APPENDIX E

Interim Action Completion Report

Interim Action Completion Report
Shoreline Stabilization
Boulevard Park
Bellingham, Washington

January 25, 2018

Prepared for

City of Bellingham
Bellingham, Washington

LANDAU ASSOCIATES

130 2nd Avenue South
Edmonds, WA 98020
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Interim Action Completion Report
Shoreline Stabilization
Boulevard Park
Bellingham, Washington

As the Engineer of Record, it is my opinion that the above-referenced project was, to the best of my knowledge and information, constructed and completed in accordance with the plans and specifications as approved by the Washington State Department of Ecology. The construction is documented in this completion report.

Landau Associates, Inc.

1/25/18

Document prepared by: _____ Kent W. Wiken, PE
Engineer of Record

1/25/18

Document reviewed by: _____ Jeremy Davis, PE
Project Manager

Date: January 25, 2018
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Project Coordinator: LJL

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TABLE OF CONTENTS

APPENDICES

Appendix	Title
A	Record Drawings
B	Regulatory Approvals
C	Construction Observations Documentation
D	LAI Final Site Punch List Review
E	Waste Disposal Manifests

LIST OF ABBREVIATIONS AND ACRONYMS

CGS ..... Coastal Geologic Services
City ..... City of Bellingham
CQA ..... construction quality assurance
CQC ..... construction quality control
DNS ..... determination of non-significance
Ecology ..... Washington State Department of Ecology
LAI ..... Landau Associates, Inc.
MHHW ..... mean higher high water
MLLW ..... mean lower low water
MTCA ..... Model Toxics Control Act
NWP ..... Nationwide Permit
PCDD ..... Planning and Community Development Department
PSE ..... Puget Sound Energy
RI/FS ..... remedial investigation/feasibility study
SEPA ..... State Environmental Policy Act
Site ..... South State Street Manufactured Gas Plant cleanup site
TESC ..... temporary erosion and sediment control
WDFW ..... Washington Department of Fish & Wildlife

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1.0 INTRODUCTION

This interim action completion report documents the successful completion of the Shoreline Stabilization along the north end of the City of Bellingham (City) Boulevard Park in Bellingham, Washington. This interim action was required to stabilize the South State Street Manufactured Gas Plant cleanup site (Site) located in Bellingham, Washington from further erosion until the final cleanup action can be completed. A remedial investigation and feasibility study (RI/FS) being conducted under an Agreed Order (Number 7655, as amended) between the City, Puget Sound Energy (PSE), and the Washington State Department of Ecology (Ecology) (Document No. 7655; Ecology 2010) identified contaminated soils beneath the Site. The RI/FS will lead to a final cleanup action in accordance with the Model Toxics Control Act (MTCA) regulations.

This area of the interim action is a low-lying, flat area of Boulevard Park that can become flooded with high tides and storm surges. Riprap along the west side of the Site was originally placed along the shoreline to protect it from erosion. However, the higher elevation portions of the riprap at the interface with the grassed upland has washed away and exposed the underlying fill soils—some of which may be contaminated. The public pier on the north end had been damaged and was failing. Most of the bulkhead, pier, piling, and wood decking had shifted and bowed, and the top of the bulkhead had rotated outward toward the water. The underlying concrete bulkhead wall, which served as the landward connection point for the public pier, is also cracking and showing signs of failure. The City fenced off the eroded shoreline and pier and posted warning signs to prevent public access to those areas. A storm event in February 2017 led to shoreline conditions at the Site that required the City and PSE to undertake an interim action described herein prior to the final Site cleanup.

1.1 Site Location

The Site is located within the north end of Boulevard Park as shown in Appendix A.

1.2 Purpose

The purpose of the interim action is to repair approximately 450 linear feet of storm-damaged shoreline that is eroding, remove approximately 3,500 square feet of wooden pier and associated treated wooden piles, and stabilize the concrete bulkhead wall that supported the pier. This interim action is critical to preventing 1) human exposure to potentially contaminated upland soil, and 2) the release of contamination to sediment in Bellingham Bay. The interim action will stabilize the shoreline temporarily to facilitate completion of the ongoing RI/FS and the final remedy/cleanup action to address Site contamination.

1.3 Interim Action Description

The interim shoreline stabilization was implemented to provide protective measures during the time required to complete the MTCA RI/FS process. Interim shoreline stabilization measures included

placement of rock along the shoreline and bulkhead wall, and the demolition and removal of the wooden pier and piles. Coastal Geologic Services (CGS) has previously developed coastal models and designed the shoreline protection system for Boulevard Park; that shoreline protection system was partially constructed in 2013. The interim shoreline stabilization—which was needed in an area north of the previous shoreline improvements—was designed consistent with the wave modeling performed for the previous project. The interim shoreline stabilization included:

- Preparing the exposed ground surface along the shoreline to receive additional rock by carefully moving incidental riprap to the existing riprap armor.
- Removing exposed concrete and brick debris from the soil surface for a smooth riprap foundation with all removed debris containerized for off-site disposal.
- Placing a separation geotextile over the exposed soil.
- Placing a thin layer of quarry spalls over the separation geotextile to serve as a foundation for larger armor rock.
- Placing appropriately-sized armor rock (as determined from wave action modeling) on the separation geotextile and filling in the gap formed by erosion to a height established by the design.
- Deploying a silt curtain around the pier demolition area.
- Over-water demolishing the public pier wood decking.
- Removing treated timber piles and steel H-piles.
- Placing appropriately-sized rock against the water side of the bulkhead wall and backfilling voids on the upland side of the wall with rock.
- Disposing of demolition wood, concrete, and brick debris at a permitted landfill.

The interim shoreline stabilization is not anticipated to function as a permanent or long-term stabilization, and thus will require observation and possible ongoing maintenance to continue providing protection until a long-term cleanup solution is identified and implemented for the Site as part of the final remedy.

Engineering and timing controls were used to minimize environmental impacts. This included timing work with the tidal cycles so that work occurred above the tide, minimizing excavation, using silt-curtains to control turbidity, and using absorptive boom as needed to protect surface water quality. Work was also limited by a regulatory fish window. For pile removal, the US Environmental Protection Agency's "*Best Management Practices for Pilling Removal and Placement in Washington State*" was followed, including the recommendations for work in contaminated sediment.

1.4 Report Format

This final construction report is presented in the following four sections:

- Section 1.0 presents a general description of the project.

- Section 2.0 presents the general requirements of the construction quality assurance (CQA) program and introduces the roles of the entities involved with the construction.
- Section 3.0 presents an overview of the construction process and CQA monitoring for each work item.
- Section 4.0 presents methods of documenting and recordkeeping.

1.5 Reference Documents

The following reference documents provide background information regarding the Interim Action:

- Work plan (LAI 2017)
- Ecology First Amendment to Agreed Order No. DE 7655 (Ecology 2010).

1.6 Regulatory Approval

Prior to construction, the City was required to obtain:

- Shoreline Permit Exemption #SHR2017-0029, Planning and Community Development Department (PCDD)
- Washington Department of Fish & Wildlife (WDFW) approval
- State Environmental Policy Act (SEPA) Determination of Non-Significance (DNS), Ecology
- Nationwide Permit (NWP) 38, United States Army Corps of Engineers

The approvals from each of the above agencies are provided in Appendix B.

2.0 CONSTRUCTION QUALITY ASSURANCE PROGRAM

This section presents the basic elements of the CQA program, including a description of the parties involved with construction and their roles, the scope of the CQA program, construction document control, how nonconforming work was addressed, material submittals, and meetings and coordination.

2.1 Construction Personnel and Responsibilities

The following section describes the entities involved with the construction and their responsibilities during construction activities.

2.1.1 Owner

The owner identified for this project is the City of Bellingham, who was responsible for complying with federal and state regulations governing work for this project. The owner also took on roles of construction management. The owner's construction manager provided contract administration, budget, schedule, and coordination between parties. The construction manager requested assistance from the design Engineer of Record throughout the project to resolve construction and regulatory issues.

The owner's construction manager was:

Gina Austin, PE MSCE
Project Engineer
City of Bellingham - Parks Development Division
Bellingham City Hall, 210 Lottie Street, Bellingham, WA 98225
(O) 360-778-7000
gaustin@cob.org

2.1.2 Engineer of Record and Construction Quality Assurance

Landau Associates, Inc. (LAI) acted as the Engineer of Record and was responsible for the design; therefore, LAI approved all design changes and clarifications to design questions made during construction. The Engineer of Record was also the key point for regulatory contact. During construction, the Engineer of Record was also responsible for CQA, verifying construction was being performed in accordance with the design intent, construction drawings, and technical specifications; and preparing this completion report. The Engineer of Record for this project was:

Kent Wiken, PE
Senior Associate Engineer
Landau Associates, Inc.
130 2nd Avenue South, Edmonds, WA 98020
(O) 425-329-0285; (C) 206-604-6167
kwiken@landauinc.com

The shoreline design engineer, representing the Engineer of Record, provided observation of the placement of armor rock and provided oversight of the Contractor's work, performed CQA activities, reviewed and approved Contractor submittals related to armor rock, and provided additional documentation as needed. The shoreline engineer observed and documented the activities of the Contractor in sufficient detail and with continuity to provide a high level of confidence that the work product fully complied with the intent of the construction drawings and technical specifications. All observed deviations from the construction drawings and technical specifications were noted and addressed appropriately with the City, Contractor, and Engineer of Record. The shoreline engineer for this project was:

Alexis Blue, Coastal Engineer, PE, MS
Project Engineer
Coastal Geologic Services, Inc.
1711 Ellis Street, #103, Bellingham, WA 98225
(O) 360-647-1845, ext. 23
alexis@coastalgeo.com

2.1.3 Construction Contractor

Razz Construction was the Contractor for construction and was responsible for scheduling and performing the work within the time frame and budget agreed to in the contract, performing the work in accordance with the construction drawings and technical specifications, implementing construction quality control (CQC) procedures, and documenting that construction complied with the technical specifications. Razz Construction also cooperated with the owner's construction manager and shoreline engineer to achieve quality construction. The lead for the general Contractor for this project was:

Joel P. Cameron
Superintendent
Razz Construction
4055 Hammer Drive, Bellingham, WA 98226
(O) 360-752-0011, ext. 110
joelc@razzconstruction.com

2.1.4 Surveyor

The surveyor, Larry Steele & Associates, who worked under the direction of the Contractor to assist in constructing the project in accordance with the construction drawings and technical specifications, and performed surveys to document as-built conditions and to measure the installed quantities of unit price bid items. Larry Steele & Associates employs a professional land surveyor licensed in the State of Washington that supervised this work.

