area to receive riprap and select fill working from the west limit to the east.
  - Install geo-fabrics as required.
  - Utilizing a second track hoe to reach down and place the materials at the bottom of the slope, the first track hoe will transport and place the rock riprap and select fill into final position.
  - Utilizing a track hoe, make spot repairs placing select fill over exposed demarcation fabric and repair fabric as necessary.
  - Upon completion of the riprap areas, re-install the stabilization woody debris anchoring them to the slope by re-attaching them to the existing anchors.
  - Cleanup as required. Crew will consist of a track hoe, labor, and truck.
  - Hydro-seed disturbed access area.
-

## **GREEN REMEDIATION PLAN FOR WHEELER BAY REPAIR WORK**

This section details the green remediation measures and technologies identified in USEPA's "Clean and Green Policy" and their applicability to the Wheeler Bay repair project planned to occur during the current work window.

### **100% use of renewable energy (green power), and energy conservation and efficiency approaches including EnergyStar equipment**

The use of EnergyStar equipment, where available for limited project activities (i.e., field office activities), and fuel consumption minimization efforts will be included in the construction contract, where practicable and feasible (see Attachment C). The Port currently purchases certified renewable energy credits equaling 100 percent of the Port-wide electric energy. The contractor will be required to document its plan for using energy efficient equipment (if applicable) or describe why it is not feasible, and its plan for minimizing fuel consumption (e.g., selecting suitably sized and typed equipment to reduce fuel consumption, and schedule activities to minimize the number of vehicle/truck trips to the site) (see Attachment C). EnergyStar equipment is currently not available for construction equipment.

In addition, the following measures will be used to minimize energy consumption:

- The Port will use energy efficient cars and carpooling as well as trip-pooling to the extent possible if traveling to the site. The Port has a fleet of hybrid cars that can be used by employees and is also in the process of getting an all-electric Nissan Leaf in operation.
  - An existing building at Terminal 4 will be used for the field office and no trailers will need to be brought on site to manage the project. As noted above, the Port currently purchases certified renewable energy credits equaling 100 percent of the Port-wide electric energy.
  - The field office is equipped with EnergyStar office equipment.
-

### **Use cleaner fuels, diesel emissions controls and retrofits, and emission reduction strategies**

The technical specifications for this project require the contractor to use ultra low sulfur diesel fuel, which is legally required for all applicable equipment. Additionally, requirements regarding cleaner fuels and emission reduction strategies will be part of the construction contract, where practicable and feasible. The contractor will be required to complete a submittal that documents their use of cleaner fuels, diesel emissions controls, and emission reduction strategies, or if not used detail why these items are not practical or feasible to use (see Attachment C). The contractor will also track the gallons of fuel used on the project and will record the meter readings pre- and post-project.

### **Utilize water conservation and efficiency approaches including WaterSense products**

Water may be used for dust control during project construction. The need for dust control is anticipated to be very low for the project given the time period the work will be conducted (likely to see more rain in October) and based on the 2010 repair where dust control was not necessary. If dust control activities are necessary, water conservation measures will be part of the construction contract, where practicable and feasible. The contractor will be required to document its plan for using water conservation measures, or describe why they are not feasible (see Attachment C).

### **Incorporate sustainable site design**

The following sustainable site design features have been incorporated in the 2011 repairs:

- The intent of the 2011 repair is to use a minimal amount of material to address the current extent of exposed demarcation fabric.
- This repair will help to reduce the need for future repairs.
- Disruption to areas that are not in need of repair is being minimized. This will result in less input of imported materials to restore the site.

### **Utilize reused or recycled industrial materials within regulatory requirements**

On-site material, consisting of a stockpile of gravel from the 2010 repair activities, will be reused for the filter material for the 2011 repair activities. By re-using this material, the

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number of truck trips to the site will be reduced by half. Rock, large woody debris, and other materials, where possible, will be reused on this project further reducing truck trips.

In addition, the field office contains recycling bins to encourage office recycling activities.

### **Recycling or reuse of materials generated at or removed from the site**

As mentioned under the previous item, on-site materials will be reused where possible on this project. The technical specifications that will be part of the construction contract (see Attachment D) will require the contractor to recycle waste products or unused material, where possible.

### **Use environmentally preferable purchasing**

The technical specifications that will be part of the construction contract (see Attachment D) will include a submittal requirement that the contractor use local materials (in this case rock, the only imported material), and preferentially select suppliers that have explicit green business policies to the extent practicable.

### **Support greenhouse gas emission reduction technologies**

The technical specifications that will be part of the construction contract (see Attachment D) will include a requirement for the contractor to use cleaner engines, cleaner fuel, and cleaner diesel control technology on diesel-powered equipment with engines greater than 50 horsepower, where practicable and feasible, as well as a requirement to minimize idling on diesel equipment, including the use of California Air Resources Board (CARB) Section 2485 Airborne Toxic Control Measures, to the extent practicable. If these measures are not practicable and feasible to implement on this project, the contractor will provide appropriate documentation detailing why it is impractical or not feasible (see Attachment C).

### **Use of “green concrete” (coal combustion products replacing a portion of traditional cement)**

This technology is not applicable to this project, as concrete will not be used.

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### **Ensure methane gas recovery from landfills**

This measure is not applicable as this is not a landfill project.

### **Use of Environmental Management System (EMS) practices such as reducing the use of paper by moving to fully electronic transmittal of project documents and implementation of waste reduction and recycling programs at all work sites**

The Port has implemented EMS practices and uses this system to support its environmental programs. (See also: <http://brightworskadvisors.wordpress.com/2011/09/14/the-port-of-portland-on-super-compliance/>). In addition, where possible, project deliverables shall be submitted electronically to reduce the volume of paper used. For example, the Port has an electronic contract-administration system and provides deliverables to USEPA in electronic format when possible.

### **DOCUMENTATION**

The Closure Report will include a summary of all actions implemented consistent with the Wheeler Bay 2011 Repair – Green Remediation Plan and USEPA’s “Clean and Green Policy.” Where practicable and feasible, the measures associated with Green Remediation Plan will be documented by the contractor and consultants and provided as an exhibit to the project Closure Report.

### **ATTACHMENTS**

Attachment A: Port Environmental Awards 2000-2011

Attachment B: Port Objectives and Target Results 2009-2012

Attachment C: Form A

Attachment D: Special Procedures

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ATTACHMENT A:  
PORT ENVIRONMENTAL AWARDS  
2000-2011

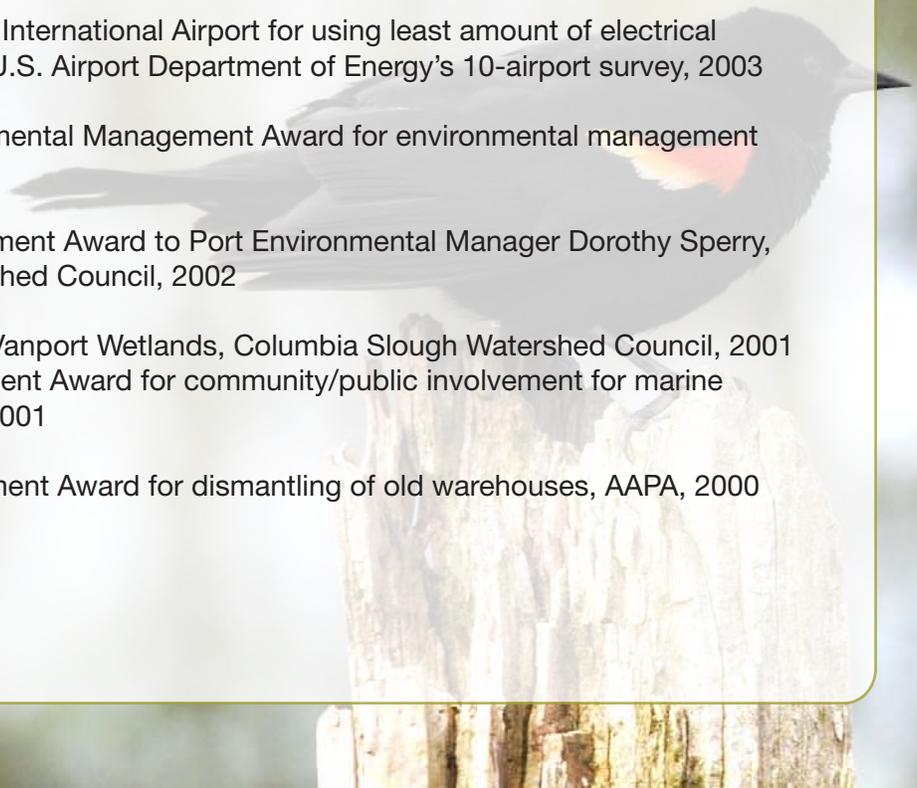
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## Environmental Program Awards

- Green Building Award, City of Portland's Businesses for an Environmentally Sustainable Tomorrow, 2011
  - State of Oregon Sustainability Award, 2011
  - Phoenix Award Grand Prize for Brownfield Redevelopment, 2011
  - American Council of Engineering Companies (ACEC) Engineering Excellence Grand Award, 2011
  - BetterBricks Award, Northwest Energy Efficiency Alliance, 2011
  - Smart Environments Competition recipient, International Interior Design Association/Metropolis Magazine, 2011
  - Honorable Mention, Architectural Design, McGraw Hill Northwest Construction's Best of 2010 Awards Competition, 2010
  - Green Power Leadership Award, Environmental Protection Agency (EPA), 2010
  - Environmental Outreach, Education, and Community Involvement Award for Airport Futures, Airports Council International – North America (ACI-NA), 2010
  - Top Ten Most High Tech Green Buildings in the World, Forbes Magazine, 2010
  - Top 50 Green Energy Purchasers, EPA, 2010
  - Agency of the Year, National Association of Minority Contractors-Oregon, 2009
  - Recycler of the Year, Association of Oregon Recyclers, 2009
  - Leadership Award for Portland International Airport Wildlife Hazard Management Plan, Columbia Slough Watershed Council, 2009
  - Environmental Enhancement Award for Port Natural Resources Program, American Association of Port Authorities (AAPA), 2008
  - Stakeholder Awareness, Education, and Involvement Award for Port Environmental Outreach and Communication Program, AAPA, 2007
  - Outreach, Education, and Community Involvement Award for Environmental Outreach and Communication Program Airports Council International – North America (ACI-NA), 2007
  - Comprehensive Environmental Management Award for environmental programs, AAPA, 2006
  - Businesses for an Environmentally Sustainable Tomorrow (BEST) Award for water efficiency, City of Portland Office of Sustainable Development, 2006
- 

## Environmental Program Awards

- Julian Prize for Terminal 6 Auto Warehousing Corporation expansion porous pavement project, American Public Works Association, 2006
- Comprehensive Environmental Management Award for checking and corrective action program, AAPA, 2005
- Stewardship and Conservation Award for most improved water management and conservation planning efforts, Oregon Water Resources Commission, 2005
- Honoree, Oregonians Working for Healthy Watersheds Ceremony, 2005
- Special Award for Innovation for the Portland International Airport food waste collection program, Association of Oregon Recyclers, 2005
- Best Award for Portland International Airport food waste diversion pilot project, City of Portland Office of Sustainable Development, 2004
- Comprehensive Environmental Management Award for environmental objectives and target program, AAPA, 2004
- Green Power Partner for purchase of renewable energy, Environmental Protection Agency, 2004
- Industrial Pretreatment Award for Portland International Airport, City of Portland Bureau of Environmental Services, 2004
- Wetlands Project Award for Vanport Wetlands, Oregon State Land Board, 2004  
Comprehensive Environmental Management Award for natural resource assessment and management plan, AAPA, 2003
- Recognition for Portland International Airport for using least amount of electrical energy per square foot, U.S. Airport Department of Energy's 10-airport survey, 2003
- Comprehensive Environmental Management Award for environmental management system, AAPA, 2002
- Leadership and Achievement Award to Port Environmental Manager Dorothy Sperry, Columbia Slough Watershed Council, 2002
- Achievement Award for Vanport Wetlands, Columbia Slough Watershed Council, 2001  
Environmental Improvement Award for community/public involvement for marine tenant program, AAPA, 2001
- Environmental Enhancement Award for dismantling of old warehouses, AAPA, 2000



**ATTACHMENT B:  
PORT OBJECTIVES AND TARGET  
RESULTS 2009-2012**

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## 2009-2010 Environmental Objectives and Targets Results

Last year, the Port of Portland set 13 environmental targets to be fulfilled through our five environmental program areas. Focused on energy, air, waste, water and natural resources, these targets provided concrete goals for staff to reach throughout the year. Targets were designed to be challenging and to support a culture of continuous environmental improvement. Our progress on the targets is reported below. Your feedback is always welcome on our work.



### Objective: Reduce Energy Consumption and Purchase Renewable Energy

#### Completed Targets:

- In 2009, we continued our purchase of certified renewable power, covering nearly 60 percent of our electricity usage with renewable energy credits. A target to evaluate the feasibility of purchasing the equivalent of 100 percent of all Port electric energy from renewable sources was completed by the end of the fiscal year. The results of this target set the stage for moving to 100 percent certified renewable power in August of 2010.

#### Incomplete Targets:

- In addition to purchasing certified renewable power, the Port also tries to reduce energy consumption. Last year's target was to reduce consumption by at least 500,000 kilowatt-hours per year. While it was not fully met, we did pursue several measures at the PDX baggage tunnel and central utility plant for a savings of more than 180,000 annual kilowatt hours. Other areas for improvement were identified and will be pursued in 2010-2011. Further, the Port will carefully monitor energy performance from our new headquarters building, which features countless energy conservation measures, including geothermal heating and cooling, an ecoroof, and an Energy Star roof membrane.



The Living Machine wastewater treatment system might look like your typical indoor planter, but the healthy mix of plants in the Port's sunny entryway mimics wetland processes to treat and recycle gray- and black-water for reuse in the building's cooling tower and toilets.

### New Building Reflects Port Environmental Goals

The big story of 2010 was the completion of the Port's new headquarters, which boasts green building components both tried and true and cutting edge. From the 10,000 squarefoot ecoroof, designed to complement the PDX Wildlife Hazard Management Program, to the geothermal heating and cooling system, which stretches 300 feet below the ground, "HQ," as it's affectionately known, is an energy miser. The building is estimated to use 36 percent less energy and 75 percent less water than a comparable office space; actual building performance will be carefully tracked over time.

Water conservation measures range from modest-but-effective low-flow fixtures to the Living Machine® wastewater treatment system, which recycles water from sinks, showers and toilets through a series of constructed wetlands for reuse in the building's cooling tower and toilets. Building materials came from easily renewable or recycled sources, and more than 90 percent of the wood used in the building is Forest Stewardship Council-certified. The Port plans to seek Leadership in Energy and Environmental Design platinum certification.



The commitment and craftsmanship from over 2,500 workers helped finish the Port's new long-term parking garage and headquarters on time and under budget.

## Small Businesses, Big Impact

The Port's new building was made possible by the participation of both established and emerging companies throughout the metropolitan region, and more than 70 small, local businesses were involved with the project.

Overall, construction generated more than 2,500 jobs and more than 1 million hours of work in a time when our region faced high unemployment levels. Small business utilization was about 26 percent on a goal of 15 percent, with contracts totaling more than \$41 million going to small businesses. The building also served as a training site for people new to the construction industry. Twenty percent of the project's labor hours were performed by apprentices, with 8 percent performed by apprentices who are people of color or women.

Inclusion of small businesses in our projects strengthens the Port supply chain, enhances government and community relations, and reinforces our commitment to our community and to diversity. This past year, the Port was named Agency of the Year by the National Association of Minority Contractors-Oregon for our efforts to be inclusive of minority contractors in our construction projects.



## Objective: Minimize Impacts to Air Quality

### Ongoing Targets:

- Reduce Port direct and indirect greenhouse gas emissions 15 percent below 1990 levels by 2020.
- Reduce diesel particulate matter from Port-controlled operations by 25 percent from 2000 baseline levels by 2015.

These targets will be met through numerous strategies over the next few years. In 2009-2010, successes included third-party verification of our greenhouse gas emissions inventory; reaching Climate Registered Status from The Climate Registry; an increase in biodiesel and ultralow sulfur-diesel usage, which has reduced off-road vehicle emissions by 10 to 20 percent; and participation in the Sustainable Aviation Fuels Northwest project with partners like Boeing Corp., Seattle-Tacoma Airport, and others.



## Objective: Reduce Waste Generation and Hazardous Materials Use

### Incomplete Targets:

- A target to develop and implement a mixed plastics (rigid and vinyl plastics) recycling program for Port facilities was partially completed. The all-plastics program is available to Port employees at some facilities but will not be extended to all areas until 2011. In the interim, the program collects hard-to-recycle materials for a potential plastics-to-oil project from the local company, Agriplas.
- Reducing administrative waste is an ongoing goal, and 2009-2010 saw numerous changes to how office supplies are ordered and distributed. A program that encourages Port employees to reuse office supplies and minimize the purchase of new supplies is mostly complete, with some additional work to tailor the program to the new office space. Considerable effort went into the office move, with more than 100 tons of materials diverted from the landfill to either be recycled or reused. Employee communications continually promote a culture of conservation.
- A draft Sustainable Purchasing Program has been created and is awaiting management review.



## Objective: Minimize Impacts to Water Resources

### Completed Targets:

- We continued our efforts to retrofit toilets throughout Port properties. At Portland International Airport, an additional 30 toilets were equipped with dual-flush, low-flow valves, which reduce water usage by one to three gallons per flush.
- Water consumption was also reduced through the installation of another four Evapotranspiration Managers, which use real-time weather data to adjust watering schedules and amounts.



## Objective: Minimize Impacts and Seek Opportunities to Enhance Natural Resources

### Completed Targets:

- We continued our partnership with Friends of Trees by sponsoring additional tree plantings in neighborhoods near PDX. The \$15,000 sponsorship helped with Friends of Trees' largest neighborhood tree planting to date. Port employees participated in the planting.
- A new public awareness and education display on invasive species control and reduction strategies was developed and is now prominently showcased at Portland International Airport.
- The Port supported a City of Portland effort to enhance the south bank and in-water areas of the Columbia Slough at the confluence of the Willamette River. The Port provided \$16,500 in funding for the upland habitat improvements.

### Incomplete Targets:

- We're continuing a project to control invasive species in an area at Smith and Bybee Wetlands Natural Area that abuts a Port mitigation site. This two-year project is approximately 25 percent complete, with a goal of establishing native plantings by July 2011.



A new multi-use trail overlooks the Troutdale Reynolds Industrial Park, a former brownfield purchased and redeveloped by the Port. The site is home to FedEx Ground and includes open space and mitigation areas.

## New Policy Helps Define Sustainability

Like many organizations, the Port wanted to create a sustainability policy to incorporate environmental stewardship, economic health, and social equity into our work. But the Port, and especially employees who were consulted on the policy, wanted to ensure that the outcome was more than just words and that it reflected the Port's public mission to connect cargo and people to points worldwide.

A working definition was created with considerable input: "The Port is operating sustainably when we make business decisions that support long-term economic health, integrate community concerns into our work, and reflect a deep and broad commitment to environmental stewardship." The policy guides Port employees to choose least-impact approaches that balance nature and commerce when developing and managing aviation and marine facilities and industrial parks. Further, the policy promotes continuous improvement and efficiency, where decisions are made on sound science and in partnership with others.

The sustainable natural resources policy was shaped by two projects conducted over the last year in Port operating areas. Airport Futures is a joint process with the city of Portland to create a long-range airport master plan and land use plan for Portland International Airport; stakeholders developed goals designed to make PDX the most sustainable airport in the world. On the marine side, the Port partnered with the International Institute for Sustainable Seaports on a survey of best sustainability practices being implemented by ports worldwide to learn more about innovations within the industry.

# 2009-2010

## Port of Portland Environmental Objectives and Targets Results

To learn more about the Port of Portland's environmental programs, please visit [www.portofportland.com](http://www.portofportland.com) or call 503.944.7047.



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**PORT OF PORTLAND** 

## 2010-2011 Environmental Objectives and Targets Results

Ten years. More than 200 annual targets. A decade of challenging ourselves to think about how we can reduce impacts from aviation and marine-related activities. In the 2010-2011 program year, keeping with this tradition to continuously improve our environmental performance, the Port of Portland set 15 environmental targets for our staff to work toward. Like previous years, we pursued our goals by marshalling the resources and expertise of Port staff and outside partners. While we didn't meet all our targets, we came close, and we are dedicated to those areas where we still have work to do. As always, your questions, comments and suggestions on these and on future goals are welcome.



### Objective: Reduce Energy Consumption and Purchase Renewable Energy

#### Completed Targets:

- Our goal was to evaluate the feasibility of purchasing 100 percent of all Port electric energy from renewable sources. We didn't just evaluate – we acted. By selecting a cost-effective option in the energy market, we were able to move to 100 percent certified renewable power credits in July 2010, covering our Port-wide electricity usage, or approximately 75 million kilowatt hours of electricity. This landed us on the Environmental Protection Agency's list of top 50 renewable energy purchasers nationwide; in October 2010, the Port received the EPA's Green Power Leadership Award for our commitment to renewable energy purchases.
- Like past years, we wanted to reduce Port-wide energy consumption by at least 500,000 kilowatt hours over the year. We targeted and completed lighting retrofit projects that resulted in a savings of 401,200 kilowatt hours annually – plus a financial savings of about \$20,000. Energy-saving technology, like premium energy-efficient electric motors, was also used in the design and construction of the new Portland International Airport Inline Baggage Screening System, which helped us meet our 500,000 kilowatt hour goal. This project qualified for funding from the Energy Trust of Oregon rebate program.



### Objective: Minimize Impacts to Air Quality

#### Ongoing Targets:

- A multi-year target to reduce greenhouse gas emissions shows all signs of being met several years ahead of schedule. Our goal to reduce Port direct and indirect greenhouse gas emissions 15 percent below 1990 levels by 2020 prompted us to find numerous conservation and reduction strategies over the past three years. We will continue seeking out new emission reduction methods.
- A target to reduce diesel particulate matter from Port-controlled operations 25 percent from 2000 baseline levels by 2015 is in process. Steps so far include using cleaner-burning fuel, including ultra-low sulfur diesel and B20 biodiesel blend. While ULSD is the norm for passenger vehicles, its use in industrial settings is less common. The Port has also retrofitted cargo handling equipment, and the entire fleet of parking shuttle buses runs on compressed natural gas.





## Objective: Minimize Impacts to Water Resources

### Completed Targets:

- As the saying goes, you can't manage what you don't measure. Accordingly, we conducted three water efficiency evaluations in our aviation and marine operating areas to identify future opportunities for new landscaping irrigation water conservation efforts.
- Previous audits have identified landscaping irrigation systems as areas with meaningful water conservation potential. This past year, we installed four Evapotranspiration Managers, which use real-time weather data, to existing irrigation systems at Port marine and industrial properties. The systems allow for more precise landscaping irrigation and result in reduced water usage.

### Incomplete Targets:

- Low-flow toilets, which reduce water usage by one to three gallons per flush, are ubiquitous at Port facilities, most noticeably at Portland International Airport. But we still have facilities that are in need of an upgrade to the dual-flush, low-flow valves. Due to limited staff resources, a target to retrofit an additional 162 toilets with the water-saving valves was not fully met within the program year. However, we are continuing our efforts to meet this target, and will pursue the retrofits over the next fiscal year.



## Objective: Reduce Waste Generation and Hazardous Materials Use

### Completed Targets:

- Long-standing efforts to salvage and reuse surplus materials were turned into a formal Port-wide policy in 2010. By better documenting the steps we take to salvage, reuse, and recycle surplus and unwanted items, and by communicating those steps to staff, we're able to ensure that material with continued value stays out of the landfill. This initiative was bolstered by several recycling fairs for tenants over the course of the year.
- We ask a lot from our traveling public, but it's nothing we don't ask of ourselves in our operating areas. This is true of our organic waste collection and composting program, which was extended into our marine and industrial development facilities this past year, fulfilling one of our Waste Minimization targets. This project joins existing organics collection receptacles in our headquarters, where food waste is composted in an on-site worm bin and funneled into the Portland International Airport food waste collection program.
- We can't reduce our waste streams alone, so the Waste Minimization Team had and met a target to develop public education and outreach materials to help PDX users learn more about the Port's environmental initiatives and specific PDX waste minimization efforts.

## Bugs as Barometers: Invertebrates Help Measure Wetland Mitigation Success

Since 2008, the Port has worked with The Xerces Society, a Portland-based nonprofit dedicated to conservation of invertebrates and their habitat. A target this past year continued this partnership.

As part of a larger study being conducted by The Xerces Society, the Port offered up Port-owned wetland mitigation sites for research on wetland invertebrates, including insects such as dragonflies, mayflies, caddis flies, and beetles. Scientists from the organization have conducted field surveys throughout the Willamette Valley as part of an effort to develop a biological assessment tool for evaluating the health and function of Pacific Northwest wetlands.

Celeste Mazzacano, Ph. D., a staff scientist with the organization, said the biological assessment tool has potential statewide. "We'll be doing additional research to test the consistency and robustness of the indicators we've developed." The project has received support from groups like the Environmental Protection Agency and Oregon Watershed Education Board.

For the Port, the tool will be a valuable resource for monitoring wetland mitigation sites and helping to determine whether mitigation efforts have improved wetland biological function. Plus, the results so far have been useful for and gratifying to Port natural resources staff. Dr. Mazzacano reported, "The Port's Randall mitigation site was our dragonfly bonanza—the winner for dragonfly and damselfly diversity."



## Good News for Air Quality

Perhaps the biggest story from the Air Quality Program is the anticipated completion of an ambitious target to reduce greenhouse gas emissions 15 percent below 1990 levels by 2020. A full nine years ahead of schedule, our initial data indicate that this goal was met, primarily through the purchase of renewable energy credits to offset the Port's electricity uses throughout our operating areas.

On a smaller level, other strategies contributed to the reduction goal, including improved fleet efficiency and idle reduction programs. More than 90 percent of the Port's fleet vehicles are hybrid engine, for example. For areas outside of Port control, electrified aircraft gates at Portland International Airport and shore-side power at marine Terminal 2 both helped to reduce emissions. The Port continues to monitor greenhouse gas emissions through The Climate Registry; we're now in our third year of reporting.

Looking to the future, the Port was part of Sustainable Aviation Fuels Northwest, a regional effort to explore and study aviation biofuels. Alongside partner groups Boeing, Alaska Airlines, Seattle-Tacoma International Airport, Spokane International Airport, and Washington State University, the Port helped complete a study on the feasibility and challenges of creating an aviation biofuels industry in the Pacific Northwest.

The study was designed to be comprehensive, following aviation biofuel development from planting to harvest, through refining and transport, to actual use by airlines. The study concluded that an aviation biofuels industry can be commercially viable in the Pacific Northwest, in part because of the region's diverse agricultural sector. The study emphasized, however, that the development of such an industry must address key issues with existing fuel sources, including greenhouse gas emissions, other environmental impacts, and energy security.



## Objective: Minimize Impacts and Seek Opportunities to Enhance Natural Resources

### Completed Targets:

- This past year, the Port partnered with the Xerces Society to make Port properties available to a macroinvertebrates sampling program. The goal, as part of an effort partially funded by the Oregon Watershed Enhancement Board, was to evaluate the function of created versus natural wetlands. Scientists from Xerces Society collected data from numerous Port properties, including West Hayden Island and Bobcat Marsh in Hillsboro.
- Our partnership with Friends of Trees continued in 2010-2011, with a sponsorship of \$15,000 and a community tree planting in neighborhoods close to Portland International Airport. Not only did Port employees participate, but the event, in the words of one employee, was "the most positive and rewarding event I have attended" representing the Port.
- Natural Resources staff developed a pilot project to begin the process of converting a Port-owned herbaceous wetland area near Portland International Center from primarily non-native, invasive Reed Canarygrass to native scrub/shrub habitat. By July 2011, invasive species had been removed and new plants were establishing themselves. Continued monitoring is essential to ensure the new plants do well over the summer.
- The Port has supported many efforts to conserve Oregon's native turtle population. This past year, we provided a \$5,000 matching sponsorship to help develop a conservation plan for Western Pond and Western Painted Turtles in the Portland metropolitan area. The plan is being developed with inter-agency support from the City of Portland, Metro, Oregon Department of Fish and Wildlife, Bureau of Land Management, U.S. Fish and Wildlife, and the U.S. Forest Service.

### Ongoing Targets:

- We're continuing work on an effort to secure funding for a Lower Willamette/Columbia Strategic Dredged Material Placement Study that will analyze areas suitable for dredged material placement and in-water habitat creation and restoration. Natural Resources staff developed a pilot project to begin the process of converting a Port-owned herbaceous wetland area near Portland International Center from primarily non-native, invasive Reed Canarygrass to native scrub/shrub habitat. By July 2011, invasive species had been removed and new plants were establishing themselves. Continued monitoring is essential to ensure the new plants do well over the summer.

## Environmental Program Awards

Over the past year, we've received some very special recognition, like LEED Platinum certification of our new headquarters building at Portland International Airport. Established by the U.S. Green Building Council (USGBC) and verified by the Green Building Certification Institute, LEED is the nation's preeminent program for the design, construction, and operation of high performance green buildings.

The building was also recognized by numerous local and state agencies and entities, confirming what Port staff experience every day: that green buildings are great places to work. The 205,000-square foot office building incorporates many state-of-the-art green technologies, with special emphasis on natural light, indoor air quality, and waste minimization. The innovation we're most frequently asked about is the Living Machine® system, an on-site ecological wastewater treatment alternative that treats 100 percent of the building's wastewater for reuse in the building's toilets and cooling tower. If you've ever visited the Port building, you've walked right by it: it's the innocuous-looking planter in the first-floor lobby, and it's helping us use less water each and every day.

Port executive director Bill Wyatt, who occupies an open workspace the same size as the employees he oversees, said, "The LEED platinum certification and the awards we've receive affirm the goal we set out at the beginning of the project: that the building reflect this region's commitment to sustainability."

Out in the field, the most notable award received was for a complex effort to redevelop the Troutdale Reynolds Industrial Park, which turned a former brownfield site into a productive hub for freight and jobs. The Port and its partners, Alcoa and FedEx Ground, received the national Phoenix Award grand prize for environmental improvement in March.

### Awards received during the 2010-2011 program year:

- Green Building Award, City of Portland's Businesses for an Environmentally Sustainable Tomorrow, 2011
- State of Oregon Sustainability Award, 2011
- Phoenix Award Grand Prize for Brownfield Redevelopment, 2011
- American Council of Engineering Companies (ACEC) Engineering Excellence Grand Award, 2011
- BetterBricks Award, Northwest Energy Efficiency Alliance, 2011
- Smart Environments Competition recipient, International Interior Design Association/Metropolis Magazine, 2011
- Honorable Mention, Architectural Design, McGraw Hill Northwest Construction's Best of 2010 Awards Competition, 2010
- Green Power Leadership Award, Environmental Protection Agency (EPA), 2010
- Environmental Outreach, Education, and Community Involvement Award for Airport Futures, Airports Council International – North America (ACI-NA), 2010
- Top Ten Most High Tech Green Buildings in the World, Forbes Magazine, 2010
- Top 50 Green Energy Purchasers, EPA, 2010



## 2011-2012 Environmental Objectives and Targets

In addition to day-to-day attention to responsible environmental management, the Port of Portland sets annual environmental goals to help guide our efforts over the fiscal year. Activities are recommended by environmental program managers and by staff working throughout our operating areas. Unless otherwise specified, all targets are due to be completed by June 30, 2012.



### Objective: Reduce Energy Consumption and Purchase Renewable Energy

#### FY 2011-12 Targets:

- Complete a Port-wide “Carbon Footprint Reduction and Energy Management Strategy and Master Plan” to identify opportunities that conserve and/or produce energy; reduce the Port’s carbon emissions; and guide future Port decisions on energy management.
- Continue purchasing certified renewable energy credits equaling 100 percent of Port-wide electric energy as part of a three-year commitment ending August 2012.
- Continue annual goal to reduce Port-wide energy consumption by at least 500,000 kilowatt hours per year.



### Objective: Reduce Greenhouse Gas Emissions



#### FY 2011-12 Targets:

- Reduce diesel particulate matter from Port-controlled operations 25 percent below 2000 baseline levels by 2015.
- Reduce Port direct and indirect greenhouse gas emissions 15 percent below 1990 levels by 2020.



### Objective: Reduce Waste Generation and Hazardous Materials Use

#### FY 2011-12 Targets:

- Reuse, recycle, or compost 90 percent or more of all material from the Port headquarters building by June 30, 2013, to achieve “Zero Landfill Waste Generation Status.”
- Conduct a waste audit of the Port Navigation base and dredge to establish a baseline of waste generation and identify opportunities to reduce landfill-bound waste from the facility.
- Develop a chemical product procurement program at PDX to improve environmental, safety, and compliance performance and reduce management costs for products purchased by the Port of Portland that require an MSDS.





## Objective: Minimize Impacts to Water Resources

### FY 2011-12 Targets:

- Conduct research and assess potential materials, techniques, and technologies that support efforts to more efficiently use pavement deicer at Portland International Airport. Develop program recommendations that can reduce amount of deicing materials used while reducing impacts to nearby waterways.
- To promote practices that protect water quality and improve water conservation, develop comprehensive outreach and education materials on stormwater and water conservation for Port tenants and targeted public audiences.
- Update Port-wide irrigation design standards and specifications to minimize water consumption.
- Evaluate effectiveness and durability of asphalt sealcoat products that contain no or low PAHs (polycyclic aromatic hydrocarbons) for potential use at Port marine and industrial facilities.
- Partner with airport rental car companies to improve infrastructure and establish a maintenance program for the PDX rental car Quick Turnaround (QTA) Facility, with the goal to reduce water usage at the facility by 20 percent per vehicle.
- Conduct a water quality monitoring pilot project that evaluates the feasibility and effectiveness of using buoy-based monitoring instead of crew-based monitoring for Clean Water Act-compliance during dredging and other in-water projects.



## Objective: Minimize Impacts and Seek Opportunities to Enhance Natural Resources

### FY 2011-12 Targets:

- Conduct egg mass surveys of northern red-legged frogs and northwest salamanders at four Port wetland areas to determine if and where these species breed on Port property, and, if so, how the Port can make appropriate land management decisions.
- This three-phase target, a product of the Airport Futures planning project, sets forth a 25-year management plan for Port-owned sections of Government Island in the Columbia River. The first phase, to be conducted by June 30, 2013, will prepare the island for the establishment of a 50-acre upland grassland mitigation site. Target will focus on site preparation, planning, and monitoring.
- Seek out and fund projects that promote habitat enhancements to the Columbia Slough and improvements to the City of Portland's urban tree canopy as outlined in a 25-year plan, developed as part of the Airport Futures planning project, for environmental improvements around Portland International Airport. The first year, ending June 2012, includes a budget of \$50,000 for selected projects.
- Extend partnership with Friends of Trees by sponsoring and participating in tree plantings in neighborhoods adjacent to or near Port facilities to help offset impacts from Port operations. Tree plantings will take place in the winter of 2012 and will include an employee service opportunity.
- Convert the composition of a .6-acre reed canary grass-dominated herbaceous wetland to a native scrub/shrub environment, by June 30, 2013. This continues a pilot project, the PIC Wetland Conversion Plan, which was designed to reduce invasive species on Port property and reduce wildlife hazards currently posed by the open water attractant.
- In coordination with organizations such as The Nature Conservancy, Oregon State University, Metro, the City of Portland, U.S. Fish and Wildlife, and others, establish engineering and ecological habitat roof standards and requirements for industrial buildings that focus on Streaked Horned Lark habitat.



ATTACHMENT C:  
FORM A

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**FORM A****Northwest Earthmovers, Inc. & Port of Portland****Terminal 4 Wheeler Bay 2011 Repairs****Green Remediation Plan**

<b>FORM A</b> <b>Northwest Earthmovers, Inc. &amp; Port of Portland</b> <b>Terminal 4 Wheeler Bay 2011 Repairs</b> <b>Green Remediation Plan</b> (submittals will be quantified to the extent practicable given the scope of the project)	<b>Documentation of Green Practices (specify if practices are not applicable or infeasible)</b>
<b>1. Energy Efficiency</b>	
1.1. Renewable energy or Green Power used (specify below):	The Port currently purchases certified renewable energy credits equaling 100 percent of the Port-wide electric energy. Renewable energy is not applicable to this project for NEI.
1.2. Hybrid-electric vehicles used	The Port has a fleet of hybrid cars that can be used by employees and is also in the process of getting an all-electric Nissan-Leaf in operation. NEI has not yet found Hybrid-electric vehicles as a practicable for use in our industry.
1.3. Carpooling practiced	Carpooling for NEI office staff to attend site meetings will be practiced when schedules of the individuals allow for it. The Port will also maximize the use of carpooling and trip-pooling where feasible.
1.4. Trips eliminated through phone or email communication	NEI will endeavor to use telephone and email communications on this project.
1.5. Energy star equipment use in field office	An existing building at Terminal 4 will be used for the field office and no trailers will need to be brought on site to manage the project. As noted above, the Port currently purchases certified renewable energy credits equaling 100 percent of the Port-wide electric energy. The Port field office is equipped with EnergyStar office equipment.
1.6. Reduction in heat use within field office	An existing building at Terminal 4 will be used for the field office and no trailers will need to be brought on site to manage the project. As noted above, the Port currently purchases certified renewable energy credits equaling 100 percent of the Port energy needs.
<b>2. Greenhouse Gas Emissions, cleaner engines, cleaner fuels, reduce idling</b>	
2.1. Ultra-low sulfur diesel fuel used	NEI only uses Ultra-low sulfur diesel. Ultra Low Sulfur diesel (ULSD) – as of Dec 1, 2010, all diesel fuel sold in the U.S. must be ULSD. ULSD is a cleaner-burning diesel fuel that contains 97% less sulfur than low-sulfur diesel (LSD).