2.2 Construction Quality Assurance Program Scope

A CQA program was implemented by LAI to monitor, verify, and document that construction was completed in accordance with the plans, technical specifications, and design intent. This program generally included the following:

- Layout and grade control
- TESC installation
- Site preparation
- Demolition of existing wharf and pier
- Pulling and demolition of piles
- Placement of geotextile and rock armor placement
- Site restoration.

Each element of the above scope is discussed in detail in Section 3.0 of this report.

2.3 Control of Construction Documents, As-Built Records, and Forms

2.3.1 Project Control of Construction Documents

The Contractor and owner controlled the construction documents, including technical specifications, construction drawings, and change orders. The construction Contractor and owner maintained copies of the most current set of construction drawings and technical specifications. New revisions of technical specifications and construction drawings were created by the Engineer of Record and submitted jointly to the owner, construction Contractor, and the shoreline engineer.

2.3.2 Project Control of As-Built Information

The construction Contractor and the project surveyor collected as-built information. Upon completion of the work, the construction Contractor was responsible for compiling this information into one set of markups of the original construction drawings. The markups were then provided to the Engineer of Record for use in preparing the record drawings. The record drawings for the project are provided in Appendix A.

2.4 Correcting Non-Conforming Work

2.4.1 Observation of Non-Conformance

Whenever non-conforming work was observed, the owner's onsite representative or shoreline engineer notified the Contractor as soon as possible. The owner's onsite representative or shoreline engineer first notified the Contractor's foreman or superintendent supervising the work in question and then notified the Contractor's construction manager, as appropriate.

2.4.2 Determining Extent of Non-Conformance

Whenever non-conformance was discovered, the construction manager or shoreline engineer determined the extent of the non-conforming work. When appropriate, the Engineer of Record was contacted to determine the appropriate corrective measures or additional testing that was required.

2.4.3 Documenting Non-Conformance

All non-conformances were documented in writing on progress reports, test reports, and elsewhere, as appropriate. This documentation occurred immediately upon determining the extent of the non-conformance. During construction, non-conformance events occurred rarely and were resolved via onsite communications between the owner's construction manager, the shoreline engineer, the Engineer of Record, and the Contractor as necessary.

2.4.4 Corrective Measures

Corrective measures were determined by the requirements of the project plans and specification. The shoreline engineer, owner's onsite representative, and Contractor applied standard construction methods to correct the deficiency.

2.4.5 Verification of Corrective Measures

Once the Contractor notified either the owner's onsite representative or the shoreline engineer that corrective measures were completed, the shoreline engineer and the owner's onsite representative verified and documented the satisfactory completion of the corrective action. Verification was accomplished by observations, re-testing, and/or photographing, as appropriate.

2.5 Materials Submittals

Materials quality verification was evaluated first by material submittals with certificates of compliance. The Contractor identified sources and samples of various construction materials and provided test data or material specification sheets to demonstrate the materials met specifications. Material submittals were also used by the shoreline engineer to establish the acceptability of materials. Material submittals required by the contract were submitted to the construction manager and made available to the Engineer of Record who provided acceptance and proper review of submittals.

2.6 Meetings and Coordination

In efforts to effectively communicate, pre-construction and construction progress meetings occurred. Additionally, a clear line of communication was established between the owner's onsite representative, the Contractor, the shoreline engineer, and the Engineer of Record.

2.6.1 Pre-Construction Meeting

A pre-construction meeting was held on Site on September 21, 2017. The meeting was attended by the owner, the construction Contractor, the shoreline engineer, and Engineer of Record. The purpose of the pre-construction meeting was to:

- Confirm relationships among the various parties, including lines of authority, lines of communication, and scope of work.
- Confirm responsibilities of each party.
- Identify relevant documents.
- Establish methods for documenting and reporting, and for distributing and storing documents and reports.
- Review critical construction and scheduling aspects of the project.
- Review work area security and health and safety protocols.
- Review and make any appropriate modifications and/or addenda to the various plans, drawings, specifications, and available quality control plans so that site-specific considerations and activities are incorporated.
- Reach a consensus on the interpretation of the construction plans and specifications, including methods of determining acceptability of the various components of the work.
- Review the schedule and sequencing for construction of the work, and coordinate construction requirements/logistics for various subcontractors.
- Review survey procedures, methods, equipment, datum, and horizontal and vertical control references to be used for the Contractor's surveys.
- Conduct a reconnaissance of the various project work areas to verify that the construction plans and sequencing and site constraints are understood; and to review appropriate vehicle haul routes and material and equipment storage locations.

2.6.2 Progress Meetings

Progress meetings were held weekly at the City office. The progress meetings were attended by the owner's onsite representative, construction Contractor, and either the shoreline engineer or the Engineer of Record. The meetings included the following topics:

- Review of the previous period's activities and progress.
- Review of the work locations and activities for the current period.
- Identify the Contractor's and subcontractor's personnel and equipment assignments for the current period.
- Discuss any potential construction problems.

3.0 CONSTRUCTION QUALITY ASSURANCE ACTIVITIES

3.1 Introduction

This section summarizes the CQA monitoring activities associated with the project. The owner and the shoreline engineer performed independent inspections and reviews of the CQC work performed by the Contractor. Required CQA included verifying the following were in accordance with plans and specifications:

- Layout and grade control
- TESC installation
- Site preparation
- Demolition of existing wharf, pier, and piles
- Rock placement
- Site restoration.

This section describes the monitoring and testing performed to assure construction met specified requirements.

3.2 Layout and Grade Control

The Contractor employed a professional surveying firm (Larry Steele & Associates) to perform the construction staking. The shoreline engineer reviewed surveyor-provided elevation shots to verify the alignment and grade of the construction elements involved in the shoreline protection.

3.3 Temporary Erosion and Sediment Control

Temporary erosion and sediment control (TESC) measures for the soil stockpile placement were implemented in accordance with the specifications and as shown on the drawings. During the installation of TESC measures, the owner's construction manager and shoreline engineer observed that:

- Installation of straw wattles and straw covering was over exposed soil,
- Exposed subgrade was covered at the end of each day,
- Catch basin inserts were installed,
- The paved streets and parking areas were swept and trackout from the site was prevented, and
- Exposed slopes were protected from erosion until rock could be placed on them.

The Contractor's TESC was installed and functioning correctly and in accordance with project specifications.

3.4 Site Preparation

During the Site preparation the owner's construction manager and shoreline engineer observed that:

- A perimeter construction fence and site entrance and gate were installed per the drawings (Appendix A). Engineer-approved steel rumble strip plates were installed in lieu of a temporary rock site entrance.
- Brick rubble and concrete debris was removed within the project erosion scarp above elevation 8.5 feet mean lower low water (MLLW) to an on-site covered disposal container. This waste was disposed of at a permitted waste disposal facility (Appendix E includes the waste disposal manifests).
- The existing tree shown on the drawings was removed in accordance with Section 2-01.3(1) of the Standard Specifications.
- The existing riprap that could be reused was moved to the side to prepare a smooth surface for the separation geotextile and additional rock.
- One ornamental boulder was moved to a location identified by the City within the construction fence area. It was moved again at project completion to a location designated by the City within the construction fence area.
- A debris boom was installed around the wharf and pier demolition area no more than 3 days prior to executing demolition work.

Site preparations were accomplished in accordance with the specifications and as shown on the drawings.

3.5 Demolition of Existing Wharf, Pier, and Piles

During the demolition, the owner's construction manager and shoreline engineer observed that:

- A floating debris boom was deployed around the demolition area.
- The Contractor carefully completed demolition to minimize breakage, chips, and sawdust of creosote-treated timber, as well as nails and bolts from entering the water.
- The crane barge for removing the piles did not stir up sediment on the bottom of Bellingham Bay to a noticeable increase in turbidity.
- The piles we extracted with vibratory equipment and laid on plastic-covered bermed area on shore to contain sediment.

Demolition of the existing wharf, pier, and piles was accomplished in accordance with the specifications and as shown on the drawings.

3.6 Rock Placement

The shoreline engineer was present during rock placement to observe that once Site preparation was completed (as discussed in Section 3.4) a separation geotextile was hand-placed on newly exposed rocks above the mean highest high water elevation (MHHW). The geotextile was laid smooth so as to

be free of tensile stresses, folds, and wrinkles. There was at least 4 feet of overlap between geotextile sheets. Material placed atop geotextile was done in such a way without pushing or pulling or otherwise damaging the geotextile.

The shoreline engineer observed and directed quarry spall placement at a thickness necessary to provide a stable foundation for the armor rock. On the west-facing shore, quarry spall was placed in thickness of 3–12 inches waterward of the existing lawn erosion scarp to cover the irregular grade and no less than 3 inches thick landward of the lawn erosion scarp. This thickness was reduced from the thicker quarry spall layer inferred on the drawings to minimize the thickness to that needed to provide a stable foundation. This installation and thickness reduction was directed and observed by the shoreline design engineer as recorded in the October 13, 2017 construction observations (Appendix C-3). Quarry spall was placed and tamped down with an excavator bucket until sufficient compaction to receive armor rock.

The shoreline engineer observed that armor rock on the surface of the structure was placed individually and not by dumping or by similar methods. Rocks were placed under direction of the shoreline engineer in a manner which produced a well-graded mass with the minimum practicable percentage of voids with a minimum three-point contact in tight contact with underlying and immediately adjacent rocks. All rocks were stacked with a landward batter. Building upward, all rocks were placed more landward than the lower elevation rock, keeping the overall waterward slope to 2:1 as per design. The largest individual rocks were placed at the lowest elevation extents as the first most waterward row.

On the west-facing shore, rocks were placed atop well graded, compacted quarry spalls and tamped down with an excavator bucket. Rocks were placed waterward or landward of the lawn erosion scarp and not placed directly atop the scarp. Smaller rocks (one-man or two-man) were used atop quarry spall over the lawn, and below larger rocks, to create a consistent crest height of 13.5 feet MLLW from the south end to cross section F location (shown on Drawing C.2 in Appendix A) and transitioning down to elevation 13.0 feet MLLW north of section H to the bulkhead wall location. The reduction of the crest height from the design elevation of 14 feet MLLW to 13 to 13.5 feet MLLW was made by the shoreline design engineer during construction to accommodate actual site grades with the height of the three-man rock. This design revision is documented and approved by the shoreline design engineer (Appendix C-3).

The shoreline engineer and Engineer of Record observed the protection of the north-facing shore, which consisted of placing armor rock against the concrete bulkhead wall and around the wooden piles that were left in place. Approximately 10 cubic yards of shell accumulation on the east end of the bulkhead wall was pushed waterward (inside the silt curtain) to expose the underlying sand beach and provide a firm foundation for the armor rock. The armor rock was then placed up against the wall until the height of the rock was at or a few inches below the top of the wall and formed a 2H:1V slope

in front of the wall. A small soil-eroded area east of the bulkhead wall was also covered with spalls and quarry rock similar to the west-facing shore described above.

Rock placement was accomplished in accordance with the specifications and as shown on the drawings.

3.7 Site Restoration

The owner's construction manager observed the Contractor's work area was cleaned up and that Site restoration activities were completed and adequately restored to a condition acceptable to the Owner. The Engineer of Record prepared a completion punch list, which the shoreline engineer reviewed with the Contractor onsite on October 27, 2017. A record of LAI review of the completed work is provided as Appendix D. The reconciliation of remaining items was approved by the City.

4.0 DOCUMENTATION

The shoreline engineer, Engineer of Record, and the Owner's construction manager documented that quality assurance requirements were implemented. Documentation consisted of review of submittals, construction progress Site visit reports, email confirmations of progress, design and specification revisions, and this completion report.

4.1 Construction Progress Meetings

Construction progress meetings were held on a weekly basis. The meeting minutes are provided in Appendix C-1.

4.2 Site Visit Reports

Construction progress site visits were conducted by the either the Engineer of Record or the shoreline engineer at milestone construction completions. These visits consisted of observation of Site construction progress meetings with the Owner's representatives and the Contractor, review and performance of geotechnical testing, and as needed, non-conformance/corrective measure reports. Daily reports and photographic records of the construction progress site visits can be found in Appendix C-2.

4.3 Design and Specification Revisions

As a result of regulatory design review, acceptable design and specification revisions were made during construction. These revisions included:

- Reducing the quarry spall thickness under the west-facing shore
- Reducing the height of armor rock on the west-facing shore.

All of these construction revisions were approved by the shoreline engineer as documented in Appendix C-3, improving the original design and final construction.

4.4 Non-Conformance Reports

Non-conformance was addressed immediately by the Contractor via communications with the Owner and the shoreline engineer or Engineer of Record. As such there were no formal non-conformance reports.

4.5 Photographs

Construction activities were digitally photographed on a daily basis by the shoreline engineer and emailed to the Engineer of Record. Construction photographs are provided with the daily reports in Appendix C-2.

5.0 USE OF THIS REPORT

This Interim Action completion report has been prepared for the use of the City of Bellingham and the Washington State Department of Ecology for specific application to the Boulevard Park Shoreline Stabilization Project. None of the information, conclusions, and recommendations included in this document can be used for any other project without the express written consent of LAI. Further, the reuse of information, conclusions, and recommendations provided herein for extensions of the project or for any other project, without review and written authorization by LAI, shall be at the user's sole risk. LAI warrants that within the limitations of scope, schedule, and budget, our services have been provided in a manner consistent with that level of care and skill ordinarily exercised by members of the profession currently practicing in the same locality under similar conditions as this project. We make no other warranty, either express or implied.

6.0 REFERENCES

Ecology. 2010. First Amendment to Agreed Order No. DE 7655. Washington State Department of Ecology. April 30.

LAI. 2017. Interim Action Work Plan, South State Street Manufactured Gas Plant Cleanup Site, Bellingham, Washington. Landau Associates, Inc. October 12.

APPENDIX A

Record Drawings

INTERIM SHORELINE STABILIZATION

CITY OF BELLINGHAM BOULEVARD PARK

BELLINGHAM, WASHINGTON

BID #36B-2017

SYMBOL LEGEND

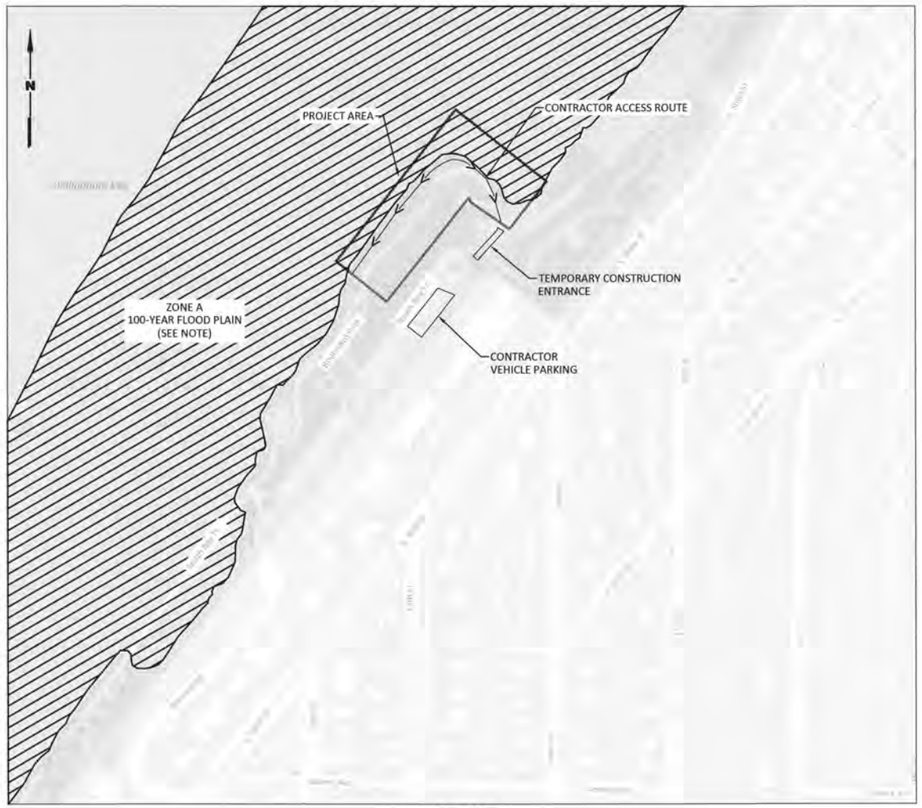
- = EXISTING REBAR & RED PLASTIC CAP
- = EXISTING SPIKE
- = EXISTING CATCH BASIN
- = EXISTING IRRIGATION BOX
- = EXISTING STREET SIGN
- = EXISTING MAPLE TREE
- = EXISTING PINE/SPRUCE TREE
- = EXISTING STUMP
- = DIAMETER OF EXISTING TREE
- = SPOT ELEVATION ON EXISTING GROUND
- = SPOT ELEVATION TOP OF RIP-RAP

LINE LEGEND

- = EXISTING EDGE OF ASPHALT
- = EXISTING EDGE OF CONCRETE
- = EXISTING OLD RIP-RAP
- = EXISTING NEW RIP-RAP
- = EXISTING EDGE OF GRAVEL ROAD
- = EXISTING STORM CULVERT
- = EXISTING TOP OF SLOPE LINE
- = EXISTING TOE OF SLOPE LINE
- = EXISTING GRADE INDEX CONTOUR (SURVEYED MAY 2017)
- = EXISTING GRADE INTERVAL CONTOUR (SURVEYED MAY 2017)
- = EXISTING GRADE INDEX CONTOUR (SURVEYED NOVEMBER 2013, WILSON SURVEYING AND ENGINEERING)
- = EXISTING GRADE INTERVAL CONTOUR (SURVEYED 2009, LARRY STEELE & ASSOCIATES)
- = APPROXIMATE ORDINARY HIGH WATER LINE
- = EXISTING MEAN HIGH WATER LINE (7.8' MLLW)
- = EXISTING MEAN HIGH HIGH WATER LINE (8.5' MLLW)
- = EXISTING EDGE OF LANDSCAPED AREA
- = EXISTING FENCE

ABBREVIATIONS

CONC	CONCRETE SURFACE
CGS	COASTAL GEOLOGIC SERVICES
IE	INVERT ELEVATION
PSE	PACIFIC SURVEYING & ENGINEERING, INC
TYP	TYPICAL



SITE MAP

NOTE

100 - YEAR FLOOD PLAIN
ZONE A
PER FEDERAL EMERGENCY MANAGEMENT AGENCY
FLOOD INSURANCE RATE MAP
WHATCOM COUNTY, WASHINGTON
PANEL 1632D, JANUARY 16, 2004

VICINITY MAP

SHEET INDEX

Source: Pacific Survey & Engineering, Inc., 5/16/2017; Coastal Geologic Services, 2017