<p>2.2. Alternative fuels - biodiesel, natural gas, and liquefied petroleum or propane used.</p>	<p>In addition the diesel currently being purchased by NEI is also a B20 Bio-diesel. B20 bio-diesel contains up to 20% renewable biomass, and using B20 results in lower emissions of almost every pollutant e.g. carbon dioxide, sulfur oxide, and carbon monoxide. NEI anticipates using 200 gallons of fuel. As part of NEI's equipment maintenance program, used engine oils are recycled and used to heat the company repair &amp; maintenance shop during the winter.</p>
<p>2.3. Diesel exhaust retrofit device(s) - diesel oxidation catalysts, diesel particulate matter filters, selective catalytic reduction, closed crankcase ventilation, and exhaust gas recirculation technologies used.</p>	<p>The equipment NEI plans to use on this project will have TIER 3 engines. Tier 3 engines provide improved engine efficiency, thus reducing fuel consumption and exhaust, over the traditional diesel engine. The cost to retrofit the Tier 3 engine based on discussions with the John Deere dealer is \$15,000 to \$50,000. In addition, the time to complete the retrofit would extend past the October fish window (estimated at 4 to 6 weeks). Therefore, retrofitting the equipment is not justified for the project. NEI also investigated the possibility of leasing TIER 4 equipment from a local John Deere and Caterpillar dealer. According to these vendors, there is not comparable equipment within the Portland area. The nearest equipment is in California. The costs to mobilize the equipment as well as the added emissions to transport the equipment from California do not justify the use of leased TIER 4 equipment.</p>
<p>2.4. Minimize equipment idling.</p>	<p>The equipment NEI plans to use on this project have automatic idle controls which reduce the RPM of the engines. Operators are also instructed to shut off the machinery if it is not expected to be used within the next 5 minutes time. These controls and practices reduce fuel consumption and exhaust.</p>
<p>2.5 Routine maintenance of equipment - oil changes, checking tire pressure to maintain high fuel efficiency.</p>	<p>NEI Oil change and routine maintenance schedule is based upon 150-250 hours of usage. This is more frequent than the manufacturer recommended frequency of 300 - 500 hours of usage. NEI does this to maximize the useful life of the engines. This practice also ensures that the best possible engine efficiency is obtained, thus reducing fuel consumption and exhaust.</p>
<p>3. Utilize water conservation and efficiency approaches</p>	
<p>3.1. Water conservation methods - using gray water and/or captured rainwater for dust control, using tarps and mats to cover unvegetated/unarmored soils instead of water for dust control used.</p>	<p>Due to the time of year for this project, the use of water for dust control is not anticipated. If dust control becomes necessary water will be conservatively sprayed to hold down the dust using a water truck.</p>
<p>4. Incorporate sustainable site design</p>	

4.1. Areas of property left undisturbed	NEI will only disturb the areas necessary to perform the project. The project site has been minimized such that only 20 percent of the site below elevation 30 feet will be impacted by construction.
5. Utilize reused or recycled industrial materials within regulatory requirements	
5.1. On-site material used (specify below): <u>Filter layer gravel</u> <u>Anchored large woody debris</u> <u>Other (specify)</u>	All materials used for the bank repair project are existing on-site, with the exception of the rock rip rap. There will be approximately 30 cy of select fill found onsite used. And 2 woody debris trees removed and reanchored.
5.2. Material diverted from landfill.	This project does not require any material to be sent to a landfill or material recycled to be used as part of the construction process. If there is waste material discovered, appropriate measures will be used to recycle.
6. Use environmentally preferable purchasing	
6.1. Local materials used (specify below): <u>Rock rip-rap</u> _____ _____	Cemex Quarry is located approximately 20 miles from the project. NEI plans to have the rip rap delivered in transfer trucks to reduce the number of delivery trips to the project. Transfer Truck trips 2-3 ea vs SOLO Truck trips 4-6 ea.
6.2. Suppliers with green business practice policies.	CEMEX: accepts concrete debris and demolished asphalt paving materials for recycling purposes. Has a paperless conservation policy. GeoTK: Erosion control products. Provides some material containing recycled material. Example would be bio-bags, and porous paver products.
7. Environmental Management Systems (EMS) Practices	
7.1. Paper use reduced through electronic transmittals	NEI is reducing paper use by emailing submittals in lieu of hard copies.

**ATTACHMENT D:  
SPECIAL PROCEDURES**

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## SECTION 013500 – SPECIAL PROCEDURES

### PART 1 - GENERAL

#### 1.1 DESCRIPTION

- A. This section includes general requirements and procedures for compliance with certain USEPA Green Remediation practices.

#### 1.2 DEFINITIONS

- A. Equipment that is Not in Active Use: Equipment that is on standby for more than 5 minutes.

#### 1.3 SCOPE OF WORK

- A. The Contractor shall follow green remediation practices to the extent practicable.
- B. The Contractor shall document green remediation practices or specify how these practices are infeasible.

#### 1.4 SUBMITTALS

- A. Report on Green Remediation - Wheeler Bay Bank Repairs, Port of Portland

#### 1.5 REFERENCES

- A. USEPA. 2009. U.S. Environmental Protection Agency, Region 10 Superfund, RCRA, LUST, and Brownfields Clean and Green Policy. <http://yosemite.epa.gov/R10/extaff.nsf/%20programs/greencleanups>. Accessed online September 28, 2011

### PART 2 - PRODUCTS

Not used.

### PART 3 - EXECUTION

#### 3.1 GREEN REMEDIATION ITEMS

- A. The Contractor shall use technologies and practices that are sustainable in accordance with USEPA Region 10 Green Cleanups (<http://yosemite.epa.gov/R10/extaff.nsf/programs/greencleanups>). The Contractor shall report on the use of these technologies and practices through Form A to the extent possible, including the associated quantities of materials

reduced, reused, or recycled as a direct result of these practices, for the repair work after project completion.

- B. The Contractor shall use cleaner engines, cleaner fuel, and cleaner diesel control technology on diesel-powered equipment with engines greater than 50 horsepower, where practicable and feasible. The preference is for clean diesel technologies and alternative fuels, such as biodiesel or natural gas powered vehicles. Cleaner engines include non-road engines meeting Tier 4 or cleaner standards and on-road engines meeting 2004 On-Highway Heavy Duty Engine Emissions Standards, or cleaner, whether the equipment is owned or rented. If biodiesel is used, sources of biodiesel made from recycled cleaner fuels, such as recycled oil waste from restaurants, should be used, if available. The Contractor should provide reasonable justification for not meeting the minimum requirement for cleaner fuels, if impractical. Cleaner diesel control technology includes USEPA or California Air Resources Board (CARB) verified diesel particulate filters (DPFs) or diesel oxidation catalysts (DOCs).
- C. Diesel-powered equipment should be used where available and/or practicable instead of gas-powered equipment. The Contractor shall minimize idling to control air pollution and reduce fuel usage. This shall include turning off all diesel engines on construction equipment greater than 50 horsepower when not in active use. The Contractor should use, to the extent practicable, CARB Section 2485 Airborne Toxic Control Measures to limit diesel-fueled commercial motor vehicle idling, including use of machines with automatic idle-shutdown devices and auxiliary power systems that meet CARB equipment specifications to power cab heating and air conditioning when equipment is unengaged.
- D. The Contractor shall perform routine, on-time equipment inspections and maintenance such as oil changes and checking tire pressure to maintain proper fuel efficiency.
- E. The Contractor shall schedule activities taking into account minimizing the number of vehicle/truck trips to the site.
- F. The Contractor shall purchase and use local materials to the extent practicable.
- G. If water usage is necessary (e.g., for dust suppression), water conservation measures will be utilized where feasible and practical.
- H. Where feasible, the Contractor shall recycle all scrap construction materials, wastes from the construction office, and other materials generated during the course of construction activities.
- I. Practices such as reducing the use of paper by utilizing electronic transmittal of project documents and implementation of waste reduction and recycling programs at the work site shall be implemented. Workers will also be encouraged to minimize waste where possible; e.g., using refillable water bottles instead of single-use bottled water.

END OF SECTION 013500

APPENDIX B  
DAILY FIELD CONSTRUCTION  
OBSERVATION REPORT

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PROJECT Terminal 4, Wheeler Bay Bank Repairs CONTRACT NO. 2011D043/820027  
 CONTRACTOR Northwest Earthmovers (NEI) SUPERINTENDENT Carl Johnson  
 DAY OF WEEK & DATE: Thursday, October 6, 2011 REPORT NO. 1  
 WEATHER Cloudy, S Wind (light to moderate) TEMPERATURE 52-60 degrees F

**NUMBER/CLASS OF CONTRACTOR'S PERSONNEL:**

- 1- NEI superintendent/operator
- 1- NEI laborer

**MAJOR EQUIPMENT ON JOB (Size/capacity and hours):**

Hitachi 160 excavator/start: 3579.3; end: 3579.3; operated 0  
 John Deere 544 loader/start: 7708.2; end: 7708.2; operated 0

**CHRONOLOGICAL ACCOUNT OF DAY'S WORK:**

**08:00** CHASP kickoff tailgate meeting by Jeff Hargens (NEI). Attendees: Jennifer Jones (CDM/EPA); Tim Stone (AQ/POP); John Durst, Roger Anderson, and Bill McCormack (POP); Jeff Hargens and Carl Johnson (NEI)

**09:00** Carl Johnson, Jeff Hargens, Tim Stone, and Jennifer Jones to work area to walk site and assess access routes and project extents.

**10:00-**

**11:00** NEI begins installation of silt fence.  
 Tim Stone confirms specification for CL100 rip rap with J. Verduin and passes confirmation to Jeff Hargens.

**11:00** NEI Helper on site (Chris)  
 Carl Johnson provides CHASP briefing to helper.

**11:30** Jennifer Jones (CDM/EPA) off site

**11:45-**

**12:30** NEI delivers Hitachi 160 excavator and mobilizes to the work area. Starting hours: 3579.3

**12:30-**

**13:30** NEI complete installation of silt fence along shoreline from STN 2+50 to STN 4+00 (see Photo 1).  
 Silt fence installed in 6-inch deep hand-dug trench.  
 NEI using Level D PPE + nitrile gloves and rubber boots per the CHASP requirements.

**13:30-**

**14:30** NEI staging spill response kit and materials near work area  
 NEI trimming vegetation in area of access path between top of slope and beach  
 NEI digging out one conifer plant in access path (to be replanted following completion of work)  
 NEI staking LWD anchor point off-sets to locate existing anchors after fill work is completed.

**14:30-**

**15:15** NEI cutting and moving irrigation line in access path footprint  
 NEI tagging and cutting irrigation control wiring in access path footprint

**15:15-**

**15:45** NEI delivers John Deer 544 Loader; Starting hours: 7708.2

**15:45-**

**16:45** NEI disconnecting LWD anchor cables from log chain shackles

**16:45** End of Day—NEI and AQ/POP off site..



PROJECT Terminal 4, Wheeler Bay Bank Repairs CONTRACT NO. 2011D043/820027  
 CONTRACTOR Northwest Earthmovers (NEI) SUPERINTENDENT Carl Johnson  
 DAY OF WEEK & DATE: Thursday, October 6, 2011 REPORT NO. 1  
 WEATHER Cloudy, S Wind (light to moderate) TEMPERATURE 52-60 degrees F

Visitors: Port of Portland (6)—outside consultants and internal counsel touring site.

TESTING LABORATORY ON SITE: N/A HRS: N/A

TESTS PERFORMED: N/A

**PHONE LOG:**

10:45—Stone to Verduin (rip rap spec clarification)  
10:55—Stone to Hargens (rip rap spec clarification)

**SITE PHOTOS/VIDEOS TAKEN:**

Silt fence installation  
Hitachi 160 excavator  
Spill response materials  
John Deere 544 loader

**FORCE ACCOUNT WORK/ CHANGES ENCOUNTERED:**

None

INSPECTOR Tim Stone HRS 9.0 DATE 10/06/2011

Photo 1—*Silt fence installation completed from approximately STN 2+50 to STN 4+00*





PROJECT Terminal 4, Wheeler Bay Bank Repairs CONTRACT NO. 2011D043/820027  
 CONTRACTOR Northwest Earthmovers (NEI) SUPERINTENDENT Carl Johnson  
 DAY OF WEEK & DATE: Friday, October 7, 2011 REPORT NO. 2  
 WEATHER Cloudy, S Wind (light to moderate) TEMPERATURE 52-60 degrees F

**NUMBER/CLASS OF CONTRACTOR'S PERSONNEL:**

- 1- NEI superintendent/operator
- 1- NEI laborer

**MAJOR EQUIPMENT ON JOB (Size/capacity and hours):**

Hitachi 160 excavator/start: 3579.3; end: 3585.2; operated 5.9 hours  
 John Deere 544 loader/start: 7708.2; end: 7712.3; operated 4.1 hours

**CHRONOLOGICAL ACCOUNT OF DAY'S WORK:**

- 07:00 NEI(2) and AQ/POP(1) on site
- 07:00-
- 07:30 Carl Johnson (NEI H&S officer) providing CHASP orientation to Jess (NEI helper)
- 07:30-
- 09:00 NEI preparing equipment for operation; warm up and conducting operational and safety inspection of JD 544 and Hitachi 160  
 NEI helper removing woody debris and misc. debris from shoreline and repair areas.
- 08:00-
- 08:30 NEI mobilizes excavator down slope to beach area  
 NEI moving LWD out of repair area #2 and access path area
- 08:00-
- 11:00 CDM/EPA (Jennifer Jones) on site—indicates that EPA has requested that she ask contractor to not idle equipment > 5 minutes per the green remediation plan.
- 08:30-
- 09:30 NEI moves large log (non-anchored) to allow access to repair area #1  
 NEI transports select fill (habitat mix) down slope with loader; then from access ramp to repair area #1 with excavator  
 NEI placing 24 inches of select fill in repair area #1 and hand shoveling/raking to final grade  
 NEI regarding excavator track marks along the beach while moving out of area #1 with excavator  
 Jeff Hargens (NEI) on site to confer with Carl J. and observe progress.
- 09:30-
- 10:30 NEI placing select fill in repair area #3. Exposed demarcation material covered with >24 inches of select fill.
- 10:30-
- 12:00 NEI placing select fill in repair area #2.  
 NEI receives hot work permit for cutting chain at Terminal 4.  
 NEI clears sand, rock, and/or habitat mix from existing rip rap in repair area #2  
 NEI cuts lengths of chain to extend anchor system to final grade elevation and eventual location of LWD
- 12:00-
- 12:30 NEI Lunch break



PROJECT Terminal 4, Wheeler Bay Bank Repairs CONTRACT NO. 2011D043/820027  
 CONTRACTOR Northwest Earthmovers (NEI) SUPERINTENDENT Carl Johnson  
 DAY OF WEEK & DATE: Friday, October 7, 2011 REPORT NO. 2  
 WEATHER Cloudy, S Wind (light to moderate) TEMPERATURE 52-60 degrees F

**12:30-**  
**14:30** NEI receives 2 loads of CL100 rip rap from CEMEX (14.80 tons and 14.53 tons)  
 NEI continues placement of select fill in repair area #2  
 NEI hand grading repair area #3 with rake and shovel

**13:30-**  
**14:15** Kelly Madalinski (POP) on site to observe project progress.  
 Tim Stone and Kelly M. discuss fill material to be used to restore equipment ruts in access ramp when job is completed

**14:30-**  
**15:30** NEI moving CL100 rip rap from stockpile above project down-slope to repair area #2 and placing per design  
 NEI receives 1 load of CL100 rip rap (14.47 tons)

**16:00** End of Day—NEI and AQ/POP off site.

**Water Quality:** No impacts to surface water observed during the day's operations. Silt fence is in place as installed.

**Visitors:** Kelly Madalinski (POP), Jennifer Jones (CDM/EPA)

**Total Material Imported: 43.80 tons CL100 rip rap**

TESTING LABORATORY ON SITE: N/A HRS: N/A  
 TESTS PERFORMED: N/A

**PHONE LOG:**  
 N/A

<b><u>SITE PHOTOS/VIDEOS TAKEN:</u></b>	<b><u>FORCE ACCOUNT WORK/ CHANGES ENCOUNTERED:</u></b>
Installation, grading, and completion of select fill in repair areas 1, 2, and 3 Rip Rap/Rip Rap delivery Rip Rap placement in repair area #2 Silt fence integrity	None

INSPECTOR Tim Stone HRS 9.0 DATE 10/07/2011

\*\*Selected photos are shown below.



Photo 1—*Placement of select fill in repair area #1*



Photo 2—*Placement of select fill in repair area #3*





Photo 3—*Placement of select fill and rip rap in repair area #2*





PROJECT Terminal 4, Wheeler Bay Bank Repairs CONTRACT NO. 2011D043/820027  
 CONTRACTOR Northwest Earthmovers (NEI) SUPERINTENDENT Carl Johnson  
 DAY OF WEEK & DATE: Monday, October 10, 2011 REPORT NO. 3  
 WEATHER Cloudy, S Wind (light), intermittent rain showers TEMPERATURE 52-60 degrees F

**NUMBER/CLASS OF CONTRACTOR'S PERSONNEL:**

- 1- NEI superintendent/operator
- 1- NEI laborer

**MAJOR EQUIPMENT ON JOB (Size/capacity and hours):**

Hitachi 160 excavator/start: 3585.2; end: 3587.4; operated 2.2 hours **(PROJECT TOTAL: 8.1 hours)**  
 John Deere 544 loader/start: 7712.3; end: 7713.5; operated 1.2 hours **(PROJECT TOTAL: 5.3 hours)**

**CHRONOLOGICAL ACCOUNT OF DAY'S WORK:**

**07:00** NEI(2) and AQ/POP(1) on site

**07:00-**

**07:15** Carl Johnson, Jess (NEI helper), and Tim Stone participate in tailgate safety meeting (foul weather driving to and from job site and slippery site conditions caused by rain)

**07:15-**

**07:30** NEI preparing equipment for operation; warm up and conducting operational and safety inspection of JD 544 and Hitachi 160

**07:30** CDM/EPA CIH (Shawn Oliveira) on site for health and safety audit

**07:30-**

**09:30** NEI mobilizes excavator down slope to beach area  
 NEI placing rip rap in repair area #2  
 NEI receives 1 load of CL100 rip rap  
 Jeff Hargens (NEI) on site to confer with Carl J. and observe progress.

**09:30-**

**10:00** NEI locating and extending existing anchor system chains

**10:00-**

**11:00** NEI placing LWD in alignment with existing anchor system locations

**11:00** Shawn Oliveira(CDM/EPA) escorted of site

**11:00-**

**12:00** NEI regarding and repairing access ramp and installing silt fence perpendicular to slope to protect disturbed area

**12:00-**

**12:30** NEI Lunch break

**12:30-**

**15:00** NEI replants trees and shrubs removed from access ramp area  
 NEI reconnects LWD to existing anchor points  
 NEI installing silt fence across site access gate  
 John Durst (POP) site visit  
 Shawn Oliveira(CDM/EPA) on site  
 Jennifer Jones (CDM/EPA) on site



PROJECT Terminal 4, Wheeler Bay Bank Repairs CONTRACT NO. 2011D043/820027  
 CONTRACTOR Northwest Earthmovers (NEI) SUPERINTENDENT Carl Johnson  
 DAY OF WEEK & DATE: Monday, October 10, 2011 REPORT NO. 3  
 WEATHER Cloudy, S Wind (light), intermittent rain showers TEMPERATURE 52-60 degrees F

**15:00-**  
**16:30** NEI back-dragging and grading stockpile area and parking area  
 NEI cleaning and preparing excavator and loader for mobilization off site  
 NEI moving loader and excavator to near front security gate of Terminal 4 for loading  
  
**16:30** End of Day  
 NEI and AQ/POP off-site  
  
**Water Quality:** No impacts to surface water observed during the day's operations. Silt fence removed from shoreline area after grading work was completed.  
  
**Visitors:** Shawn Oliveira(CDM/EPA) John Durst(POP), Jennifer Jones (CDM/EPA)  
  
**Total Material Imported on 10/10/11:** 14.53 tons CL100 rip rap  
 20 feet 3/4-inch non-galvanized long-link chain  
 6 each 3/4-inch non-galvanized shackles  
  
**Total Material Imported for project:** 58.33 tons CL100 rip rap  
 20 feet 3/4-inch non-galvanized long-link chain  
 6 each 3/4-inch non-galvanized shackles  
 200 feet black silt fence

TESTING LABORATORY ON SITE: N/A HRS: N/A  
 TESTS PERFORMED: N/A

**PHONE LOG:**  
 07:20—Shawn Oliveira(CDM) requesting escort from gate to work area  
 09:00—Jennifer Jones(CDM) discuss schedule for the day/week  
 13:40—John Verduin (AQ) discuss repair of access ramp  
 13:45—Shawn Oliveira(CDM) requesting escort from gate to work area  
 13:50—Kelly Madalinski (POP) discuss project status  
 15:25—Kelly Madalinski (POP) discuss contractor schedule and relay information related final inspection by EPA

**SITE PHOTOS/VIDEOS TAKEN:**  
 Rip Rap placement in repair area #2  
 Repair of access ramp area  
 Final repair area conditions  
 General site condition after NEI cleanup and completion

**FORCE ACCOUNT WORK/ CHANGES ENCOUNTERED:**  
 None

INSPECTOR Tim Stone HRS 9.0 DATE 10/10/2011

\*\*Selected photos are shown below.



Photo 1—Placement of CL100 rip rap completed in repair area #2



Photo 2—Repair area #2 with LWD replaced and anchored to existing anchor systems





Photo 3—Repair of construction access ramp area with silt fence installed





PROJECT Terminal 4, Wheeler Bay Bank Repairs CONTRACT NO. 2011D043/820027  
 CONTRACTOR Northwest Earthmovers (NEI) SUPERINTENDENT Jeff Hargens  
 DAY OF WEEK & DATE: Thursday, October 13, 2011 REPORT NO. 4  
 WEATHER Cloudy, S Wind (light) TEMPERATURE 52-60 degrees F

<b>NUMBER/CLASS OF CONTRACTOR'S PERSONNEL:</b> 1- NEI superintendent 1- Hydro-seed applicator	<b>MAJOR EQUIPMENT ON JOB (Size/capacity and hours):</b> 1-Chevy Service Truck (OR 521550)
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**CHRONOLOGICAL ACCOUNT OF DAY'S WORK:**

**09:10** POP(Kelly Madalinski) on-site, CDM/EPA (Jennifer Jones) already on-site

**09:45** NEI (Jeff Hargens), NEI subcontractor (1), POP (Roger Anderson) on-site

**10:00-**

**10:45** NEI subcontractor performs hydro-seed application in access ramp repair area – above elevation 20 feet. NEI subcontractor applied 14 pounds of grass seed to an area of approximately 2000 square feet. Jennifer Jones (CDM) off-site

**11:00** End of Day  
NEI and POP off-site

**Persons on-site 10/13/11:**  
Kelly Madalinski, Roger Anderson (POP); Jeff Hargens (NEI); NEI subcontractor; Jennifer Jones (CDM/EPA)

**Total Material Imported for project:** 58.33 tons CL100 rip rap  
 20 feet 3/4-inch non-galvanized long-link chain  
 6 each 3/4-inch non-galvanized shackles  
 200 feet black silt fence

TESTING LABORATORY ON SITE: N/A HRS: N/A

TESTS PERFORMED: N/A

**PHONE LOG:**  
N/A

<b>SITE PHOTOS/VIDEOS TAKEN:</b> Repair area #2 pre-hydro-seeding Repair area #2 with hydro-seed in place Final shoreline in repair area #2	<b>FORCE ACCOUNT WORK/ CHANGES ENCOUNTERED:</b> None
--	---

INSPECTOR Kelly Madalinski/Roger Anderson HRS 2.0 DATE 10/13/2011

\*\*Selected photos are shown below.



Photo 1—Repair area #2 pre-hydro-seeding



Photo 2—Repair area #2 with hydro-seed in place





Photo 3—*Final shoreline in repair area #2*



APPENDIX C  
CONSTRUCTION PHOTOS

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**Silt fence installed prior to construction**



**Placement of select fill in repair Area #1**



**Placement of select fill in repair Area #3**



**Placement of select fill and Class 100 armor in repair Area #2**



**Placement of Class 100 armor completed in repair Area #2**



**Repair Area #2 with large woody debris replaced and anchored to existing systems**



**Construction access ramp prior to hydroseeding**



**Construction access ramp with hydroseed in place**



**Final shoreline in repair Area #2**

APPENDIX D  
CONTRACT SPECIFICATIONS AND  
DRAWINGS

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**PORT OF PORTLAND**

**TERMINAL 4  
WHEELER BAY  
BANK REPAIRS 2011**

**EAN No. 2011D043  
Solicitation No. BT572**

**September 2011**

**AS BID**

MAIL INVOICES TO

Julie Winczewski  
Engineering  
Port of Portland  
P.O. Box 3529  
Portland, OR 97208

***Please mail invoices to the attention of Julie Winczewski. Include the project title, EAN number, and contract number on all invoices. Failure to do so may result in delayed payment processing.***

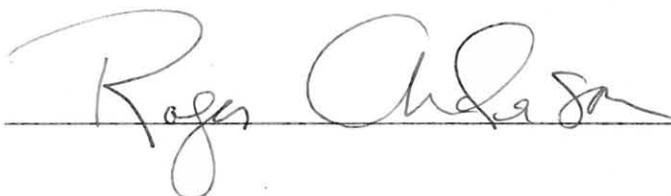
DOCUMENT 000107  
APPROVALS

TERMINAL 4  
WHEELER BAY  
BANK REPAIRS 2011

Project Manager:



Project Engineer:



Consultant:

Anchor QEA, LLC  
1423 3rd Avenue, Suite 300  
Seattle, WA 98101  
(503) 287-9130



DOCUMENT 000110  
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WHEELER BAY  
BANK REPAIRS 2011

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SPECIFICATIONS GROUP

GENERAL REQUIREMENTS SUBGROUP

DIVISION 1 – GENERAL REQUIREMENTS

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	015719	Environmental Protection
	017000	Execution Requirements
	017700	Closeout Procedures

SITE AND INFRASTRUCTURE SUBGROUP

DIVISION 31 – EARTHWORK

Section	312000	Site Clearing, Earthwork, and Shoreline Stabilization
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DIVISION 35 – WATERWAY AND MARINE

Section 353200 Anchored Woody Debris Structures

EXHIBIT A – DESIGN ANALYSIS REPORT (INCORPORATED BY REFERENCE)

EXHIBIT B – NATIONAL MARINE FISHERIES SERVICES BIOLOGICAL OPINION (INCORPORATED BY REFERENCE)

EXHIBIT C – USEPA WATER QUALITY MONITORING AND COMPLIANCE CONDITIONS PLAN (INCORPORATED BY REFERENCE)

DOCUMENT 000115  
DRAWINGS INDEX

TERMINAL 4  
WHEELER BAY  
BANK REPAIRS 2011

DRAWING  
NUMBER

SHEET TITLE

T4 2011-500 00

GI-1  
C-1  
C-2

EXISTING CONDITIONS  
STABILIZATION REPAIR PLAN  
CROSS SECTION

DOCUMENT 001100  
REQUEST FOR QUOTATIONS

September 19, 2011

TERMINAL 4  
WHEELER BAY  
BANK REPAIRS 2011  
SOLICITATION NO. BT572  
PROJECT NO. 820027  
EAN NO. 2011D043

The work includes but is not limited to:

Restoration of shoreline aggregate at Wheeler Bay. The work area is within a designated Superfund site. The Contractor shall comply with permits and regulations of local, state, and federal agencies.

Prevailing wage rates apply to this work (see the General Conditions).

Enclosed are the contract documents for the subject work. You are invited to submit a quotation for this work.

**Quotations must be submitted on the attached quotation form** and received by The Port of Portland, Contracts and Procurement, 7200 N.E. Airport Way, 8th Floor, Portland, Oregon 97218. Submittal by fax to (503) 548-5812 is acceptable. If submitting by mail, seal the quotation in a separate envelope addressed to the Manager, Contracts and Procurement, The Port of Portland, P.O. Box 3529, Portland, Oregon 97208, and show on the outside of the envelope the name of the offeror, the offeror's State of Oregon Construction Contractors Board registration number, and the contract title preceded by the words "SEALED QUOTATION."

Quotations are due by 2 p.m. September 23, 2011.

Small projects at the Port of Portland are often time-critical. The offeror is requested to submit the signed quotation form, and be prepared to submit an insurance certificate and any other necessary documentation to Contracts and Procurement within two business days of quotation acceptance.

Contractors, subcontractors, consultants, and suppliers are strongly encouraged to register through the Port of Portland's Supplier Registration and Online Solicitation system at [www.portofportland.com/sros\\_home.aspx](http://www.portofportland.com/sros_home.aspx). Registered firms can view current business opportunities, receive electronic notification of Port solicitations, and have access to view, download, or request copies of solicitations, addenda, and solicitation-holders lists.

The Port is committed to increasing small business participation in Port contracts. For fiscal year 2011-2012, the Port's overall small business participation target is 10 percent participation of small businesses as a percent of contract dollars awarded directly and as subcontracts; and 25 percent participation of small businesses as a percent of the total number of contracts awarded directly and as subcontracts. While there is no specific small business participation goal for this project, the Port encourages all offerors to consider how they can help the Port achieve its overall small business participation target.

Small business means, for the purpose of this contract, a for-profit small business enterprise that has been certified by the Oregon State Office of Minority, Women, and Emerging Small Business (OMWESB) or by the

Washington State Office of Minority and Women's Business Enterprises (OMWBE). A certified small business enterprise includes a certified minority-owned business enterprise (MBE), certified women-owned business enterprise (WBE), certified emerging small business (ESB), and certified disadvantaged business enterprise (DBE). A listing of certified firms is available on the OMWESB and the OMWBE websites at <http://egov.oregon.gov/dcbs/omwesb/index.shtml> and [http://www.omwbe.wa.gov/certification/certification\\_mwbe.shtml](http://www.omwbe.wa.gov/certification/certification_mwbe.shtml).

The Port may reject quotations that do not comply with applicable public contracting procedures and requirements. The Port may reject for good cause any or all quotations if the Port finds that doing so is in the public interest. Offeror compliance for this project includes the following:

- A. By signing the attached quotation form, the offeror agrees that, if applicable, the offeror will comply with the provisions of ORS 279C.800 to 279C.870 (regarding payment of prevailing wage rates). Current wage rates determined by the Oregon Bureau of Labor and Industries (BOLI) may be obtained from BOLI's web site at [www.boli.state.or.us](http://www.boli.state.or.us).
- B. No quotation will be considered unless the offeror is registered with the State of Oregon Construction Contractors Board to the extent required by ORS Chapter 701, prior to submitting a quotation.
- C. Quotations may be rejected if not submitted on the enclosed quotation form with receipt of all addenda acknowledged.

Direct technical questions to the Project Engineer, Roger Anderson ([roger.anderson@portofportland.com](mailto:roger.anderson@portofportland.com), telephone (503) 415-6402). Please direct all other questions to the Project Buyer, Michael Smelser ([michael.smelser@portofportland.com](mailto:michael.smelser@portofportland.com), telephone (503) 415-6623, or fax (503) 415-5513).

THE PORT OF PORTLAND

Craig Johnsen, Manager  
Contracts and Procurement

Enclosures: Contract Documents (including the quotation form)

CPD/CAL

DOCUMENT 004100  
QUOTATION

TERMINAL 4  
WHEELER BAY  
BANK REPAIRS 2011

The offeror agrees that, if the Port accepts this quotation by signing below, that acceptance automatically creates a contract consisting of this quotation, any addenda issued by the Port, and the following documents attached to the request for quotations: (1) General Conditions; (2) Supplementary Conditions; (3) Wage Rates; (4) Drawings; (5) Specifications; and (6) Exhibits.

The Port anticipates authorizing onsite work to commence on or about October 3, 2011. The offeror promises that work shall be substantially complete on or before October 30, 2011. The offeror agrees to pay, as liquidated damages to the Port for any delay, the sum of \$500 per day for each day of delay beyond the substantial completion date so promised.

The offeror further promises that work shall be complete, having gained a successful final inspection and received final acceptance from the Port, on or before November 30, 2011. Final payment will not be made until the work is judged complete by the Port; completion includes submittal of all documentation required by the contract.

The offeror, \_\_\_\_\_, submits and proposes the following  
(Print Company Name)

unit prices, to wit:

<u>Item No.</u>	<u>Name of Item</u>	<u>Estimated Quantity</u>	<u>Units</u>	<u>Unit Price</u>	<u>Total Price</u>
0001	Mobilization, Surveying, Select Fill, Erosion Control, Cleanup, and Demobilization	1	L.S.	_____	_____
0002	Rock Rip-Rap	50	TON	_____	_____
<b>Total Amount (Basis of Award)</b>					<b>\$ _____</b>

The offeror hereby acknowledges receipt of Addendum Nos. \_\_\_\_\_, \_\_\_\_\_, \_\_\_\_\_, \_\_\_\_\_, \_\_\_\_\_, to these contract documents.

By signing this quotation, the offeror agrees to comply with and pay prevailing wage rates as required by ORS 279C.800 to 279C.870.

OFFEROR:

Individual signing for the offeror represents that he or she is a duly authorized representative.

By: \_\_\_\_\_ Telephone Number: \_\_\_\_\_  
(Signature)

Fax Number: \_\_\_\_\_

Name: \_\_\_\_\_  
(Typed)

E-Mail Address: \_\_\_\_\_

Its: \_\_\_\_\_  
(Title)

Date: \_\_\_\_\_

Company Name and Address:

State of Oregon Construction Contractors Board  
Registration No. \_\_\_\_\_ (Required)

\_\_\_\_\_

Federal I.D. No. or Social Security No.

\_\_\_\_\_

\_\_\_\_\_

THE PORT OF PORTLAND:

This offer is hereby accepted.

By: \_\_\_\_\_ Title: \_\_\_\_\_  
(Signature)

Name: \_\_\_\_\_ Date: \_\_\_\_\_  
(Print)



DOCUMENT 007200  
GENERAL CONDITIONS

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## **Article 1 – Definitions**

Act of God – Any misadventure or casualty caused by the direct, immediate, and exclusive operation of the forces of nature, uncontrolled and uninfluenced by the power of man and without human intervention, which could not have been prevented or escaped by any amount of foresight or prudence, by any reasonable degree of care, or by the aid of any appliances reasonably required under the circumstances. A meteorological event, including but not limited to, cold, heat, rain, snow, wind, flood, or lightning, shall be rebuttably presumed not to be an Act of God if it falls within two standard deviations of the mean of records for that event maintained by the U.S. Weather Bureau for the Portland International Airport at Portland, Oregon.

Addenda – Written or graphic instruments issued prior to quotation opening which clarify, correct, or change the Contract Documents.

Change Order – A written amendment to these Contract Documents which authorizes an addition, deletion, or revision to the Work, and which may authorize an adjustment in the contract price, the contract time, or both.

Construction Contract Manager – An individual authorized in writing by the Port to represent the Port with respect to this Contract within the scope of the authority conferred by the written authorization.

Contract or Contract Documents – The Contractor’s signed quotation, including any documentation accompanying the quotation, these General Conditions; Supplementary Conditions; prevailing Wage Rates (if applicable); Specifications; Drawings; Notice to Proceed; Addenda; and Change Orders.

Contract Price – The total compensation payable to the Contractor for performing the Work as stated in this Contract and as modified by Change Order.

Contract Time – The number of days between the work start date established by the Notice to Proceed and the date by which Substantial Completion of all Work must be achieved under this Contract.

Contractor – The person, firm, or corporation with whom the Port has contracted with in the form of a contract.

Day or Calendar Day – Any 24-hour period beginning at midnight.

Day, Business – Any Calendar Day other than Saturday, Sunday, or a holiday on which the Port’s administrative offices are closed.

Drawings or Plans – The graphic representations which show the character and scope of the work to be performed, which have been prepared or approved by the Port, and which are expressly incorporated into this Contract.

Final Acceptance – The Port’s written acknowledgement that the Work has been fully completed and all Contract-required documentation has been received and accepted.

Inspector – The individual delegated to represent the Port under this contract, acting under the direction of the Construction Contract Manager.

Notice to Proceed – A written notice given by the Port to the Contractor fixing the Contract Time and designating a date on which the Contractor is authorized to begin the Work.

Port – The Port of Portland, a Port district organized under ORS Chapter 778.

Shop Drawings – Diagrams, drawings, illustrations, instructions, and other data submitted by the Contractor to illustrate some portion of the Work.

Specifications – Those portions of this Contract consisting of written technical descriptions of materials, equipment, systems, standards, and workmanship as applied to the Work and certain administrative details applicable thereto.

Subcontractor – An individual or firm having a direct contract with the Contractor or with any other Subcontractor at any tier for the performance of a part of the Work.

Submittals – All brochures, diagrams, drawings, illustrations, instructions, performance charts, schedules, and other data which are specifically submitted by the Contractor to illustrate some portion of the Work.

Substantial Completion – Completion of the Work, or a part of the Work designated by the Port, in accordance with this Contract, to the point where it may be utilized for the purpose for which it was intended.

Work – The labor, material, equipment, and services required by this Contract.

## **Article 2 – Quotation**

- 2.1 When the quotation form provides for writing the quotation price in words and numerals, the price as written in words shall govern over the price written in numerals.
- 2.2 In the case of unit prices, if there is a conflict between the amount quoted and the product of the estimated quantity and the unit price, the unit price shall prevail and the corrected product will be used in computing the total amount quoted.

## **Article 3 – Preliminary Matters**

- 3.1 Prior to commencement of work, the Contractor shall submit the contractor safety information form for safety planning purposes. The Port expects that the Contractor will abide by all Oregon OSHA requirements and the Contract Documents to provide for the safety of the Contractor's employees, Port employees, tenants, and the general public. Work performed by Subcontractors shall be on the form. The Contractor shall also include applicable company policies, procedures, or plans. Material safety data sheets (MSDS) for chemical products introduced to Port premises shall not be submitted with this information, but shall accompany the Contractor on site and be available to the Port upon request.

## **Article 4 – Substitutions**

- 4.1 The following phrases stated after materials, products, or services in the Specifications determine the extent to which substitutions may be proposed. All proposed substitutions shall be submitted on a Port-provided Substitution Request form.
  - A. "Pre-Quotation" or "Pre-Bid Approved Equal" materials, products, or services require approval by addendum prior to quotation due date. Complete technical data and such pertinent information as is necessary to fully identify and appraise the material, product, or service shall be submitted on the Substitution Request form to the Project Buyer and copied to the Project Engineer via e-mail or fax, no less than five business days prior to the quotation due date.
  - B. "Equal" materials, products, or services do not require approval prior to quotation due date. The proposed substitution shall anticipate all necessary lead time required for approval by the Port and procurement. Such requests may need to be accompanied by complete technical data and such pertinent information as is necessary to fully identify and appraise the material, product, or service. No increase in the contract price or time will be considered when a substitution is not accepted.

- C. “No substitution” materials, products, or services have been determined to be  
1) manufactured from a single source only or 2) required for the efficient utilization of existing equipment or systems. Requests for substitution will not be considered for these items. Justifications for classifying these products as “no substitution” are on file as brand name exemption items in the Port’s Contracts and Procurement Office.
- D. Proprietary materials, products, or services that are specified but not followed by the terms described above will be evaluated as if they were followed by the words “or equal.”