CALL BEFORE YOU DIG 1-800-424-5555

COASTAL GEOLOGIC SERVICES
1711 Ellis St, Suite 103
Bellingham, WA 98225
360-647-1845 - coastalgeo.com

LANDAU ASSOCIATES
130 2ND AVENUE S.
EDMONDS, WASHINGTON 98020
(425) 778-0907, FAX (425) 778-6409

DRAFTED BY: C. CARLSTROM CQC
DESIGNED BY: C. CARLSTROM CQC
REVIEWED BY: K. WIKEN KWW
APPROVED BY: J. DAVIS JMD
DATE SURVEYED: 5/16/2017
SURVEYED BY: PACIFIC S&E
STATUS: RECORD DRAWINGS

INTERIM SHORELINE STABILIZATION
CITY OF BELLINGHAM BOULEVARD PARK
BELLINGHAM, WASHINGTON

COVER SHEET

KENT W. WIKEN
STATE OF WASHINGTON
34524
REGISTERED
PROFESSIONAL ENGINEER
1/19/18

NO.	DATE	REVISIONS
2.	1/19/18	RECORD DRAWINGS
1.	7/07/17	ISSUED FOR BID
0.	6/20/17	ISSUED FOR PERMITTING

PROJECT NO. 015015.091.095
DATE 1/19/18
SHEET 1 OF 7
DRAWING NO. **G.1**

GENERAL CONSTRUCTION PROCEDURES THAT WERE FOLLOWED:

1. ALL WORKMANSHIP AND MATERIALS SHALL BE IN ACCORDANCE WITH THE CITY OF BELLINGHAM STANDARDS AND THE MOST CURRENT EDITION OF THE STATE OF WASHINGTON STANDARD SPECIFICATIONS FOR ROAD, BRIDGE, AND MUNICIPAL CONSTRUCTION (WSDOT/APWA STANDARD SPECIFICATIONS).
2. APPROXIMATE LOCATIONS OF EXISTING UTILITIES HAVE BEEN OBTAINED FROM AVAILABLE RECORDS AND ARE SHOWN FOR CONVENIENCE. THE CONTRACTOR SHALL CALL 811 NUMBER PRIOR TO CONSTRUCTION AND SHALL BE RESPONSIBLE FOR VERIFICATION OF LOCATIONS AND AVOIDING DAMAGE TO ALL UTILITIES.
3. IF CONFLICTS WITH EXISTING UTILITIES ARISE DURING CONSTRUCTION, THE CONTRACTOR SHALL NOTIFY THE PORT AND THE ENGINEER. ANY CHANGES REQUIRED SHALL BE APPROVED BY THE CITY PRIOR TO COMMENCEMENT OF RELATED CONSTRUCTION ON THE PROJECT.
4. APPROVAL OF THESE PLANS DOES NOT CONSTITUTE AN APPROVAL OF ANY OTHER CONSTRUCTION (E.G., DOMESTIC WATER, STORM DRAIN PIPE, SEWER DRAIN PIPE, GAS, ELECTRICAL, ETC.).
5. BEFORE ANY CONSTRUCTION OR DEVELOPMENT ACTIVITY, A PRE-CONSTRUCTION MEETING MUST BE HELD BETWEEN THE CITY, THE ENGINEER, AND THE CONTRACTOR.
6. A COPY OF THE APPROVED PLANS MUST BE ON THE JOB SITE WHENEVER CONSTRUCTION IS IN PROGRESS.
7. THE CONTRACTOR SHALL BE RESPONSIBLE FOR PROVIDING ADEQUATE SAFEGUARDS, SAFETY DEVICES, PROTECTIVE EQUIPMENT, FLAGGERS, AND ANY OTHER NEEDED ACTIONS TO PROTECT THE LIFE, HEALTH, AND SAFETY OF THE PUBLIC, MAINTAIN SITE SECURITY, AND TO PROTECT PROPERTY IN CONNECTION WITH THE PERFORMANCE OF WORK COVERED BY THE CONTRACT. ANY WORK WITHIN THE TRAVELED RIGHT-OF-WAY THAT MAY INTERRUPT NORMAL TRAFFIC FLOW SHALL REQUIRE AT LEAST ONE FLAGGER FOR EACH LANE OF TRAFFIC AFFECTED. SECTION 1-07.23 OF THE WSDOT/APWA STANDARD SPECIFICATIONS SHALL APPLY IN ITS ENTIRETY. ANY TRAFFIC CONTROL AFFECTING CITY OR STATE ROADWAYS SHALL HAVE A TRAFFIC CONTROL PLAN PREPARED BY CONTRACTOR AND SUBMITTED TO / APPROVED BY THE CITY.

TEMPORARY EROSION/SEDIMENT CONTROL PROCEDURES THAT WERE FOLLOWED:

UPLAND WORK

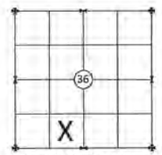
1. APPROVAL OF THE TEMPORARY EROSION AND SEDIMENT CONTROL (TESC) PLAN DOES NOT CONSTITUTE AN APPROVAL OF PERMANENT ROAD AND/OR DRAINAGE DESIGN (E.G., SIZE AND LOCATION OF ROADS, PIPES, RESTRICTORS, CHANNELS, RETENTION BMPs, UTILITIES, ETC.) BUT IS AN APPROVAL OF TESC MEASURES ONLY.
2. IMPLEMENTATION OF THE TESC PLAN AND THE CONSTRUCTION, MAINTENANCE, REPLACEMENT, AND UPGRADING OF THE TESC BEST MANAGEMENT PRACTICES (BMPs) IS THE RESPONSIBILITY OF THE CONTRACTOR UNTIL ALL CONSTRUCTION IS APPROVED.
3. CONTRACTOR SHALL MARKUP AND RESUBMIT FOR CITY APPROVAL THE UPDATED TESC PLANS INDICATING LOCATIONS AND SEQUENCING OF MEASURES (FACILITIES AND BMPs) TO BE INSTALLED.
4. BOUNDARIES OF THE CLEARING LIMITS SHOWN ON THE TESC PLAN SHALL BE CLEARLY MARKED (WITH SURVEY TAPE, HIGH VISIBILITY FENCING, HIGH VISIBILITY SILT FENCING, HIGH VISIBILITY PAINT, OR TEMPORARY FENCING AS APPROPRIATE AND AS SHOWN ON THE PLANS) PRIOR TO CONSTRUCTION. DURING THE CONSTRUCTION PERIOD, NO DISTURBANCE BEYOND THE CLEARING LIMITS SHALL BE PERMITTED. THE CLEARING LIMITS SHALL BE MAINTAINED BY THE CONTRACTOR FOR THE DURATION OF THE CONSTRUCTION.
5. TESC MEASURES (FACILITIES AND BMPs) SHOWN ARE THE MINIMUM REQUIREMENTS FOR ANTICIPATED SITE CONDITIONS. DURING THE CONSTRUCTION PERIOD, THE TESC FACILITIES SHALL BE UPGRADED AS NEEDED FOR UNEXPECTED STORM EVENTS AND MODIFIED TO ACCOUNT FOR CHANGING SITE CONDITIONS. THEREFORE, DURING THE COURSE OF CONSTRUCTION, THE CONTRACTOR SHALL ADDRESS ANY CHANGED OR NEW CONDITIONS THAT MAY BE CREATED BY THE CONTRACTOR'S ACTIVITIES AND PROVIDE ADDITIONAL TESC MEASURES THAT MAY BE NEEDED TO PROTECT ADJACENT PROPERTIES AT NO ADDITIONAL COST TO THE CITY.
6. TESC MEASURES SHALL BE CONSTRUCTED PRIOR TO OR IN CONJUNCTION WITH ALL CLEARING AND EXCAVATION ACTIVITIES, AND IN SUCH A MANNER AS TO ENSURE THAT SEDIMENT-LADEN WATER DOES NOT ENTER SURFACE WATERS, DRAINAGE SYSTEMS, ADJACENT PROPERTIES, AND/OR VIOLATE APPLICABLE WATER QUALITY STANDARDS.
7. STABILIZED CONSTRUCTION ENTRANCES, SHALL BE INSTALLED AT THE BEGINNING OF CONSTRUCTION AND MAINTAINED FOR THE DURATION OF THE PROJECT. ADDITIONAL MEASURES SHALL BE IMPLEMENTED AS REQUIRED TO ENSURE THAT ALL PAVED AREAS ARE KEPT CLEAN FOR THE DURATION OF THE PROJECT.
8. TESC MEASURES SHALL BE INSPECTED DAILY BY THE CONTRACTOR DURING ACTIVE WORK AND MAINTAINED AS NECESSARY TO ENSURE THEIR CONTINUED PROPER FUNCTIONING. WRITTEN RECORDS SHALL BE KEPT OF WEEKLY SITE INSPECTIONS AND SUBMITTED TO THE CITY AT THE END OF THE PROJECT.
9. THE CONTRACTOR SHALL MAINTAIN A FULLY STOCKED SPILL KIT ON SITE AT ALL TIMES.
10. ANY AREA NEEDING ADDITIONAL TESC MEASURES, BUT REQUIRING IMMEDIATE ATTENTION, SHALL BE ADDRESSED WITHIN 24 HOURS.
11. TESC MEASURES ON INACTIVE SITE AREAS SHALL BE MAINTAINED A MINIMUM OF ONCE A MONTH OR WITHIN 48 HOURS FOLLOWING A STORM EVENT.
12. THE CONTRACTOR SHALL DESIGNATE A PERSON TO BE TESC SUPERVISOR. THE TESC SUPERVISOR SHALL HAVE THEIR CERTIFIED EROSION AND SEDIMENT CONTROL LEAD (CESCL) CERTIFICATION AND BE RESPONSIBLE FOR MAINTENANCE AND REVIEW OF TESC MEASURES AND FOR COMPLIANCE WITH ALL PERMIT CONDITIONS RELATING TO TESC. THE TESC SUPERVISOR MUST BE AVAILABLE FOR RAPID RESPONSE TO TESC PROBLEMS. THE CONTRACTOR SHALL PROVIDE THE NAME AND PHONE NUMBERS TO REACH THE TESC SUPERVISOR, AT ALL TIMES, TO THE CITY AND ENGINEER.
13. SHOULD TESC MEASURES NOT BE PROPERLY INSTALLED AND MAINTAINED, THE CITY PARKS OR PUBLIC WORKS DEPARTMENT MAY STOP ALL WORK NOT PERTAINING TO THE CORRECTION OF TESC PROBLEMS UNTIL TESC MEASURES ARE RETURNED TO THE PROPER OPERATION.
14. ALL TESC BMPs SHALL BE MAINTAINED IN A SATISFACTORY CONDITION UNTIL SUCH TIME THAT CLEARING AND/OR CONSTRUCTION IS COMPLETED, PERMANENT DRAINAGE FACILITIES ARE OPERATIONAL, AND THE POTENTIAL FOR EROSION HAS PASSED.
15. AT A MINIMUM, EROSION AND SEDIMENT CONTROL FACILITIES SHALL BE MAINTAINED MONTHLY, OR FOLLOWING EACH RUNOFF PRODUCING STORM, TO ENSURE PROPER OPERATION OF ALL EROSION AND SEDIMENT CONTROL MEASURES.
16. THE PUBLIC RIGHT-OF-WAY SHALL BE KEPT CLEAN. TRACKING OF MUD AND DEBRIS FROM THE SITE WILL NOT BE ALLOWED. FAILURE TO COMPLY WITH THIS CONDITION WILL RESULT IN ALL WORK ON THE SITE BEING STOPPED UNTIL THE ISSUE IS CORRECTED, AT NO COST TO THE CITY.
17. SCRAPING AND SWEEPING OF STREETS, SIDEWALKS, AND FLOWLINES SHALL BE CONDUCTED AT THE END OF EACH WORK DAY WITH A VACUUM SWEEPER OR OTHER APPROVED MEANS.
18. THE WASHINGTON STATE CLEAN AIR ACT REQUIRES THE USE OF ALL KNOWN, AVAILABLE, AND REASONABLE MEANS OF CONTROLLING AIR POLLUTION, INCLUDING DUST. DUST CAN BE CONTROLLED BY WETTING EXPOSED SOILS, WASHING TRUCK WHEELS BEFORE THEY LEAVE THE SITE, AND INSTALLING AND MAINTAINING ROCK CONSTRUCTION ENTRANCES. CONSTRUCTION VEHICLE TRACK-OUT IS A MAJOR SOURCE OF DUST AND ANY EVIDENCE OF TRACK-OUT CAN TRIGGER FINES FROM THE DEPARTMENT OF ECOLOGY OR THE PUGET SOUND AIR POLLUTION CONTROL AGENCY THAT WILL BE THE RESPONSIBILITY OF THE CONTRACTOR.
19. CATCH BASIN INSERTS SHALL BE PROVIDED AND PROPERLY MAINTAINED IN ALL EXISTING AND NEW CATCH BASINS WITHIN THE CONSTRUCTION LIMITS. AT NO TIME SHALL MORE THAN 6 INCHES OF SEDIMENT BE ALLOWED TO ACCUMULATE WITHIN A CATCH BASIN INSERT.
20. THE CONTRACTOR SHALL IMPLEMENT LINEAR RUN-ON CONTROLS TO PREVENT WATER FROM ENTERING THE CONSTRUCTION AREA.
21. PORTABLE SANITARY FACILITIES SHALL BE LOCATED AT LEAST 25 FEET FROM ANY STORM WATER INLET OR WATER BODY AND SHALL BE SERVICED REGULARLY AS NEEDED.
22. STATIONARY EQUIPMENT (E.G., GENERATORS, LIGHT STANDS) CONTAINING ANY AMOUNT OF FUELS AND OR OILS SHALL BE EQUIPPED WITH SECONDARY CONTAINMENT

BULKHEAD & IN-WATER WORK PROCEDURES THAT WERE FOLLOWED

1. TAKE CARE TO PREVENT DEBRIS FROM ENTERING THE WATER DURING CONSTRUCTION AND REMOVE DEBRIS PROMPTLY IF IT DOES ENTER THE WATER. MATERIALS AND CONSTRUCTION METHODS SHALL BE USED WHICH PREVENT TOXIC MATERIALS, PETROCHEMICALS AND OTHER POLLUTANTS FROM ENTERING SURFACE WATER DURING AND AFTER CONSTRUCTION. APPROPRIATE EQUIPMENT AND MATERIAL FOR HAZARDOUS MATERIAL CLEANUP MUST BE KEPT AT THE SITE.
   A. ABSORBENT MATERIALS MUST BE EMPLOYED IF A PETROCHEMICAL SHEEN IS OBSERVED. MATERIALS SHALL REMAIN IN PLACE UNTIL ALL POLLUTANTS HAVE BEEN COLLECTED AND SHEENS DISSIPATE. USED ABSORBENT MATERIALS SHALL BE DISPOSED OF IN AN APPROPRIATE UPLAND FACILITY. CONTRACTOR TO NOTIFY ALL REQUIRED REGULATORY AGENCIES AND COMPLY WITH REPORTING REQUIREMENTS. DEPARTMENT OF ECOLOGY NOTIFICATION NUMBERS ARE 1-800-424-8802 AND 1-800-258-5990.
   B. ALL DISPOSED MATERIALS SHALL BE DEPOSITED IN A PERMITTED LANDFILL DISPOSAL FACILITY.
2. COMPLY WITH ALL PERMIT REQUIREMENTS.
3. IN-WATER DEBRIS BOOMS AND SILT CURTAINS SHALL BE DEPLOYED AROUND ALL ACTIVE WORK AREAS DURING DEMOLITION, AND IN-WATER CONSTRUCTION TO CONTROL DEBRIS AND MEET WATER QUALITY REQUIREMENTS. SEE DWG NO. C.1
4. CONSTRUCTION EROSION CONTROL MEASURES MUST BE IN PLACE PRIOR TO ANY DISTURBANCE.
5. NO SEDIMENT SHALL BE TRACKED INTO THE STREET OR ONTO PAVED SURFACES. SEDIMENT SHALL BE REMOVED FROM TRUCKS AND EQUIPMENT PRIOR TO LEAVING THE SITE. IN THE EVENT OF FAILURE OF THE EROSION CONTROL SYSTEM, RESULTING IN SEDIMENT BEING TRACKED ONTO PAVED SURFACES, THE CONTRACTOR SHALL IMMEDIATELY IMPLEMENT MEASURES TO CORRECT THE SITUATION, AND STREET SWEEPING SHALL BE EMPLOYED ON AN EMERGENCY BASIS. IF STREET SWEEPING VEHICLES ARE UTILIZED, THEY SHALL BE OF THE REGENERATIVE AIR TYPE.
6. CATCH BASIN INSERTS, MEASURES TO CONTROL TRACKED SEDIMENT, AND OTHER BEST MANAGEMENT PRACTICES (BMPs) AS REQUIRED TO PREVENT EROSION AND DISCHARGE OF SEDIMENT AND WASTE MATERIALS ON THE UPLANDS SHALL BE INSTALLED IN ALL LOCATIONS ON SITE WHERE CONTRACTOR TRUCKING AND LANDSIDE ACTIVITIES WILL OCCUR.
7. SEE DWG NO. C.5 FOR PILE REMOVAL BMPs.

SURVEYORS NOTES

1. DATA FOR THE SHORELINE SURVEY WAS GATHERED BY FIELD TRAVERSE UTILIZING ELECTRONIC DATA COLLECTION IN MAY 2017. SURROUNDING AREAS WERE SURVEYED IN NOVEMBER 2013 AND 2009 FOR PREVIOUS PROJECTS.
2. EQUIPMENT USED: THEOMAT 00'01.5" BASIS OF BEARINGS: WILSON SURVEYING & ENGINEERING MAP TITLE
3. HORIZONTAL DATUM: WASHINGTON STATE PLANE NORTH ZONE, NAD 83/91, "NORTH BOULEVARD PARK AND SHORELINE BASEMAPPING" DATED 2013, ON FILE WITH THE CITY OF BELLINGHAM PARKS DEPARTMENT
4. VERTICAL DATUM: MEAN LOWER LOW WATER (MLLW) (SEE WILSON NOTE ABOVE) CONTOUR INTERVALS ARE 1 FOOT AND ARE COMPUTER GENERATED FROM GROUND FIELD TOPOGRAPHY GATHER FOR THIS SURVEY UTILIZING ELECTRONIC DATA COLLECTION.
5. PACIFIC SURVEYING AND ENGINEERING INC., ASSUMES NO LIABILITY FOR ANY SUBSURFACE CONDITIONS OR FEATURES THAT MAY EXIST THAT ARE UNDETECTABLE AND/OR NOT PAINTED PRIOR TO SURVEY. NO UTILITY LOCATES PERFORMED FOR THIS SURVEY.
6. IRRIGATION LINES ARE KNOWN TO EXIST IN THIS AREA.



SEC 36, T 38 N, R 2 E, WM

HORIZONTAL DATUM:

THE HORIZONTAL DATUM FOR THE BOULEVARD PARK SHORELINE SITE PROJECT IS WASHINGTON STATE PLANE NORTH, NAD 83/91.

BASIS OF BEARINGS: WILSON SURVEYING & ENGINEERING MAP TITLE "NORTH BOULEVARD PARK AND SHORELINE BASEMAPPING" DATED 2013, ON FILE WITH THE CITY OF BELLINGHAM PARKS DEPARTMENT

VERTICAL DATUM:

THE VERTICAL DATUM FOR THE BOULEVARD PARK SHORELINE REPAIR SITE PROJECT IS MLLW (MEAN LOWER LOW WATER) TIDAL DATUM.