## **Article 5 – Contract Documents**

- 5.1 Where provisions of the General Conditions relate in general to the work of the Contractor and subcontractors as administrative requirements, procedural requirements, or temporary facilities, those provisions may be amplified in other areas of the Contract Documents. Unless expressly provided otherwise, specific requirements in other areas of the Contract Documents take precedence over less rigorous requirements in the General Conditions.
- 5.2 Unless stated otherwise in the Contract Documents, all specifications are directed to the Contractor. This includes statements which have no grammatical subject, as in “Install equipment plumb and level.”
- 5.3 The Construction Contract Manager will issue with reasonable promptness such written clarifications or interpretations of this Contract as may be necessary. They will be consistent with or reasonably inferable from the overall scope of this Contract. If the Contractor believes that a written clarification or interpretation justifies an increase in the Contract Price or the Contract Time, the Contractor shall notify the Port.
- 5.4 Pursuant to ORS 81.105, Oregon law applies to this contract. In the event ORS 81.105 is deemed invalid or inapplicable, the parties agree that Oregon law applies to this contract.
- 5.5 All provisions of this Contract are separable and independent of the others. If any provision of this Contract, including but not limited to any provision of a document incorporated by reference, is declared invalid for any reason, the remainder of this Contract shall remain valid and in full force and effect.

## **Article 6 – Electronic Documents**

- 6.1 Because electronic documents are subject to data erosion, erasure, and alteration, the Port makes no warranties or representations regarding the integrity or completeness of any electronic document it provides. Because computer software may become obsolete with time, the Port makes no warranties or representations regarding the ability to access electronic documents it provides. The Port makes no warranties or representations regarding the presence or absence of computer viruses in electronic documents it provides; any person using an electronic document provided by the Port should have the document and supporting medium (e.g. disk, CD, or tape) checked for computer viruses before using it in a manner that might allow the spread of a computer virus. All or parts of electronic documents provided by the Port may be copyrighted, and those using them are responsible for determining the existence of copyrights and for obtaining permission to copy copyrighted material. Those using electronic documents provided by the Port do so at their own risk.

## Article 7 – Contractor’s Responsibilities

### 7.1 General

- A. The Contractor shall, in consideration of payment(s) to be made by the Port, provide all necessary labor, material, transportation, equipment, incidentals, and other means required to complete the Work in accordance with the requirements of this Contract.
- B. The Contractor shall supervise and direct the Work competently and efficiently, applying the skills and expertise as may be necessary to perform the Work in accordance with this Contract. The Contractor shall be solely responsible for the means, methods, techniques, sequences, and procedures of construction. The Contractor shall be responsible for seeing that the finished Work complies accurately with this Contract.
- C. The Contractor shall obtain the prior written consent of the Port to any proposed assignment of any interest in or part of this contract. Such consent shall be at the sole discretion of the Port.
- D. License Requirement: The Contractor and subcontractors shall be licensed to do work in the appropriate jurisdiction.

### 7.2 Use of Premises

- A. The Contractor shall confine equipment, the storage of material, and the operations of workers to areas permitted by this Contract. The Contractor shall not unreasonably encumber the premises with equipment or material.
- B. During the progress of the Work, the Contractor shall keep the premises free from accumulations of waste material, rubbish and other debris resulting from the Work. At the completion of the Work, the Contractor shall leave the site clean and ready for occupancy. The Contractor shall restore to their original condition those portions of the site not designated for alteration by this Contract.
- C. The Contractor shall not permit any part of any structure to be subjected to loads that may endanger its structural stability. The Contractor shall not subject any part of the Work or adjacent property to stresses or pressures that will endanger it.

### 7.3 Indemnity

- A. To the fullest extent allowed by law, the Contractor shall defend (using legal counsel acceptable to the Port), indemnify, reimburse, and hold harmless the Port and the Port’s commissioners, employees, contractors, and agents for, from and against any and all actual or alleged claims, damages, losses, expenses, costs, fees (including, but not limited to, attorney, accountant, paralegal, expert, and escrow fees), fines, and/or penalties (collectively “Damages”) which may be imposed upon, claimed against or incurred by the Port to the extent such Damages are caused by any of the following: (a) any act, omission or negligence of the Contractor or the Contractor’s partners, officers, directors, agents, employees, invitees or subcontractors; (b) any use, occupation, management or control of Port property by the Contractor or the Contractor’s employees, agents, subcontractors, or suppliers, whether or not due to the Contractor’s own act or omission and whether or not occurring on Port property; (c) any condition created on Port property by the Contractor or the Contractor’s employees, agents, subcontractors, or suppliers, and any accident, injury or damage arising from the condition; (d) any breach, violation or nonperformance of any of the Contractor’s obligations under this Contract; (e) any damage caused by the Contractor or the Contractor’s employees, agents, subcontractors, or suppliers on or to Port

property. Nothing in the foregoing shall be deemed to require any indemnity made void by ORS 30.140.

#### 7.4 Insurance

- A. The Contractor shall maintain commercial general liability and automobile liability insurance protection against any and all claims for damages to persons or property which may arise out of operations under this contract, whether such operations be by himself or a subcontractor or by anyone directly or indirectly employed by either of them. Such insurances shall be in an amount of not less than \$1,000,000 (unless amount is modified by the Supplementary Conditions) per occurrence. Such insurance shall name the Port as additional insured with respect to work performed under this contract, provided that the Contractor's insurer shall not be required to indemnify the Port for damages arising out of the death or bodily injury to persons or damage to property caused in whole or in part by the negligence of the Port. This insurance shall provide primary coverage and shall not seek any contribution from any insurance or self-insurance carried by the Port. The Contractor shall also maintain workers' compensation coverage for all subject workers as required by law, including employer's liability. Certificates of insurance evidencing these coverages, including an additional insured endorsement, issued by insurance companies licensed to do business in the State of Oregon, shall be filed with the Port within 48 hours of acceptance of quotation and shall be subject to the review and approval of the Port.

#### 7.5 Kind and Quality of Material

- A. All material incorporated into the Work shall be new, except as otherwise provided in the Contract Documents. Products containing asbestos or other hazardous material, as defined by ORS 466.605, shall be used only with the Port's prior written approval. If required by the Port, the Contractor shall furnish satisfactory evidence that the kind and quality of material and equipment provided meet Contract requirements. Satisfactory evidence may include test reports. All material shall be of good quality.

#### 7.6 Acts and Omissions

- A. The Contractor is responsible for the acts and omissions connected with the work of persons directly or indirectly employed, including subcontractors and their employees.

#### 7.7 Labor Relations

- A. The Contractor shall be responsible for labor relations and seek to resolve disputes between himself and his employees. Any labor dispute arising from this contract that causes a disruption of Port operations shall be to the account of and the responsibility of the Contractor.
- B. The Contractor agrees to comply with all federal and state laws and regulations regarding nondiscrimination.

#### 7.8 Laws and Regulations

- A. The Contractor shall comply, and shall ensure that his employees and those of his Subcontractors and suppliers at every tier comply, with the most current versions of applicable laws, rules, regulations, and practices.

B. Payment for Labor or Material

1. The Contractor shall make payment promptly, as due, to all persons supplying to the Contractor labor or material for the prosecution of the work provided for in this Contract.

C. Overtime

1. No person employed under this Contract shall be required or permitted to labor more than 10 hours in any one day, or more than 40 hours in any one week, except in cases of necessity, emergency, or where the public policy absolutely requires it, in which case the person or persons so employed shall receive at least time and a half pay: (a) for all overtime in excess of eight hours a day or 40 hours in any one week when the work week is five consecutive days, Monday through Friday; (b) for all overtime in excess of 10 hours a day or 40 hours in any one week when the work week is four consecutive days, Monday through Friday; or (c) for all work performed on Saturday, Sunday, New Year's Day on January 1, Memorial Day on the last Monday in May, Independence Day on July 4, Labor Day on the first Monday in September, Thanksgiving Day on the fourth Thursday in November, or Christmas Day on December 25 or, if one of those named holidays falls on a Sunday, on the following Monday or, if it falls on a Saturday, on the preceding Friday. The requirements of this section are subject to the exceptions established by ORS 279C.540.
2. The Contractor shall ensure that each employer of employees working on this Contract gives those employees the written notice required by ORS 279C.520(2) and 279C.520(5)(b), either at the time of hire or before commencement of work on this Contract, or by posting a notice in a location frequented by employees, of the number of hours per day and days per week that the employees may be required to work.
3. When specifically agreed to under a written labor-management negotiated labor agreement, an employee may be paid at least time and a half for work performed on Martin Luther King, Jr.'s birthday on the third Monday in January, Veterans Day on November 11, and every day appointed by the Governor as a holiday.

D. Contributions to the Industrial Accident Fund

1. The Contractor shall pay all contributions or amounts due the Industrial Accident Fund from the Contractor or the Contractor's subcontractor incurred in the performance of this Contract.

E. Income Tax Withholding

1. The Contractor shall pay to the Oregon Department of Revenue all sums withheld from employees pursuant to ORS 316.167.

F. Payment of Claims by the Port

1. If the Contractor fails, neglects, or refuses to make prompt payment of any claim for labor or services furnished to the Contractor or a subcontractor by any person in connection with this Contract as the claim becomes due, the Port may pay the claim to the person furnishing the labor or services and charge the amount of the payment against funds due or to become due to the Contractor pursuant to this Contract. The Port's payment of a claim under this paragraph shall not relieve the Contractor or the Contractor's surety, if any, from responsibility for those claims.

G. Payment of Subcontractors

1. If the Contractor or a first-tier subcontractor fails, neglects or refuses to make payment to a person furnishing labor or materials in connection with the public contract for a public improvement within 30 days after receipt of payment from the public contracting agency or a contractor, the Contractor or first-tier subcontractor shall owe the person the amount due plus interest charges commencing at the end of the 10-day period that payment is due under ORS 279C.580(3) or (4) and ending upon final payment, unless payment is subject to a good faith dispute as defined in ORS 279C.580(5). The rate of interest charged to the Contractor or first-tier subcontractor on the amount due shall equal three times the discount rate on 90-day commercial paper in effect at the Federal Reserve Bank in the Federal Reserve district that includes Oregon on the date that is 30 days after the date when payment was received from public contracting agency or from the Contractor, but the rate of interest shall not exceed 30 percent. The amount of interest may not be waived.

H. Construction Contractors Board Complaint

1. If the Contractor or a subcontractor fails, neglects or refuses to make payment to a person furnishing labor or materials in connection with this Contract, the person may file a complaint with the Construction Contractors Board, unless payment is subject to a good faith dispute as defined in ORS 279C.580(5).

I. Workers' Compensation

1. All subject employers performing work under this Contract are either employers that will comply with ORS 656.017 or employers that are exempt under ORS 656.126.

J. Medical Care for Employees

1. The Contractor shall promptly, as due, make payment to any person, copartnership, association or corporation, furnishing medical, surgical and hospital care or other needed care and attention, incident to sickness or injury, to the employees of the Contractor, of all sums which the Contractor agrees to pay for such services and all moneys and sums which the Contractor collected or deducted from the wages of employees pursuant to any law, contract or agreement for the purpose of providing or paying for such service.

K. Liens and Claims Prohibited

1. The Contractor shall not permit any lien or claim to be filed or prosecuted against the Port, the state, any county, any school district, any municipality, any municipal corporation, or any subdivision thereof, on account of any labor or material furnished pursuant to this Contract.

L. Drug Testing Program

1. The Contractor shall demonstrate that an employee drug testing program is in place.

M. Demolition and Landscaping

1. The Contractor shall salvage or recycle construction and demolition debris, if feasible and cost-effective. The Contractor shall compost or mulch yard waste material at an approved site, if feasible and cost-effective.

N. Prevailing Wage Required

1. Each person doing or contracting to do all or any part of the work under this Contract shall be paid not less than the prevailing rate of wage set forth in the current Oregon Bureau of Labor and Industries general wage determinations for the trade or occupation in which that person is engaged. The current wage determinations may be obtained from BOLI's web site at [www.boli.state.or.us](http://www.boli.state.or.us). The wage rates and amendments in effect at the time this Request for Quotations is issued are the rates that shall apply for the duration of the Work.
2. The Contractor shall ensure that each subcontract includes a provision that workers shall be paid not less than the minimum hourly rate of wage specified in the foregoing paragraph.

O. Payment of Fee

1. The fee that is required to be paid to the Bureau of Labor and Industries under ORS 279C.825(1) shall be paid under the administrative rule of the commissioner.

P. Payment of Subcontractors

1. The Contractor shall include in each subcontract for property or services entered into by the Contractor and a first-tier subcontractor, including a material supplier, for the purpose of performing this Contract:
  - a. A payment clause that obligates the Contractor to pay the first-tier subcontractor for satisfactory performance under the subcontract within 10 days out of such amounts as are paid to the Contractor by the Port under this Contract; and
  - b. An interest penalty clause that obligates the Contractor, if payment is not made within 30 days after receipt of payment from the Port, to pay to the first-tier subcontractor an interest penalty on amounts due in the case of each payment not made in accordance with the payment clause included in the subcontract pursuant to this subsection. The Contractor or first-tier subcontractor shall not be obligated to pay an interest penalty if the only reason that the Contractor or first-tier subcontractor did not make payment when payment was due is that the Contractor or first-tier subcontractor had not received payment from the Port or the Contractor when payment was due. The interest penalty shall be:
    - 1) For the period beginning on the day after the required payment date and ending on the date on which payment of the amount due is made; and
    - 2) Computed at the rate specified in ORS 279C.515(2).
2. The Contractor shall include in each of his subcontracts, for the purpose of performance of this Contract condition, a provision requiring the first-tier subcontractor to include a payment clause and an interest penalty clause conforming to the standards of this section in each of his subcontracts and to require each of his subcontractors to include such clauses in their subcontracts with each lower-tier subcontractor or supplier.
3. The clauses required by this section are not intended to impair the right of the Contractor or a subcontractor at any tier to negotiate, and to include in the subcontract, provisions that:
  - a. Permit the Contractor or a subcontractor to retain, in the event of a good faith dispute, an amount not to exceed 150 percent of the amount in dispute from the

amount due a subcontractor under the subcontract without incurring any obligation to pay a late payment interest penalty, in accordance with terms and conditions agreed to by the parties to the subcontract, giving such recognition as the parties consider appropriate to the ability of a subcontractor to furnish a performance bond and a payment bond;

- b. Permit the Contractor or a subcontractor to make a determination that part or all of the subcontractor's request for payment may be withheld in accordance with the subcontract agreement; and
- c. Permit such withholdings without incurring any obligation to pay a late payment interest penalty if:
  - 1) A notice conforming to the standards of ORS 279C.580(8) has been previously furnished to the subcontractor; and
  - 2) A copy of any notice issued by the Contractor pursuant to the foregoing subsection has been furnished to the Port.
- 4. As used in this subsection, "good faith dispute" means a documented dispute concerning:
  - a. Unsatisfactory job progress.
  - b. Defective work not remedied.
  - c. Third party claims filed or reasonable evidence that claims will be filed.
  - d. Failure to make timely payments for labor, equipment, and materials.
  - e. Reasonable evidence that the subcontract cannot be completed for the unpaid balance of the subcontract sum.

Q. Termination in the Public Interest

- 1. The Port may terminate this Contract for any reason considered by the Port to be in the public interest. If the Contract is terminated under this section, the Port shall pay the Contractor for work satisfactorily completed through the effective date of the termination, plus reasonable costs incurred by the Contractor to demobilize and close out the Contract. Nothing in this section shall entitle the Contractor to payment when the Port has terminated the Contract based upon the Contractor's violations of the terms of this Contract, or upon the Contractor's violation of federal, state, or local statutes, ordinances, rules, or regulations in existence at the time this Contract was executed.

7.9 Environmental Responsibilities

- A. The following federal, state, and local agencies have enacted ordinances or regulations dealing with the prevention of environmental pollution and the preservation of natural resources that affect the performance of this Contract:
  - 1. City and county where the work is to be performed
  - 2. Metro
  - 3. Oregon Environmental Quality Commission

4. Oregon Fish and Wildlife Commission
  5. U.S. Environmental Protection Agency
  6. U.S. Fish and Wildlife Service
  7. National Marine Fisheries Service
- B. Known conditions at the construction site that may require the Contractor to comply with statutes or with ordinances or regulations enacted by the agencies listed above are specifically referred to at various places in this Contract, including but not necessarily limited to Division 1 of the Specifications.
- C. The Contractor is solely responsible for (1) considering applicable statutes and the ordinances and regulations enacted by the agencies listed above, (2) considering the known conditions specifically referred to in this Contract, and (3) ensuring that the activities of the Contractor and the Contractor's employees, Subcontractors (including suppliers), agents, and invitees with respect to those conditions do not violate any of those statutes, ordinances, or regulations. Without limiting the foregoing, the Contractor is solely responsible for the following environmental and natural resource risks associated with the performance of this Contract:
1. Air pollution;
  2. Water pollution;
  3. Contamination of soil, groundwater, or sediment;
  4. Filling or destruction of wetlands;
  5. Taking of a federally listed threatened or endangered species through habitat destruction, habitat degradation, or otherwise; and
  6. Introduction of an invasive species.
- D. In addition to the foregoing requirements, the Contractor shall manage and conduct all activities related to the performance of this Contract in accordance with all environmental laws and regulations, and with the requirements of all permits issued under those laws and regulations of which the Contractor has been given notice or has actual knowledge. "Environmental laws and regulations" means all federal and state statutes, all local ordinances, and all regulations adopted pursuant to those statutes and ordinances, as any of them may be amended from time to time, dealing with the prevention of environmental pollution or the preservation of natural resources, including but not limited to: the Resource Conservation and Recovery Act, the Comprehensive Environmental Response, Compensation and Liability Act, the Toxic Substances Control Act, the Clean Air Act, the Clean Water Act, and Oregon Revised Statutes Chapters 465, 466, 467, 468, 468A, 468B, and 496. If the Contractor believes compliance with a requirement under this Contract or a direction given by the Port will result in violation of any environmental laws or regulations, the Contractor shall so notify the Port in writing immediately and shall not proceed pursuant to that requirement or direction until the Port directs the Contractor to proceed.
- E. In the event of a sudden spill or discharge of hazardous material as a result of actions related to this Contract by the Contractor or the Contractor's Subcontractor or agent, the Port may take action, including contracting for control or cleanup of the spill or discharge, unless the Contractor takes immediate appropriate action. If the Port takes action pursuant

to this paragraph, the Port may recover from the Contractor all reasonable cost necessarily incurred in effecting the control and cleanup of the spill or discharge. Regardless of who undertakes the cleanup or control of the spill or discharge, the methods used shall be subject to the approval of the Port.

## Article 8 – Submittals

- 8.1 The Contractor shall check and verify all field measurements associated with the fit and function of supplied equipment, products, and material. He shall then submit Shop Drawings, product data, maintenance data, and samples to the Port for review in accordance with the accepted submittal schedule, with such promptness as to cause no delay in the Work. All Submittals shall be identified as the Port requires, and shall be accompanied by the Port's standard submittal form. Submittals shall be reviewed and stamped with the approval of the Contractor prior to submittal to the Port.
- A. Shop Drawings, Product Data, and Maintenance Data: Seven copies of Shop Drawings, product data, and maintenance data are required unless otherwise specified. Data shown in submittal information shall be complete with respect to quantities, dimensions, material, and specified performance and design criteria, to allow the Port to verify conformance with this Contract.
- 8.2 The Contractor shall call the Port's attention to any deviations from the requirements of this Contract that the Shop Drawings, product data, maintenance data, or samples may have. This shall be in writing at the time of submission.
- 8.3 Within 10 business days of actual receipt, the Port will stamp, date, and return each submittal to the Contractor indicating the action to be taken, or notify the Contractor of the reason for delay in return. The Port's review will be only for conformance with the design concept of the Work and for general compliance with this Contract. It will not extend to means, methods, sequences, techniques, or procedures of construction; nor will it extend to safety precautions or programs related thereto, or to the assembly in which an item functions.
- 8.4 The Contractor shall make any corrections required by the Port and proceed according to the Port's stamp and directions. The Contractor shall return the required number of corrected copies of submittal information and resubmit new samples for review. The Contractor shall direct specific attention in writing to revisions other than the corrections called for by the Port on previous submittals.
- 8.5 The Contractor's stamp of approval on any submittal shall constitute a representation to the Port that the Contractor has: (1) determined and verified all quantities, dimensions, field construction criteria, material, catalog numbers, and similar data or assumes full responsibility for doing so, and (2) has reviewed and coordinated each Shop Drawing, product data, maintenance data, or sample with the requirements of this Contract.
- 8.6 When submission of a Shop Drawing, product data, maintenance data, or sample is required by this Contract, no related work shall be commenced until the submittal has successfully completed the review process.
- 8.7 The Port's review of a Submittal shall not relieve the Contractor from responsibility for any deviations from this Contract except those called to the Port's attention at the time of submission and accepted by the Port. Changes in the Work shall follow procedures outlined for a Change Order. Review by the Port shall not relieve the Contractor from responsibility for errors or omissions in the submittal.
- 8.8 Submittals that have successfully completed the review process shall become binding upon the

Contractor. He shall be obligated to perform in accordance with the reviewed submittal.

## **Article 9 – Records and Audits**

- 9.1 The Port or its designee may inspect, audit, and copy any of the Contractor's financial records retained and any other records to the extent necessary to: (1) evaluate and verify the costs incurred by the Contractor in performing the work under this contract or the accuracy of any invoice, change order, payment, or claim submitted under this contract by the Contractor or the Contractor's payees; or (2) evaluate any claim asserted by the Contractor against the Port.

## **Article 10 – Port's Status During Construction**

- 10.1 The Port will resolve any and all questions which arise as to the quality and acceptability of work performed, and as to the manner of performance and rate of progress of said work. The Port will resolve all questions which may arise as to the interpretation of the Contract Documents relating to the Work, and the fulfillment of the contract on the part of the Contractor.

## **Article 11 – Change of Contract Price or Time**

- 11.1 Without invalidating the contract, the Port may at any time order additions, deletions, or revisions in the Work.
- A. If any change ordered by the Port causes an increase or decrease in the contract price, an equitable adjustment will be made on the basis of a fixed price quote or time and materials plus overhead profit, as requested and approved by the Port.
1. If the parties cannot agree upon the price for additional work ordered by the Port, the work shall be performed under "force account," and the Port shall reimburse the Contractor for the actual, reasonable cost to perform the work, plus an amount not to exceed 15 percent of that cost to cover profit and overhead. The "cost to perform the work" does not include:
    - a. Any costs associated with an officer, executive, partner, general manager, engineer, architect, estimator, lawyer, auditor, accountant, buyer, expeditor, timekeeper, clerk, or anyone not engaged full-time on Contract work at the job-site;
    - b. Any cost associated with any office other than an office at the job-site;
    - c. Interest and late payment charges;
    - d. Bond and insurance premiums, except to the extent an additional premium is required because of the additional work;
    - e. Any cost arising from the negligence or other fault of the Contractor, any subcontractor at any tier, or anyone acting on behalf of the Contractor or a subcontractor at any tier;
    - f. Overhead, general and administrative costs, or any costs allocated to more than one job.
  2. The Contractor shall charge for the use of equipment for Contract work at the lowest of: the Contractor's established company rates; actual rental rates; or the applicable rate established by the latest edition of the Rental Rate Blue Book published by Equipment Watch, Primedia Corporation. The Contractor shall charge for equipment

standby time at one-third of the Blue Book rate. "Equipment" does not include small tools. A "small tool" is anything with a replacement value of \$350 or less or a Blue Book rental rate of \$5 per day or less.

- B. If any change ordered by the Port causes an extension or shortening of the contract time, an equitable adjustment will be made in the completion time specified.
- C. Upon receipt of a change ordered by the Port, the Contractor shall proceed with the work involved. All such work shall be executed under the applicable conditions of the Contract Documents.

## **Article 12 – Warranty**

- 12.1 The Contractor warrants for one year after Substantial Completion, or for any longer period expressly provided by the Contract Documents, provided by any special warranty or extended warranty required by the Contract Documents or by a Subcontractor or supplier, or otherwise provided by law, that all work is not defective for any reason.
- 12.2 The Contractor shall pass through to the Port any warranty or maintenance obligation provided by a Subcontractor or supplier in excess of that required by this Contract.

## **Article 13 – Correction or Removal of Defective Work**

- 13.1 The Contractor shall promptly correct all defective work without added cost to the Port, whether or not fabricated, installed, or completed or, at the Port's option, remove it from the site and replace it with work that meets the Contract Documents' requirements. If the Contractor does not promptly comply with the terms of such instructions, or in an emergency where delay would cause serious risk of loss or damage, the Port may have the defective work corrected or removed and replaced, and all direct and indirect costs of such correction or removal and replacement, including compensation for additional professional services, shall be paid by the Contractor or the Contractor's surety.

## **Article 14 – Payments to the Contractor and Completion**

- 14.1 The Contractor agrees to diligently prosecute the Work to Final Acceptance and to accept as full payment hereunder the amounts specified in the quotation.
- 14.2 Progress payment(s) may be made, at the option of the Port. Five percent of each progress payment will be deducted and retained by the Port. The Contractor shall inform the Port if the Contractor wishes to exercise an option under ORS 279C.560. Application for payment shall be accompanied by full Waiver of Claims to Date for materials and labor from subcontractors and suppliers for the Work.
- 14.3 When the Contractor considers the entire Work ready for its intended use, he shall certify in writing that the entire Work is Substantially Complete and request a letter confirming Substantial Completion. Thereafter, the Contractor and the Port shall make an inspection of the Work to determine the status of completion. If the Port considers the Work Substantially Complete, the Port will execute and deliver to the Contractor a letter confirming Substantial Completion with a list of items to be completed or corrected. The letter will state the date of Substantial Completion. If the Port does not consider the Work Substantially Complete, the Port will notify the Contractor in writing giving reasons therefor.
  - A. Warranties and operation and maintenance manuals shall be submitted and approved by the Port and training shall be completed for the work to be considered substantially complete.

- 14.4 The Contractor may request final payment after receipt of Final Acceptance. The request shall be preceded or accompanied by all documentation called for in this Contract including but not limited to:
- A. Marked-up Drawings for creating record drawings.
  - B. Certificates of inspection from jurisdictional authorities.
  - C. Itemized Change Order items.
  - D. Wage certifications (if applicable).
    - 1. If the Contractor is required to file a certified statement under ORS 279C.845, and the certified statement has not been filed as required, the Port will retain 25 percent of any amount earned under this Contract until the certified statement has been filed. The Port will pay the Contractor the amount retained within 14 days after the missing certified statement has been filed. Failure of a Subcontractor to file a certified statement required under ORS 279C.845 will not trigger retainage under this paragraph.
  - E. Releases, waivers, or exoneration of all liens arising out of or filed in connection with the Work.
  - F. The Contractor's Waiver of Claims to Date form certifying that all payrolls and material bills and other indebtedness connected with the Work for which the Port might in any way be responsible have been paid or otherwise satisfied.
  - G. Subcontractor Payment and Utilization Report.

#### **Article 15 – Damages**

- 15.1 The Port will have the right to recover from the Contractor and, to the extent permitted by Law, to deduct from any payment due the Contractor, the amount of any loss suffered by the Port on account of the failure of the Contractor, Subcontractor, anyone directly or indirectly employed by any of them, and anyone for whose acts any of them may be liable to comply with the rules and regulations referenced or contained in this Contract.
- 15.2 The Port will further have the right to recover from the Contractor, withhold from payments under this Contract, or both, actual costs incurred by the Port due to the extra effort necessitated because the Work is extended over a longer time period of time, such as the actual costs of additional engineering and inspection by the Port. This right to actual damages shall apply to both late Substantial Completion and late Final Acceptance.
- 15.3 If the Contractor's performance of this Contract is unreasonably delayed and the Contractor is harmed as a result, the Contractor is entitled to reasonable damages or an equitable adjustment of the Contract price only if the delay is caused by the acts or omissions of the Port or persons acting for the Port.
- A. The parties agree that the Contractor suffers no harm as a result of a delay unless a milestone specified in the Contract or Substantial Completion of the Contract is delayed beyond the scheduled date established under the Contract.
  - B. If the Contractor's achievement of Substantial Completion or of a milestone specified in the Contract is unreasonably delayed, and the delay is caused by an Act of God, act of war, act of terrorism, or by the acts or omissions of the Port or persons acting for the Port, the Contractor is entitled to an extension of the scheduled Substantial Completion or milestone date equal to the length of the delay.

## **Article 16 – Dispute Resolution**

- 16.1 The parties shall attempt to resolve all disputes by negotiation. Negotiation shall be initiated at the earliest opportunity. Each party shall freely share unprivileged information requested by the other and shall make a good faith effort to ensure that all relevant issues are fully developed and fairly presented to the other side.
- 16.2 If a dispute is not resolved through negotiation between the Contractor and the Port, the parties shall submit the dispute to mediation. Either party may request mediation. The requesting party shall suggest an independent mediator with the request for mediation. If the parties cannot agree upon a mediator, either party may apply to the Presiding Judge, Multnomah County Circuit Court, for appointment of a mediator. The parties shall share equally in the fees and costs of the mediator. Mediation shall be at Portland, Oregon, unless the parties agree otherwise.
- 16.3 If a dispute is not resolved by mediation, the parties may, but are not required to, agree to submit the dispute to binding arbitration. The parties shall agree upon a single arbitrator, the applicable rules for arbitration, and the time and place of arbitration.
- 16.4 If a dispute cannot be resolved by mediation, and the parties do not agree to submit the dispute to arbitration, either party may file a lawsuit to resolve the dispute in a court with proper jurisdiction located in Multnomah County, Oregon.
- 16.5 Should any lawsuit, arbitration, or other action be commenced in connection with any dispute arising out of this Contract, the prevailing party shall be entitled to recover its costs and disbursements, investigation costs and fees, expert witness costs and fees, and attorney costs and fees, as the court or arbitrator may adjudge reasonable, incurred in connection with such dispute before trial or arbitration, at trial or arbitration, upon any motion for reconsideration, upon any appeal or petition for review, and upon any collection efforts or proceedings.
- 16.6 Except to the extent performance may be legally excused under the particular circumstances, each party shall continue to perform its duties under this Contract while the resolution of a dispute is pending. Failure to comply with this requirement shall be a material breach of this Contract.

## **Article 17 – Commencement of Limitations Period**

- 17.1 As to acts, omissions, breaches of contract or warranty, negligence, misrepresentation, strict liability, fraud, or any other improper conduct of the Contractor or those persons or entities for whom the Contractor is responsible, whether occurring prior to or after completion of the Work, all applicable limitations periods shall not commence to run and any alleged cause of action shall not be deemed to have accrued unless and until the Port is aware of all three of the following: (1) the identity of all party(ies) responsible; (2) the actual magnitude of the damage or injury; and (3) the cause(s) of the damage or injury. The discovery rule provided herein applies in lieu of any otherwise applicable statute or case authority.

## **Article 18 – Miscellaneous**

- 18.1 This Contract includes the parties' entire agreement regarding the Work, and supersedes all prior and contemporaneous agreements and communications regarding that subject.
- 18.2 This Contract may be modified only by a written amendment signed by the authorized representative of each party.

**THE PORT OF PORTLAND  
 SUBCONTRACTOR PAYMENT AND UTILIZATION REPORT**

1. PRIME CONTRACTOR \_\_\_\_\_
2. CONTACT NAME AND PHONE NO. \_\_\_\_\_
3. PROJECT NAME \_\_\_\_\_
4. CONTRACT NUMBER \_\_\_\_\_ 5. SOLICITATION NUMBER \_\_\_\_\_
6. PRIME CONTRACT AMOUNT \$ \_\_\_\_\_
7. REQUEST FOR PAYMENT PERIODS FROM: \_\_\_\_\_ TO: \_\_\_\_\_ (PRIME) FROM: \_\_\_\_\_ TO: \_\_\_\_\_ (SUBCONTRACTORS)
8. REPORT DATE \_\_\_\_\_

IS THIS THE PRIME CONTRACTOR'S FINAL REQUEST FOR PAYMENT?  YES  NO

9 All First-Tier Subcontractors Utilized	10 Type of Work	11 Original Subcontract Amount	12 Amended Subcontract Amount	13 Amount Paid This Payment Period	14 Total Paid To Date

IT IS HEREBY CERTIFIED THAT THE ABOVE LISTED FIRMS HAVE BEEN UTILIZED BY OUR COMPANY IN THE AMOUNTS REPRESENTED ABOVE AND THAT THE INFORMATION CONTAINED HEREIN IS COMPLETE AND ACCURATE.

\_\_\_\_\_  
 Authorized Signature of Contractor Representative

\_\_\_\_\_  
 Date

**Submit with Contractor's Monthly Request for Payment to Construction Contract Manager.**

**INSTRUCTIONS FOR COMPLETING THE SUBCONTRACTOR PAYMENT AND UTILIZATION REPORT**

File this form with each monthly application for payment, beginning with the second application. If no Subcontractors were used during the period for which payment is being requested, write "none" in Column 8. Following final payment, the Port will contact the Contractor within 60 days for verification that final payments to the Subcontractors have been made.

1. **PRIME CONTRACTOR:** Indicate the name of the prime Contractor.
2. **CONTACT NAME AND PHONE NUMBER:** Indicate the name and phone number of the prime Contractor's contact.
3. **PROJECT NAME:** Indicate the project name as shown on the contract documents.
4. **CONTRACT NUMBER:** Indicate the contract number for this project, as recorded on the cover of the signed project manual.
5. **SOLICITATION NUMBER:** Indicate the solicitation number for this project, as recorded on the cover of the signed project manual.
6. **PRIME CONTRACT AMOUNT:** Indicate the total dollar amount of the prime contract.
7. **REQUEST FOR PAYMENT PERIOD:** Indicate the time periods for reported payments. Subcontractor payment period should be for the month preceding the prime Contractor's payment period.
8. **REPORT DATE:** Indicate the date report is being filed. Also indicate if this is the Contractor's final request for payment.
9. **ALL FIRST-TIER SUBCONTRACTORS UTILIZED:** Names of first-tier Subcontractors. Subcontractors do not include firms serving as suppliers only.
10. **TYPE OF WORK:** Briefly describe Subcontractor's work (i.e., landscaping, electrical, paving, etc.).
11. **ORIGINAL SUBCONTRACT AMOUNT:** Indicate the dollar amount for each subcontract at time of award.
12. **AMENDED SUBCONTRACT AMOUNT:** This amount should be the total dollar value (original subcontract amount plus any additions or deletions) of the subcontract.
13. **AMOUNT PAID THIS PAYMENT PERIOD:** This amount should be the dollar amount paid to the Subcontractor this payment period.
14. **TOTAL PAID TO DATE:** This amount should be the total dollar amount paid to the Subcontractor to date.

**COMMENTS** (Include explanation if any payment amounts made to the Subcontractor are less than requested by the Subcontractor):

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Responsible Persons

List Competent Person(s) responsible ON SITE to monitor work performed on this project. Note: a “Competent Person” by OSHA definition has the ability to identify hazards and has responsibility and authority to take immediate corrective actions.

Name:	Certification:	Phone (Mobile/Pager/Office):

**Contractor’s Project Manager**

Name: \_\_\_\_\_ Phone (Mobile/Pager/Office): \_\_\_\_\_

**Contractor’s Primary On-Site Safety Contact:**

Name: \_\_\_\_\_ Phone (Mobile/Pager/Office): \_\_\_\_\_

**Worksheet Prepared by:**

Name: \_\_\_\_\_ Title: \_\_\_\_\_ Date: \_\_\_\_\_

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**\*\*\*PORT USE ONLY\*\*\***


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**Port CCM/Project Manager**

Name: \_\_\_\_\_ Phone (Mobile/Pager/Office): \_\_\_\_\_

**Lead Inspector(s)**

Name: \_\_\_\_\_ Phone (Mobile/Pager/Office): \_\_\_\_\_

Name: \_\_\_\_\_ Phone (Mobile/Pager/Office): \_\_\_\_\_

**Distribution:**
 Risk Management, Loss Control

 Ops Safety (Check applicable)     Aviation     Marine     Ind. Properties     Navigation

DOCUMENT 007300  
SUPPLEMENTARY CONDITIONS

1.1 GENERAL

- A. These supplements modify, delete from, or add to the General Conditions.
- B. Where an article, paragraph, or clause of the General Conditions is modified or deleted by these supplements, the unaltered provisions of that article, paragraph, or clause remain in effect.

1.2 DEFINITIONS

- A. See the General Conditions definitions. Add the following new definitions:

“AOC - The Administrative Order on Consent issued by the EPA first described in Item 7.9.”

“ARARs - Acronym for ‘applicable, relevant and appropriate requirements.’”

“CERCLA - The Comprehensive Environmental Response Conservation and Liability Act.”

“EPA - The U.S. Environmental Protection Agency.”

“Off-Site - Any property not On-Site.”

“On-Site - The Terminal 4 property and adjacent in-water Removal Action Area as defined in the AOC.”

1.3 ADDITIONAL INSURANCE REQUIREMENTS

- A. See General Conditions Item 7.4, A. Delete in its entirety and replace with the following:

“A. Workers’ Compensation:

“1. The Contractor shall maintain workers’ compensation and employer’s liability insurance for all employees subject to the workers’ compensation laws of the State of Oregon, unless exempt, and any other appropriate jurisdiction. The amount of employer’s liability insurance shall not be less than \$1,000,000 per accident, and \$1,000,000 per employee for disease. In lieu of such insurance, the Contractor may maintain a self-insurance program approved by the State of Oregon and a policy of excess workers’ compensation insurance in the amount required by the State, which policy includes coverage for employer’s liability. The Contractor shall provide evidence of such insurance and self-insurance to the Port before commencing Work and throughout the term of this Contract.

“2. The Contractor may need insurance coverage for claims under the Longshore and Harbor Worker’s Compensation Act. The Contractor shall consult with his insurance carrier to determine if his work plan would require this insurance. If applicable, evidence of such insurance, including employer’s liability coverage, shall be forwarded to the Port. In lieu of such insurance, the Contractor may provide evidence to the Port from the U.S. Department of Labor that the Contractor is a qualified self-insured employer and may provide a certificate of

insurance evidencing excess workers' compensation and employer's liability insurance.

“B. Liability Insurance:

“1. The Contractor shall maintain the following liability coverages. The Port shall be given not less than 30 days' written notice prior to cancellation, non-renewal, or material change of the policy. This insurance shall provide primary coverage and shall not seek any contribution from any insurance or self-insurance carried by the Port. One copy of each policy and a certificate(s) of such insurance, including an additional insured endorsement, shall be delivered to the Port before commencing Work and shall be subject to review and approval by the Port. The Port may defer delivery of the copy of the policy, but such deferral shall not be a waiver of the Port's right to a copy of the policy. In the event the Contractor fails to maintain such insurance, the Port may, without incurring liability to the Contractor for any related costs: (1) immediately suspend the Work until the required insurance is obtained, without any increase in the Contract Price or any extension of the Contract Time, directly or indirectly attributable to the suspension; and/or (2) terminate this Contract.