Source: Pacific Survey & Engineering, Inc., 5/16/2017; Coastal Geologic Services, 2017

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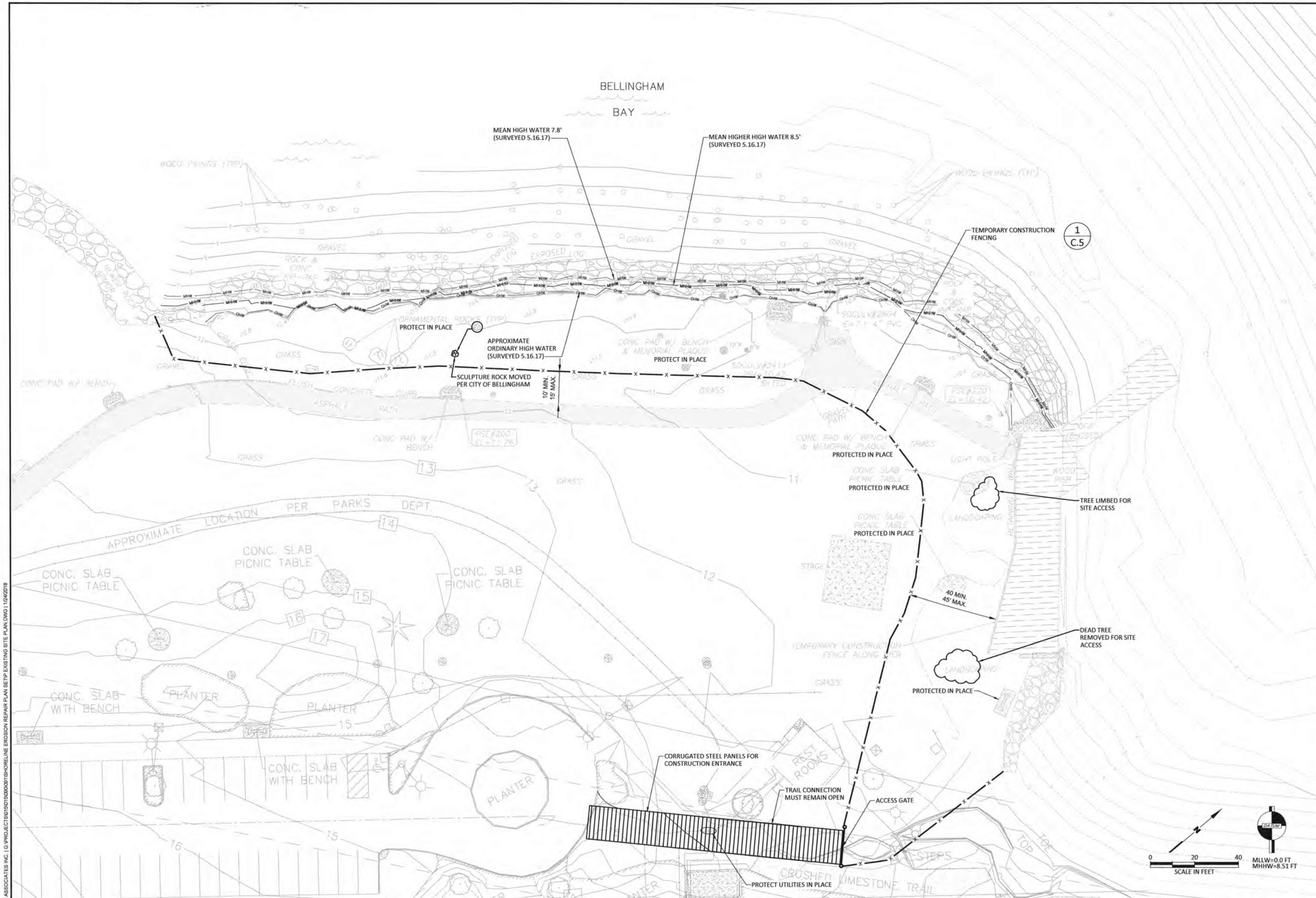
DRAFTED BY: C. CARLSTROM CQC
DESIGNED BY: C. CARLSTROM CQC
REVIEWED BY: K. WIKEN KWW
APPROVED BY: J. DAVIS JMD
DATE SURVEYED: 5/16/2017
SURVEYED BY: PACIFIC S&E
STATUS: RECORD DRAWINGS

INTERIM SHORELINE STABILIZATION
CITY OF BELLINGHAM BOULEVARD PARK
BELLINGHAM, WASHINGTON

GENERAL NOTES

NO.	DATE	REVISIONS
2.	1/19/18	RECORD DRAWINGS
1.	7/07/17	ISSUED FOR BID
0.	6/20/17	ISSUED FOR PERMITTING

PROJECT NO. 015015.091.095
DATE 1/19/18
SHEET 2 OF 7
DRAWING NO. G.2


BELLINGHAM
BAY
MEAN HIGH WATER 7.8' (SURVEYED 5.16.17)
MEAN HIGHER HIGH WATER 8.5' (SURVEYED 5.16.17)
WOOD PILINGS (TYP)
TEMPORARY CONSTRUCTION FENCING
1
C.5
ORNAMENTAL ROCKS (TYP)
PROTECT IN PLACE
APPROXIMATE ORDINARY HIGH WATER (SURVEYED 5.16.17)
SCULPTURE ROCK MOVED PER CITY OF BELLINGHAM
10' MIN. 15' MAX.
CONC PAD W/ BENCH & MEMORIAL PLAQUE
PROTECT IN PLACE
CONC PAD W/ BENCH & MEMORIAL PLAQUE
PROTECTED IN PLACE
CONC SLAB PICNIC TABLE
PROTECTED IN PLACE
CONC SLAB PICNIC TABLE
PROTECTED IN PLACE
TREE LIMBED FOR SITE ACCESS
40 MIN. 45' MAX.
DEAD TREE REMOVED FOR SITE ACCESS
PROTECTED IN PLACE
APPROXIMATE LOCATION PER PARKS DEPT.
CONC. SLAB PICNIC TABLE
CONC. SLAB PICNIC TABLE
CONC. SLAB PICNIC TABLE
CONC. SLAB WITH BENCH
CONC. SLAB WITH BENCH
PLANTER
PLANTER
PLANTER
REST ROOMS
STAGE
CORRUGATED STEEL PANELS FOR CONSTRUCTION ENTRANCE
TRAIL CONNECTION MUST REMAIN OPEN
ACCESS GATE
PROTECT UTILITIES IN PLACE
CRUSHED LIMESTONE TRAIL
STEPS
0
20
40
SCALE IN FEET
MLLW=0.0 FT
MHHW=8.51 FT
DATUM

Source: Pacific Survey & Engineering, Inc., 5/16/2017; Coastal Geologic Services, 2017

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LANDAU ASSOCIATES INC | G:\PROJECTS\015\015091\SHORELINE EROSION REPAIR PLAN SET\P EXISTING SITE PLAN.DWG | 1/24/2018

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DESIGNED BY:	C. CARLSTROM	CQC
REVIEWED BY:	K. WIKEN	KWW
APPROVED BY:	J. DAVIS	JMD
DATE SURVEYED:	5/16/2017	
SURVEYED BY:	PACIFIC S&E	
STATUS:	RECORD DRAWINGS	

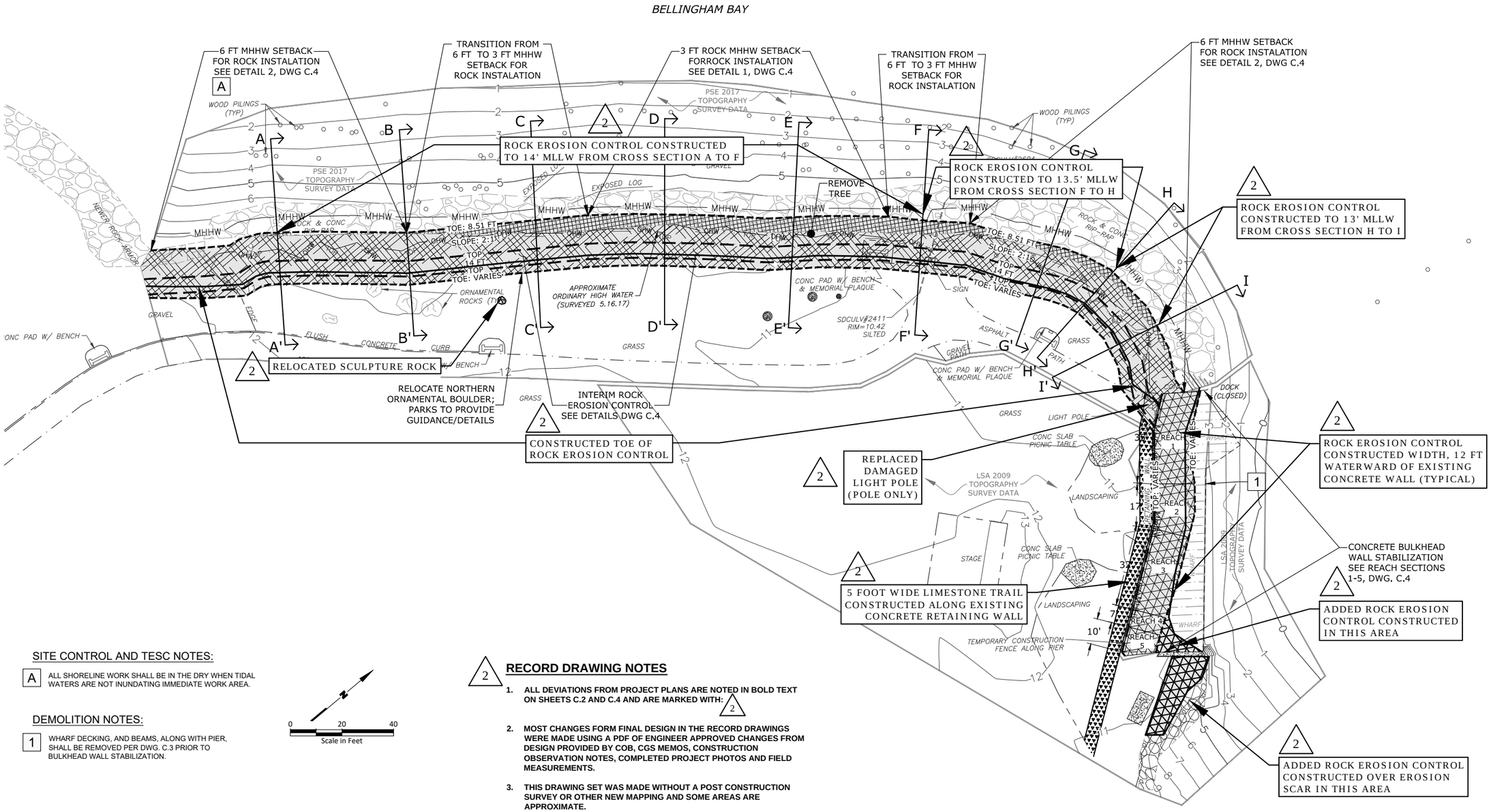
INTERIM SHORELINE STABILIZATION
CITY OF BELLINGHAM BOULEVARD PARK
BELLINGHAM, WASHINGTON

EXISTING SITE PLAN INCLUDING SITE PREPARATION

KENT W. WIKEN, STATE OF WASHINGTON, 34524, REGISTERED PROFESSIONAL ENGINEER, 1/9/18

NO.	DATE	REVISIONS
2.	1/19/18	RECORD DRAWINGS
1.	7/07/17	ISSUED FOR BID
0.	6/20/17	ISSUED FOR PERMITTING

PROJECT NO. 015015.091.095
DATE 1/19/18
SHEET 3 OF 7
DRAWING NO. C.1



SITE CONTROL AND TESC NOTES:

A ALL SHORELINE WORK SHALL BE IN THE DRY WHEN TIDAL WATERS ARE NOT INUNDATING IMMEDIATE WORK AREA.

DEMOLITION NOTES:

1 WHARF DECKING, AND BEAMS, ALONG WITH PIER, SHALL BE REMOVED PER DWG. C.3 PRIOR TO BULKHEAD WALL STABILIZATION.

2 RECORD DRAWING NOTES

1. **ALL DEVIATIONS FROM PROJECT PLANS ARE NOTED IN BOLD TEXT ON SHEETS C.2 AND C.4 AND ARE MARKED WITH: 2**
2. **MOST CHANGES FORM FINAL DESIGN IN THE RECORD DRAWINGS WERE MADE USING A PDF OF ENGINEER APPROVED CHANGES FROM DESIGN PROVIDED BY COB, CGS MEMOS, CONSTRUCTION OBSERVATION NOTES, COMPLETED PROJECT PHOTOS AND FIELD MEASUREMENTS.**
3. **THIS DRAWING SET WAS MADE WITHOUT A POST CONSTRUCTION SURVEY OR OTHER NEW MAPPING AND SOME AREAS ARE APPROXIMATE.**
4. **SEE MEMO FROM COASTAL GEOLOGIC SERVICES DATED 10/13/2017 FOR DETAILS REGARDING ROCK EROSION CONTROL PROFILE CHANGES SEE ALSO MEETING SUMMARY NO. 4**

Source: Pacific Survey & Engineering, Inc., 5/16/2017; Coastal Geologic Services, 2017

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DRAFTED BY: ADT
DESIGNED BY: ACB
REVIEWED BY: JWJ
APPROVED BY:
DATE SURVEYED: 5/16/2017
SURVEYED BY: PSE
STATUS: FOR BIDDING PURPOSES

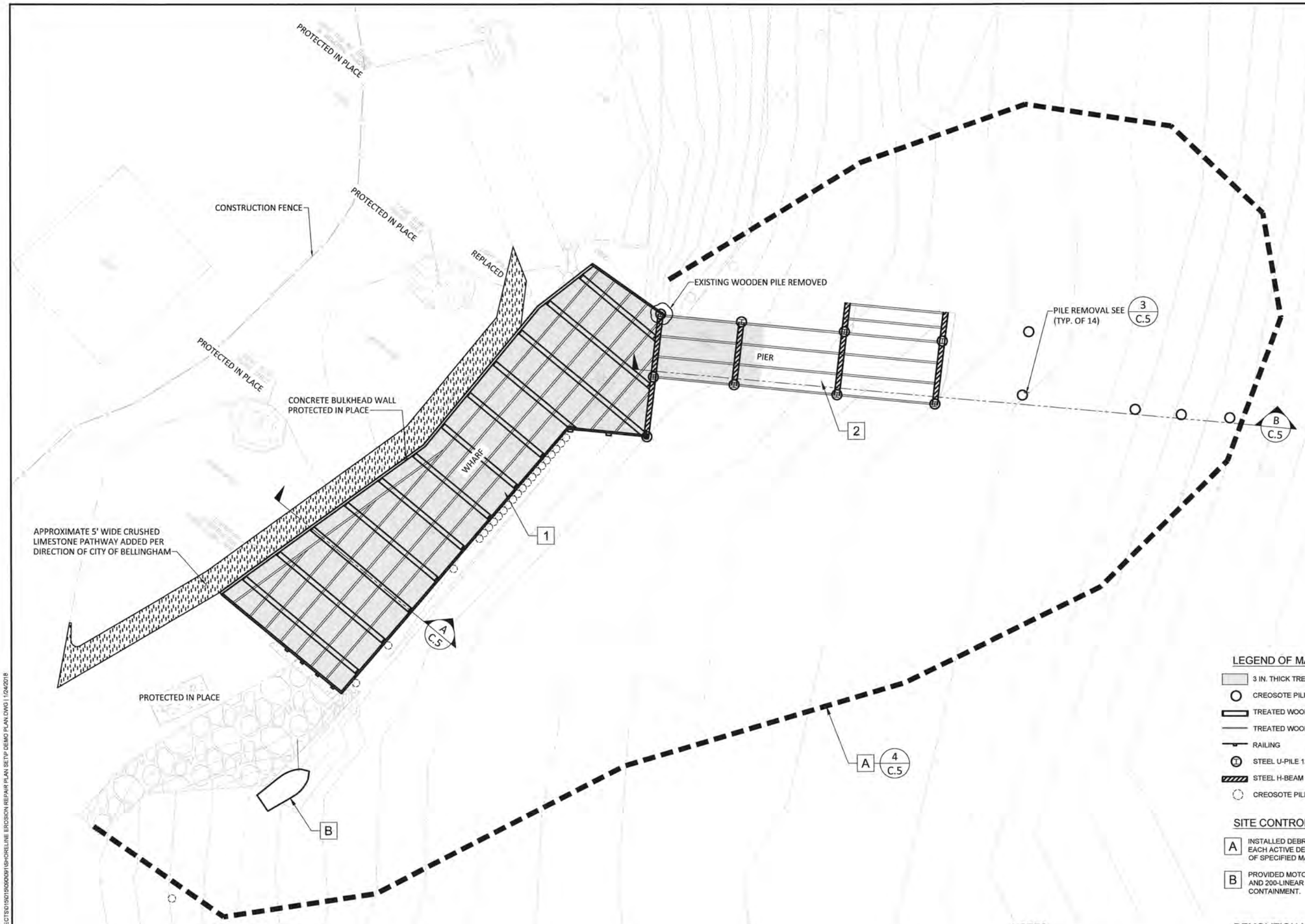
INTERIM SHORELINE STABILIZATION
CITY OF BELLINGHAM BOULEVARD PARK
BELLINGHAM, WASHINGTON

INTERIM SHORELINE STABILIZATION PLAN

State of Washington
Engineering
353
Licensed Geologist
James W. Johannessen
1-19-18

NO.	DATE	REVISIONS
2	1/19/18	RECORD DRAWINGS
1	7/7/17	ISSUED FOR BID
0	6/20/17	ISSUED FOR PERMITTING

PROJECT NO. 015015.090.091
DATE 1/19/18
SHEET 4 OF 7
DRAWING NO. C.2



LEGEND OF MATERIALS TO BE REMOVED:

- 3 IN. THICK TREATED WOOD DECKING
- CREOSOTE PILE 1 TO 2 FT. DIA.
- TREATED WOOD PILE SPAN BEAM 1' X 1' DIMENSION
- TREATED WOOD DECK BEAM 4" X 16"
- RAILING
- STEEL U-PILE 12" X 12" IN 24" DIA. CONCRETE
- STEEL H-BEAM 12" X 12"
- CREOSOTE PILE TO REMAIN IN PLACE

SITE CONTROL AND TESC NOTES:

A. INSTALLED DEBRIS BOOMS AND SILT CURTAINS AROUND EACH ACTIVE DEMOLITION AREA PRIOR TO DEMOLITION OF SPECIFIED MARINE STRUCTURES.

B. PROVIDED MOTORIZED WATER CRAFT WITH OIL SPILL KIT AND 200-LINEAR FEET OF FLOATING BOOM FOR OIL SPILL CONTAINMENT.

NOTES:

1. STRUCTURE LOCATIONS APPROXIMATE BASED ON NON-SURVEYED FIELD MEASUREMENTS.
2. PIERS AND ROCK UNDER WHARF NOT SHOWN BUT SHALL REMAIN AND BE PROTECTED IN PLACE.

DEMOLITION NOTES:

1. REMOVED, DEMOLISHED AND DISPOSED OF WOOD DECKING AND CROSSBARS FOR WHARF. SUPPORTING PILES REMAIN IN PLACE.
2. REMOVED, DEMOLISHED AND DISPOSED OF WOOD DECKING, CROSSBARS AND SUPPORTING PILES FOR DOCK.