“a. The Contractor shall maintain marine general liability insurance or a commercial general liability policy in an amount not less than \$2,000,000 per occurrence, which amount may be a combination of primary and excess liability insurance that covers work in or near a waterway to protect against liability for bodily injury and property damage which may arise out of the Contractor's operations under this Contract. Such insurance shall include coverage for products-completed operations liability for a minimum of 2 years after the Work is complete, independent contractors, contractual liability (including the tort liability of another assumed under a business contract), and all other standard coverages usually afforded by a commercial general liability policy. If mobile equipment is used, the Contractor shall cover this equipment under the commercial general liability or automobile liability policy. The Contractor's commercial general liability policy shall not exclude coverage for explosion, collapse, and underground ('xcu') hazards. Such insurance shall name the Port and its commissioners, employees, and agents as additional insureds, and shall insure the Contractor's obligations under this Contract to indemnify and hold harmless the Port, its commissioners, employees, and agents, provided that the Contractor's insurer shall not be required to indemnify the Port for damages arising out of the death or bodily injury to persons or damage to property caused in whole or in part by the negligence of the Port.

“b. The Contractor shall maintain business automobile liability insurance in an amount not less than \$1,000,000 per occurrence to protect against liability arising from the use, loading, and unloading of all of the Contractor's owned, hired, and non-owned automobiles in connection with this Contract. Such insurance shall cover the Port as an additional insured.

“C. Vessel Insurance:

“1. If owned or hired vessels are used in connection with this Contract, the Contractor shall provide certificate(s) of insurance evidencing protection and

indemnity insurance, including Tower's Liability for towing vessels, in an amount not less than: (1) the greater of hull value or \$5,000,000 per occurrence for towing vessels and crane barges, and (2) the greater of hull value or \$1,000,000 per occurrence for other vessels. Such insurance shall name the Port, its commissioners, employees, and agents as additional assureds. The amount of insurance can be a combination of protection and indemnity and bumbershoot (excess) liability insurance.

- "2. Vessels used in connection with this Contract shall meet the requirements of all applicable state and federal environmental laws, including but not limited to the Oil Pollution Act of 1990 (OPA). The Contractor shall provide evidence that each subject vessel is insured for water pollution liability losses in an amount of the greater of \$1,000,000; the OPA statutory limit per vessel; or limits required by other applicable state and federal environmental laws.
- "3. The Contractor shall provide evidence that the master and crew of any owned or hired vessels used in conjunction with this Contract are covered for compensation under the Jones Act prior to commencing work. If the vessel owner (if different) provides this coverage, the Contractor shall provide the Port with a copy of the vessel owner's certificate of insurance.
- "4. If the Work includes work in, or over, water or from vessels, any exclusion of such operations in the Contractor's commercial general liability policy shall be removed by endorsement, and a copy shall be provided to the Port.

"D. Contractor's Pollution Liability Insurance:

- "1. The Contractor shall maintain Contractors Pollution Liability insurance in an amount not less than \$2,000,000 per occurrence covering liability for sudden and non-sudden pollution on land and on water, including first party clean-up costs. Coverage shall include exacerbation of existing contamination to the extent exacerbated by the Contractor or his Subcontractors. If the policy is claims-made, it shall: (1) have a retroactive date prior to the commencement date of this Contract, and (2) be maintained continuously in force for, or shall be endorsed with an extended reporting period of, two years beyond Final Acceptance of the Work.

"E. Contractor's Risks:

- "1. The Contractor shall be responsible for obtaining any insurance the Contractor deems necessary to cover the Contractor's own risks, including without limitation: (1) business interruption, such as business income, extra expense, delay of opening, Act of God, or similar coverage; (2) personal property; and/or (3) automobile physical damage and/or theft. In no event will the Port be liable for any: (a) business interruption or any other related or consequential loss sustained by the Contractor; (b) damage to, or loss of, the Contractor's property; or (c) damage to, or loss of, an automobile, whether or not such loss is insured, even if such loss is caused by the negligence of the Port, excluding gross negligence or willful misconduct on the part of the Port."

## 1.4 ENVIRONMENTAL RESPONSIBILITIES

A. See General Conditions Item 7.9. Delete A, B, and C and replace with the following:

“A. The Work is being performed pursuant to CERCLA under an AOC issued by the EPA. All On-Site Work shall comply with the substantive requirements of ARARs and shall be performed in accordance with EPA-mandated environmental conditions. All Off-Site Work shall obtain regulatory permits and meet the requirements of all applicable environmental Laws, and shall comply with EPA’s Off-Site rule. The following federal, state, and local agencies have enacted Laws dealing with the prevention of environmental pollution and the preservation of natural resources, as identified by EPA in the Action Memorandum and Contract Documents:

“1. Oregon Department of Environmental Quality Oregon Environmental Quality Commission

“2. Oregon Department of Fish and Wildlife

“3. U.S. Environmental Protection Agency

“4. U.S. Fish and Wildlife Service

“5. National Marine Fisheries Service

“B. Known conditions at the construction site that may require the Contractor to comply with ARARs enacted by the agencies listed above are specifically referred to at various places in this Contract, including but not necessarily limited to Division 1 of the Specifications.

“C. The Contractor is responsible for (1) considering the ARARs and other requirements imposed by the EPA for the Work, and any statute, regulation, or ordinance that applies to Off-Site activities, (2) considering the known conditions specifically referred to in this Contract, and (3) ensuring that the activities of the Contractor and the Contractor’s employees, Subcontractors (including suppliers), agents, and invitees with respect to those conditions do not violate any of those requirements. Without limiting the foregoing, the Contractor is responsible for the following environmental and natural resource risks associated with the performance of this Contract, if such risks arise from the Contractor’s failure to perform the Work in accordance with the Contract Documents:

“1. Air pollution;

“2. Water pollution;

“3. Contamination of soil, groundwater, or sediment;

“4. Filling or destruction of wetlands;

“5. Taking of a federally listed threatened or endangered species through habitat destruction, habitat degradation, or otherwise; and

“6. Introduction of an invasive species.”

B. Item 7.9, D, change first sentence to read, in part, “...and with the requirements of all regulatory authorizations and permits issued under those laws....”

1.5 PERMITS

A. After General Conditions Item 7.9, add the following:

“7.10. Permits and Regulatory Authorizations

“A. The Work is being performed pursuant to CERCLA under an AOC issued by the EPA. Therefore no permits are required for On-Site Work, except for local permits the Port is obtaining as provided below. All On-Site Work must meet the substantive requirements of ARARs and must be authorized by the EPA, in consultation with EPA’s federal, state and tribal government agency partners. All Off-Site Work must obtain regulatory permits and meet the requirements of all applicable Laws.

“B. Port-Designed Work:

- “1. The Port will submit all calculations and other documentation required for review and checking for purposes of obtaining regulatory authorizations from EPA and other federal, state and local governments.
- “2. The Port will obtain, and pay the costs and charges of, all On-Site general project regulatory authorizations required of the EPA and other federal, state and local governments. The Contractor will obtain, and pay the costs and charges of, all Off-Site general project regulatory authorizations and permits required of the EPA and other federal, state and local governments.
- “3. To the extent that local permits are being obtained for operational changes necessary for implementation of the Work, the Contractor shall obtain and pay all costs and charges imposed for permits customarily issued only to a contractor, such as electrical, mechanical, and plumbing. He shall obtain permits no later than 7 days after being advised by the Port that permits are ready to be issued.
- “4. Each party shall give the other all notices necessary for permit-related and regulatory inspections by third parties, and each will fully cooperate with any such inspection.
- “5. Each party shall provide the other with a legible copy of permits, certificates of approval, and certificates of occupancy issued by the responsible unit of government.

“C. Contractor-Designed Work:

- “1. The Contractor shall submit to the Port, for review, all calculations and other documentation required for purposes of obtaining regulatory authorizations from the EPA and other federal, state, and local governments for Contractor-designed work.
- “2. After Port review, the Contractor shall submit to federal, state, and local units of government all calculations and other documentation required for obtaining regulatory authorizations and permits. During review by units of government, the Contractor shall notify the Port of proposed deviations from the original permit and regulatory authorization documentation.

- “3. The Contractor shall submit to the Port all calculations and other documentation approved by units of government.
- “4. The Contractor shall pay costs and charges imposed by local units of government for permits issued to the Contractor.
- “5. The Contractor shall give all notices necessary for regulatory and permit-related inspections by third parties.
- “6. The Contractor shall submit to the Port a legible copy of permits, certificates of approval, and certificates of occupancy issued by the responsible unit of government.”

#### 1.6 LIQUIDATED DAMAGES

- A. Time is of the essence of this Contract. The Port will be harmed if the Work is not substantially complete by the Substantial Completion date established by this Contract. The parties agree that ascertaining the actual operational or business impact damages suffered by the Port as a result of that harm is difficult. The parties agree that, as of the date this Contract is signed, the rate of liquidated damages set forth in the quotation form is a reasonable forecast of the Port’s actual operational or business impact damages for late Substantial Completion.
- B. The parties agree that the Port does not waive its right to liquidated damages by allowing the Contractor to continue and finish all or any part of the Work after the scheduled Substantial Completion date, or after Substantial Completion is actually achieved. The parties also agree that payment of liquidated damages does not release the Contractor from any duty under this Contract (other than the duty to pay liquidated damages). The parties further agree that the liquidated damages required by this Contract are compensation to the Port only for harm the Port sustains from late completion. They are not compensation for additional effort required by the Port because the Work has been extended over a longer period, or for other harm the Port may sustain from the Contractor’s other breaches of this Contract.
- C. The Port may withhold liquidated damages from progress payments, or it may withhold the full amount of accrued liquidated damages from the final payment.



SUBSTITUTION REQUEST

TO: \_\_\_\_\_

PROJECT: \_\_\_\_\_

SPECIFIED ITEM:

Section	Page	Paragraph	Description
PROPOSED SUBSTITUTION: _____			

Attached data includes product description, specifications, drawings, photographs, performance and test data adequate for evaluation of request including identifying applicable data portions.

Attached data also includes description of changes to Contract Documents and proposed substitution required for its proper installation.

Undersigned certifies following items, unless modified by attachments, are correct:

1. Proposed substitution does not affect dimensions shown on drawings.
2. Undersigned pays for changes to building design, including engineering design, detailing, and construction costs caused by proposed substitution.
3. Proposed substitution has no adverse effect on other trades, construction schedule, or specified warranty requirements.
4. Maintenance and service parts available locally or readily obtainable for proposed substitution.

Undersigned further certifies function, appearance, and quality of proposed substitution are equivalent or superior to specified item.

Undersigned agrees, if this page is reproduced, terms and conditions for substitutions found in Bidding Documents apply to this proposed substitution.

Submitted by:

\_\_\_\_\_  
Name (Print)

\_\_\_\_\_  
Signature

\_\_\_\_\_  
Firm Name

\_\_\_\_\_  
Address

\_\_\_\_\_  
City, State, Zip

\_\_\_\_\_  
Date

\_\_\_\_\_  
Telephone                      Fax

Attachments:

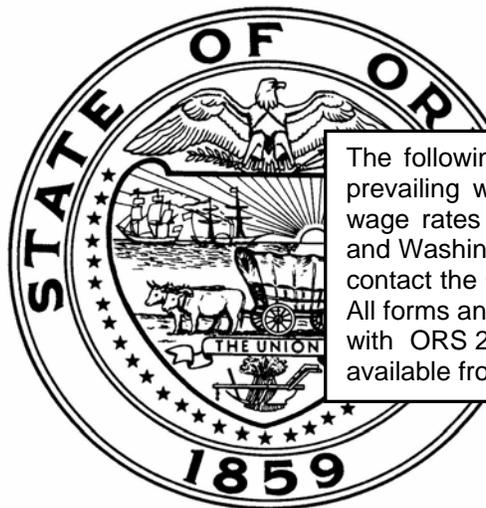
\_\_\_\_\_  
General Contractor (if after award of Contract)

For use by A/E	
<input type="checkbox"/> Approved	<input type="checkbox"/> Approved as noted
<input type="checkbox"/> Not Approved	<input type="checkbox"/> Received too late
By	
Date	
Remarks	

# PREVAILING WAGE RATES

for

## Public Works Contracts in Oregon



The following pages are excerpted from the BOLI prevailing wage rates booklet and contain current wage rates for Region 2 (Clackamas, Multnomah, and Washington counties). For a complete booklet, contact the Oregon Bureau of Labor and Industries. All forms and other information necessary to comply with ORS 279C.800 through ORS 279C.870 are available from BOLI upon request.



**OREGON BUREAU OF LABOR AND INDUSTRIES**

**Brad Avakian  
Commissioner  
Bureau of Labor and Industries**

**Effective: July 1, 2011**

REGION #2  
 Clackamas, Multnomah and Washington Counties

OCCUPATION	PREVAILING WAGE RATE	FRINGE RATE
Asbestos Worker/Insulator	See Appendix	See Appendix
Boilermaker	\$24.85	\$9.79
Bricklayer/Stonemason	See Appendix	See Appendix
Bridge & Highway Carpenter	\$31.21	\$13.13
Carpenter Group 1 & 2	See Appendix	See Appendix
Cement Mason	See Appendix	See Appendix
Diver	See Appendix	See Appendix
Divers' Tender	See Appendix	See Appendix
Dredger	See Appendix	See Appendix
Drywall, Lather, Acoustical Carpenter & Ceiling Installer	See Appendix	See Appendix
Drywall Taper (Painter & Drywall Taper)	See Appendix	See Appendix
Electrician	See Appendix	See Appendix
Elevator Constructor, Installer and Mechanic	See Appendix	See Appendix
Fence Constructor (Non-metal)	\$23.44	\$9.10
Fence Erector (Metal)	\$20.00	\$3.38
Flagger	\$21.03	\$10.45
Glazier	See Appendix	See Appendix
Hazardous Materials Handler/Mechanic	\$17.49	\$3.87
Highway and Parking Striper	\$26.11	\$8.20
Ironworker	See Appendix	See Appendix
Laborer Group 1	See Appendix	See Appendix
Laborer Group 2	See Appendix	See Appendix
Laborer Group 3	See Appendix	See Appendix
Laborer Group 4	See Appendix	See Appendix
Laborer Group 5	See Appendix	See Appendix
Landscape Laborer/Technician	\$16.39	\$3.42
Limited Energy Electrician	See Appendix	See Appendix
Line Constructor	See Appendix	See Appendix
Marble Setter	\$28.26	\$6.64
Millwright Group 1 & 2 (Carpenter Group 3 & 4)	See Appendix	See Appendix
Painter	See Appendix	See Appendix
Piledriver (Carpenter Group 6)	See Appendix	See Appendix
Plasterer and Stucco Mason	\$23.95	\$13.19
Plumber/Pipefitter/Steamfitter (Plumber)	See Appendix	See Appendix
Power Equipment Operator Group 1	See Appendix	See Appendix
Power Equipment Operator Group 1A	See Appendix	See Appendix
Power Equipment Operator Group 1B	See Appendix	See Appendix
Power Equipment Operator Group 2	See Appendix	See Appendix
Power Equipment Operator Group 3	See Appendix	See Appendix
Power Equipment Operator Group 4	See Appendix	See Appendix
Power Equipment Operator Group 5	See Appendix	See Appendix
Power Equipment Operator Group 6	See Appendix	See Appendix

REGION #2  
 Clackamas, Multnomah, and Washington Counties

OCCUPATION	PREVAILING WAGE RATE	FRINGE RATE
Roofer	\$22.25	\$7.46
Sheet Metal Worker	See Appendix	See Appendix
Soft Floor Layer	\$23.69	\$9.12
Sprinkler Fitter	See Appendix	See Appendix
Tenders to Mason Trades (Brick and Stonemason, Mortar Mixer, Hod Carrier)	See Appendix	See Appendix
Tender to Plasterer and Stucco Mason	\$17.15	\$11.02
Testing, Adjusting, and Balancing (TAB) Technician	\$27.53	\$8.18
Tile Setter/Terrazzo Worker: Hard Tile Setter	See Appendix	See Appendix
Tile, Terrazzo, and Marble Finisher	See Appendix	See Appendix
Truck Driver	\$19.80	\$6.11

Using the booklet, [Definitions of Covered Occupations](#), find the definition that most closely matches the actual work being performed by the worker.

**OREGON DETERMINATION 2011-02**

**TRADE**

**BASIC  
HOURLY RATE    FRINGE**

**TRADE**

**BASIC  
HOURLY RATE    FRINGE**

**ASBESTOS WORKER/INSULATOR**

**38.07    18.47**

**FIRESTOP/CONTAINMENT WORKERS**

**25.85    11.42**

**BOILERMAKER**

**34.88    24.52**

**BRICKLAYER/STONEMASON**

(This trade is tended by "Tenders to Mason Trades")

**Area 1**

**32.75    15.56**

**Reference Counties Area 1**

Baker	Grant	Marion	Umatilla
Benton (a)	Harney	Morrow	Union
Clackamas	Hood River	Multnomah	Wallowa
Clatsop	Lincoln (a)	Polk	Wasco (a)
Columbia	Linn (a)	Sherman	Washington
Gilliam	Malheur	Tillamook	Yamhill

(Add \$1.00 per hour to Fringe for Refractory repair work.)

**Area 2**

**31.53    15.21**

**Reference Counties Area 2**

Benton (b)	Deschutes	Lake	Wasco (b)
Coos	Douglas	Lane	Wheeler
Crook	Jefferson	Lincoln (b)	
Curry	Klamath	Linn (b)	

(a) North Half      (b) South Half

(Add \$1.00 per hour to Fringe for Refractory repair work.)

**CARPENTER**

**Zone 1 (Base Rate)**

Group 1	<b>31.30</b>	<b>14.17</b>
Group 2	<b>31.45</b>	<b>14.17</b>
Group 3	<b>31.80</b>	<b>14.17</b>
Group 4	<b>31.95</b>	<b>14.17</b>
Group 5	<b>31.80</b>	<b>14.17</b>
Group 6	<b>32.30</b>	<b>14.17</b>

**CARPENTER** (Continued)

**Zone Differential for Carpenters**  
(Add to Zone 1 Rate)

Zone 2	<b>.85</b>
Zone 3	<b>1.25</b>
Zone 4	<b>1.70</b>
Zone 5	<b>2.00</b>
Zone 6	<b>3.00</b>
Zone 7	<b>5.00</b>

Zone 1: Projects within 30 miles of city hall in the cities listed below.

Zone 2: More than 30 miles but less than 40 miles.

Zone 3: More than 40 miles but less than 50 miles.

Zone 4: More than 50 miles but less than 60 miles.

Zone 5: More than 60 miles but less than 70 miles.

Zone 6: More than 70 miles but less than 100 miles.

Zone 7: More than 100 miles from the respective city hall of the cities listed below.

**Reference Cities for Group 1 and 2 Carpenters**

Albany	Goldendale	Madras	Roseburg
Astoria	Grants Pass	Medford	Salem
Baker City	Hermiston	Newport	The Dalles
Bend	Hood River	Ontario	Tillamook
Brookings	Klamath Falls	Pendleton	Vancouver
Burns	La Grande	Portland	
Coos Bay	Lakeview	Port Orford	
Eugene	Longview	Reedsport	

Zones for Groups 3 and 4 Carpenter are determined by the distance between the project site and **either**

- 1) The worker's residence; **or**
- 2) City Hall of a reference city for the appropriate group shown, whichever is closer

**Reference Cities for Group 3 and 4 Carpenters**

Eugene	Medford	Portland	Vancouver
Longview	North Bend	The Dalles	

Zones for Groups 5 and 6 Carpenter are determined by the distance between the project site and **either**

- 1) The worker's residence; **or**
- 2) City Hall of a reference city for the appropriate group shown, whichever is closer

**Reference Cities for Group 5 and 6 Carpenters**

Bend	Longview	North Bend
Eugene	Medford	Portland

**OREGON DETERMINATION 2011-02**

**TRADE**

**BASIC  
HOURLY FRINGE  
RATE**

**TRADE**

**BASIC  
HOURLY FRINGE  
RATE**

**CARPENTER** (Continued)

**Note:** All job or project locations shall be computed (determined) on the basis of road miles and in the following manner. A mileage measurement will start at the entrance to the respective city hall, facing the project (if possible), and shall proceed by the normal route (shortest time-best road) to the geographical center on the highway, railroad, and street construction projects (end of measurement). On all project contracts, the geographical center where the major portion of the construction is located, shall be considered the center of the project (end measurement).

<u>Group 1</u> (Carpenter Group-I)	<u>Group 2</u> (Carpenter Group-II)
<u>Group 3</u> (Millwright Group-I)	<u>Group 4</u> (Millwright Group-II)
<u>Group 5</u> (Bridge & Highway Carpenter)	<u>Group 6</u> (Piledriver)

Welders receive \$.75/hour above their group's rate.

When working with creosote and other toxic, treated wood and steel material, workers shall receive \$.25/hour premium pay for minimum of eight (8) hours.

When working in sheet pile coffer dams or cells up to the external water level, Group 6 workers shall receive \$.15/hour premium pay for minimum of eight (8) hours.

**CEMENT MASON**

(This trade is tended by "Concrete Laborer")

Zone 1 (Base Rate)

Group 1	<b>28.48</b>	<b>17.59</b>
Group 2	<b>29.05</b>	<b>17.59</b>
Group 3	<b>29.05</b>	<b>17.59</b>
Group 4	<b>29.62</b>	<b>17.59</b>

Zone Differential for Cement Mason  
(Add to Zone 1 Rate)

Zone 2	<b>.65</b>
Zone 3	<b>1.15</b>
Zone 4	<b>1.70</b>
Zone 5	<b>3.00</b>

**CEMENT MASON** (Continued)

- Zone 1: Projects within 30 miles of city hall in the cities listed below.
- Zone 2: More than 30 miles, but less than 40 miles.
- Zone 3: More than 40 miles, but less than 50 miles.
- Zone 4: More than 50 miles, but less than 80 miles.
- Zone 5: More than 80 miles.

Reference Cities

Bend	Corvallis	Eugene	Medford
Portland	Salem	The Dalles	Vancouver

**Note:** All job or project locations shall be computed (determined) on the basis of road miles and in the following manner. A mileage measurement will start at the entrance to the respective city hall, facing the project (if possible), and shall proceed by the normal route (shortest time-best road) to the geographical center on the highway, railroad, and street construction projects (end of measurement). On all other project contracts, the geographical center where the major portion of the construction is located, shall be considered the center of the project (end measurement).

**DIVER & DIVERS' TENDER**

<b>DIVER</b>	<b>75.31</b>	<b>14.17</b>
<b>DIVER'S TENDER</b>	<b>35.53</b>	<b>14.17</b>

- 1) For those workers who reside within a reference city below, their zone pay shall be computed from the city hall of the city wherein they reside.
- 2) For those workers who reside nearer to a project than is the city hall of any reference city below, the mileage from their residence may be used in computing their zone pay differential.
- 3) The zone pay for all other projects shall be computed from the city hall of Portland.

Zone Differential for Diver/Divers' Tender  
(Add to Zone 1 Rate)

Zone 2	<b>.85</b>
Zone 3	<b>1.25</b>
Zone 4	<b>1.70</b>
Zone 5	<b>2.00</b>
Zone 6	<b>3.00</b>
Zone 7	<b>5.00</b>

**OREGON DETERMINATION 2011-02**

**TRADE**

**BASIC  
HOURLY FRINGE  
RATE**

**TRADE**

**BASIC  
HOURLY FRINGE  
RATE**

**DIVER & DIVERS' TENDER** (Continued)

Zone 1: Projects within 30 miles of city hall in the cities listed below

Zone 2: More than 30 miles, but less than 40 miles.

Zone 3: More than 40 miles, but less than 50 miles.

Zone 4: More than 50 miles, but less than 60 miles.

Zone 5: More than 60 miles, but less than 70 miles.

Zone 6: More than 70 miles, but less than 100 miles.

Zone 7: More than 100 miles from the city hall of employee's home local.

Reference Cities for Diver/Divers' Tender

Astoria	Klamath Falls	Newport	Roseburg
Bend	Longview	North Bend	Salem
Eugene	Medford	Portland	The Dalles

**Note:** All job or project locations shall be computed (determined) on the basis of road miles and in the following manner. A mileage measurement will start at the entrance to the respective city hall, facing the project (if possible), and shall proceed by the normal route (shortest time-best road) to the geographical center on the highway, railroad, and street construction projects (end of measurement). On all project contracts, the geographical center where the major portion of the construction is located, shall be considered the center of the project (end measurement).

Depth Pay and Enclosure Pay are added to the Divers' Basic Hourly Rate to obtain the Total Hourly Rate for the Diver.

Basic	Hourly	Hourly	Divers'
Hourly	+ Depth	+ Enclosure	= Total
Rate	Pay	Pay	Hourly
Pay			Rate

Divers' Depth Pay:

<u>Depth of Dive</u>	<u>Hourly Depth Pay</u>
50-100 ft.	\$1.00 per foot over 50 feet
101-150 ft.	\$1.50 per foot over 100 feet
151-200 ft.	\$2.00 per foot over 150 feet

Divers' Enclosure Pay (working without vertical escape):

**DIVER & DIVERS' TENDER** (Continued)

Distance Traveled

In the Enclosure    Hourly Enclosure Pay

5-50ft.	\$ .50/hr. up to \$4.00 maximum per day
50-100ft.	\$1.13/hr. up to \$9.00 maximum per day
100-150ft.	\$2.13/hr. up to \$17.00 maximum per day
150-200ft.	\$4.63/hr. up to \$37.00 maximum per day
200-300ft.	\$4.63/hr. up to \$37.00 maximum per day, plus \$.40 per foot traveled in enclosure.
300-450ft.	\$4.63/hr. up to \$37.00 maximum per day, plus \$.80 per foot traveled in enclosure.
450-600ft.	\$4.63/hr. up to \$37.00 maximum per day, plus \$1.60 per foot traveled in enclosure.

**DREDGER**

Zone A (Base Rate)

Leverman (Hydraulic & Clamshell)	<b>43.47</b>	<b>12.50</b>
Assistant Engineer (Watch Engineer, Mechanic Machinist)	<b>40.64</b>	<b>12.50</b>
Tenderman (Boatman Attending Dredge Plant) Fireman	<b>39.34</b>	<b>12.50</b>
Fill Equipment Operator	<b>38.28</b>	<b>12.50</b>
Assistant Mate	<b>35.85</b>	<b>12.50</b>

Zone Differential for Dredgers  
(Add to Zone A Base Rate)

Zone B	<b>3.00</b>
Zone C	<b>6.00</b>

Zone mileage based on road miles:

Zone A: Center of jobsite to no more than 30 miles from the city hall of Portland.

Zone B: More than 30 miles but not more than 60 miles.

Zone C: Over 60 miles.





**OREGON DETERMINATION 2011-02**

**TRADE**

**BASIC  
HOURLY RATE    FRINGE**

**TRADE**

**BASIC  
HOURLY RATE    FRINGE**

**IRONWORKER** (Continued)

**Note:** Zone pay for Ironworkers shall be determined using AAA road mileage computed from the city hall of the reference cities listed below or the residence of the employee, whichever is nearer to the project.

Reference Cities

Medford                  Portland

**LABORER**

Zone 1 (Base Rate):

Group 1	<b>25.25</b>	<b>11.85</b>
Group 2	<b>25.91</b>	<b>11.85</b>
Group 3	<b>26.38</b>	<b>11.85</b>
Group 4	<b>26.80</b>	<b>11.85</b>
Group 5	<b>21.99</b>	<b>11.85</b>

**Note:** A Hazardous Waste Removal Differential must be added to the base rate if work is performed inside the boundary of a Federally Designated Hazardous Waste Site. A Group 1 base rate is used for General Laborer on such a site. For further information on this, call the Prevailing Wage Rate Coordinator at (971) 673-0839.

Zone Differential for Laborers  
(Add to Zone 1 Rate)

Zone 2	<b>.65</b>
Zone 3	<b>1.15</b>
Zone 4	<b>1.70</b>
Zone 5	<b>2.75</b>

Zone 1: Projects within 30 miles of city hall in the cities listed below.

Zone 2: More than 30 miles but less than 40 miles.

Zone 3: More than 40 miles but less than 50 miles.

Zone 4: More than 50 miles but less than 80 miles.

Zone 5: More than 80 miles.

Reference Cities

Albany	Burns	Hermiston	Portland
Astoria	Coos Bay	Klamath Falls	Roseburg
Baker City	Eugene	Medford	Salem
Bend	Grants Pass	Newport	The Dalles

**LABORER** (Continued)

**Note:** All job or project locations shall be computed (determined) on the basis of road miles and in the following manner. A mileage measurement will start at the entrance to the respective city hall, facing the project (if possible), and shall proceed by the normal route (shortest time-best road) to the geographical center on the highway, railroad, and street construction projects (end of measurement). On all project contracts, the geographical center where the major portion of the construction is located, shall be considered the center of the project (end measurement).

**LIMITED ENERGY ELECTRICIAN**

Area 3	<b>24.70</b>	<b>12.24</b>
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Reference Counties Area 3

Coos                          Curry

Area 5	<b>26.95</b>	<b>14.46</b>
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Reference Counties Area 5

Clackamas                  Multnomah                  Washington

**LINE CONSTRUCTOR**

Area 1

Group 1	<b>48.64</b>	<b>14.40</b>
Group 2	<b>43.43</b>	<b>14.18</b>
Group 3	<b>30.52</b>	<b>10.67</b>
Group 4	<b>37.35</b>	<b>11.29</b>
Group 5	<b>32.57</b>	<b>10.74</b>
Group 6	<b>30.40</b>	<b>10.66</b>
Group 7	<b>16.20</b>	<b>9.39</b>

Area 1

All counties except Malheur County

**Group 1**

Cable Splicer  
Leadman Pole Sprayer

**Group 2**

Heavy Line Equipment Man  
Journeyman Lineman Welder  
Journeyman Lineman  
Pole Sprayer

**Group 3**

Tree Trimmer

**Group 4**

Line Equipment man

**OREGON DETERMINATION 2011-02**

**TRADE**

**BASIC  
HOURLY RATE    FRINGE**

**TRADE**

**BASIC  
HOURLY RATE    FRINGE**

**LINE CONSTRUCTOR** (Continued)

**Group 5**

Head Groundman  
Jackhammer Man  
Powderman

**Group 6**

Groundman

**Group 7**

Tree Trimmer Groundman

**MARBLE SETTER                      33.75      15.56**

(This trade is tended by "Tile, Terrazzo, & Marble Finishers")

**PAINTER & DRYWALL TAPER**

COMMERCIAL PAINTING                      20.00      7.46  
INDUSTRIAL PAINTING                      23.80      7.46

Add \$0.75 to base rate for work over 60 ft. high on swing stage, mechanical climber, spider or bucket truck for both commercial and industrial painting.

**DRYWALL TAPER                      31.48      11.86**

**PLASTERER AND STUCCO MASON**

(This trade is tended by "Tenders to Plasterers")

Nozzleman                      30.86      12.81  
Swinging Scaffold                      29.86      12.81  
All Other Work                      28.86      12.81

**PLUMBER/PIPEFITTER/STEAMFITTER**

**Area 1                      25.58      11.92**

Reference Counties Area 1

Baker

Add \$2.21 per hour to basic hourly rate if it is possible for worker to fall 30 ft. or more, or if required to wear a fresh-air mask or similar equipment for 2 hours or more.

Zone Differential for Area 1  
Plumber/Pipefitter/Steamfitter  
(Add to Base Rate)

Zone 1                      2.50 per hour  
Zone 2                      3.50 per hour  
Zone 3                      5.00 per hour

**PLUMBER/PIPEFITTER/STEAMFITTER**  
(Continued)

Zone mileage based on road miles:

Zone 1: Forty (40) to fifty five (55) miles from City Hall in the cities listed below.  
Zone 2: Fifty five (55) to one hundred (100) miles.  
Zone 3: Over one hundred (100) miles.

There shall be a maximum of ten (10) hours of zone pay per workday.

Reference Cities

Boise, Idaho                      Twin Falls, Idaho

Area 2                      45.85      22.39

Reference Counties Area 2

Grant (a)                      Umatilla      Wallowa  
Morrow                      Union

a) Except Southwest Portion

Area 3                      36.69      21.14

Reference Counties Area 3

All Remaining Counties

**POWER EQUIPMENT OPERATOR**

Zone 1 (Base Rate)

Group 1	<b>37.27</b>	<b>12.35</b>
Group 1A	<b>39.13</b>	<b>12.35</b>
Group 1B	<b>41.00</b>	<b>12.35</b>
Group 2	<b>35.64</b>	<b>12.35</b>
Group 3	<b>34.65</b>	<b>12.35</b>
Group 4	<b>33.71</b>	<b>12.35</b>
Group 5	<b>32.60</b>	<b>12.35</b>
Group 6	<b>29.61</b>	<b>12.35</b>

**Note:** A Hazardous Waste Removal Differential must be added to the base rate if work is performed inside the boundary of a Federally Designated Waste Site. For information on this differential, call the Prevailing Wage Rate Coordinator at (971) 673-0839.

**TRADE**

**BASIC  
HOURLY FRINGE  
RATE**

**TRADE**

**BASIC  
HOURLY FRINGE  
RATE**

**POWER EQUIPMENT OPERATOR**

(Continued)

Zone Rates

Zone 2	<b>3.00</b>
Zone 3	<b>6.00</b>

**For the Following Metropolitan Counties:**

Multnomah, Clackamas, Marion, Yamhill, Washington and Columbia:

**See map on page 46 for Zone 1 of this classification**

(A) All jobs or projects located in Multnomah, Clackamas and Marion counties, west of the western boundary of Mt. Hood National Forest and west of mile post 30 on Interstate 84 and west of mile post 30 on State Hwy 26 and west of mile post 30 on Hwy 22 and all jobs located in Yamhill County, Washington County and Columbia County shall receive Zone 1 pay for all classifications.

(B) All jobs or projects located in the area outside the identified boundary above, but less than 50 miles from the Portland City Hall shall receive Zone 2 pay for all classifications.

(C) All jobs or projects located more than 50 miles from the Portland City Hall, but outside the identified border above, shall receive Zone 3 pay for all classifications.

**For the Following Cities:**

Albany; Bend; Coos Bay; Eugene; Grants Pass; Klamath Falls; Medford and Roseburg:

(A) All jobs or projects located within 30 miles of the respective city hall of the above mentioned cities shall receive Zone 1 pay for all classifications.

(B) All jobs or projects located more than 30 miles and less than 50 miles from the respective city hall of the above mentioned cities shall receive Zone 2 for all classifications.

(C) All jobs or projects located more than 50 miles from the respective city hall of the above mentioned cities shall receive Zone 3 pay for all classifications.

**POWER EQUIPMENT OPERATOR**

(Continued)

**Note:** All job or project locations shall be computed (determined) on the basis of road miles and in the following manner. A mileage measurement will start at the entrance to the respective city hall, facing the project (if possible), and shall proceed by the normal route (shortest time-best road) to the geographical center on the highway, railroad, and street construction projects (end of measurement). On all other project contracts, the geographical center where the major portion of the construction is located, shall be considered the center of the project (end measurement).

**ROOFER**

Area 1\*

Roofers	<b>27.53</b>	<b>9.29</b>
Handling coal tar pitch	<b>30.28</b>	<b>9.29</b>
Remove fiberglass insulation	<b>30.28</b>	<b>9.29</b>

Reference Counties Area 1

Clatsop	Hood River	Tillamook
Columbia	Sherman	Wasco

\*On all jobs on which coal tar pitch is the basic roofing material or where the old roof being removed is composed of coal tar based material, a rate of pay ten percent (10%) greater than the basic rate of pay shall be paid for all work performed.

\*All employees engaged in removing fiberglass insulation shall receive a rate of pay ten percent (10%) greater than the employee's basic rate of pay.

Area 2\*\*

Roofers	<b>21.29</b>	<b>9.90</b>
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Reference Counties Area 2

Douglas	Marion	Polk	Yamhill
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\*\* Add \$2.00 to basic hourly rate for application, spudding and cutting or removal of coal tar products.

\*\* Add \$0.50 per hour to base hourly rate for application, spudding and cutting or removal of fiberglass insulation.



**OREGON DETERMINATION 2011-02**

**TRADE**

**BASIC  
HOURLY FRINGE  
RATE**

**TRADE**

**BASIC  
HOURLY FRINGE  
RATE**

**TRUCK DRIVER**

Zone A (Base Rate):

Group 1	<b>26.90</b>	<b>12.75</b>
Group 2	<b>27.02</b>	<b>12.75</b>
Group 3	<b>27.15</b>	<b>12.75</b>
Group 4	<b>27.41</b>	<b>12.75</b>
Group 5	<b>27.63</b>	<b>12.75</b>
Group 6	<b>27.79</b>	<b>12.75</b>
Group 7	<b>27.99</b>	<b>12.75</b>

(Zone Pay in addition to Basic Hourly Rate and Fringe.)

For the Following Cities:

Albany	Grants Pass	Ontario
Astoria	Hermiston	Oregon City
Baker	Hood River	Pendleton
Bend	Klamath Falls	Portland
Bingen	LaGrande	Port Orford
Brookings	Lakeview	Reedsport
Burns	Longview	Roseburg
Coos Bay	Madras	Salem
Corvallis	Medford	The Dalles
Eugene	McMinnville	Tillamook
Goldendale	Newport	Vancouver

Zone differential for Truck Drivers  
(Add to Zone A rate)

Zone B	<b>.65</b>
Zone C	<b>1.15</b>
Zone D	<b>1.70</b>
Zone E	<b>2.75</b>

Zone A: Projects within 30 miles of the cities listed above

Zone B: More than 30 miles but less than 40 miles.

Zone C: More than 40 miles but less than 50 miles.

Zone D: More than 50 miles but less than 80 miles.

Zone E: More than 80 miles.

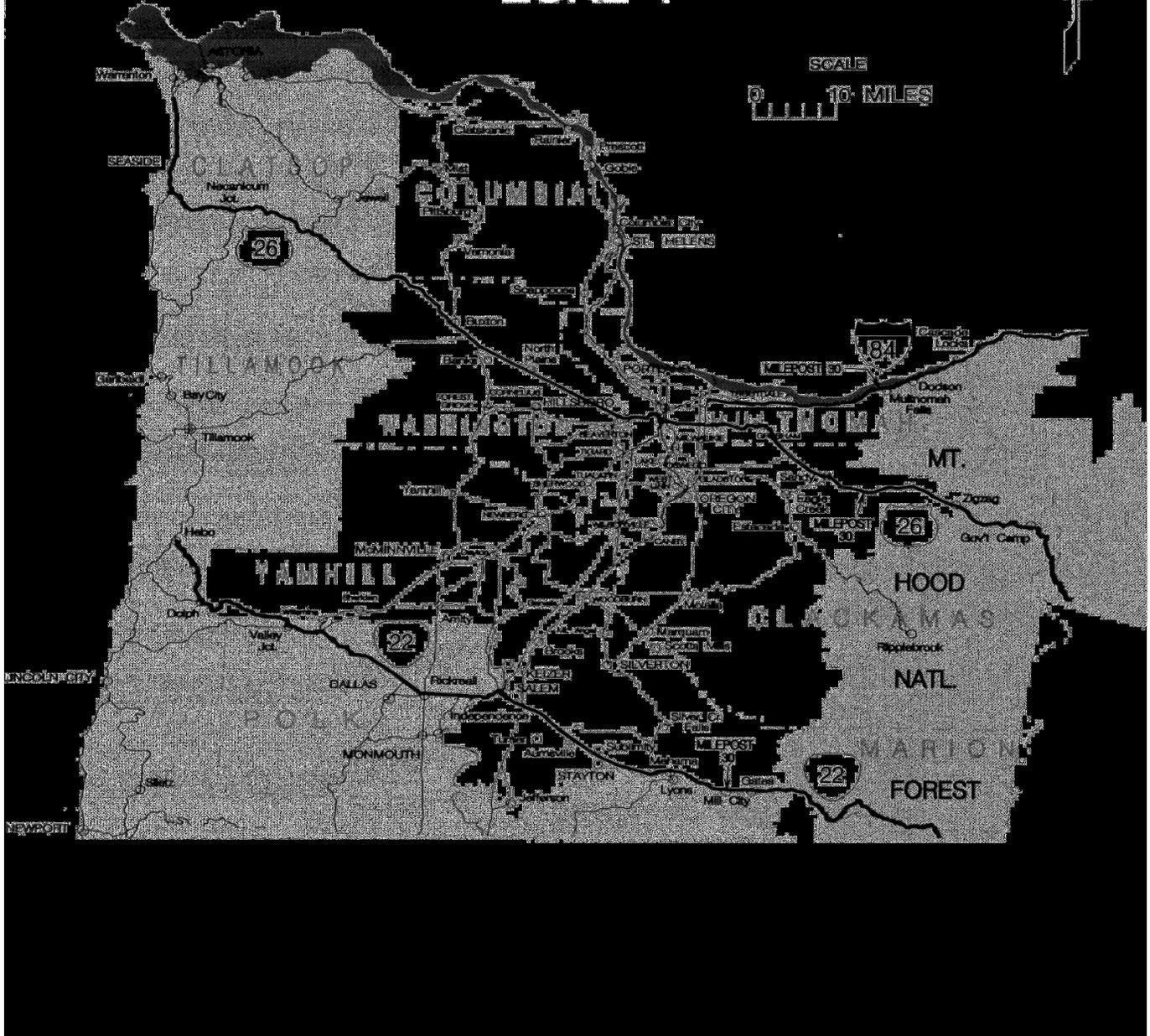
**TRUCK DRIVER** (Continued)

**Note:** All job or project locations shall be computed (determined) on the basis of road miles and in the following manner. A mileage measurement will start at the entrance to the respective city hall, facing the project (if possible), and shall proceed by the normal route (shortest time-best road) to the geographical center on the highway, railroad, and street construction projects (end of measurement). On all other project contracts, the geographical center where the major portion of the construction is located, shall be considered the center of the project (end measurement).

# BUREAU OF LABOR AND INDUSTRIES Wage and Hour Division



## ZONE 1



## SECTION 011100 – SUMMARY OF WORK

### PART 1 - GENERAL

#### 1.1 DESCRIPTION

- A. The work includes but is not limited to:

Restoration of shoreline aggregate at Wheeler Bay. The work area is within a designated Superfund site. The Contractor shall comply with permits and regulations of local, state, and federal agencies.

- B. The Contractor will be required to edit, update, and submit a revised version of the accepted construction health and safety plan (CHASP), construction quality control plan (CQCP), and construction environmental protection plan (CEPP) used during the 2010 Bank Repairs at Wheeler Bay.
- C. The existing state prevailing rate of wage and, if applicable, the federal prevailing rate of wage required under the Davis-Bacon Act (40 USC 3141 et seq.) apply to this work. See the contract documents for more information.
- D. The work will require the Contractor, his employees, and subcontractors to obtain and display security identification badges.

#### 1.2 WORK AREA RESTRICTIONS

- A. The fish window for the Lower Willamette River is July 1 to October 31 each year. This is the period when in-water work is allowed to be performed. Outside of this window, all activities within any of the waterways, or considered in-water, will not be allowed.
- B. In-water work restrictions do not apply to upland work or work that is not considered in-water work by the applicable regulations and/or agencies.
- C. The Port does not have a restriction on work hours at the site. However, the Contractor's work shall adhere to City of Portland (City) ordinances regarding light and noise.
- D. Scheduling Conflicts: Time-sensitive conflicts that may affect the construction schedule are listed below. The Contractor shall work with the tenants of the Port to accommodate their schedules.
1. Kinder Morgan (Berths 410/411): Kinder Morgan (KM) exports soda ash from the Berth 410/411 facility. The facility has a fixed loader, so ships are brought in and line-towed during loading. Ships are typically loaded over a 2- to 3-day period. Ships call on the facility approximately eight times per month. The Port does not expect the work to affect Kinder Morgan operations. However, the Contractor shall work around KM train operations as needed. When train operations occur at KM, the Contractor will not be able to cross the tracks or have over-land access between the work area and the rest of the terminal or haul route. KM train activity occurs about 5 days a week, with typically no activity occurring between 3 a.m. and 8 a.m., noon and 1 p.m., and 5 p.m. and 6 p.m.

Other work will require terminal operations to be shut down. The shutdown is scheduled for October 3, 2011 through October 13, 2011. Although other maintenance and capital work may occur during this time, Kinder Morgan will not be in operation.

2. Toyota: Berth 414 is currently used to offload automobiles. Toyota's shipping activities are not anticipated to impact the work.

- E. Haul Routes: The Contractor shall use the haul routes identified on the drawings and established by the Port. See Section 015000 for additional requirements.

### 1.3 DESIGN ANALYSIS REPORT AND REGULATORY AGENCY DOCUMENTS

- A. Work performed under this contract shall comply with the following exhibits. Exhibits incorporated into this contract by reference are available at the Port's Engineering office for examination by the Contractor upon request.

1. Exhibit A – Design Analysis Report (DAR), incorporated by reference
2. Exhibit B – National Marine Fisheries Services (NMFS) Biological Opinion, incorporated by reference
3. Exhibit C – USEPA Water Quality Monitoring and Compliance Conditions Plan, incorporated by reference

- B. The Contractor shall familiarize himself with the exhibits and ensure full compliance with all of their conditions.

- C. Conflicts, if any, between the contract documents and exhibits, observed by the Contractor, shall be brought to the attention of the Port immediately.

### 1.4 SOILS AND SEDIMENT INFORMATION

- A. Records of soil and sediment exploration in the vicinity of this work are available in the Port Engineering files for examination by the Contractor upon request. The Port makes no representation as to the completeness or accuracy of this information.

### 1.5 KNOWN SITE CONDITIONS AFFECTED BY REGULATORY AGENCIES

- A. The following materials or conditions are known to exist on the construction site. The Contractor shall comply with federal, state, or local agencies' ordinances or regulations pertaining to these conditions:

1. Contaminated soil or groundwater
2. Heavy metals
3. Pencil-pitch
4. Grease, oils, fuels, and other hydrocarbons
5. Polychlorinated biphenyls (PCBs)
6. Volatile organic compounds (VOCs)
7. Environmental (E) – Zone

1.6 UNEXPECTED HAZARDOUS OR ENVIRONMENTALLY SENSITIVE SITE  
CONDITIONS

- A. If the Contractor encounters suspected hazardous or environmentally sensitive conditions in the work area beyond those mentioned in these specifications or on the drawings, the Contractor shall immediately stop all work in the area of the suspected condition and notify the Port.
- B. The Port will make arrangements for testing and appropriate abatement, if required.
- C. The Contractor shall alert his (her) employees to these facts and shall assure that no operations occur that disturb the suspected hazardous or environmentally sensitive condition.

1.7 PROGRESS MEETINGS

- A. Regularly scheduled job meetings will be held between the Contractor and the Port. The Contractor's representative at job meetings shall be the person directly responsible for the work. The time and place of the meetings will be established by the Port.
- B. Other unscheduled meetings may be required to resolve specific issues at the work area.

END OF SECTION 011100

## SECTION 012200 – UNIT PRICES

### PART 1 - GENERAL

#### 1.1 INCIDENTAL WORK

- A. Consider work not listed, but necessary to complete the work, as incidental. Each bid item has incidental work associated with it. Some of the incidentals are identified. However, the list is not complete. This does not relieve the Contractor from the responsibility for completing the incidental work. Incidental work includes, but is not limited to, project meetings and seminars, compacting, grading, hauling, mixing, placing, shaping, and watering, as specified.

#### 1.2 WEIGHING, WEIGH AND TRUCK MEASURE DELIVERY TICKETS

- A. A ton is 2,000 pounds. Measure and compute weight to the nearest one-tenth (0.1) of a ton.
- B. Weigh on certified public or private scales. The scales shall be of a capacity, kind, size, and type suitable for the weighing to be done. Scales shall be tested, sealed, and certified by an acceptable certifying authority. The Port may order recertification of scales to ensure accuracy. Recertification shall be at no added cost to the Port.
- C. Within one day after delivery, submit a weight delivery ticket to the inspector for each load. Payment will only be made for material accounted for on a delivery ticket. Delivery tickets shall state project name, product delivered, date and time weighed, name and signature of the weigh master, and name of the truck driver.
- D. Where items are paid by truck measure, each haul unit shall be measured by the Port and the Contractor jointly to determine the truck volume. Give each haul unit a unique number which is clearly shown on the unit. Submit a delivery ticket to the inspector for each load. Payment will only be made for material accounted for on a delivery ticket. Delivery tickets shall state project name, product delivered, haul unit number, date and time of delivery, and the driver's name and signature. Heap loads to the satisfaction of the inspector to assure that delivered volume is equal to the truck volume as measured by the Port and the Contractor.

#### 1.3 BID ITEMS

- A. Payment constitutes total compensation for furnishing materials; for preparation of these materials; and for labor, equipment, tools, and incidentals necessary to complete the work as specified and shown on the drawings. Measurement will not include unauthorized work performed beyond the design limits. Replace material removed without authorization at no added cost to the Port. The method of measurement and the basis of payment for bid items will be as follows.

PART 2 - BID ITEMS

1 MOBILIZATION, SURVEYING, SELECT FILL, EROSION CONTROL, CLEANUP, AND DEMOBILIZATION – L.S.

- A. Payment will be made at the contract lump sum price for mobilization and demobilization of personnel, equipment, supplies, offices, and other facilities necessary for the work; update and submittal of work plans described in the specifications; surveying; placement of approximately 30 cubic yards of select fill; erosion control; and cleanup. The price also includes premium on bonds and insurance and other costs which are incurred before beginning the work.

2 ROCK RIP-RAP – TON

- A. Pay quantity will be the number of tons of rock rip-rap accepted in place. This item includes all clearing or excavation, stockpiling, and restoration of unanchored large woody debris and habitat layer material required to prepare or restore the site for rock rip-rap placement.
- B. Payment will be made at the contract unit price per ton.

END OF SECTION 012200

## SECTION 013100 – PROJECT MANAGEMENT AND COORDINATION

### PART 1 - GENERAL

#### 1.1 PORT/TENANT OPERATIONS

- A. Work shall be conducted in coordination and cooperation with the Port, tenants, and other contractors so that normal operations may be carried on without interruption.
- B. The Port or tenant operations may require that certain of the Contractor's operations be scheduled around Port or tenant activities, and certain areas of the work may be required to be bypassed and accomplished when Port or tenant operations permit.

#### 1.2 OTHER CONTRACTORS

- A. The Port reserves the right to award other contracts for work in the vicinity of work covered by this contract.
- B. The various contractors and the Port will mutually establish a schedule of construction for the use of common work areas.

#### 1.3 CONTRACTOR'S COORDINATION

- A. The U.S. Environmental Protection Agency (USEPA) has legal authority over the project work and the Contractor shall allow unrestricted access to USEPA employees and its contractor staff (collectively referred to in the remainder of this paragraph as USEPA) to observe the work. The Contractor shall coordinate and cooperate with USEPA to the maximum extent possible. The Contractor shall neither temporarily nor permanently withhold any relevant data, observations, or information from USEPA. USEPA shall not provide, nor shall the Contractor accept, verbal direction regarding the means and methods of the work, except that the Contractor shall immediately heed USEPA upon USEPA's direction to the Contractor to shut down the work and standby until further notice. Other than shutting down the work, USEPA shall communicate all direction regarding means and methods and other contractual issues relevant to the Contractor through the Port.
- B. The Contractor is responsible for overall coordination of the work.
- C. The drawings and specifications are arranged for convenience only and do not necessarily determine which trades perform the various portions of the work.

END OF SECTION 013100

## SECTION 013300 – SUBMITTAL PROCEDURES

### PART 1 - GENERAL

#### 1.1 DESCRIPTION

- A. This section describes administrative and procedural requirements for all types of submittals.

#### 1.2 CONTENT AND FORMAT – ALL SUBMITTALS

- A. Accompany all submittals with the Port’s General Submittal Transmittal form.
- B. Unless specified otherwise in the applicable technical section, submit five copies; one copy will be returned to the Contractor.
- C. Organize each submittal by specification section and paragraph number.
- D. Include the following information with each submittal:
  - 1. The Contractor’s submittal identification number marked on each item.
  - 2. Date and revision dates.
  - 3. Port project title and number.
  - 4. The names of: The Contractor, subcontractor, supplier, and manufacturer.
  - 5. Identification of product or material, with the appropriate specification section and paragraph number marked on each item.
  - 6. Relation to adjacent critical features of work or materials.
    - a. A clearly detailed sectional drawing of each system, identifying all components and their method of attachment to supporting structure, adjacent Contractor-designed work, or both.
  - 7. Field dimensions, clearly identified as such.
  - 8. Applicable standards.
  - 9. Identification of deviations from contract documents. Products shall be accompanied by a substitution request form.
  - 10. The Contractor’s stamp.
- E. Resubmission Requirements:
  - 1. Revise initial submittals as directed by the Port and resubmit as specified for the initial submittal. Use the same submittal identification number, except add “.1” to each successive resubmittal (e.g., 024100-4, 024100-4.1, 024100-4.2, etc.). Mark each item with the Contractor’s submittal identification number and the appropriate Port specification section and paragraph number.
  - 2. Indicate on the submittals any changes which have been made to the initial submittal.

#### 1.3 MATERIAL SUPPLIERS/SUBCONTRACTORS LIST

- A. Provide a complete list of material suppliers and subcontractors to the Port at the preconstruction conference.

#### 1.4 SHOP DRAWINGS

- A. Submit complete shop drawings as required by the applicable technical sections.
- B. Present data in a clear and thorough manner.
  - 1. Drawings shall be identified by reference to the specification section and paragraph number when the item is called out in the specifications and by the original sheet and detail number, schedule, or room numbers when the item is shown on the drawings.
  - 2. Structural items shall be identified by location in the completed structure.
- C. Shop drawing quality:
  - 1. All line work shall be clean and crisp with no feathering or fading.
  - 2. Line work important to the drawing shall be emphasized by increasing the line weight and density.
  - 3. Text size shall be a minimum of 1/8 inch in height and shall be Helvetica style font.
  - 4. Notes shall be clear and concise.
  - 5. CAD-generated drawings are preferred.

#### 1.5 PRODUCT/MATERIAL DATA

- A. Submit for Port review, prior to commencement of on-site work, all product or material data required by the applicable technical sections.
- B. Product or material data consist of manufacturer's catalog sheets, brochures, diagrams, schedules, performance charts, illustrations, and other standard descriptive data. Catalog cuts or brochures for items that are standard products shall show the type, size ratings, style, color, manufacturer, and catalog number of each item and be complete enough to provide for positive and rapid identification in the field. Catalog data shall be submitted in loose-leaf, three-ring binders, organized by specification section and paragraph number. Each product or material data item shall be clearly marked and annotated with the appropriate specification section and paragraph number. General catalogs or partial lists will not be accepted.
  - 1. Clearly mark each copy to identify pertinent product or models.
  - 2. Show dimensions, weights, and clearances required.
  - 3. Show performance data consisting of capabilities, revolutions per minute (RPM), kilowatts (KW), pressure drops, design and operating pressures, temperatures, performance curves, noise level curves, and power characteristics and consumption; conforming as closely as possible to the test methods referenced in the drawings and specifications.
  - 4. Show wiring or piping diagrams and controls.
  - 5. Modify manufacturer's standard schematic drawings and diagrams to indicate which information is not applicable.
  - 6. Supplement standard information to provide information specifically applicable to the work.

#### 1.6 SAMPLES

- A. Office Samples:
  - 1. Provide samples of sufficient size and quantity to clearly illustrate the item.

2. Show functional characteristics of the product or material, with integrally related parts and attachment devices.
  3. Provide full range of color samples.
  4. After review, samples may be used in the work.
- B. Where “match sample” is specified, the Contractor’s samples shall match the Port’s existing sample.
- C. Field Samples and Mock-Ups:
1. Construct, at the work area, at a location acceptable to the Port.
  2. Size or Area: As specified in the respective specification section.
- D. Submit the number and type stated in each specification section.

## 1.7 AS-CONSTRUCTED DRAWINGS

- A. At the start of construction, the Port will provide the Contractor with a full-size set of drawings for use in recording revisions (redlines) that develop during construction.
1. Mark these drawings to indicate the actual installation where the installation varies appreciably from the installation shown originally. Special attention shall be paid to legibility and reproducibility of drawings. Give particular attention to information on concealed elements that would be difficult to identify or measure and record later. Items required to be marked include, but are not limited to:
    - a. Dimensional changes to the drawings.
    - b. Revisions to details shown on the drawings.
    - c. Locations and depths of underground utilities (if different by more than 1 inch in depth or more than 1 foot in location).
    - d. Revisions to routing of piping and conduits (if different by more than 1 foot from where shown).
    - e. Locations of concealed internal utilities (located to within 1 inch).
    - f. Details not on original contract drawings.
  2. Mark completely and accurately on contract drawings or shop drawings, whichever is most capable of showing actual physical conditions. Where shop drawings are marked, show a cross-reference on contract drawings location.
  3. All attached documents to the marked-up drawings shall reference original drawings and sheet numbers.
  4. Mark drawings with red pencil or pen.
  5. Mark important additional information, which was either shown schematically or omitted from original drawings.
  6. Note construction change directive numbers, alternate numbers, change order numbers, and similar identification.
  7. Accurately record information in an understandable drawing technique.
  8. Record data as soon as possible after it has been obtained. In the case of concealed installations, record and check the mark-up prior to concealment.
- B. Store the Contractor’s redline drawings in the field office, apart from contract documents used for construction. Do not permit redline drawings to be used for construction purposes. Maintain redline drawings in good order, and in a clean, dry, legible condition.
- C. The Contractor’s redline drawings shall be available at all times for inspection by the Port.

D. Submit the final redline drawings upon completion of the work.

1.8 OTHER SUBMITTALS

A. Other submittals include but are not limited to:

Section	011100	1.1
	012200	1.2
	013529	1.2
	013553	1.4
	014500	1.3, 3.2, 3.3, 3.7
	015639	3.1
	015713	1.4, 3.3
	015719	1.3, 3.2, 3.7
	017000	1.3
	017700	1.1, 1.4
	312000	2.2
	353200	1.5

END OF SECTION 013300



## SECTION 013529 – SAFETY AND HEALTH

### PART 1 - GENERAL

#### 1.1 DESCRIPTION OF WORK

- A. This section includes the requirements for safety and health for site workers and the adjacent community. This contract includes earthwork activities potentially near soils with low to moderate contamination levels. All Contractor activities shall comply with Hazardous Waste Operation and Emergency Response, 29 Code of Federal Regulations (CFR) 1910.120, and Oregon Administrative Rules, Chapter 437 (OAR 437), where applicable. The work of this section includes, but is not limited to, worker certification, health and safety plans, personal protective equipment (PPE), health and safety equipment, decontamination, and engineering controls.
- B. Some of the work tasks may place workers in the potential position of coming in contact with contaminated soil. Therefore, the Contractor shall comply with appropriate regulations. The Contractor health and safety plan (CHASP; see article 3.3 of this section for specific contents) shall clearly define health and safety requirements for specific site activities. At a minimum, 40-hour health and safety training will be required for:
1. Workers performing construction activities within eroded areas where the demarcation layer is exposed, including site preparation, clearing, and placement of imported fill materials;
  2. Workers handling decontamination residuals and other potentially contaminated materials; and
  3. The CHASP may allow for reduced training requirements following exposure monitoring if deemed appropriate by the Contractor's health and safety representative.
- C. The Contractor shall have a health and safety representative. The health and safety representative shall, at a minimum, be a certified industrial hygienist (CIH). The health and safety representative shall attend the pre-construction meeting, be on site at the beginning of construction to become familiar with site conditions, and advise the Contractor on health and safety procedures for any construction operations that may potentially involve hazardous waste. The health and safety representative shall be available for consultation as necessary and as required by site conditions for the Contractor's continued operations. When training requirements are specifically defined for site activities, increased supervision and monitoring must be performed by the Contractor. At a minimum:
1. All construction activities with a potential risk of exposure to earthwork activities potentially near soils with low to moderate contamination levels must be supervised by personnel who, at a minimum, have 40-hour health and safety training and are able to identify potential upgrades needed in the level of health and safety protection.
  2. The Contractor's health and safety representative shall be on site at the start of all hazardous waste operations, if any.
  3. Site-specific safety and hazard awareness briefings shall be required for all workers and other people entering the site. Briefings will inform these individuals of the chemical hazards of the soil and define appropriate protections to minimize potential exposure. A written record of the date(s) and time(s) of such training and of the attendees is required.

- D. All required health, safety, and environmental monitoring for worker health and safety shall be the responsibility of the Contractor.

## 1.2 SUBMITTALS

- A. A site-specific CHASP (see article 3.3), subject to review by the Port and the U.S. Environmental Protection Agency (USEPA), shall be submitted by the Contractor. The Port will review the CHASP only for completeness, not to approve it.
- B. For work conditions that the Contractor's health and safety representative elects or determines to fall under 29 CFR 1910.120, an amendment to the CHASP shall be submitted to the Port. Such amendment will describe the personnel assigned to the particular site activity and their current status in terms of health and safety training, medical clearance, respirator fit testing, first aid and cardiopulmonary resuscitation (CPR) certification, and any other requirements as outlined in the CHASP.
- C. No work may commence until the Contractor has submitted the CHASP and the Port and USEPA have acknowledged receipt of the same. Because USEPA's review and acknowledgement requires some time, the Contractor shall submit the CHASP within 5 calendar days of contract execution. The Port will provide the Contractor with comments on the draft CHASP within 2 business days of receiving the draft. The Contractor shall address the comments and issue a revised CHASP within 2 business days of receiving Port comments. Additional modifications may be required after USEPA review.
- D. The Contractor is responsible for implementation of the CHASP. The Port and USEPA reserve the right to halt work in the event of health and safety violations.

## 1.3 JOB CONDITIONS

- A. The Contractor represents that it has visited the site to become familiar with the quantity, location, and character of existing materials and contaminants on the site. The Contractor agrees that the premises were made available prior to submission of bids for whatever inspection and tests the Contractor deemed appropriate. The Contractor agrees that remedial investigation reports were made available for supplemental documentation of site conditions. The Contractor assumes full responsibility for compliance with all applicable health and safety requirements as mandated in city, county, state, and federal statutes.

## PART 2 - PRODUCTS

Not Used.

## PART 3 - EXECUTION

### 3.1 PREPARATORY WORK

#### A. Inspection:

1. The Contractor's health and safety representative shall inspect the site and determine area- or activity-specific and worker-specific protection requirements. The Contractor will not be allowed to mobilize work crews for earthwork activities until a CHASP has been submitted to the Port.
2. After mobilization, the Contractor's health and safety representative shall monitor work efforts and shall determine the need for additional worker protection as required by the work being performed or by action levels specified in the CHASP.
3. The Health and Safety Representative shall verify that all work is performed in accordance with the CHASP.
4. Site safety meetings will be held a minimum of once per week for each crew member to address changing site conditions, activities, and personnel. Site safety meetings shall also be held at the start of each major task and whenever site conditions that affect the safety of personnel change. In addition, safety and hazard awareness training (see article 1.1 of this section) is required for all workers and others entering the site.

#### B. Discrepancies:

1. In the event of a discrepancy related to any aspect of the CHASP, the Contractor shall not proceed with contract work until such discrepancies have been resolved and a method for handling any associated risk has been determined and implemented.
2. Health and safety for workers and the surrounding community is the responsibility of the Contractor's health and safety representative.

### 3.2 WORKER CERTIFICATION REQUIREMENTS

#### A. Prior to initiating any work subject to the CHASP, the Contractor shall provide the Port with written documentation of employee training and medical certifications as necessary for work required under 29 CFR 1910.120.

1. Specifically, documentation of the following is required for each site worker for sites and work phases determined by the Contractor's health and safety representative to fall under the requirements of 29 CFR 1910.120:
  - a. Initial 40-hour (or 24-hour or 80-hour, where appropriate) hazardous waste health and safety training and current annual 8-hour refresher training, as per requirements of the Occupational Safety and Health Administration (OSHA).
  - b. Enrollment in a medical monitoring program, with clearance within the previous 12 months from a licensed physician allowing the worker to participate in field activities and use respiratory protective equipment, if required in the CHASP.
  - c. Current respiratory fit testing certification, if respiratory protective equipment is required.
  - d. Provision of appropriate PPE for each worker, as necessary, at the highest level of protection identified for the site.
2. In addition, documentation of the following is required for specified site workers for sites and work phases determined by the Contractor's health and safety representative to fall under the requirements of 29 CFR 1910.120:

- a. Eight-hour OSHA hazardous waste supervisory training (required for the field supervisor).
- b. Current CPR and first aid certification for at least one member of each crew.

### 3.3 CONTRACTOR HEALTH AND SAFETY PLAN

- A. The CHASP shall be developed by the Contractor for use by the Contractor. The CHASP shall be consistent with all applicable local, state, and federal health standards and guidelines implemented through, but not limited to, OSHA, the National Institute of Occupational Safety and Health (NIOSH), the American Conference of Governmental Industrial Hygienists (ACGIH), and USEPA. Where these are in conflict, the more stringent requirement shall be followed. The plan shall protect on-site and off-site personnel from the potential physical, chemical, and/or biological hazards particular to the site. The CHASP shall be reviewed and approved by the Contractor's management and health and safety representative.
- B. The following points shall be addressed in the CHASP, at a minimum:
  1. Contractor's definition of site-specific work activities that the Contractor has determined would meet the definition of hazardous waste operations or require 40-hour health and safety training.
  2. Identification of specific chemical and physical hazards that may occur during the project.
  3. Description of site control and decontamination procedures for personnel and equipment to be used.
  4. Explanation of potential emergencies and contingency plan of action, including description of the route to the nearest appropriate hospital and posting of emergency phone numbers on the job site.
  5. Delineation of specific tasks and the associated hazards and protective measures to be instituted.
  6. Other pertinent or required issues.
- C. No work may commence until the Contractor has submitted the CHASP and received acknowledgement of its completeness as described in article 1.2 of this section.

### 3.4 PERSONAL PROTECTIVE EQUIPMENT

- A. The appropriate level of personal protection will be identified for specific tasks in the CHASP. As work progresses and hazards are identified, the Contractor's staff shall notify the Contractor's site safety officer. If hazards are identified that require a level of protection greater than Level C, work will be suspended and the Port and the Contractor's health and safety representative will be notified. The health and safety representative will determine what actions are required before work can restart.
- B. At a minimum, all on-site personnel will wear a hard hat, orange reflective work vests, long pants, steel-toed boots, and safety glasses.
- C. The Contractor shall provide additional PPE, other than respiratory PPE, for the use of Port employees and representatives and other visitors authorized by the Port. PPE will be provided in sufficient numbers and sizes that at least five visitors may be accommodated at one time. PPE shall be appropriate for any location on the site and for any work being conducted at that

time. This PPE shall include hard hats, safety glasses, orange reflective work vests, boot covers, and personal floatation devices for work near water, per U.S. Coast Guard regulations.

### 3.5 HEALTH AND SAFETY EQUIPMENT

- A. The CHASP shall outline specific health and safety equipment required at each work site.
- B. At a minimum, each construction project shall have the following equipment at the site:
  - 1. First aid kit;
  - 2. Fire suppression equipment;
  - 3. Emergency eye wash facility;
  - 4. Decontamination facilities;
  - 5. Traffic control; and
  - 6. First aid station.

### 3.6 ENGINEERING SAFETY CONTROLS

- A. The CHASP shall describe engineering controls to protect health and safety during equipment use and against atmospheric hazards.
- B. At a minimum, engineering controls shall include:
  - 1. Roll-over cages for bulldozers, backhoes, loaders, and tractors;
  - 2. Back-up alarms for all trucks and heavy equipment;
  - 3. Decontamination of equipment leaving the site (see Section 015000 – Temporary Facilities and Controls); and
  - 4. Barricades for open trenches, pits, excavations, and structure demolition.

### 3.7 OTHER CONTROLS

- A. A comprehensive survey of existing utilities shall be performed prior to the initiation of demolition, intrusive digging, or excavation at depths greater than 1 foot. The survey shall include a review of applicable site drawings depicting utility locations in the demolition and excavation areas and an on-site inspection by a utility location company.

END OF SECTION 013529

## SECTION 013553 – MARINE TERMINAL SECURITY, SAFETY, AND OPERATING REGULATIONS

### PART 1 - GENERAL

#### 1.1 MARINE TERMINAL SECURITY POLICY

- A. These requirements are in accordance with the federal Marine Transportation Security Act. The Contractor shall obtain, thoroughly review, and comply with all Port security rules, regulations, and guidelines pertaining to marine security before commencing work under this contract.
- B. The regulations contained in this section and the security rules, regulations, and guidelines adopted by the Port are subject to change at any time without notice. Copies of current Port security rules, regulations, and guidelines may be obtained during the Port's normal business hours at the Terminal 6 marine security office.

#### 1.2 SECURITY CONTACTS

- A. Contact Port marine security to obtain security information and make arrangements for entry:
  - 1. Port marine security office: 503-240-2235 or 503-240-2243
  - 2. 24-hour telephone number: 503-240-2230

#### 1.3 SECURITY GATES AND FENCES

- A. Access to the work site shall be through the project security gate as shown on the drawings.
- B. Any modifications to the marine terminal security fence shall require 45 days advance notice and coordination with the Port.
- C. Temporary openings in the security fence shall be properly secured when not in use or when they cannot be attended to by the Port security guard. Secure temporary openings with replaceable panels, temporary fencing, or a locked gate. Gates in temporary openings shall be locked with Port-provided locks. Only the Port will retain a key. The Contractor shall make arrangements with the Port to unlock such gates.
- D. Temporary fence replacement panels and gates shall provide the same level of security and protection against unauthorized access as the adjacent security fence. Temporary fences may utilize undamaged salvaged fence materials. Fence materials need not be galvanized, and posts may be driven. Height of fence or gate woven-wire fabric shall match height of adjacent security fence fabric. Construct replaceable panels, used in lieu of gates or temporary fencing, so that they provide protection against unauthorized access equal to that of the gates and temporary fencing specified herein. Use of such panels is subject to the Port's approval.
- E. All equipment, vehicles, and supplies shall be positioned a minimum of 10 feet away from either side of the security fence.

## 1.4 SUBMITTALS

- A. Prior to being granted authorization to enter Port marine terminals, the Contractor shall complete the following:
1. Submit complete contact information, including company name, address, telephone number, and name and telephone number of project superintendent.
  2. Submit the name of the Contractor's authorized designee. The authorized designee is the person(s) authorized by the Contractor to submit and modify access lists, notify security staff of deliveries, and verify that the Contractor or subcontractor personnel have completed required security training. Submissions from individuals other than the Contractor's authorized designee will not be accepted by the Port. The authorized designee shall:
    - a. Submit and maintain a current, up-to-date list of personnel who will be accessing the terminal to perform work. A format will be provided by the Port. The list shall be updated as necessary and submitted by the authorized designee. Personnel not on the access list will be denied access.
    - b. Submit access requests for material delivery personnel or other persons needing access and not originally included in the lists above. Include personal, vehicle, and company affiliation information and submit to the Port at least 24 hours prior to requested access.
    - c. Submit documentation that personnel have received training on security measures from the Port marine security department (see Marine Security Training).

## 1.5 PERSONNEL SECURITY REGULATIONS

- A. Transportation Worker Identification Credential (TWIC):
1. The marine terminals are subject to the provisions of the federal Transportation Worker Identification Credential (TWIC) program. Contractor personnel, subcontractor personnel, material delivery personnel, and others entering the terminals and who require unescorted access must possess a valid TWIC to enter the facility. Personnel wishing to enter the marine terminals without a TWIC must comply with the ID and escort provisions noted below.
  2. Contractor personnel, subcontractor personnel, material delivery personnel, and others entering the marine terminal without a TWIC and under escort shall present a valid state driver's license or government-issued ID as identification. All identification cards shall:
    - a. Be tamper resistant and show no signs of tampering or such disrepair that verification of the ID is impossible.
    - b. Include a photograph bearing a close resemblance to the person presenting the credential.
    - c. Be current within a visible expiration date on the ID.
    - d. Be an original issue document/card. Reproductions, copies, enlargements, etc. are not acceptable forms of ID.
    - e. Show the relevant details of the holder such as the name, description, and controlling authority (issuer) of the ID.
  3. Personnel within the secure area of a Port marine terminal shall carry the identification used to gain access. In the event the nature of the work does not allow the identification to be carried on their persons, the identification shall be kept in a safe place and produced within 10 minutes of a request by a federal enforcement official or Port staff. Failure or refusal to produce authorized identification will result in revocation of access and proceedings for trespass violation.

B. Escort Requirements for Non-TWIC Personnel:

1. The Contractor shall provide escort for all non-TWIC contractor personnel, subcontractor personnel, material delivery personnel, and others who have been granted permission to enter the terminal. Escorting shall be conducted by a Contractor-provided TWIC-holder already approved for entry. Personnel holding a valid TWIC, having completed required security training, and having approval for entry to a Port marine terminal are automatically granted escort privileges. Failure to maintain an adequate escort will result in revocation of escort privileges and potential liability for any penalties imposed by federal officials.
2. Escorting shall be accomplished by side-by-side accompaniment with a TWIC holder at all times. Side-by-side accompaniment requires continuous physical proximity to and visual contact with the escorted individual in order to enable the TWIC holder to witness the escorted individual's actions.
  - a. In the portions of secure areas that are not restricted areas, appropriate physical accompaniment exists with one TWIC holder escorting no more than ten (1:10) non-TWIC holders.
  - b. In the portions of secure areas that are restricted, appropriate physical accompaniment exists with one TWIC holder escorting no more than five (1:5) non-TWIC holders.
3. Escorts shall be conducted by the Contractor or his subcontractors for their own personnel directly involved in performance of the work. Independent security contractors are not allowed to conduct escorts at Port terminals.

1.6 VEHICLE REGULATIONS

- A. All vehicles and occupants entering a Port marine terminal are subject to screening as required by federal regulations. Failure to comply with screening will result in denial of entry.
- B. Contractor Vehicles:
  1. Contractor vehicles shall be clearly marked either by permanent markings or temporary markings (such as magnetic signs) on both sides of the vehicle.
  2. When outside the work area, all personnel, vehicle, and equipment movement shall be under the control of the Contractor's authorized escort, using the Contractor's approved escort vehicle(s).
    - a. The Contractor escort vehicle(s) shall be equipped with an amber flashing light mounted on the roof of the cab. The escort vehicle(s) shall have signs mounted on the front and rear of the vehicle consisting of a black background and yellow lettering containing the Contractor's name and the words "ESCORT ONLY." Signs shall be readable from a distance of 300 feet.
    - b. The escort vehicle driver shall serve as liaison and shall be responsible for transporting workers to and from the work area.
    - c. Personnel and vehicles authorized to be in the marine terminal environment shall remain with the escort vehicle(s) while traveling to and from the work area.
    - d. Multiple vehicles may be escorted in convoy formation. Convoy vehicles shall travel in close formation, and the escort vehicle driver shall control speed to maintain safety. Convoys shall consist of no more than three vehicles plus the escort vehicle.

- C. Personal Vehicles:
  - 1. Personal vehicles shall be parked in designated areas away from the berth. The Contractor's personnel shall be shuttled to and from the work area by the Contractor.
- D. Material Delivery Vehicles:
  - 1. Material delivery personnel will be permitted to access the Port's marine terminals between the hours of 6 a.m. and 8 p.m.
  - 2. The Contractor shall notify the Port prior to deliveries. This notification shall be provided 24 hours prior to arrival at the terminal and shall include:
    - a. The name of the delivery company.
    - b. The nature of the items being delivered.
    - c. The date of delivery.
  - 3. Passengers in vehicles are prohibited. Only employees of the delivery company will be allowed access to the terminal.
  - 4. The Contractor shall provide escort for delivery personnel not holding a valid TWIC.
  - 5. Delivery personnel and vehicles arriving without prior notification and without a TWIC or appropriate escort will be denied access.

#### 1.7 MARINE SECURITY TRAINING

- A. Marine security training is required for individuals who frequently work on the Port's marine terminals. All contractors and subcontractors working for more than 30 days in any 90-day period are required to complete the training.
- B. The Contractor's authorized designee shall contact the Port marine security superintendent to schedule training classes for all Contractor's and subcontractors' personnel.
- C. The authorized designee shall provide as much notice as possible, a minimum of 48 hours, to schedule training class requests for large groups.
- D. The approximate duration of the training class is 15 minutes.
- E. At its discretion, the Port may provide training materials to the Contractor's authorized designee and allow him or her to conduct training for the Contractor's and subcontractors' employees. The authorized designee shall then verify that all persons on the current access list have received the required training.
- F. Personnel who completed marine security training under previous projects may be excused from completing the training upon submission of documentation from the authorized designee and approval by the Port.

#### 1.8 PROHIBITIONS

- A. The following actions are prohibited:
  - 1. Giving rides to non-Contractor personnel (including ship's crew) on and off the terminal.
  - 2. Remaining on the terminal after completing work. Vehicles left on the terminal or parked improperly will be towed at the vehicle owner's expense.
  - 3. Opening gates, doors, or other terminal entrance points to allow access to other individuals, whether or not they carry a TWIC.

1.9 REMEDIES OF THE PORT UPON VIOLATION OF REGULATIONS REFERENCED OR CONTAINED IN THIS SECTION

- A. In addition to any other rights or remedies that the Port may have in the event that the Contractor, subcontractor, anyone directly or indirectly employed by any of them, and anyone for whose acts any of them may be liable fails to comply with the regulations referenced or contained in this section, the Port shall have the right to:
1. Revoke security clearance of the offending individual and/or the Contractor permanently or for a prescribed period of time.
  2. Suspend the work or any portion thereof and continue the suspension until completion of any investigation or evaluation by the Port and full compliance with any corrective measures which the Port may reasonably require.
  3. Require the Contractor to provide to the Port a written plan, satisfactory to the Port, to demonstrate the Contractor's ability to prevent future violations.
- B. The Contractor shall be fully liable to the Port for any costs or damages incurred by the Port as a result of any breach of security or violation of security regulations by the Contractor. The Contractor shall also be liable to reimburse the Port for any fines, penalties, assessments, judgments or other costs imposed upon the Port as a result of the Contractor's breach of security or violation of security regulations, as described herein. As used herein, reference to the Contractor shall include all of his employees, agents, subcontractors, suppliers, or other invitees.
- C. The Contractor shall defend, indemnify, and hold harmless the Port against any and all claims of any nature made against the Port by any party resulting, in whole or in part, from the Contractor's breach of security or security violations. Defense shall be provided by legal counsel acceptable to the Port. As used herein, reference to the Contractor shall include all of his employees, agents, subcontractors, suppliers, or other invitees.

END OF SECTION 013553

## SECTION 014500 – QUALITY CONTROL

### PART 1 - GENERAL

#### 1.1 DESCRIPTION OF WORK

- A. This section describes the quality control requirements, duties, and responsibilities of the Contractor and the Port during execution of the work. The intent of this section is to require the Contractor to establish a necessary level of control that will:
  - 1. Adequately provide for the production of acceptable quality materials and workmanship.
  - 2. Provide sufficient information to assure both the Contractor and the Port that the specification requirements are and have been met.
- B. The Contractor shall establish, provide, and maintain a construction quality control (CQC) plan as specified herein, detailing the methods and procedures that will be taken to assure that all materials and completed construction elements conform to the drawings, technical specifications, and other requirements, whether these elements be manufactured by the Contractor, or procured from subcontractors or vendors. Although guidelines are established and certain minimum requirements are specified herein and elsewhere in the contract technical specifications, it is the responsibility of the Contractor to ensure that construction and construction quality control are accomplished in accordance with the stated purpose and specifications as described herein.
- C. The Contractor shall be prepared to discuss and present, at the preconstruction conference, its understanding of the quality control requirements. The Contractor shall not begin any construction or production of materials to be incorporated into the completed work until the quality control program has been reviewed and approved by the Port. No partial payment will be made for materials subject to specific quality control requirements until the quality control program has been reviewed and approved.
- D. Quality control requirements contained in this section and elsewhere in the technical specifications are in addition to and separate from any acceptance testing requirements. Acceptance testing requirements are the responsibility of the Port. The Contractor shall cooperate fully in facilitating the sampling and inspection necessary for an effective acceptance testing program by the Port.

#### 1.2 RELATED WORK DESCRIBED ELSEWHERE

- A. Construction Quality Assurance Plan (CQAP; Exhibit A – Design Analysis Report).
- B. Section 013300 – Submittal Procedures
- C. Individual tests required in accordance with the pertinent sections of these specifications and the contract drawings, where applicable.

### 1.3 SUBMITTALS

- A. The Contractor shall submit the following in accordance with Section 013300 – Submittal Procedures:
  - 1. CQC plan
  - 2. Proposed program administrator’s qualifications
  - 3. Weekly CQC reports
  - 4. Weekly inspection reports
  - 5. Certified test reports

## PART 2 - PRODUCTS

### 2.1 GENERAL

- A. Products that are used to accomplish or be incorporated into the work of this section shall be as selected by the Contractor, subject to approval by the Port.

## PART 3 - EXECUTION

### 3.1 CONTRACTOR QUALITY CONTROL PROGRAM

- A. The Contractor shall establish a quality control program to perform inspection and testing of all items of work required by the technical specifications, including those performed by subcontractors. This quality control program shall ensure conformance to applicable specifications and plans with respect to materials, workmanship, construction, finish, and functional performance. The quality control program shall be effective for control of all construction work performed under this Contract and shall specifically include surveillance and tests required by the technical specifications, in addition to other requirements of this section and any other activities deemed necessary by the Contractor to establish an effective level of quality control.

### 3.2 CONSTRUCTION QUALITY CONTROL PLAN

- A. The Contractor shall describe the quality control program in a written document titled “Construction Quality Control Plan,” which shall be submitted to the Port within 5 calendar days of contract execution. The Port will provide the Contractor with comments on the draft CQC plan within 2 business days of receiving the draft. The Contractor shall address the Port’s comments and issue a revised CQC plan within 2 business days of receiving Port comments. Additional modifications may be required after U.S. Environmental Protection Agency (USEPA) review. The CQC plan will be used to document inspections, monitoring, surveys, and other actions to be taken by the Contractor to ensure that the work complies with all Contract requirements.
- B. The CQC plan shall demonstrate the Contractor’s understanding of the total quality control requirements of the Contract and, generally, how these will be utilized to control all processes within material/construction tolerances and acceptance criteria.

- C. The CQC plan shall incorporate the requirements of the CQAP (an exhibit to this contract that defines the roles and responsibilities of the Contractor, the Port, and USEPA in regards to quality assurance of the work components). The CQC plan shall specifically address the following performance standards and objectives as described in the CQAP:
1. Shoreline Stabilization Repair:
    - a. Verify quality of import material.
    - b. Achieve specified thickness and extent.
    - c. Avoid impacts to adjacent structures and tenants.
    - d. Minimize short-term water quality impacts.
- D. The CQC plan shall be organized to address, as a minimum, the following items:
1. General requirements;
  2. Quality control organization;
  3. Inspection and testing requirements;
  4. Inspection and test plan;
  5. Documentation of quality control activities; and
  6. Requirements for corrective action when quality control and/or acceptance criteria are not met.
- E. The Contractor is encouraged to add any additional elements to the CQC plan deemed necessary to adequately control all production and/or construction processes required by this contract.
- F. Control of Non-conforming Items:
1. The CQC plan shall include a non-conformance procedure that provides for the identification, documentation, disposition, and control of non-conforming items, and identifies the responsibilities for preparation, review, approval, and the proposed resolution. In addition, the procedure shall include requirements for:
    - a. Documentation of re-inspection results;
    - b. Tagging and segregation, whenever practical;
    - c. Approval of repair or accept-as-is dispositions by the Port, prior to implementation; and
    - d. Review of completed non-conformance reports by the Port.
  2. Material and items that do not conform to the applicable drawings, specifications, or documents shall be identified as non-conforming and, whenever practical, segregated to prevent their installation or inadvertent use. Non-conformances shall be reviewed by the responsible personnel, and disposed of accordingly.
  3. When the associated documentation for received material or items, such as manufacturer inspection or test reports, certified material test reports, and certificates of compliance or conformance, indicate that the material or items do not comply with the specification or drawing requirements, the subject material or item shall be treated as non-conforming and not used until the non-conformance is resolved.
- G. Control of Special Processes:
1. The CQC plan shall identify special processes and the means by which the Contractor will ensure that they comply with the requirements of the applicable codes and standards identified in the construction specifications. Personnel and procedures shall be qualified in accordance with the requirements of the applicable code or standard identified in the construction specification. When the construction specification requires procedures and/or personnel qualifications in excess of those defined and required by the codes, the additional requirements will be identified in the construction specification or additional

- procedures or instructions by reference to the required industry code or standard, or by specific description in the document.
2. Personnel performing or evaluating non-destructive examinations (NDE) must be qualified to the level appropriate to the activity they perform in accordance with the requirements of the American Society for Non-destructive Testing, SNT-TC-1A, latest edition, and supplements. NDE subcontractor(s) hired by the Contractor shall be an NDE service company that has been qualified and evaluated by the Port.
  3. Procedures and/or instructions for the performance of special processes shall be placed at the work location prior to commencement of the work.
- H. Control of Measuring and Test Equipment:
1. The CQC plan shall establish a system for the calibration, maintenance, and control of measuring and test equipment used by Contractor during construction. Procedures shall provide for the identification of each instrument or equipment item that requires calibration or checking, and the establishment of a calibration system based on the elapsed time or usage cycles.
  2. Records of calibration shall be traceable to nationally recognized standards; otherwise, the basis for calibration shall be established and documented. Calibration standards used must meet the accuracy tolerance recommended by the manufacturer of the equipment being calibrated.
- I. Supplier Quality Control: The CQC plan shall establish a system for the evaluation and selection of suppliers of material, items, and services. The system shall include:
1. Documented review and assessment of potential suppliers' quality system;
  2. Development of specified evaluation criteria;
  3. Inclusion of applicable quality criteria in purchase documents; and
  4. Regular reviews and evaluations of suppliers' on-going quality performance.
- J. The CQC plan shall describe the responsibility, authority, and interrelation of all personnel who manage, perform, and verify work affecting quality. This shall include personnel who need organizational freedom and authority to:
1. Initiate the actions necessary to prevent the occurrence of non-conformances;
  2. Identify and record any product quality problems;
  3. Initiate, recommend, or provide solutions through designated channels;
  4. Verify the implementation of solutions; and
  5. Control further processing, delivery, or installation of non-conforming material or items until the deficiency has been corrected.

### 3.3 QUALITY CONTROL ORGANIZATION

- A. The Contractor's quality control program shall be implemented by the establishment of a quality control organization. An organizational chart shall be developed to show all quality control personnel and how these personnel integrate with other management, production, and construction functions and personnel. The organizational chart shall be included in the CQC plan. Qualifications of all proposed personnel and independent testing laboratories shall be documented and submitted in the CQC plan.
- B. The organizational chart shall identify all quality control staff by name and function, and shall indicate the total staff required to implement all elements of the quality control program,

including inspection and testing for each item of work. If necessary, different technicians can be utilized for specific inspection and testing functions for different items of work. If an outside organization or independent testing laboratory is used for implementation of all or part of the quality control program, the personnel assigned shall be subject to the qualification requirements indicated below. The organizational chart shall indicate which personnel are Contractor employees and which are provided by an outside organization.

1. The Contractor shall designate an individual within its organization who is responsible for overall management of the quality control program and has full authority to institute any and all actions necessary for the successful implementation of the quality control program to ensure compliance with the contract plans and technical specifications. This individual, termed the CQC supervisor, shall report directly to a responsible officer of the construction firm and not to this project's line management.
2. The CQC supervisor's qualifications shall be submitted to the Port for review and approval. At the option of the Port, the candidate(s) for CQC supervisor shall be subject to interview by the Port prior to approval. The Contractor's approved CQC supervisor shall not be removed or replaced without prior written approval by the Port.
3. The CQC supervisor shall have the authority to stop the work when and where deemed necessary to ensure compliance with the contract documents.
4. Quality Control Personnel: The Contractor shall maintain a sufficient number of qualified quality control personnel to adequately implement the quality control program. The Contractor shall provide sufficient qualified quality control personnel to monitor each work activity at all times. Quality control personnel shall report directly to the CQC supervisor and shall perform the following functions:
  - a. Inspection of all materials, construction, plant, and equipment for conformance with the technical specifications, and as required by article 3.4.
  - b. Performance of all quality control tests as required by the technical specifications and the Inspection and Test Plan article (3.6) in this section.
5. Where material is being produced in a plant for incorporation into the work, separate plant and field technicians shall be provided at each plant and field placement location. The scheduling and coordinating of all inspection and testing must match the type and pace of work activity. The CQC plan shall state where different personnel will be required for different work elements.

### 3.4 INSPECTION AND TESTING REQUIREMENTS

- A. Quality control inspection functions shall be organized to provide inspections for all definable features of work, as detailed below. All inspections shall be documented by the Contractor as specified herein.
  1. The CQC plan shall establish a system for ensuring that all inspections are performed in accordance with the inspection and test plan defined in this section. The Contractor shall only use inspection personnel who are independent of craft supervision and field engineering to perform quality verification inspection and testing.
  2. The CQC plan shall describe and specify control testing operations required to qualify, demonstrate, or ensure the quality and characteristics of items, site conditions, or the erection and construction of contract-required items. All testing shall be performed in accordance with the inspection and test plan.
  3. Modifications, repairs, and replacements required as a result of test failures will be treated as non-conforming items and controlled in accordance with the controls for non-conforming items.

4. Inspection and testing activities must be performed in accordance with procedures that may be supplemented by specific or standard instructions, work operations, or planning documents, including inspection plans delineating inspection hold points. The inspection activities that shall be planned in advance include:
  - a. Receiving inspection;
  - b. Construction inspection and testing;
  - c. Installation inspection and testing; and
  - d. Plant inspections.
5. Inspection and test activities shall have documentation reflecting the applicable inspections or tests performed. Inspection and test procedures and instructions shall provide:
  - a. References to applicable documents, such as drawings, specifications, and procedures;
  - b. Identification of prerequisites and special-process control requirements, such as personnel, procedure, or equipment qualifications; suitable and controlled environmental conditions; and calibrated instrumentation;
  - c. Identification of characteristics to be inspected;
  - d. Identification of individuals or groups responsible for performing the inspection;
  - e. Identification or frequency of inspection or sampling;
  - f. Provisions for establishing mandatory inspection hold points for witness by the Port;
  - g. Requirements that inspections of modifications, repairs, and replacements be performed in accordance with either the original inspection procedure, instruction, plan, special procedures or plans appropriate to the work activity; and
  - h. Requirements that inspection and test records contain:
    - 1) A description of the observation;
    - 2) A record of the date and results of the inspection or test, including any special documentation and sign-off by the inspector;
    - 3) Inspector identification;
    - 4) Evidence as to acceptability of the results;
    - 5) Verification that inspection or test operations are complete and acceptable;
    - 6) Action taken to resolve any discrepancies noted; and
    - 7) Adequate documentation to demonstrate that the completed inspections or tests have met the objectives defined in the inspection and test plan.
6. Inspections shall be performed daily to ensure continuing compliance with contract requirements until completion of the particular feature of work. These inspections shall include the following minimum requirements:
  - a. During any plant operation for material production, quality control test results and periodic inspections shall be utilized to ensure the quality of aggregates and other mix components, and to adjust and control mix proportioning to meet the approved mix design and other requirements of the technical specifications. All equipment utilized in proportioning and mixing shall be inspected to ensure its proper operating condition. The quality control program shall detail how these and other quality control functions will be accomplished and utilized.
  - b. During field operations, quality control test results and periodic inspections shall be utilized to ensure the quality of all materials and workmanship. All equipment utilized in placing, finishing, and compacting shall be inspected to ensure its proper operating condition and to ensure that all such operations are in conformance to the technical specifications and are within the plan dimensions, lines, grades, and tolerances specified. The quality control program shall

document how these and other quality control functions will be accomplished and utilized.

### 3.5 PLANT INSPECTION

- A. The Port or its authorized representative may inspect, at its source, any specified material or assembly to be used in the work. Manufacturing plants may be inspected from time to time for the purpose of determining compliance with specified manufacturing methods or materials to be used in the work, and to obtain samples required for acceptance of the material or assembly.
- B. Should the Port conduct plant inspections, the following conditions shall exist:
  - 1. The Port shall have the cooperation and assistance of the Contractor and the producer contracted for materials.
  - 2. The Port shall have full entry at all reasonable times to such parts of the plant that concern the manufacture or production of the materials being furnished.
  - 3. If required by the Port, the Contractor shall arrange for adequate office or working space that may be reasonably needed for conducting plant inspections. Office or working space should be conveniently located with respect to the plant.
- C. It is understood and agreed that the Port shall have the right to re-test any material that has been tested and approved at the source of supply after it has been delivered to the site. The Port shall have the right to reject only material that, when re-tested, does not meet the requirements of the contract documents.

### 3.6 INSPECTION AND TEST PLAN

- A. As a part of the overall quality control program, the Contractor shall implement an inspection and test plan, as required by the individual technical specifications. The inspection and test plan shall include the minimum tests and test frequencies required by each technical specification item, as well as any additional quality control tests that the Contractor deems necessary to adequately control production and/or construction processes.
- B. The Contractor shall prepare an inspection and test plan that identifies all inspection and test activities required by the specifications. The inspection and test plan shall be included in the CQC plan, and shall include:
  - 1. An itemized listing of inspection and test requirements.
  - 2. A reference of documents for each plan.
  - 3. Inspection and test methods employed in determining compliance.
  - 4. Documentation requirements necessary to show evidence of compliance.
  - 5. Identification of the inspection or test status for work in process by using work sequence plans, inspection or test records, tags, markings, or other devices compatible with the item, system, or operation being inspected or tested. Work sequence plans shall identify hold and witness points for inspections and tests, which shall also be shown on the project schedule.
  - 6. Any other information or verification required to assure compliance with contractual requirements.
  - 7. Verification that material marking is visible and correct material has been used.
  - 8. Specification section number, and the following information:
    - a. Item description;

- b. Test standard (e.g., American Society for Testing and Materials [ASTM]);
  - c. Test frequency;
  - d. Control requirements.
- C. The inspection and test plan shall contain a statistically based procedure of random sampling for acquiring test samples in accordance with ASTM D 3665. The Port shall be provided the opportunity to witness quality control sampling and testing.
- D. All quality control test results shall be documented by the Contractor as specified herein.

### 3.7 DOCUMENTATION

- A. The Contractor shall maintain current quality control records of all inspections and tests performed. These records shall include factual evidence that the required inspections or tests have been performed, including the type and number of inspections or tests involved; results of inspections or tests; nature of defects, deviations, or causes for rejection; proposed remedial action; and corrective actions taken.
- B. Specific Contractor quality control records required for the contract shall include, but are not necessarily limited to, the following:
1. Certified test reports for off-site testing and inspections shall be submitted in accordance with Section 013300 – Submittal Procedures.
  2. Quality control records are those documents that have been reviewed and accepted by the Contractor as complete, correct, and legible. Quality control records shall include documents such as:
    - a. Drawings, specifications, procedures used for construction, procurement documents, and inspection and test records;
    - b. Submittals;
    - c. Personnel and procedure qualification records;
    - d. Material, chemical, and physical property test results,
    - e. Certificates of compliance and shipment releases;
    - f. Supplier surveillance records;
    - g. Receiving inspection, storage, cleaning, and cleanliness control records; and
    - h. Non-conformance reports and corrective action.
- C. All quality control records shall be identified in the CQC plan and maintained in the Contractor's job-site files. The Port shall be provided access to these files when requested. Upon the completion of the Contractor's contractual activities, these files shall be turned over to the Port.
- D. Quality control records must cover both conforming and defective or deficient features, and must include a statement that all supplies and materials incorporated in the work are in full compliance with the terms of the contract. Legible copies of these records shall be submitted to the Port daily, as specified below. The records shall cover all work placed subsequent to the previously furnished records and shall be verified and signed by the Contractor's program administrator.
- E. Weekly CQC Report: The Contractor shall maintain a daily record of CQC activities and report them on a weekly basis. The CQC report shall be attached to the Contractor's construction report, submitted in accordance with Section 013300 – Submittal Procedures. At a minimum,

information in this CQC report will include the date, period covered by the report, equipment used, description of activity as identified by stationing and offset, quantity of materials placed that day and to date, downtime and delays to the operation, health and safety status, and other relevant comments concerning conduct of the operation. The CQC report shall include the results of all inspections, surveys, and monitoring activities, and shall be signed by the Contractor's superintendent or CQC supervisor. The CQC report shall include the following elements:

1. Weekly Inspection Reports: Each member of the Contractor's quality control personnel shall maintain a weekly report of all inspections performed for both Contractor and subcontractor operations on a form acceptable to the Port. These inspection reports shall provide factual evidence that continuous quality control inspections have been performed and shall, at a minimum, include the following:
  - a. Technical specification item number and description;
  - b. Compliance with approved submittals;
  - c. Proper storage of materials and equipment;
  - d. Proper operation of all equipment;
  - e. Adherence to plans and technical specifications; and
  - f. Review of quality control tests.
  - g. The weekly inspection reports shall identify inspections conducted, results of inspections, location and nature of defects found, causes for rejection, and remedial or corrective actions taken or proposed.
  - h. The weekly inspection reports shall be signed by the responsible quality control technician and the program administrator, and shall be attached to the Contractor's weekly CQC report.
2. Test Reports: The Contractor shall be responsible for establishing a system that will record all quality control test results. Test reports shall document the following information:
  - a. Technical specification item number and description;
  - b. Test designation;
  - c. Location;
  - d. Date of test;
  - e. Control requirements;
  - f. Test results;
  - g. Causes for rejection;
  - h. Recommended remedial actions; and
  - i. Retests.
  - j. The test reports shall be signed by the responsible quality control technician and the CQC supervisor and shall be attached to the Contractor's weekly CQC report. When required by the technical specifications, the Contractor shall maintain statistical quality control charts.

F. Document Control

1. The Contractor's CQC plan shall require that Contractor-generated documents pertaining to quality-related items be controlled. The following types of documents shall be on controlled distribution to ensure that changes to them are transmitted and received when applicable:
  - a. Manuals
  - b. Instructions
  - c. Procedures
  - d. Specifications

- e. Drawings
- f. Inspection and test plans
- g. Field change requests
- h. Inspection test and manufacturing procedures

### 3.8 CORRECTIVE ACTION REQUIREMENTS

- A. The CQC plan shall indicate the appropriate action to be taken when a process is deemed, or believed, to be out of control (out of tolerance), and detail what action will be taken to bring the process into control. The requirements for corrective action shall include both general requirements for operation of the quality control program as a whole, and for individual items of work contained in the technical specifications.
- B. The CQC plan shall detail how the results of quality control inspections and tests will be used for determining the need for corrective action, and shall contain clear sets of rules to gauge when a process is out of control and the type of correction to be taken to regain process control.
- C. When applicable or required by the technical specifications, the Contractor shall establish and utilize statistical quality control charts for individual quality control tests. The requirements for corrective action shall be linked to the control charts.

### 3.9 OVERSIGHT BY THE PORT

- A. All items of material and equipment shall be subject to oversight by the Port at the point of production, manufacture, or shipment to determine if the Contractor, producer, manufacturer, or shipper maintains an adequate quality control system in conformance with the requirements detailed herein and the applicable technical specifications and plans. In addition, all items of materials, equipment, and work in place shall be subject to surveillance by the Port at the site for the same purpose.
- B. Oversight by the Port does not relieve the Contractor of performing quality control inspections of either on-site or off-site Contractor's or subcontractor's work.

### 3.10 PORT ACCEPTANCE TESTING AND INSPECTION

- A. The Port may perform acceptance testing of all or portions of the work at its discretion.
  - 1. No work shall commence or be covered until approved by the Port.
  - 2. Prior to requesting acceptance tests, the Contractor shall perform check tests (monitoring of construction products, methods, and progress to assure work acceptability). Include check testing costs in the bid; no separate payment will be made for this work.
  - 3. The Port will have the right to perform various types of tests at any time prior to formal acceptance. This may include evaluation of line, elevation, grade, depth, thickness, compaction, density, material, composition, pressure, or other analyses deemed necessary by the Port.
  - 4. Acceptance tests by the Port will be initiated by the Contractor's request for approval.
  - 5. Acceptance surveys will be performed by the differential leveling method, using a mutually agreed-upon grid not to exceed 25-feet transverse by 50-feet longitudinal.

6. Compaction testing will be conducted in accordance with ASTM D 6938 for subgrade, subbase, and aggregate base.
7. The Contractor shall allow sufficient time in his/her schedule to accommodate Port acceptance testing. No separate payment will be made for delays or standby during this time.
8. Results of the Port's acceptance tests will be made known to the Contractor as soon as practical; however, it remains the responsibility of the Contractor to obtain the specified requirements at all times. Any delay in advising the Contractor of test results shall not act as a waiver of this responsibility.
9. Acceptance tests that fail to meet the specified requirements may be re-checked by the Port after the Contractor takes remedial action. The cost of re-checking shall be borne by the Contractor.
10. The Contractor shall furnish, for approval or evaluation by the Port whenever requested, samples of materials as directed. These samples shall be completely representative of the materials or products proposed to be used in the work. The results will be used as a basis for acceptance or rejection in accordance with the specifications for the particular material(s).
11. Pressure tests called for in the specifications or deemed necessary by the Port shall be performed by the Contractor and witnessed by the Port.
12. Specific testing tasks are specified in individual sections as required.

### 3.11 NON-COMPLIANCE

- A. The Port will notify the Contractor of non-compliance with any of the foregoing requirements. The Contractor shall, after receipt of such notice, immediately take corrective action. Any notice, when delivered by the Port or its authorized representative to the Contractor or its authorized representative at the site of the work, shall be considered sufficient notice.
- B. In cases where quality control activities do not comply with either the Contractor's quality control program or the contract provisions, or where the Contractor fails to properly operate and maintain an effective quality control program, as determined by the Port, the Port may:
  1. Order the Contractor to replace ineffective or unqualified quality control personnel or subcontractors.
  2. Carry out the functions and operations of the Contractor's approved quality control program. Costs incurred by the Port to operate the quality control program or to otherwise remedy the Contractor's non-compliance with quality-related provisions of the Contract shall be deducted from the total amount due the Contractor. This deduction shall be based on the actual cost to the Port for operation of the quality control program, as opposed to the amount that the Contractor may have bid initially for quality control services.
  3. Order the Contractor to stop operations until appropriate corrective actions are taken.
- C. Any failure by the Port to notify the Contractor of any non-compliance with any of the foregoing requirements shall not be deemed as a waiver of its enforcement rights hereunder, and the Contractor is still bound by the terms and conditions of said requirements.

END OF SECTION 014500

## SECTION 015000 – TEMPORARY FACILITIES AND CONTROLS

### PART 1 - GENERAL

#### 1.1 TEMPORARY UTILITIES

- A. The Contractor may use water and electric power from Port-owned facilities at no cost, as available.
- B. The Contractor shall maintain temporary facilities in a safe and proper manner and completely remove them from the site prior to final acceptance.
- C. The Contractor shall provide labor and equipment for temporary lines and services at no added cost to the Port.

#### 1.2 SANITARY FACILITIES

- A. The Contractor shall provide and maintain sanitary facilities that meet the requirements of Oregon Revised Statutes (ORS) 654.150 and other applicable state and local health regulations. The Contractor shall bear the costs that may be incurred in complying with ORS 654.150 and the rules adopted pursuant thereto.

#### 1.3 FIRE PROTECTION

- A. The Contractor shall provide adequate fire fighting equipment to contain an equipment fire. The fire fighting equipment shall be made available and accessible in the work area.
- B. The Contractor shall provide fire protection as required by Oregon Administrative Rules, Division 3, Chapter 437, Subdivision F, for building construction and demolition.

#### 1.4 DUST CONTROL

- A. If work includes clearing, grubbing, excavating, grading, hauling, placing, stockpiling, sawing, coring, drilling, general demolition, or other activities that will create dust or blowing soil, the Contractor shall present their methods to control dust with the Port prior to starting the work. The dust control methods shall include all methods required to retain or control dust and soil so that they do not leave the immediate work site, present health hazards, or enter any public areas.
- B. If conditions exist that cause dust or soil to become windblown or otherwise entrained in the air by vehicular traffic or equipment activities, the Contractor shall employ methods to control and abate nuisance dust conditions including, but not limited to:
  - 1. Covering excavated, graded, and disturbed areas or stockpiles with tarps or sheeting until removed from the site or finished in accordance with the contract documents.
  - 2. Cleaning, sweeping, or vacuuming areas to remove the dust source.

3. Removing or relocating dust-creating materials or activities to other areas that will eliminate the dust problem.
4. Applying dust-control agents, such as water, or water misting, to the dust source. Application of any wetting agents other than water requires the written approval of the Port prior to use.
  - a. Application of dust control agents is not acceptable for materials that will dissolve in water or become friable.
  - b. Materials that will dissolve in water or become friable when wetted shall be stored only on impervious surfaces, field-installed ground sheeting, or other barriers.
  - c. Run-off from wetted materials shall be controlled to prevent contamination of other portions of the site.

#### 1.5 NOISE CONTROL

- A. The Contractor shall comply with local noise control regulations.

#### 1.6 SOLID WASTE MANAGEMENT

- A. The Contractor shall be solely responsible for determining the proper disposition of all solid waste, including documentation showing that the solid waste and recyclables are not regulated as hazardous waste in accordance with state and federal regulations. Upon request, this documentation shall be made available to the Port.
- B. Receptacles:
  1. All drop boxes, bins, totes, and cans located in areas exposed to wind or precipitation shall be equipped with metal, canvas, or plastic covers. Drop boxes, bins, totes, and cans shall be kept closed at all times, except when adding waste material.
  2. Where possible, large receptacles such as drop boxes, bins, and totes shall be placed on impervious areas, such as concrete or asphalt pavement, at locations away from public traffic, storm drain inlets, ditches, and other conveyances.
  3. If any receptacle is observed to be leaking any liquid, it shall be considered a solid waste leachate. The Contractor shall immediately take action to contain the leakage.
  4. Discarding of aerosol cans, used oil, paints, solvents, fluorescent light tubes, or any hazardous waste into a receptacle is strictly prohibited.
  5. Receptacles larger than 33-gallon capacity used for recyclables and general solid waste and portable toilets shall not be located within 50 feet of a storm drain inlet, drainage ditch, surface water, or wetland.
  6. The Contractor shall ensure that all recyclable and solid waste receptacles are kept closed, are not overfilled, are not leaking, and that general housekeeping is performed in the area.
  7. All recyclable and general solid waste hauled from the Port shall be secured prior to leaving the work site so that no waste material blows out, falls out, or leaks out during transportation to the designated off-site location.

#### 1.7 DISPOSAL

- A. The Contractor shall dispose of waste material off Port property and in accordance with applicable state, federal, and local regulations.

- B. Burning or burying of waste material within Port property is not permitted.
- C. Disposal of waste material within the area cleared, or a river, stream, wetland, or other waterway or waterfront is not permitted.

#### 1.8 STAGING, PARKING, AND WORK AREA

- A. Access to and from staging, parking, and work areas shall be as shown on the drawings.
- B. The Contractor shall perform operations and movement within the staging, parking, and work areas in strict conformance with Port rules and regulations.
- C. Employees' vehicles shall be parked in the staging/employee parking area. The Contractor shall be responsible for transporting workers between the parking area and the work area.
- D. Only marked Contractor-owned or -operated vehicles required for proper execution of the work will be allowed in the work area. No private passenger vehicles will be admitted.

#### 1.9 STORAGE AND PROTECTION OF MATERIAL AND EQUIPMENT

- A. The Port will designate the area in which the Contractor may store material and equipment.
- B. The Contractor shall protect materials and equipment from damage, pilfering, etc., and fully relieve the Port of this responsibility.
- C. Upon completion of the work, the Contractor shall remove unused materials and equipment and restore the area to original condition, including any grading necessary to restore drainage patterns and surface smoothness.
- D. Materials to be salvaged by the Contractor shall be stored in the staging area.
- E. Plant material delivered to the work area that cannot be planted within 4 hours shall be stored in the area designated by the Port for the heeling-in of plant material.
- F. Materials and equipment shall be stored at least 50 feet from any riverbank.

#### 1.10 WARNING SIGNS AND BARRICADES

- A. Before starting work, the Contractor shall provide and install any signs and/or barricades necessary for protection of the work.
- B. The Contractor shall install and maintain adequate warning signs and lighted barricades to protect property and personnel in the work area. Barricades shall be weighted or anchored to prevent overturning from wind.
- C. The Contractor shall space barricades a maximum of 20 feet apart, unless directed otherwise by the Port.

- D. The Contractor shall relocate barricades, at the direction of the Port, whenever required to maintain protection of the work area or when changing work areas.
- E. Open trenches, excavations, or obstructions not being actively worked shall be marked with lighted and weighted barricades that can be seen from a reasonable distance.

#### 1.11 TRANSPORTATION OF MATERIAL

- A. If shipments of hazardous material (including hazardous debris, contaminated soil or water, and hazardous waste) will be unloaded onto or loaded from Port property, the Contractor shall have a qualified person, who is current with U.S. Department of Transportation (DOT)-approved training for the transportation of hazardous materials, available on site when shipments are received or made. The storage and shipment of hazardous waste shall also comply with the requirements of these specifications.
- B. The Contractor shall properly characterize and manifest waste material leaving Port property for disposal.
- C. The Contractor shall ensure that hazardous goods and material delivered to or from the construction site meet applicable DOT labeling and placarding requirements.
- D. The Contractor shall minimize and abate the creation of nuisance dust conditions during the loading and unloading of vehicles used to haul debris, rubble, soil, trash, or other material that may create dust during loading or unloading operations.
- E. Before leaving the loading area, the Contractor shall adequately secure and cover vehicles used to haul debris, rubble, soil, trash, or other material that may be blown off or fall during transportation on site or over public thoroughfares.
- F. In areas that may result in the tracking of soil, sediments, or hazardous materials on the wheels of hauling equipment outside areas that are enclosed by erosion and silt or sediment control devices, the Contractor shall provide the means and methods to remove these materials prior to the vehicle exiting the controlled area. If water wash stations are used, the Contractor shall provide systems for the collection, treatment, and disposal of wheel wash water and accumulated sediment.

#### 1.12 TRAFFIC CONTROL

- A. Portions of the work may be in areas where there will be traffic involved in terminal activities and cargo handling. The Contractor shall make arrangements for the safe handling of traffic in the work area, and coordinate the work with the Port.
- B. The Contractor shall keep pavement surfaces that are available to others for their use during construction of the work, free and clear of dirt, mud, and debris.

1.13 HAUL ROUTE CONSTRUCTION AND MAINTENANCE

- A. The term "haul route" applies to any designated paved or unpaved road used by the Contractor for travel of construction equipment.
- B. Construction equipment shall follow agreed-upon haul routes.
- C. Electrical or communication cables shall not be crossed unless protected by approved means.
- D. Equipment operated on haul routes over existing pavement shall conform to legal load limits for public highways unless approved protection is provided.
- E. The Contractor shall maintain haul routes over unpaved areas in good, usable condition during the course of the work. Roads shall be sprinkled as necessary to prevent dust.
- F. The Contractor shall restore any impacted paved roads to original condition at the conclusion of construction and prior to final acceptance. Haul roads over unpaved areas shall be obliterated by scarifying and smooth grading in conformance with existing drainage patterns.
- G. The Contractor shall construct, maintain, and restore haul routes to the satisfaction of the Port. Cost shall be considered an incidental item.

1.14 HARD HATS AND SAFETY CLOTHING

- A. Wear hard hats and high visibility clothing that comply with current ANSI requirements. All safety equipment shall be in good repair.

END OF SECTION 015000

## SECTION 015639 – TREE AND PLANT PROTECTION

### PART 1 - GENERAL

#### 1.1 DESCRIPTION

- A. This section applies to trees and plants outside of the armor repair areas.
- B. Provide temporary fencing, barricades, and guards as necessary or required to protect trees that are to remain, from damage above and below grade.
- C. Protect root systems from smothering and compaction. Do not store construction materials or permit vehicles to drive or park within the drip line area of any tree to remain.
- D. Protect all plant growth, including root systems of trees from the dumping of refuse or chemically injurious material or liquids, and continual puddling of running water.
- E. Trees and vegetation to remain consists of plant materials and grasses installed in 2008 by the Port.

### PART 2 - PRODUCTS

Not Used.

### PART 3 - EXECUTION

#### 3.1 INSPECTION

- A. Inspect all trees and document, by written memorandum and photograph, any unusual existing conditions. Submit copies to the Port prior to commencement of work.

#### 3.2 FIELD SUPERVISION

- A. The Port must be present during demolition of existing conditions within the drip line of trees to remain.

#### 3.3 GENERAL

- A. Protect root systems of trees to remain from damage due to noxious materials in solution caused by runoff or spillage during mixing and placement of construction materials, or drainage from stored materials.
- B. Protect root systems of trees to remain from flooding, erosion, or excessive wetting resulting from dewatering operations and compaction.

- C. Protect all existing trees to remain against unauthorized cutting, breaking, or skinning roots and branches, and skinning and bruising of bark.
- D. Do not allow fires on the project site.
- E. Where cutting seems necessary, review conditions with the Port before proceeding, and comply with its directives.
- F. All tree pruning or root cutting to be performed with sharp pruning instruments; do not break or chop. Do not prune without explicit approval of the Port.

#### 3.4 GRADING AND FILLING AROUND TREES

- A. Maintain the existing grade within the drip line of trees unless otherwise indicated on the drawings and approved by the Port.

#### 3.5 REPAIR AND REPLACEMENT OF TREES

- A. Repair trees damaged by construction operations as directed by the Port. Make repairs promptly after damage occurs to prevent progressive deterioration of damaged trees.
- B. Remove and replace dead trees and damaged trees that are determined by the Port to be incapable of restoration to a normal growth pattern.
  - 1. Provide new trees of the same size as those damaged. Plant and maintain as directed. Species shall be selected by the Port.
  - 2. For trees exceeding replaceable size (over 13-inch caliper), the Port shall be compensated on the basis of an evaluation schedule on the damaged trees by a qualified consulting arborist registered with the American Society of Consulting Arborists.

END OF SECTION 015639

## SECTION 015713 – TEMPORARY EROSION, SEDIMENT, AND POLLUTION CONTROL

### PART 1 - GENERAL

#### 1.1 DESCRIPTION

- A. This section describes temporary measures and monitoring to control water pollution, soil erosion, and siltation. Erosion, sediment, and pollutant control (ESPC) devices or methods include the use of berms, dikes, dams, sediment basins, fiber mats, gravel, mulches, sediment (filter) fences, grasses, slope drains, and other techniques.

#### 1.2 RELATED WORK SPECIFIED ELSEWHERE

- A. Section 312000 – Site Clearing, Earthwork, and Shoreline Stabilization

#### 1.3 REFERENCED STANDARDS AND APPLICABLE CODES

- A. National Pollutant Discharge Elimination System (NPDES) General Permit 1200-CA dated February 20, 2001
- B. City of Portland Erosion Control Manual, current edition
- C. City of Portland Title 10, Chapter 10.10 – 10.80

#### 1.4 SUBMITTALS

- A. The Contractor shall submit the following supplemental ESPC information at the pre-construction meeting:
  - 1. Construction start and completion dates.
  - 2. Dates when ESPC measures will be in place.
  - 3. Projected date of removal of erosion control structures (after soil is stabilized by vegetation or pavement).
  - 4. Description of control procedures to prevent the discharge of all wash water from concrete trucks into the storm sewer system.
  - 5. Description of procedures for prompt maintenance or repair of ESPC measures utilized on-site.
  - 6. Description of clearing and grading practices, including a schedule of implementation, that will minimize the area of exposed soil throughout the duration of the project. (Whenever practicable, clearing and grading shall be phased to prevent exposed inactive areas from becoming a source of erosion.)
  - 7. Description of best management practices (BMPs) that will be used to prevent or minimize stormwater from being exposed to pollutants from spills, cleaning and maintenance activities, and waste handling activities. These pollutants include fuel, hydraulic fluid, and other oils from vehicles and machinery, as well as debris, leftover paints, solvents, and glues from construction operations.

8. Name, title, and telephone number of designated employee to perform the Contractor's inspection and monitoring of ESPC measures.
- B. Any requested changes or modifications to the ESPC measures shown on the drawings shall be submitted to the Port for approval prior to implementation.

## PART 2 - PRODUCTS

Not Used.

## PART 3 - EXECUTION

### 3.1 GENERAL

- A. The implementation of the ESPC measures and the construction, performance monitoring, maintenance, replacement, and upgrading of the ESPC measures are the responsibility of the Contractor until all construction is completed and accepted and vegetation or landscaping is established.
- B. The ESPC measures shown on the drawings shall be constructed in conjunction with all clearing, grading, trenching, and earthwork activities and in a manner that ensures that sediment and sediment-laden water does not enter the drainage system or roadways, or violate applicable water quality standards.
- C. The ESPC measures shown on the drawings are the minimum requirements for anticipated site conditions and Contractor methods and sequences. During the construction period, the ESPC measures shall be upgraded as needed for unexpected conditions, storm events, or Contractor methods or sequences and to ensure that sediment and sediment-laden water does not leave the site.
- D. The Contractor shall be responsible for implementing temporary erosion control measures during construction to correct unforeseen conditions. The Contractor shall be responsible for additional erosion control due to the Contractor's negligence, carelessness, or failure to install planned controls as a part of the work.
- E. Implementation, construction, and maintenance of ESPC measures shall be in accordance with the City of Portland Erosion Control Manual.
- F. Soil disturbance activities shall not begin until ESPC measures are in place.
- G. The Contractor shall schedule and perform ground disturbance activities in order to minimize impact to the overall project.
- H. The erosion control drawings, together with the supplemental ESPC information, constitute the ESPC plan. A copy of the ESPC plan shall be retained on site and made available to the Port upon request.

### 3.2 CONSTRUCTION DETAILS

- A. The Contractor shall install and maintain all site public notification signs as shown on the drawings and keep signs easily readable from the public right-of-way throughout the duration of the ground-disturbing activities. The signs shall be removed and disposed of upon completion of the work.
- B. No visible or measurable erosion material or pollutant shall exit the construction site. Visible or measurable is defined as:
  - 1. Deposits of mud, dirt, sediment, or similar material exceeding 1/2 cubic foot in volume in any area of 100 square feet or less on public or private streets, adjacent property, or into the storm and surface water system, either by direct deposit, dripping, discharge, or as a result of the action of erosion.
  - 2. Evidence of concentrated flows of water over bare soils; turbid or sediment-laden flows; or evidence of on-site erosion such as rivulets on bare soil slopes, where the flow of water is not filtered or captured on the site.
  - 3. Earth slides, mud flows, earth sloughing, or other earth movement that leaves the property.
- C. All reasonable means and methods to control or divert upslope stormwater runoff away from cleared and grubbed areas, stockpiled materials, and other disturbed areas that will be open or stockpiled for periods longer than 2 weeks shall be employed.
- D. Construction entrances, exits, and parking areas shall be graveled or paved to reduce the tracking of sediment onto public or private roads, and maintained for the duration of the project.
- E. Unpaved roads on the site shall be graveled or under other effective erosion and sediment control measures, either on the road or down gradient, to prevent sediment and sediment-laden water from leaving the site.
- F. Existing vegetation shall be preserved where practicable, and open areas shall be revegetated after grading or construction.
- G. Soil stockpiles shall be continuously secured or protected from runoff and erosion with temporary soil stabilization measures or protective cover throughout the project.
- H. Ongoing maintenance, repair, and restoration of ESPC measures shall be provided to keep them continually functional.
  - 1. The following maintenance activities shall be included:
    - a. Visual or measurable amounts of sediment and pollutants that leave the site shall be cleaned up immediately and placed back on the site or properly disposed of. Under no conditions shall sediment be intentionally washed into storm sewers or drainage ways.
    - b. Clean catch basin protection when design capacity has been reduced by 50 percent.
    - c. Remove sediment trapped by sediment fences before it reaches one-third of the above-ground fence height.
    - d. Remove trapped sediments from sediment basins when design capacity has been reduced by 50 percent.

- I. If fertilizers are used to establish vegetation, the application rates shall follow manufacturer's guidelines and the application shall be done in a way that minimizes nutrient-laden runoff to receiving waters.
- J. If construction activities cease for 30 days or more, the entire site shall be stabilized using vegetation or a heavy mulch layer, temporary seeding, or another method that does not require germination to control erosion.
- K. Any use of toxic or other hazardous materials shall include proper storage, application, and disposal.
- L. When trucking saturated soils from the site, either watertight trucks shall be used or loads shall be drained on-site until dripping has been reduced to minimize spillage on roads and streets.
- M. The Contractor shall clean all catch basins and inlets protected from sediment prior to paving and final acceptance. The cleaning operation shall not flush sediment-laden water into the downstream system.
- N. ESPC measures installed during construction shall be removed when construction and site disturbance activities are complete and permanent soil stabilization is in place.
- O. The Contractor shall remove and dispose of waste and unused building material.

### 3.3 MONITORING AND REPORTING REQUIREMENTS

- A. The Contractor shall designate an employee to perform inspections of ESPC measures. The employee shall have knowledge and experience in construction stormwater controls and management practices.
- B. The designated employee shall inspect erosion control measures daily and maintain as necessary to ensure their continued functioning.
- C. For inactive periods of work, the designated employee shall inspect ESPC measures at least once every 14 days and within 24 hours after any storm with precipitation greater than 0.5 inches per 24-hour period.
- D. The designated employee shall visibly monitor stormwater runoff to evaluate the effectiveness of the erosion control measures or practices. If visible quantities of sediment are leaving the property, take corrective action immediately. The Contractor shall notify the Port of all corrections and violations.
- E. The Contractor shall keep a record of inspections. This record shall be made available to the Port upon request, and be submitted to the Port upon final completion of the work.
- F. Visual inspections shall document the following information:
  - 1. Inspection date, inspector's name, weather conditions, and rainfall amount for the past 24 hours (inches). (Rainfall information can be obtained from the nearest weather recording station.)
  - 2. List observations of all BMPs: Erosion and sediment controls, chemical and waste controls, locations where vehicles enter and exit the site, status of areas that employ

temporary or final stabilization control, status of soil stockpile area, and non-stormwater controls.

3. At representative discharge location(s) from the construction site, conduct observations and document the quality of the discharge for any turbidity, color, sheen, or floating materials. If possible, in the receiving stream, observe and record color and turbidity or clarity upstream and downstream within 30 feet of the discharge from the site. For example, a sheen or floating material shall be noted as present or absent. If present, it may indicate possible spill and/or leakage from vehicles or materials storage. Observation for turbidity and color shall describe any apparent color, the clarity of the discharge, and apparent differences compared with the receiving stream.
4. If visual or measurable amounts of sediment are leaving the property, briefly explain the corrective measures taken to reduce the discharge and/or clean it up. Describe efforts to prevent future releases. The ESPC shall be amended accordingly.
5. If a site is inaccessible due to inclement weather, the inspection shall include observations at a relevant discharge point or downstream location, if practical.

END OF SECTION 015713

## SECTION 015719 – ENVIRONMENTAL PROTECTION

### PART 1 - GENERAL

#### 1.1 DESCRIPTION OF WORK

- A. This section covers preventing environmental pollution and minimizing environmental degradation during and as a result of construction operations. Other technical sections may also contain specific requirements for environmental protection. Those specific requirements are in addition to or modify the requirements in this section, the more stringent requirements shall control. The control of environmental pollution requires consideration of noise levels, air, water, and land.
- B. All environmental pollution shall be prevented, abated, and controlled, and environmental degradation arising from construction activities shall be minimized by complying with all applicable federal, state, and local laws and regulations concerning environmental pollution control and abatement, as well as the specific requirement in this contract.
- C. The Contractor shall comply with all substantive requirements of permits.

#### 1.2 RELATED WORK SPECIFIED ELSEWHERE

- A. Section 013300 – Submittal Procedures

#### 1.3 SUBMITTALS

- A. Environmental Protection Plan (EPP)
  - 1. The Contractor shall submit an EPP as one of the Wheeler Bay Shoreline repair submittals. This plan shall specify how the Contractor will adhere to best management practices (BMPs) for near-water construction work, and will describe methods that will be taken to prevent any petroleum products, chemicals, or other toxic or deleterious materials from entering the water.
  - 2. The EPP shall be submitted in accordance with Section 013300 – Submittal Procedures.
  - 3. The EPP submitted pursuant to this section presents the procedures by which the Contractor shall establish and maintain quality control for environmental protection of all items of the Wheeler Bay Shoreline repairs. This plan shall address all construction tasks.
  - 4. The Contractor shall record on daily reports any problems in complying with laws, regulations, and ordinances, and any corrective action taken.
  - 5. The conservation measures and terms and conditions required by the National Marine Fisheries Service (NMFS) and the U.S. Fish and Wildlife Service (USFWS) shall be implemented to minimize short-term impacts from construction activities.
  - 6. Conservation measures and terms and conditions listed in the Biological Opinion (Exhibit B) that apply to this work include the following list:

Conservation Measures:

- a. All work will occur during the summer in-water work window of July 1 through October 31.
- b. The potential for scour will be limited by controlling Contractor vessel draft and movements if the site is accessed from the water.
- c. Multiple means will be used to verify adequate coverage during and following material placement.
- d. Cap materials will be imported, clean granular material.
- e. Surface booms, oil-absorbent pads, and similar materials will be on site for any sheens that may occur on the surface of the water during construction.
- f. No construction equipment will enter the water during the shoreline stabilization activities in Wheeler Bay, and erosion control measures will be in place.

Terms and Conditions:

- a. Before beginning work, all contractors working on site are required to read a complete list of applicable reasonable and prudent measures, and terms and conditions intended to minimize the amount and extent of take resulting from shoreline stabilization activities in Wheeler Bay (Exhibit B; pages 37-41).
- b. All covers or caps over contaminated soil or sediment require demarcation of the base of the cap with a demarcation barrier.
- c. Contaminated soil or sediment shall be capped in place with a minimum of 12 inches of clean cover material over the demarcation fabric. This includes the Wheeler Bay bankline.
- d. Cap material shall be from an approved upland source.
- e. Cable and concrete shall not be used to anchor large wood into the bankline in Wheeler Bay.
- f. The following notice shall be posted prominently at the work site:  
NOTICE: If a sick, injured, or dead specimen of a threatened or endangered species is found in the project area, the finder must notify NMFS through the contact person identified in the transmittal letter for the Biological Opinion (Exhibit B), or through the NMFS Office of Law Enforcement at 1-800-853-1964, and follow any instructions. If the proposed action may worsen the fish's condition before NMFS can be contacted, the finder should attempt to move the fish to a suitable location near the capture site while keeping the fish in the water and reducing its stress as much as possible. Do not disturb the fish after it has been moved. If the fish is dead, or dies while being captured or moved, report the following information: (1) NMFS consultation number; (2) the date, time, and location of discovery; (3) a brief description of circumstances and any information that may show the cause of death; and (4) photographs of the fish and where it was found. The NMFS also suggests that the finder coordinate with local biologists to recover any tags or other relevant research information. If the specimen is not needed by local biologists for tag recovery or by NMFS for analysis, the specimen should be returned to the water in which it was found, or otherwise discarded.
- g. Water quality monitoring will be conducted by the Port to ensure that applicable standards are not exceeded outside compliance boundaries specified by the U.S. Environmental Protection Agency (USEPA) Section 401 Water Quality Monitoring and Compliance Conditions Plan (WQMCCP; see Exhibit C). The Contractor may be required to modify production rates or construction methods if water quality exceedances occur.

## PART 2 - PRODUCTS

Not Used.

## PART 3 - EXECUTION

### 3.1 NOTIFICATION OF NONCOMPLIANCE

- A. The Contractor will be notified by the Port of noncompliance with the provisions of this section. Immediate corrective action shall be taken. Such notice, delivered at the site, shall be sufficient for the Contractor to take action. The Port may issue an order stopping all or part of the work for failure to comply until corrective action has been taken. No time lost resulting from such stop orders shall be the subject of a claim for extension of time or for costs or damages. The Contractor is required to comply with all environmental requirements whether or not notified by the Port of noncompliance.

### 3.2 IMPLEMENTATION

- A. EPP: Within 5 calendar days of contract execution the Contractor shall submit an EPP, including proposals for implementing this section for environmental protection. The Port will provide the Contractor with comments on the draft EPP within 2 business days of receiving the draft. The Contractor shall address the Port's comments and issue a revised EPP within 2 business days of receiving Port comments. Additional modifications may be required after USEPA review. No physical work at the site shall be started until this plan has been approved, or until specific authorization is obtained to start a phase of the work. The Port may require preparation and submittal of supplemental plans if additional environmental protection planning is found necessary for later phases of work. At a minimum, the plan shall include the sections indicated below:
  - 1. Contamination Prevention: A contamination prevention section shall list all potentially hazardous products, such as petroleum and toxic materials, on the job site and corresponding provisions to be taken to prevent accidental introduction of such materials into any water body, the air, or the ground. The section shall also include plans for preventing polluted runoff from plant, equipment parking, and maintenance areas from entering local water bodies. Any spillage or leaks shall promptly be cleaned up and placed in the prescribed disposal area.
  - 2. Containment and Cleanup: A containment and cleanup section shall include the procedures, instructions, and reports to be used in the event of an unforeseen incident requiring a containment action. This section shall include, at a minimum:
    - a. The name of the individual on each shift who will be responsible for implementing and supervising the containment and cleanup.
    - b. A list of materials and equipment to be immediately available. For all work in or adjacent to water, a 200-foot-long, minimum, containment boom, and a cleanup kit consisting of absorptive pads and other materials necessary to remove and dispose of the spill material safely, shall be available at the job site. Materials and equipment for other cleanup work shall be tailored to the potential hazards involved.

- c. The names and locations of suppliers of containment materials and names and locations of additional fuel oil recovery, cleanup, restoration, and disposal equipment available in case of an unforeseen spill emergency.
  - d. The methods and procedures to be used for expeditious cleanup.
  - e. The name of the individual on each shift who will report any spills and who will follow-up with complete documentation.
  - f. The requirements for containment and cleanup measures from spills or leakages or other types of releases shall be included in the plan.
  - g. Agencies, individuals, and phone numbers of agencies to be contacted on a 24-hour basis.
3. Erosion and Turbidity Control: An erosion and turbidity control section shall include any construction that will disturb upland or intertidal surfaces or introduce turbidity into water bodies. This section shall include the Contractor's plan for controlling erosion and water turbidity as a result of upland soil or intertidal excavation, stockpiling, stabilization, filling and grading, and demolition operations. Temporary erosion and sediment control measures such as booms, silt curtains, ditches, dikes, drains, and sedimentation basins shall be identified. Potential changes to operations that may be implemented if water quality standards are violated shall also be included. These measures and any others that may be necessary to achieve specified water quality shall be included in the plan.
- B. Coordination: At the pre-construction meeting, the Port and the Contractor shall discuss the Contractor's operations to develop mutual understandings relative to the administration of the environmental protection program.
- C. Supervision: During the work, all activities, including those of subcontractors, shall be supervised to ensure compliance with the intent and details of the plan. Environmental Compliance meetings shall be conducted by the Contractor for employees and subcontractors to ensure that all personnel working at the site are familiar with the environmental protection provisions. All equipment and materials for environmental protection shall be inspected every 2 weeks to ensure that they are in proper order and have not deteriorated. A written inspection report must be provided to the Supervising Contractor, giving the condition of the equipment and materials.

### 3.3 PROTECTION OF LAND RESOURCES

- A. The land resources within the project boundaries and outside the limits of work under this contract shall be preserved in their present condition or be restored to a condition after construction that will appear to be natural, agreeable to the Port, and not detract from the appearance of the project. Activities shall be confined to areas defined by the contract documents. Areas of bare soil exposed at any time shall be held to a minimum.

### 3.4 PROTECTION OF WATER RESOURCES

- A. General: Compliance with state water quality standards and substantive requirements of any permits and clearances obtained for the work is the Contractor's responsibility. The Contractor shall comply with the USEPA WQMCCP (Exhibit C) and the Port's Water Quality Monitoring Plan (Appendix B of the Phase I Removal Action Design Analysis Report [Exhibit A]).

- B. Erosion Control: Surface drainage from cuts and fill, whether or not completed, and from borrow and waste disposal areas, shall be held in sedimentation ponds or the areas shall be graded to control erosion within acceptable limits. Temporary erosion and sediment control measures such as partial backfilling, mulching, ditches, dikes, drains, sedimentation basins, or silt fences or curtains shall be provided as needed, and maintained. The area of bare soil exposed at any time by construction shall be held to a minimum.
- C. Disposal: Disposal of any wastes, effluents, trash, grease, chemicals, or other contaminants in water bodies shall not be allowed. If any waste material is dumped in unauthorized areas, the material shall be removed and the area restored to a condition approximating the adjacent undisturbed area.

### 3.5 WATER QUALITY MONITORING

- A. Water quality monitoring will be performed by the Port, consistent with the Water Quality Monitoring Plan (Appendix B of the Phase I Removal Action Design Analysis Report [Exhibit A]) and the USEPA WQMCCP (Exhibit C). The Contractor shall familiarize itself with water quality requirements and with the Port's monitoring plans and activities. In the event of a water quality exceedance, the Contractor may be required to modify their procedures, methods, or equipment appropriately so as to remedy the exceedances, at no additional expense to the Port. The purpose of the specified water quality monitoring is to provide ongoing assessment of the water quality impacts of the work activities, as specified in the Water Quality Monitoring Plan.

### 3.6 PROTECTION OF FISH AND WILDLIFE

- A. All work shall be performed and all steps taken to prevent interference or disturbance to fish and wildlife. Water flows or habitat outside the project boundaries that are critical to fish or wildlife shall not be altered or disturbed. The Contractor shall stop all operations if fish kill or distressed fish are observed, and immediately notify the Port, USEPA, and the appropriate permitting agencies.

### 3.7 PROTECTION OF AIR – EQUIPMENT FUELING AND MAINTENANCE

- A. Ultra Low-Sulfur Diesel Fuel
  1. All diesel-powered off-road vehicles and equipment used on the project site for 3 consecutive days or more shall be fueled with ultra low-sulfur diesel (ULSD). This includes, at a minimum, vehicles with engine horsepower (HP) ratings of 50 HP and above, and internal combustion engines used to power generators, compressors, and similar equipment. Where feasible, the Contractor shall use biodiesel fuel.
  2. The ULSD fuel shall contain no more than 15 parts per million sulfur.
  3. The Contractor shall submit the following:
    - a. Prior to beginning construction, submit a list of the diesel-powered equipment that will use ULSD fuel. The list shall include:
      - 1) Equipment number, make, model, and contractor/subcontractor name.
      - 2) Type and source of ULSD fuel to be used.
    - b. Submit monthly updates to the list of construction equipment.
    - c. Submit monthly reports of hours of operation for all diesel-powered equipment.

4. Submit copies of diesel fuel delivery slips and fuel receipts each month, noting the type of diesel fuel used with each piece of diesel-powered equipment.
5. The Port encourages the use of other diesel emission reduction alternative fuels (e.g., biodiesel).
6. The Port encourages retrofit emission control devices on equipment or use of USEPA Tier II or Tier III equipment.

### 3.8 MAINTENANCE OF POLLUTION CONTROL FACILITIES

- A. The Contractor shall maintain all constructed facilities and portable pollution control devices for the duration of the contract or for that length of time construction activities create the particular pollutant.

END OF SECTION 015719

## SECTION 017000 – EXECUTION REQUIREMENTS

### PART 1 - GENERAL

#### 1.1 INSPECTION OF WORK AREA

- A. Examine the work area and become satisfied as to the conditions of the work involved and the quantities of materials required for the performance of the work.

#### 1.2 NOTIFICATION TO PORT

- A. Notify the Port at least 48 hours before intent to commence work. Do not start work until authorized to do so by the Port.

#### 1.3 LAYOUT OF WORK

- A. Survey work performed under this contract shall be performed under the direct supervision of an Oregon-registered professional land surveyor.
- B. Lay out the work from reference points shown on the drawings and be responsible for measurements connected therewith.
- C. Furnish stakes, templates, platforms, equipment, and labor as required to lay out every part of the work from the established references.
- D. Maintain and preserve stakes and monuments established by the Port until authorized to remove them. If such marks are destroyed by the Contractor prior to authorized removal, they may be replaced by the Port at its discretion. The expense of replacement will be deducted from any amounts due, or to become due, to the Contractor.
- E. Measuring for pay quantities will be by the Port.
- F. Submit a copy of field notes made in connection with layout measurements to the Port, if they are requested. The Port may check field layout measurements at any time.
- G. Engage a professional land surveyor licensed in the State of Oregon to replace monuments that are disturbed, damaged, or destroyed during the course of the work, and ensure that a record of survey depicting replaced monuments is filed at the appropriate county survey office, all at no additional cost to the Port.

#### 1.4 VERIFICATION OF MEASUREMENTS

- A. Verify elevations and measurements and be responsible that executed dimensions fit actual conditions, regardless of the drawings, and report discrepancies to the Port before proceeding

with the work. The Contractor will not receive extra compensation for verification of measurements or for labor or material expended on account of such differences.

#### 1.5 EXISTING UTILITIES

- A. Notify the Oregon Utility Notification Center (OUNC) and owners of underground utilities within the construction area or within affected public rights-of-way or easements, via the “one-call” notification system (1-800-332-2344), in advance of the commencement of excavation activities as prescribed in Oregon Revised Statutes (ORS) 757.541 to 757.571, Excavation Regulations.
- B. Notify the Port when the “one-call” request is being initiated.
- C. Protect existing utilities and other public and private facilities and improvements that are to remain in place, from damage in the course of the work.
- D. Perform any shutdown of utilities only when such shutdown will not interfere with Port or tenant operations. Schedule shutdowns through the Port, allowing time for adequate coordination.
- E. In the event of interruption to field-located utility services as a result of the work, promptly notify the Port first, and then the proper authority. Cooperate with said authority in restoring service as promptly as possible. If required, the Contractor shall install suitable temporary service until permanent repair is completed and bear the cost of the repair and temporary service.
- F. Unless noted as abandoned, expose utilities only by hand excavation.
- G. Notify the Port of all utilities exposed. Do not disrupt or cut utilities until identified and until the Port has approved the cut.
- H. Repair damages that result from execution of the work at no cost to the Port. Repairs shall be subject to approval of the Port.

END OF SECTION 017000

## SECTION 017700 – CLOSEOUT PROCEDURES

### PART 1 - GENERAL

#### 1.1 AS-CONSTRUCTED DRAWINGS

- A. Upon completion of the work, and as a requirement of final acceptance, submit to the Port two drawing sets showing all as-constructed changes and information. One set will be given to the U.S. Environmental Protection Agency (USEPA) by the Port for their review.
- B. See Section 013300, Submittal Procedures, for requirements.

#### 1.2 CONSTRUCTION STAKE AND MARKINGS REMOVAL

- A. Remove stakes and painted markings used in construction layout.

#### 1.3 CLEANUP

- A. Remove debris from the staging and work area(s).
- B. Thoroughly sweep paved areas prior to final acceptance.

#### 1.4 CERTIFICATES OF FINAL APPROVAL

- A. Submit originals or clearly readable copies of certificates of approval from the inspection authority prior to application for final payment.

END OF SECTION 017700

## SECTION 312000 – SITE CLEARING, EARTHWORK, AND SHORELINE STABILIZATION

### PART 1 - GENERAL

#### 1.1 DESCRIPTION

- A. This section describes site clearing, debris removal, grading, and shoreline stabilization.

#### 1.2 REFERENCED STANDARDS

- A. AASHTO: American Association of State Highway and Transportation Officials
- B. ASTM: American Society for Testing and Materials
- C. ODOT: Oregon Department of Transportation – 2002 Standard Specifications

#### 1.3 RELATED WORK SPECIFIED ELSEWHERE

- A. Section 015713 – Temporary Erosion, Sediment, and Pollution Control
- B. Section 353200 – Anchored Woody Debris Structures

#### 1.4 DEFINITIONS

- A. Clearing and mowing: Small trees, shrubs, grass, sod, and other types of vegetation removed in order to access and construct the work. Grubbing out roots and stumps and stripping sod is not including in this work.
- B. Clearing of unanchored large woody debris: Temporary removal, salvage, and stockpiling of woody debris that has drifted into the work area.
- C. Debris shall include, but is not limited to:
  - 1. Concrete, asphalt, etc.
  - 2. Torn geotextiles including coir fabric, etc.
  - 3. Material dumped within the work areas during the time of the contract.
- D. Grading for subgrade: Minor grading to establish subgrade elevations prior to placement of imported materials.
- E. Finish grading of imported materials: Establishing final grades for imported materials including select fill, and rock riprap.

## PART 2 - PRODUCTS

### 2.1 GENERAL

- A. The Contractor shall provide all required materials for the project. Materials shall be of the quality, size, shape, and gradation as specified in this part.
- B. Material shall be from igneous or metamorphic rock.
- C. Imported material shall have chemical concentrations less than the chemical concentration goals presented in Table 1 at the end of this section. Armor material does not need to be tested for chemical criteria due to its size.
- D. Select Fill will be provided by the Port. This material has already had chemical and physical analyses completed and is suitable for use.
- E. The Contractor shall remove all debris within the work area in the manner specified and as shown on the drawings, and as necessary to complete the work in this contract.

### 2.2 BORROW SOURCE AND MATERIALS CHARACTERIZATION

- A. The following activities shall be performed by the Contractor, as specified below, to ensure that imported materials are natural, native, virgin materials and free of contaminants, including debris or recycled materials, and which meet construction specifications. The Contractor shall provide assurance that imported materials are free of hazardous or otherwise objectionable materials. The Port maintains the right to reject any materials that have been determined to be substandard for any reason. In the event of rejections, it shall be the responsibility of the Contractor to remove all stockpiles of rejected material from the site.
  - 1. A characterization of any and all imported material shall be performed by the Contractor prior to any on-site placement. The characterization will include analysis of a borrow source sample, site inspection, and site characterization. The Contractor shall submit a Borrow Source Characterization report summarizing all the information contained within this section.
  - 2. Source Identification: Prior to borrow source sampling, the Contractor shall provide documentation of the origin of borrow source materials.
  - 3. The borrow source shall be inspected by the Contractor. During such inspection, the Contractor shall ensure that the materials to be delivered to the site are likely to meet the appropriate specifications. The Contractor shall provide the Port with 1 weeks' notice of such inspections. At the Port's discretion, the Port or a representative may accompany the Contractor to witness such inspections. This witnessing shall in no way release the Contractor from complying with the specifications and shall in no way be construed as approval of any particular source of material.
  - 4. Inspection of Materials at the Site: Truckloads of imported material shall be visually inspected by the Contractor upon delivery. Materials shall be inspected for the presence of foreign, recycled, or reprocessed material. The Port may, at any and all times, perform an independent inspection. Material may be rejected if identified as substandard or if test results show it to be substandard. Materials may be segregated for testing based on appearance or odor. Segregated materials may be tested according to designated procedures at the Port's discretion.

5. The Contractor shall collect certified tickets from the borrow source for each load of material brought to the site. The tickets shall be supplied to the Port.
6. The Port maintains the right to reject any materials that have been determined to be substandard for any reason. In the event of rejections, it shall be the responsibility of the Contractor to remove all stockpiles of rejected material from the site.

### 2.3 SELECT FILL, "FILTER LAYER"

- A. Filter material will be provided by the Port. The material is stockpiled on site as shown on the drawings.

### 2.4 ROCK RIPRAP

- A. Material shall be clean, free-draining material obtained from natural deposits. Individual particles shall be free from all objectionable coatings. The material shall contain no organic matter, nor soft friable particles in quantities considered objectionable by the Port.
- B. Material shall meet the requirements of ODOT Class 100 riprap.

### 2.5 DEMARCATION LAYER REPAIR MATERIALS

- A. The intent of the demarcation layer during initial construction was to provide a definable marker of the top of native materials. For this effort, the intent is to repair the existing demarcation layer where it is exposed and if it is damaged. The demarcation layer shall be economy-grade or medium-duty orange construction fencing with minimum 4-foot roll widths. The economy-grade or medium-duty construction fencing requirement will provide a durable material.

## PART 3 - EXECUTION

### 3.1 GENERAL

- A. The Port will designate the disposition and determine the suitability of products.
- B. The Port reserves the right to make minor adjustments or revisions in lines or grades, if found necessary as the work progresses.
- C. No clearing or grading shall be started until the Contractor has staked out the proposed work.
- D. The Contractor shall suspend earthwork when satisfactory results cannot be obtained because of rain, freezing weather, or other unsatisfactory conditions.
- E. The Contractor shall drag, blade, or slope the grade to provide proper surface drainage. Temporary drains and drainage ditches shall be installed to intercept or divert surface water that may affect the prosecution or condition of the work.
- F. Hauling equipment shall be routed around or away from areas of soft or yielding subgrade.

- G. The Contractor shall furnish and maintain earth-moving equipment in satisfactory condition and operate such equipment as necessary to control uniform density, section, and smoothness of grade.
- H. Soil or other foreign materials that fall on pavements shall be promptly removed.
- I. In-place density and moisture content will be determined by ASTM D 6938. The Contractor shall cooperate with this testing by leveling small test areas as designated.
- J. The rail line and structures adjacent to the Wheeler Bay work shall be protected at all times. The Contractor shall follow all rail guidelines while working around an active rail line. Rail foul lines are shown on the drawings.
- K. The outfalls shown on the drawings shall be protected at all times from damage.

### 3.2 CLEARING

- A. The Contractor shall remove vegetation to a height of 2 inches above the ground surface in areas of proposed temporary access road construction. Roots of vegetation, including grass and sod, shall not be removed.
- B. Vegetation removed from the construction of an access road shall be disposed of off Port property. Vegetation without adhering soil may be disposed of at a composting facility. The placement of rock riprap may require adjustments to portions of the existing anchored large woody debris (LWD) structures prior to placement. Anchored logs located parallel to the shoreline on the upper bank shall be temporarily removed and reattached after rock riprap placement if they impede construction. The logs shall be securely reconnected with chain. Additional chain may be required.
- C. All unanchored woody debris within the Project limits shall be salvaged and stockpiled during subgrade preparation and placement of imported materials. This material shall be placed at the toe of the rock riprap once installation of this material is approved.
- D. All logs retained on site shall be free of wood preservatives, including creosote. Logs salvaged from on site containing wood preservatives shall be removed and disposed of offsite at the Contractor's expense.
- E. The Contractor shall limit the total areas of disturbance to only those areas necessary for the orderly flow of work.

### 3.3 SUBGRADE PREPARATION

- A. The top of subgrade shall be shaped to the lines and grades shown on the drawings.
- B. Care shall be taken during excavation to not remove any materials beneath the demarcation fabric.
- C. The Contractor shall remove the existing habitat layer (sand, gravel) to the existing armor rock or to the subgrade shown on the drawings to ensure adequate rock-to-rock contact.

- D. Excavated material from the existing habitat layer shall be salvaged and stockpiled at an approved location within the work area until placement of rock riprap has been completed.
- E. The top of subgrade shall be maintained in a free-draining condition.
- F. Stockpiling materials on top of subgrade will not be permitted unless approved.
- G. Vehicles will not be allowed to travel in a single track. If ruts are formed, the Contractor shall reshape and reroll.
- H. The top 12 inches of subgrade, where no planting or seeding will occur, shall be compacted to a minimum of 85 percent of AASHTO T-180. In areas where planting or seeding will occur, the subgrade shall have the top 12 inches scarified.
- I. The finished top of subgrade shall not vary by more than 0.08-foot from the specified grade and cross section.

#### 3.4 SHORELINE STABILIZATION AND SITE GRADING

- A. Shoreline grading shall be constructed to the subgrade lines and grade shown on the drawings.
- B. Select Fill, Rock Riprap, and the salvaged Habitat Layer shall be placed to the lines and grades shown on the drawings. The Contractor shall construct in lifts of not more than 12 inches in loose depth. The full width of the cross section shall be brought up uniformly.
- C. Material shall be placed in layers and shall be near optimum moisture content before rolling to obtain the prescribed compaction. Wetting or drying of the material and manipulation to secure uniform moisture content throughout the layer may be required. Such an operation shall be incidental to the appropriate bid item. Should the material be too wet to permit proper compaction by rolling, work on portions of the fill thus affected shall be delayed until the material has dried to acceptable moisture content.
- D. Frozen material shall not be placed in the embankment, and embankment material shall not be placed on frozen material.
- E. The Contractor shall be responsible for the stability of shoreline stabilization and for replacing any portion that has become displaced due to the Contractor's improper operations.
- F. Layers shall be started in the deepest portion of the fill and, as placement progresses, constructed approximately parallel to the finished grade line.
- G. Equipment, both loaded and empty, shall be routed over the full width of the embankment to ensure uniform distribution and density of material placement.
- H. Each lift of fill shall be compacted as follows:
  - 1. Select Fill: Minimum of 85 percent of AASHTO T-180.
  - 2. Rock Riprap: See article 3.7 of this section.
- I. No upland construction equipment shall enter the water during construction.

- J. Erosion control measures shall be selected and implemented according to the Oregon Department of Environmental Quality's (ODEQ's) "Sediment and Erosion Control Manual," and shall remain in place during all of the shoreline activities to prevent material from entering the waterway.
- K. If there is excavated material, following grading activities, that requires stockpiling and landfill disposal, proper sediment and erosion control methods shall be implemented to contain the material and prevent any material from entering the waterway.
- L. Surfaces shall be graded to drain.
- M. Wheel ruts shall be eliminated by regrading.
- N. The finished surface of site grading areas shall not be more than 0.08-foot from the specified grade.

### 3.5 SELECT FILL PLACEMENT

- A. Install select fill in one lift following rock riprap installation and prior to topsoil installation to meet the lines and grades shown on the drawings.

### 3.6 ROCK RIPRAP INSTALLATION

- A. Rock riprap shall be placed in accordance with ODOT 00390.11.
- B. The Port shall be present during rock riprap installation. Place riprap on slopes by starting at the base of the slope and working upwards. Riprap shall be placed to full thickness in one operation and in a manner that will avoid displacement of underlying material. Larger stones shall be well-distributed, and the entire mass of stones shall be graded to conform to gradation specified herein. Finished riprap shall be free of objectionable pockets of small stones and clusters of large stones. Place rock using a trackhoe, excavator, or similar equipment to carefully key stones together. Hand-placing to a limited extent may be necessary, but only to the extent necessary to secure results specified above. A tolerance of 6 inches in excess of the thickness, as shown on the drawings, will be allowed in the finished surface.
- C. The Contractor shall reinstall the habitat layer at the toe of the completed rock riprap as shown on the drawings.

END OF SECTION 312000

## SECTION 353200 – ANCHORED WOODY DEBRIS STRUCTURES

### PART 1 - GENERAL

#### 1.1 DESCRIPTION

- A. This work consists of unchaining, temporarily moving large woody debris (LWD) out of the construction area, reinstalling the LWD, and rechaining LWD. Additional chain and securing materials may be required.

#### 1.2 RELATED WORK SPECIFIED ELSEWHERE

- A. Section 312000 – Site Clearing, Earthwork, and Shoreline Stabilization

#### 1.3 SCOPE OF WORK

- A. The Contractor shall furnish all labor, material, and equipment necessary to temporarily move and reinstall the LWD.
- B. The Contractor shall visit the sites and familiarize himself/herself with existing conditions, including but not limited to, access roads, railroad crossing areas, and storage areas prior to commencing salvage operations.

#### 1.4 APPROVAL AND SELECTION OF MATERIAL AND WORK

- A. The execution of all operations required under the drawings and/or specifications shall be subject to the approval of the Port. The Port shall have the right to reject any and all salvaged or imported materials and any and all work that, in its opinion, does not meet the requirements of the contract documents during any stage of construction. All rejected materials shall be removed from the site by the Contractor at the Contractor's expense.

#### 1.5 SUBMITTALS

- A. Chains and other securing devices: Product literature for chains and other securing materials shall be submitted to the Port for approval.

#### 1.6 PROTECTION OF ADJACENT PROPERTY

- A. For the duration of the work and until the Contractor is released, all adjoining property shall be protected from any disturbance and debris from the work site.

## PART 2 - PRODUCTS

### 2.1 MATERIALS

- A. Chain, cable, and hardware for anchoring LWD:
  - 1. Chains shall be 3/4-inch plain steel (ungalvanized) lashing chain.
  - 2. Cable shall be 1/2-inch diameter stainless steel wire rope. Ends shall be swagged and held in place with two crimped fasteners at each end.
  - 3. Shackles for chain to cable connection shall be 1/2-inch stainless steel.
  - 4. The Contractor shall obtain chains from approved sources.

## PART 3 - EXECUTION

### 3.1 PREPARATION

- A. All shoreline materials, such as rock riprap and select fill, shall be installed and approved by the Port prior to reinstalling anchored LWD.
- B. The anchored LWD shall be installed on the shoreline at the elevations shown on the drawings. All log placement shall occur in the dry when river levels are below the elevation range for the logs.

### 3.2 REINSTALLING ANCHORED LWD

- A. Anchored LWD shall be reinstalled to similar locations before construction.
- B. The Contractor shall alert the Port at least 48 hours before replacement of anchored LWD. A Port representative shall be present during replacement of anchored LWD.
- C. Replacement of anchored LWD shall occur at water levels at least 2 feet below the elevation of the working surfaces, throughout the duration of the placement activity. The Contractor shall not prepare replacement or place more than one LWD structure at a time, unless directed otherwise by the Port.
- D. Connect steel cable to chain at each LWD with shackle. The Contractor shall install anchored LWD and securely fasten logs to steel chains and Manta Ray anchors to prevent movement by high water. Replaced LWD shall be placed on finish grade of the select fill and rock riprap so that there is no more than a 4-inch gap between bottom surface of LWD and the finish grade.

END OF SECTION 353200

**EXHIBIT A**  
**Design Analysis Report**  
(Incorporated By Reference)

# **EXHIBIT B**

**National Marine Fisheries Services Biological Opinion**

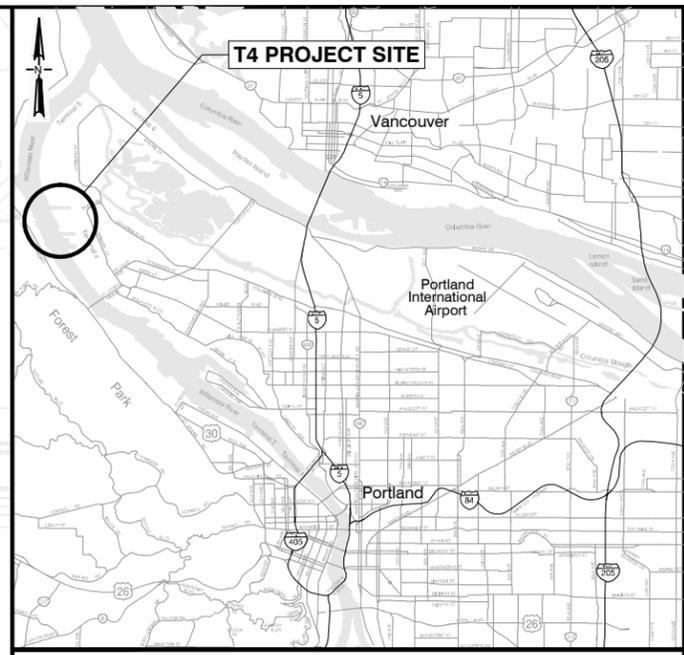
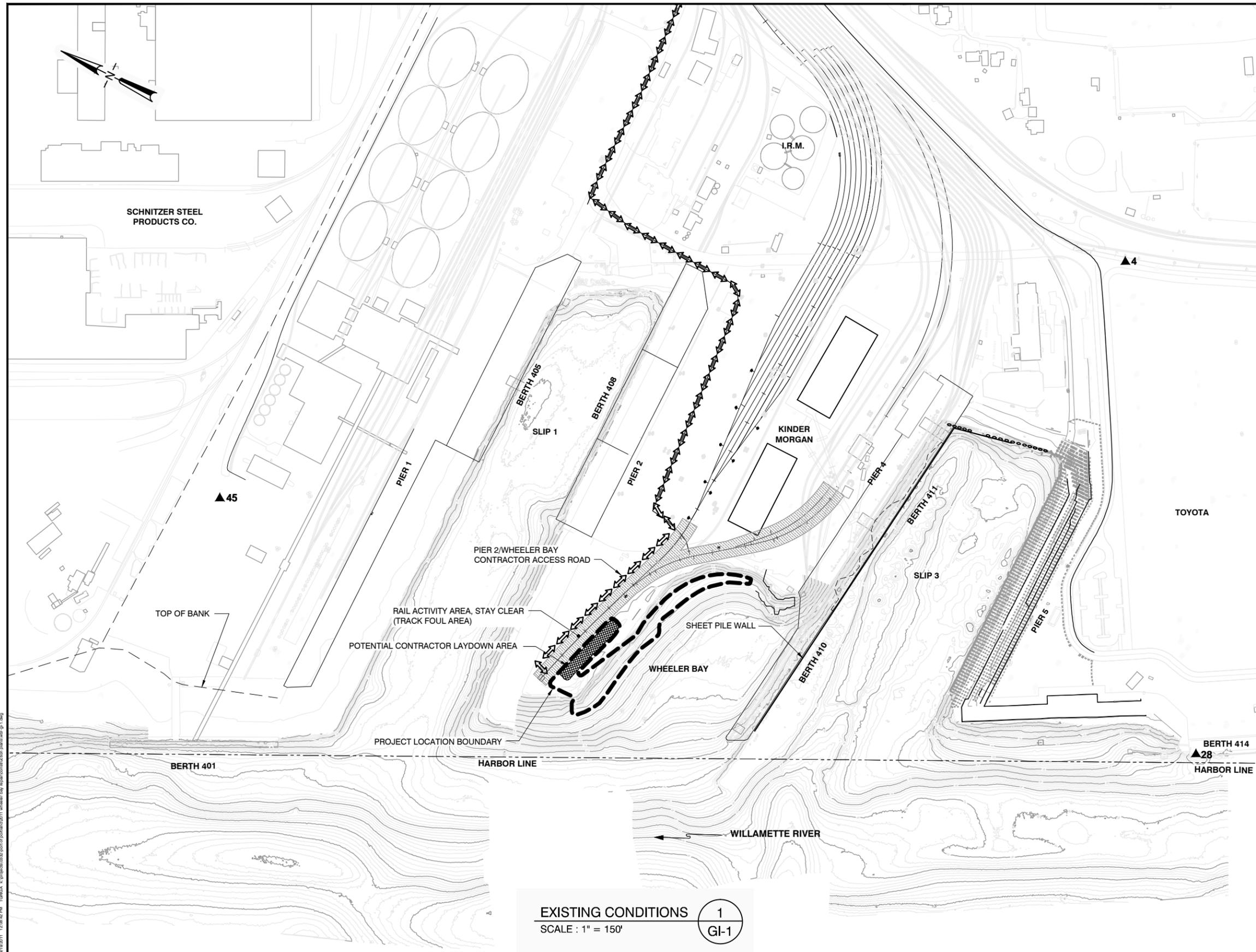
(Incorporated By Reference)

## **EXHIBIT C**

### **USEPA Water Quality Monitoring and Compliance Conditions Plan**

(Incorporated By Reference)

**NO ADDENDA WERE ISSUED WITH THIS PROJECT**



**VICINITY MAP**  
SCALE: N.T.S.

**LEGEND:**

- TRACK FOUL AREA
- SURVEY CONTROL POINT

STATION	NORTHING	EASTING	NGVD29 (47) ELEV.	DESCRIPTION
4	67011.054	71927.686	35.18	3" BRASS CAP STAMPED "4-B"
28	66167.751	70697.587	26.148	3" BRASS CAP STAMPED "T-4-28, 1999"
45	69137.290	70087.858	32.790	4" BRASS CAP SW COR. GRATTON DLC

**NOTES:**

1. HORIZONTAL DATUM: PORT OF PORTLAND LOCAL PROJECTION (INTERNATIONAL FEET)  
VERTICAL DATUM: NGVD 29-47  
CONTOUR INTERVAL = 1 FT
2. FOR NGVD CONTROL POINT, SEE PORT OF PORTLAND DRAWING RG 2006-3024 (NOVEMBER 2006)

EXISTING CONDITIONS 1  
SCALE: 1" = 150'

NO.	DATE	BY	REVISIONS	CKD	APPVD



**PORT OF PORTLAND**  
PORTLAND, OREGON

**ANCHOR OEA**

720 OLIVE WAY, SUITE 1900 | SEATTLE, WA 98101 | (206) 287-9130

2011D043 DESIGN NUMBER      820027 PROJECT NUMBER



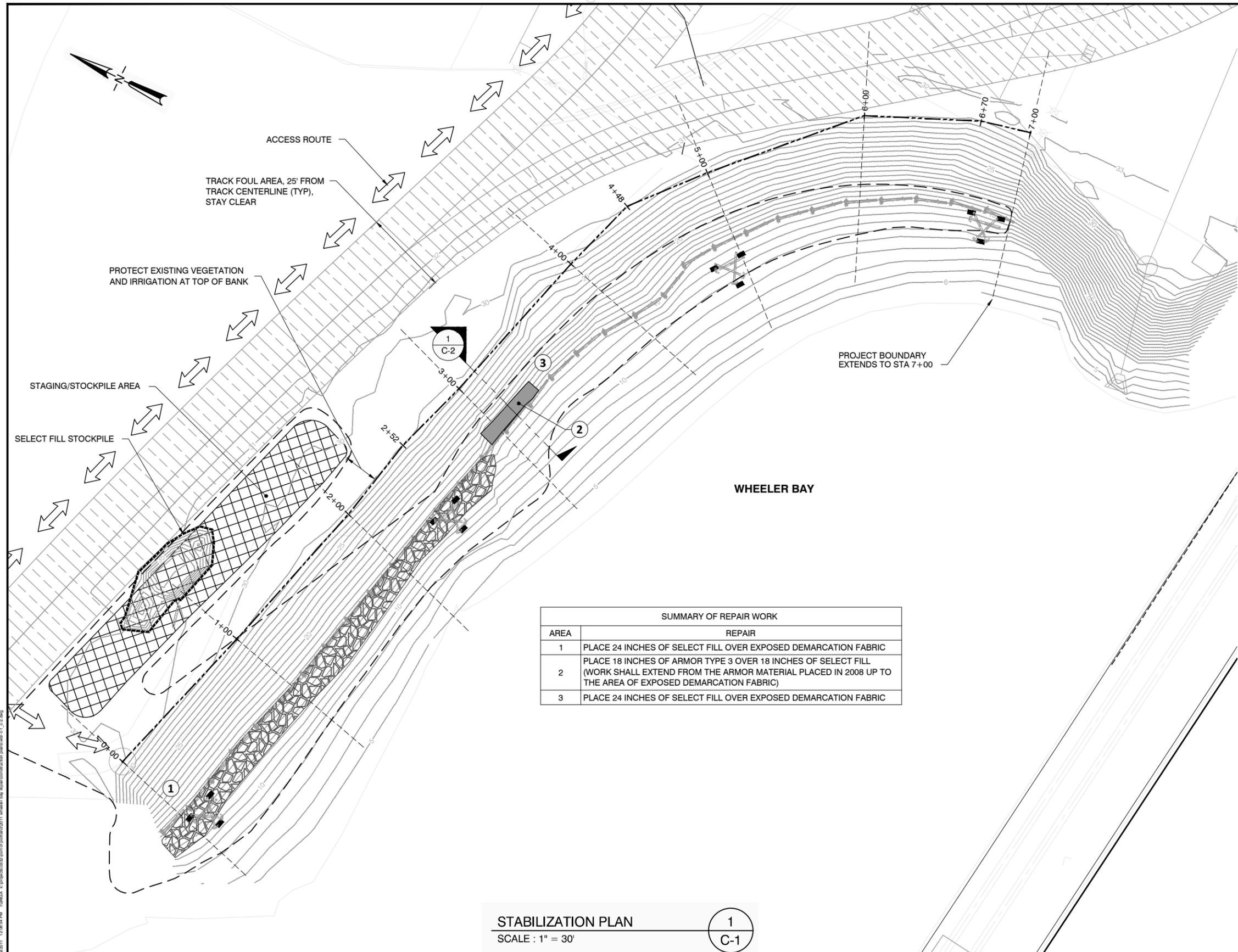
DESIGNED BY: P. HUMMEL  
DRAWN BY: T. GRIGA  
CHECKED BY: J. VERDUIN  
DATE: SEPTEMBER 2011  
GRAPHICAL SCALE BAR: 0 1/4" 1/2" 1" 2"

**TERMINAL 4**

**WHEELER BAY BANK REPAIRS 2011 EXISTING CONDITIONS**

SUBMITTED BY: **ROGER ANDERSON** PROJECT ENGINEER  
TYPE: CD      DRAWING NO.: T4 2011 500 00      1/3 (GI-1)

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- LEGEND:**
- PROJECT BOUNDARY
  - SHORELINE SLOPE REPAIR ARMOR ROCK LIMITS (OCT 2010)
  - APPROXIMATE LOCATION OF EXISTING ANCHORED LARGE WOODY DEBRIS
  - EXISTING ECOLOGY BLOCK LWD ANCHORS
  - EXISTING SURVEY CONTOURS (DATE:11/17/10)
  - STATION LINE
  - TRACK FOUL AREA
  - AREA OF REPAIR AND IDENTIFICATION NUMBER

CONTROL POINTS		
STATION	NORTHING	EASTING
0+00	67930	70047
1+00	67901	70143
2+00	67874	70240
2+52	67863	70291
3+00	67848	70336
4+00	67821	70432
4+48	67806	70478
5+00	67772	70517
6+00	67703	70589
6+70	67639	70617
7+00	67609	70624
7+36	67573	70624
7+38	67570	70624
8+00	67518	70593
8+09	67509	70588
8+20	67475	70608
8+73	67455	70620

SUMMARY OF REPAIR WORK	
AREA	REPAIR
1	PLACE 24 INCHES OF SELECT FILL OVER EXPOSED DEMARCATION FABRIC
2	PLACE 18 INCHES OF ARMOR TYPE 3 OVER 18 INCHES OF SELECT FILL (WORK SHALL EXTEND FROM THE ARMOR MATERIAL PLACED IN 2008 UP TO THE AREA OF EXPOSED DEMARCATION FABRIC)
3	PLACE 24 INCHES OF SELECT FILL OVER EXPOSED DEMARCATION FABRIC

- NOTES:**
- HORIZONTAL DATUM: PORT OF PORTLAND LOCAL PROJECTION (INTERNATIONAL FEET)  
VERTICAL DATUM: NGVD 29-47  
CONTOUR INTERVAL = 1 FT
  - FOR NGVD CONTROL POINT, SEE PORT OF PORTLAND DRAWING RG 2006-3024 (NOVEMBER 2006)
  - PRE-CONSTRUCTION SURVEY BY PORT OF PORTLAND DATED NOVEMBER 17, 2010.
  - NO EQUIPMENT ALLOWED TO OPERATE IN FOUL AREA. STAY BACK 25 FEET FROM CENTERLINE OF TRACK.
  - TBM #2 (REBAR WITH A RED PLASTIC CAP MARKED: "POP CONTROL") AT THE TOP OF THE BANK BY THE PEDESTRIAN GATE FOR THE EARLIER RE-CONSTRUCTION WITH AN ELEVATION OF 32.7 FEET NGVD 29 MARKED ON THE LATH.

NOTE: ELEVATIONS ARE IN NGVD NOT CRD

**STABILIZATION PLAN**  
SCALE : 1" = 30'

1  
C-1

NO.	DATE	BY	REVISIONS	CKD	APPVD



PORT OF PORTLAND  
PORTLAND, OREGON

**ANCHOR OEA**

720 OLIVE WAY, SUITE 1900 | SEATTLE, WA 98101 | (206) 287-9130

2011D043 DESIGN NUMBER      820027 PROJECT NUMBER

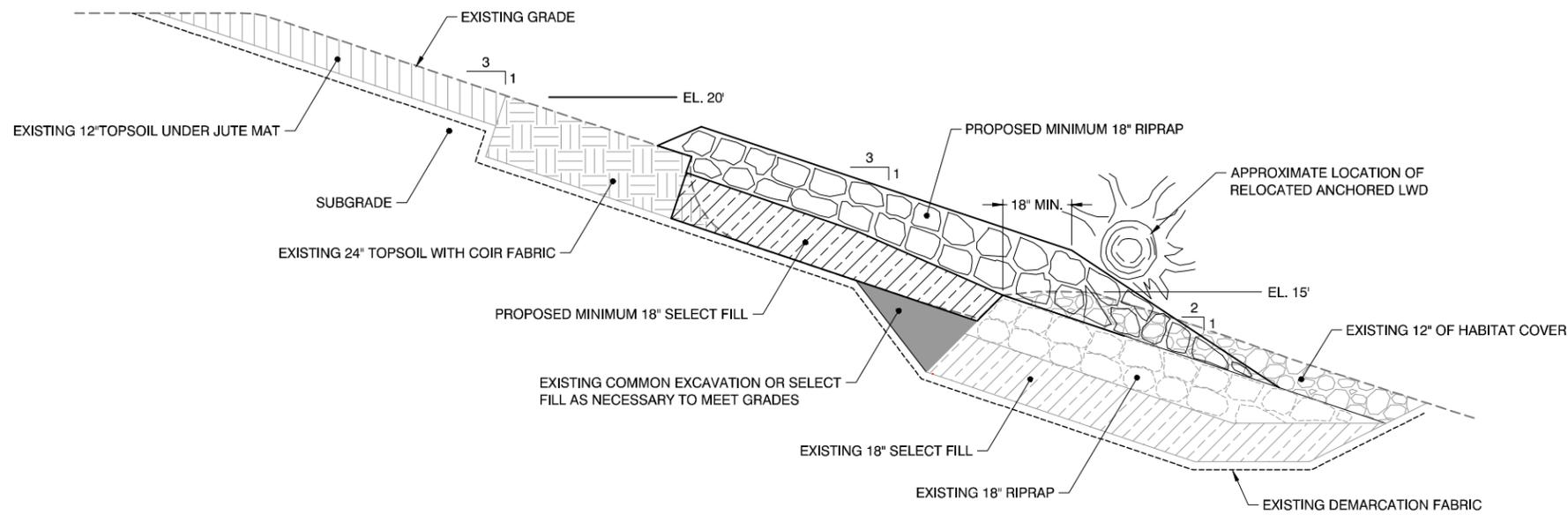


DESIGNED BY: P. HUMMEL  
DRAWN BY: T. GRIGA  
CHECKED BY: J. VERDUIN  
DATE: SEPTEMBER 2011  
GRAPHICAL SCALE BAR: 0 1/2" 1" 2"

TERMINAL 4

**WHEELER BAY BANK REPAIRS 2011 STABILIZATION REPAIR PLAN**

SUBMITTED BY: ROGER ANDERSON PROJECT ENGINEER  
TYPE: CD      DRAWING NO.: T4 2011 500 00      2/3      (C-1)



2011 WHEELER BAY - TYPICAL REPAIR SECTION 1  
 NOT TO SCALE C-1

**NOTES:**

1. HORIZONTAL DATUM: PORT OF PORTLAND  
 LOCAL PROJECTION (INTERNATIONAL FEET)  
 VERTICAL DATUM: NGVD 29-47  
 CONTOUR INTERVAL = 1 FT
2. FOR NGVD CONTROL POINT, SEE PORT OF PORTLAND  
 DRAWING RG 2006-3024 (NOVEMBER 2006)
3. PRE-CONSTRUCTION SURVEY BY PORT OF PORTLAND  
 DATED NOVEMBER 17, 2010.
4. LOCATION OF THE TIE IN OF NEW RIPRAP EDGE WILL BE  
 VERIFIED IN THE FIELD DURING CONSTRUCTION.

NOTE: ELEVATIONS ARE IN NGVD NOT CRD

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NO.	DATE	BY	REVISIONS	CKD	APPVD	NO.	DATE	BY	REVISIONS	CKD	APPVD



PORT OF PORTLAND  
 PORTLAND, OREGON



720 OLIVE WAY, SUITE 1900 | SEATTLE, WA 98101 | (206) 287-9130

2011D043  
 DESIGN NUMBER

820027  
 PROJECT NUMBER



DESIGNED BY: P. HUMMEL  
 DRAWN BY: T. GRIGA  
 CHECKED BY: J. VERDUIN  
 DATE: SEPTEMBER 2011  
 GRAPHICAL SCALE BAR: 0 1/2" 1" 2"

TERMINAL 4

WHEELER BAY BANK REPAIRS 2011  
 CROSS SECTION

SUBMITTED BY: ROGER ANDERSON  
 PROJECT ENGINEER

TYPE: CD  
 DRAWING NO.: T4 2011 500 00

3/3 (C-2)

APPENDIX E  
DOCUMENTATION OF ARMOR IMPORT  
QUANTITIES

---



1823138234

RECEIVED

NOV - 2 2011

PORT OF PORTLAND  
CONSTRUCTION SVCS

Weighed At: Fisher East Quarry

4900 SE 192nd Avenue

Vancouver, WA 98683

Location: 1823

Order: 40816377 Dispatch: 62,382.00 Date: 10/07/2011

Ship To: 3034947 - NORTHWEST EARTHMOVERS INC

XXX-XPW-WHEELER BAY REPAIRS  
N LOMBARD ST & N ROBERTS AVE  
PORTLAND, OR 97203

Instruct: N LOMBARD ST & N ROBERTS AVE  
CWL IF NO TWIT CARD CALL CARL

JEFF/64/RA \*\*565 F1

Job #: P-WHEELER BAY RE PO: JEFF

Product: 1307759 - CLASS 100 RIP RAP

Carrier: 743782 - PACIFICROC

Vehicle: 2112311 - P1-452SO, CEMEX PORTLAND REGION

Tractor / Trailer 1 / Trailer 2: - / -

Qty: 14.53 ton --- DRIVER ON AT TARE & GROSS ---

Weighmaster:	lb	ton	tne
CEMEX	Gross: 55,240	27.62	25.06
Deputy Weighmaster:	Tare: 26,180	13.09	11.88
Candy Roads	Net: 29,060	14.53	13.18

Scale: 2 \* Predetermined Tare

In: Today Loads: 2

Out: 1:29 pm Today Qty: 29.33 ton

CEMEX'S STANDARD TERMS AND  
CONDITIONS INCORPORATED HEREIN.

Signature of Receiving Agent

Driver:

METRIC CONVERSION FORMULA: POUNDS DIVIDED BY 2204.623, ROUNDED TO 2 DECIMALS  
SEE REVERSE SIDE FOR PRODUCT LABEL INFORMATION



1823138209

Weighed At: Fisher East Quarry

4900 SE 192nd Avenue

Vancouver, WA 98683

Location: 1823

Order: 40816377 Dispatch: 62,382.00 Date: 10/07/2011

Ship To: 3034947 - NORTHWEST EARTHMOVERS INC

XXX-XPW-WHEELER BAY REPAIRS  
N LOMBARD ST & N ROBERTS AVE  
PORTLAND, OR 97203

Instruct: N LOMBARD ST & N ROBERTS AVE  
CWL IF NO TWIT CARD CALL CARL

JEFF/64/RA \*\*565 F1

Job #: P-WHEELER BAY RE PO: JEFF

Product: 1307759 - CLASS 100 RIP RAP

Carrier: 743782 - PACIFICROC

Vehicle: 2112311 - P1-452SO, CEMEX PORTLAND REGION

Tractor / Trailer 1 / Trailer 2: - / -

Qty: 14.80 ton --- DRIVER ON AT TARE & GROSS ---

Weighmaster:	lb	ton	tne
CEMEX	Gross: 55,780	27.89	25.30
Deputy Weighmaster:	Tare: 26,180	13.09	11.88
Candy Roads	Net: 29,600	14.80	13.43

Scale: 2 \* Predetermined Tare

In: Today Loads: 1

Out: 12:12 pm Today Qty: 14.80 ton

CEMEX'S STANDARD TERMS AND  
CONDITIONS INCORPORATED HEREIN.

Signature of Receiving Agent

Driver:

METRIC CONVERSION FORMULA: POUNDS DIVIDED BY 2204.623, ROUNDED TO 2 DECIMALS  
SEE REVERSE SIDE FOR PRODUCT LABEL INFORMATION

RECEIVED

NOV - 2 2011



1823138275

PORT OF PORTLAND  
CONSTRUCTION SVCS

Weighed At: Fisher East Quarry

4900 SE 192nd Avenue

Vancouver, WA 98683

Location: 1823

Order: 40816377 Dispatch: 62,490.00 Date: 10/10/2011

Ship To: 3034947 - NORTHWEST EARTHMOVERS INC

XXX-XPW-WHEELER BAY REPAIRS  
N LOMBARD ST & N ROBERTS AVE  
PORTLAND, OR 97203

*Job # 1120*

Instruct: N LOMBARD ST & N ROBERTS AVE

CWL IF NO TWIT CARD CALL CARL  
JEFF/16/KJ \*\*565 F1

*Phase 200*

Job #: P-WHEELER BAY RE

PO: JEFF

Product: 1307759 - CLASS 100 RIP RAP

Carrier: 743782 - PACIFICROC

Vehicle: 2112311 - P1-452SO,CEMEX PORTLAND REGION

Tractor / Trailer1 / Trailer 2: - / - / -

Qty: 14.53 ton --- DRIVER ON AT TARE & GROSS ---

Weighmaster:		lb	ton	tne
CEMEX	Gross:	55,240	27.62	25.06
Deputy Weighmaster:	Tare:	26,180	13.09	11.88
Candy Roads	Net:	29,060	14.53	13.18

Scale: 2 \* Predetermined Tare

In: Today Loads: 1

Out: 6:47 am Today Qty: 14.53 ton

CEMEX'S STANDARD TERMS AND  
CONDITIONS INCORPORATED HEREIN.

Signature of Receiving Agent

Driver:

METRIC CONVERSION FORMULA: POUNDS DIVIDED BY 2204.623, ROUNDED TO 2 DECIMALS  
SEE REVERSE SIDE FOR PRODUCT LABEL INFORMATION



1823138262

Weighed At: Fisher East Quarry

4900 SE 192nd Avenue

Vancouver, WA 98683

Location: 1823

Order: 40816377 Dispatch: 62,382.00 Date: 10/07/2011

Ship To: 3034947 - NORTHWEST EARTHMOVERS INC

XXX-XPW-WHEELER BAY REPAIRS  
N LOMBARD ST & N ROBERTS AVE  
PORTLAND, OR 97203

*Wheeler*

Instruct: N LOMBARD ST & N ROBERTS AVE

CWL IF NO TWIT CARD CALL CARL  
JEFF/64/RA \*\*565 F1

*Bay  
Job # 1120  
200*

Job #: P-WHEELER BAY RE

PO: JEFF

Product: 1307759 - CLASS 100 RIP RAP

Carrier: 743782 - PACIFICROC

Vehicle: 2112311 - P1-452SO,CEMEX PORTLAND REGION

Tractor / Trailer1 / Trailer 2: - / - / -

Qty: 14.47 ton --- DRIVER ON AT TARE & GROSS ---

Weighmaster:		lb	ton	tne
CEMEX	Gross:	55,120	27.56	25.00
Deputy Weighmaster:	Tare:	26,180	13.09	11.88
Candy Roads	Net:	28,940	14.47	13.13

Scale: 2 \* Predetermined Tare

In: Today Loads: 3

Out: 2:42 pm Today Qty: 43.80 ton

CEMEX'S STANDARD TERMS AND  
CONDITIONS INCORPORATED HEREIN.

Signature of Receiving Agent

Driver:

METRIC CONVERSION FORMULA: POUNDS DIVIDED BY 2204.623, ROUNDED TO 2 DECIMALS  
SEE REVERSE SIDE FOR PRODUCT LABEL INFORMATION

APPENDIX F  
DOCUMENTATION OF ULTRA LOW  
SULFUR AND B20 BIO-DIESEL FUEL

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# GENERAL SUBMITTAL TRANSMITTAL FORM

Form designed by TRC, 1-20-07, SEM/TLTRX.NLS

Please fill in all information as completely as possible. One "submittal type" per form. Highlighted areas are information necessary for documents sent to the Technical Reference Center.

Submittal Type: <input checked="" type="checkbox"/> One <input type="checkbox"/> Material Description <input type="checkbox"/> Shop Drawing <input type="checkbox"/> O&M Manual <input checked="" type="checkbox"/> Specification <input type="checkbox"/> Calculations <input type="checkbox"/> Warranty <input type="checkbox"/> Change Order <input type="checkbox"/> Other _____	Submittal No. <p style="text-align: center;">1.0</p>	Port Project Name <p style="text-align: center;">Terminal 4 Wheeler Bay Bank Repairs 2011</p>	Port Business Unit <p style="text-align: center;">820027</p>	Port EAN <p style="text-align: center;">20110043</p>	<h2 style="margin: 0;">Port of Portland</h2>
Submitted By (name of person) <p style="text-align: center;">Philip Hansen (Estimating Dept.)</p>		General Contractor <p style="text-align: center;">Northwest Earthmovers, Inc.</p>		Contractor Job No. <p style="text-align: center;">#1120</p>	
Port Drawing Reference Drawing No.      Sht. No.		Router	Material Supplier: xxx Primary Consultant <p style="text-align: center;">Anchor QEA</p>		

Transmittal Routing ("From" > "To")	Copies	Attention (destination name)	Date Sent	Date Rec'd	Date Due
Contractor > Port Const.	10	John Durst	9/28/11	9/29/11	10/4/11
Port Const. > Consultant					
Consultant > Sub-Consultant					
Sub-Consultant > Consultant					
Consultant > Port Engineering	1	Roger Anderson	9/29		
Port Const. > Port Engineering	9	Roger Anderson	9/29/11		
Consultant > Port Const.					
Port Engineering > Port Const.	8	Craig Redlinger ? John Durst ?	9/29/11	9/30/11	
Port Const. > Contractor	2	Northwest Earthmovers	10/4/11		
Port Const. > TRC	1	TRC Specialist	10/4/11		

Specification Reference		Submittal Title or Description	Action			
Section No.	Paragraph No.		A	B	C	Info.
015719	3.7	Environmental Construction Controls: Ultra Low Sulfur Diesel (ULSD) Fuel	X		<del>  </del>	

<b>CONTRACTOR/CONSULTANT NOTES:</b> In Lieu of monthly submission of fuel receipts we are providing a letter from Bretthauer Oil Company to ensure the PORT that all fuel used at the Wheeler Bay Site will be ULSD. Presently all fuel sold to Northwest Earthmovers by Alexander Oil Company is ULSD.	<b>TRC USE ONLY</b>  Date Rec'd At TRC:  Index No.:  Document Quality: OK      Resubmit	<b>PORT NOTES:</b> ✓ file - 1 Philipp Bales - 1 Tim Stone - 1  K. Madalinski - 2	<b>SUBJECT TO ALL CONTRACT REQUIREMENTS</b> A = PROCEED B = CORRECT AS NOTED & PROCEED C = REVISE AND RESUBMIT INFO = FOR INFORMATION ONLY
We will refer to submittal 9.1 for the <del>the</del> list of diesel-powered equipment per 015719 - 3.7.R.3, as in the workplan			



# BRETTHAUER OIL CO.

P.O. BOX 1299 • HILLSBORO, OREGON 97123-1299  
(503) 648-2531 • (800) 359-3113 • FAX (503) 640-4518  
www.bretthauer.com



September 3, 2010

N.E.I.  
P. O. Box 1609  
Sherwood, OR 97140

Re: Terminal 4 Wheeler Bay Bank Repairs

To whom it may concern,

This letter is to advise that any and all gallons of Ultra Low Sulfur Diesel (clear or dyed) that are delivered to the Terminal 4 Wheeler Bay Bank Repairs on or after 9/3/2010 has a sulfur content not in excess of 15 parts per million.

Thank you for choosing Bretthauer Oil Company for your energy needs. Please let us know if we can be of further assistance.

Sincerely,

*Lori M. Blair*

Lori Blair  
Bretthauer Oil Co.  
Customer Service Representative  
503-615-3361  
503-640-4518 fax

PORT OF PORTLAND SUBMITTAL REVIEW	
SUBJECT TO ALL CONTRACT REQUIREMENTS:	
A	PROCEED. <input checked="" type="checkbox"/>
B	CORRECT AS NOTED AND PROCEED. <input type="checkbox"/>
C	REVISE AND RESUBMIT. <input checked="" type="checkbox"/>
D	FOR INFORMATION ONLY NO PORT REVIEW REQUIRED. <input type="checkbox"/>
REVIEWED BY	DATE
<i>Michael Heermann</i>	<i>9/29/10</i>

# GENERAL SUBMITTAL TRANSMITTAL FORM

Form designed by TRC, 1-29-97, SBMTLTRX.XLS

Please fill in all information as completely as possible. One "submittal type" per form. Highlighted areas are information necessary for documents sent to the Technical Reference Center.

<b>Submittal Type:</b> <input checked="" type="checkbox"/> One <input type="checkbox"/> Material Description <input type="checkbox"/> Shop Drawing <input type="checkbox"/> O&M Manual <input type="checkbox"/> Specification <input type="checkbox"/> Calculations <input type="checkbox"/> Warranty <input type="checkbox"/> Change Order <input checked="" type="checkbox"/> Other _____	<b>Submittal No.</b>	<b>Port Project Name</b>	<b>Port Business Unit:</b>	<b>Port EAN</b>	<b style="font-size: 1.2em;">Port of Portland</b>	
	1.1	Terminal 4 Wheeler Bay Bank Repairs 2011	820027	2011D043		
	<b>Submitted By (name of person)</b>		<b>General Contractor</b>			<b>Contractor Job No.</b>
	Philip Hansen (Estimating Dept.)		Northwest Earthmovers, Inc.			#1120
	<b>Port Drawing Reference</b>		<b>Sub-Contractor</b>			
	<b>Drawing No.</b>	<b>Sht. No.</b>	<b>Material Supplier: xxx</b>			
		<b>Router</b>	<b>Primary Consultant</b>			
			<b>Anchor QEA</b>			

Transmittal Routing ("From" > "To")	Copies	Attention (destination name)	Date Sent	Date Rec'd	Date Due
Contractor > Port Const.	1	<b>John Durst</b>	10/19/11		
Port Const. > Consultant		Roger Anderson			
Consultant > Sub-Consultant		Anchor QEA			
Sub-Consultant > Consultant					
Consultant > Port Engineering					
Port Const. > Port Engineering		Roger Anderson			
Consultant > Port Const.					
Port Engineering > Port Const.		John Durst			
Port Const. > Contractor		Northwest Earthmovers			
<b>Port Const. &gt; TRC</b>		<b>TRC Specialist</b>			

Specification Reference		Submittal Title or Description	Action			
Section No.	Paragraph No.		A	B	C	Info.
015719	3.7	Environmental Construction Controls: Ultra Low Sulfur Diesel (ULSD) Fuel  <b>Purchase of B20 Bio-Diesel (receipt as evidence of purchase)</b>				

<b>CONTRACTOR/CONSULTANT NOTES:</b> In Lieu of monthly submission of fuel receipts we are providing a letter from Bretthauer Oil Company to ensure the PORT that all fuel used at the Wheeler Bay Site will be USLD. Presently all fuel sold to Northwest Earthmovers by Alexander Oil Company is ULSD.	<b>TRC USE ONLY</b>  Date Rec'd At TRC:  Index No:  Document Quality: <input type="checkbox"/> OK <input type="checkbox"/> Resubmit	<b>PORT NOTES:</b> <input type="checkbox"/> File _____ <b>Tim Stone</b>  <b>Philipp Bales</b>	<b>SUBJECT TO ALL CONTRACT REQUIREMENTS</b> A = PROCEED B = CORRECT AS NOTED & PROCEED C = REVISE AND RESUBMIT INFO = FOR INFORMATION ONLY
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Jubitz Fleet Services  
 33 NE Middlefield Rd, PO Box 11251  
 Portland, OR 97211-1251

Card Name/No.	Date	Time	Site	Extra Data	Odometer	Product	Quantity	MPG	Price	Amount
Card label: CRAIG SMELTER										
				Previous Odometer:	1					
11	10/04/11	8:37a	512011	0	1.0	VUNLD	20.22	0.0	3.6390	73.59
11	10/07/11	1:51p	512011	0	1.0	VUNLD	20.19	0.0	3.6400	73.50
11	10/14/11	3:45p	512011	0	1.0	VUNLD	16.58	0.0	3.6590	60.67
Subtotal --- Cents per mile: 0.000							Fuel(gals)	56.99	0.0 Avg MPG	207.76
Card label: STEVE MCCALLUM										
				Previous Odometer:	96627					
13	10/04/11	6:38a	500620	0	98147.0	VUNLDSPR	8.23	??	4.1220	33.92
13	10/04/11	8:48a	500620	0	14717.0	VUNLD	25.97	0.0	3.9000	101.28
Subtotal --- Cents per mile: 0.000							Fuel(gals)	34.20	0.0 Avg MPG	135.20
Card label: GREG KINNAMAN										
				Previous Odometer:	0					
14	10/11/11	11:31a	502676	0	0.0	VUNLD	38.10	0.0	3.8200	145.54
Subtotal --- Cents per mile: 0.000							Fuel(gals)	38.10	0.0 Avg MPG	145.54
Card label: PHILIP HANSEN										
				Previous Odometer:	1					
23	10/10/11	6:23p	511057	0	1.0	VUNLD	25.99	0.0	3.7790	98.22
Subtotal --- Cents per mile: 0.000							Fuel(gals)	25.99	0.0 Avg MPG	98.22
Card label: BRADY MARTIN										
				Previous Odometer:	81116					
32	10/03/11	6:25a	510240	0	81688.0	VUNLD	20.76	27.6	3.8190	79.29
32	10/07/11	1:00p	500620	0	81847.0	VUNLD	21.03	7.6	3.9010	82.03
32	10/07/11	1:02p	500620	0	0.0	VUNLDSPR	8.58	0.0	4.1220	35.37
32	10/13/11	6:30a	510240	0	81974.0	VUNLD	18.18	??	3.7990	69.07
Subtotal --- Cents per mile: 0.310							Fuel(gals)	68.55	12.5 Avg MPG	265.76
Card label: MIKE OBER										
				Previous Odometer:	180					
33	10/03/11	9:42a	512011	0	180.0	VUNLD	16.23	0.0	3.6400	59.08
33	10/07/11	5:23p	512011	0	180.0	VUNLD	13.33	0.0	3.6400	48.52
33	10/12/11	8:51a	512011	0	180.0	VUNLD	14.85	0.0	3.6600	54.35
Subtotal --- Cents per mile: 0.000							Fuel(gals)	44.41	0.0 Avg MPG	161.95
Card label: RANDY OLDENBURG										
				Previous Odometer:	97800					
37	10/10/11	6:14a	500881	0	98500.0	VDSL	17.50	40.0	4.0000	70.00
Subtotal --- Cents per mile: 0.100							Fuel(gals)	17.50	40.0 Avg MPG	70.00
Card label: LINNEA WILSON										
				Previous Odometer:	176955					
41	10/04/11	7:38a	512565	0	177292.0	VUNLD	20.49	16.4	3.6600	75.00
41	10/05/11	11:18a	501005	0	177580.0	VUNLD	32.09	9.0	3.8000	121.94
41	10/07/11	6:23a	518811	0	177923.0	VUNLD	30.06	11.4	3.6590	110.00
41	10/10/11	3:24p	516440	0	178247.0	VUNLD	29.33	11.0	3.6590	107.33
41	10/12/11	11:18a	510359	0	178593.0	VUNLD	31.45	11.0	3.7990	119.49
41	10/14/11	9:19a	500907	0	178924.0	VUNLD	31.02	10.7	3.8990	120.96
Subtotal --- Cents per mile: 0.333							Fuel(gals)	174.44	11.3 Avg MPG	654.72
Card label: JASON GLENN										
				Previous Odometer:	200					
44	10/04/11	5:54a	501010	0	200.0	VUNLD	4.46	0.0	3.7400	16.68
44	10/06/11	6:11a	501010	0	200.0	VUNLD	4.40	0.0	3.8070	16.75
44	10/10/11	5:54a	501010	0	200.0	VUNLD	27.69	0.0	4.0820	113.03
44	10/10/11	9:22a	502270	0	200.0	VUNLPLUS	9.23	0.0	3.9950	36.87
Subtotal --- Cents per mile: 0.000							Fuel(gals)	45.78	0.0 Avg MPG	183.33
Card label: CARL JOHNSON										
				Previous Odometer:	0					
8375986	10/07/11	6:23a	AUD	0	0.0	B20	50.00	0.0	4.1609	208.05
8375986	10/07/11	6:27a	AUD	0	0.0	B20	15.00	0.0	4.1609	62.41
Subtotal --- Cents per mile: 0.000							Fuel(gals)	65.00	0.0 Avg MPG	270.46
Card label: MIKE MADISON										
				Previous Odometer:	231051					
8697267	10/04/11	4:53p	YV	0	231425.0	unl 10%	31.03	12.1	3.5870	111.31
8697267	10/10/11	4:23p	YV	0	231371.0	unl 10%	32.23	0.0	3.9205	126.36
Subtotal --- Cents per mile: 0.743							Fuel(gals)	63.26	5.1 Avg MPG	237.67

JOB #  
1120

6171-N165

6170-N166

6170

6171-N153

6171-N166

6171-N180

6131-N170

6171-N176

6171-N183

6131-N138

6171-N150