0 10 20
Scale in Feet

Source: Pacific Survey & Engineering, Inc., 5/16/2017; Coastal Geologic Services, 2017

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LANDAU ASSOCIATES INC. | G:\PROJECTS\015\015090091\SHORELINE EROSION REPAIR PLAN SET\P DEMO PLAN.DWG | 1/24/2018

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DATE SURVEYED:	5/16/2017
SURVEYED BY:	PACIFIC S&E
STATUS:	RECORD DRAWINGS

CQC
CQC
KWW
JMD

INTERIM SHORELINE STABILIZATION
CITY OF BELLINGHAM BOULEVARD PARK
BELLINGHAM, WASHINGTON

OVER-WATER AND IN-WATER DEMOLITION PLAN

KENT W. WIKEN
34524
REGISTERED PROFESSIONAL ENGINEER
1/24/18

NO.	DATE	REVISIONS
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1.	7/07/17	ISSUED FOR BID
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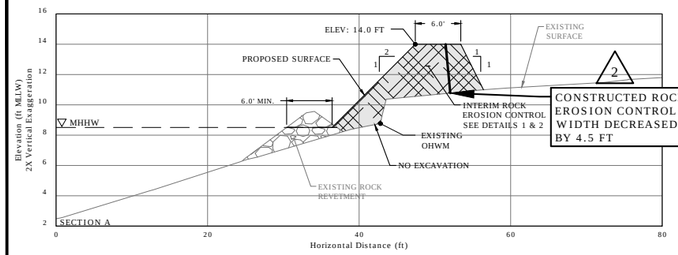
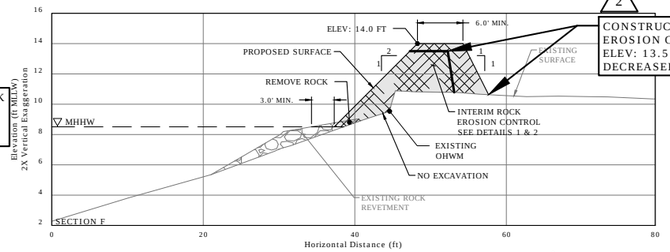
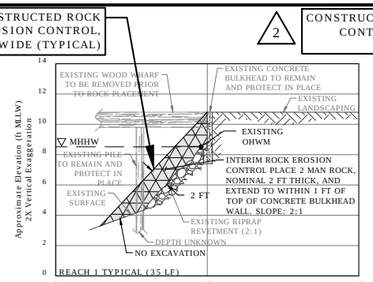
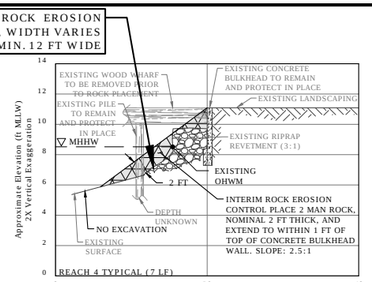
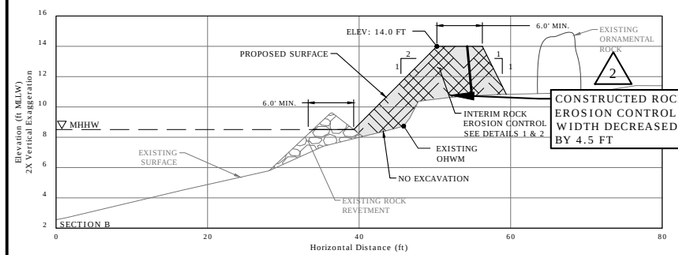
PROJECT NO. 015015.091.095
DATE 1/19/18
SHEET 5 OF 7
DRAWING NO. C.3

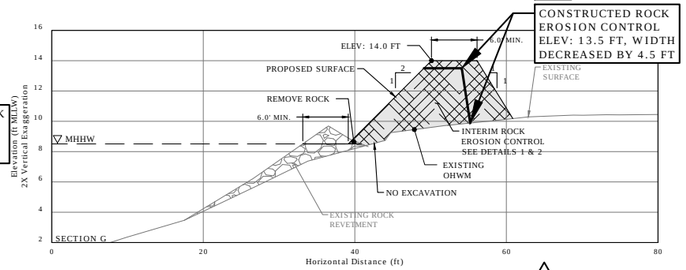


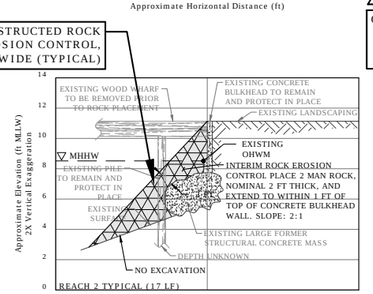


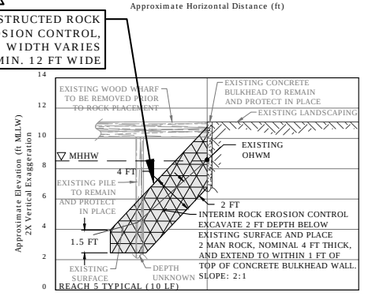


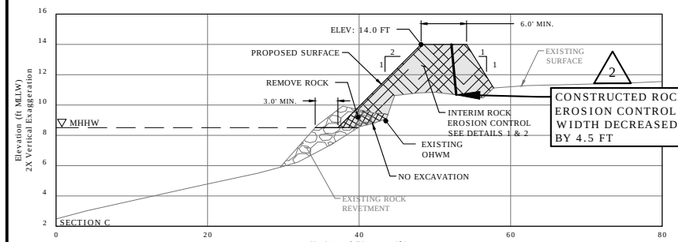


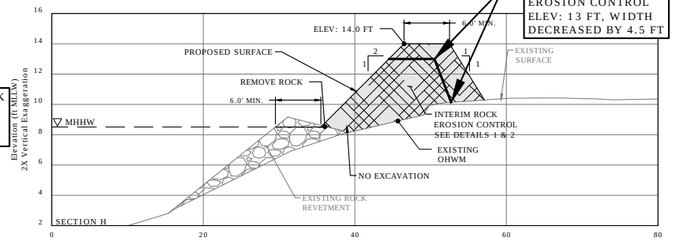


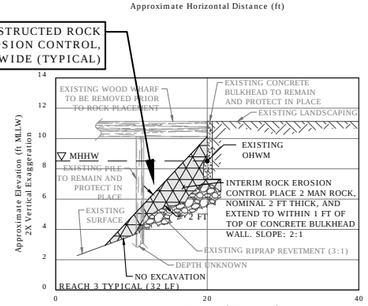




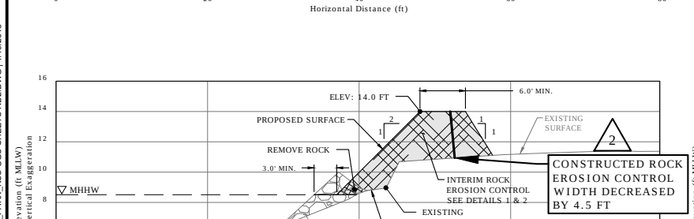


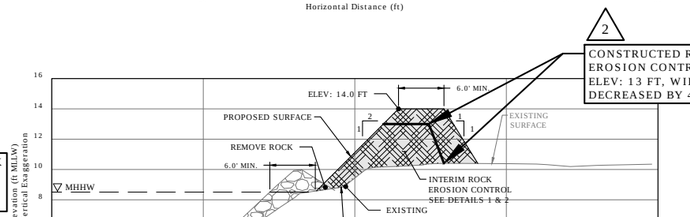


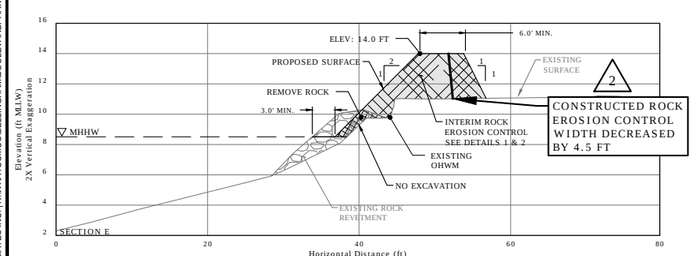


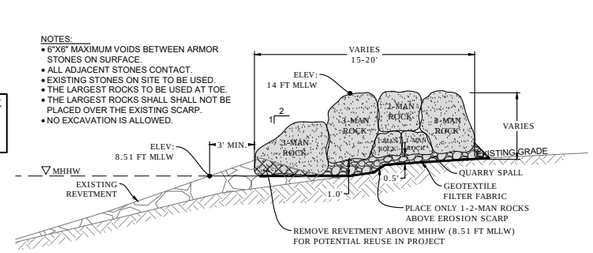


NOTE:
THE STRUCTURAL AND SUBSURFACE CONDITIONS OF THE EXISTING BULKHEAD WALL WERE NOT ASSESSED. THE PLACED RIPRAP DOES NOT GUARANTEE STRUCTURAL INTEGRITY OF THE EXISTING BULKHEAD WALL

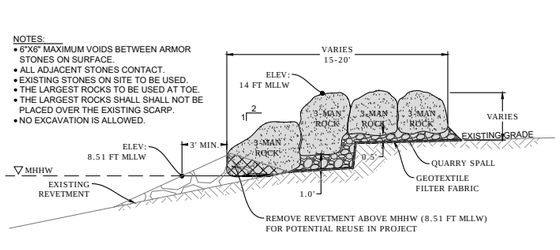








1 **INTERIM ROCK EROSION CONTROL DETAIL 1**
NOT TO SCALE, NO VERTICAL EXAGGERATION



2 **INTERIM ROCK EROSION CONTROL DETAIL 2**
NOT TO SCALE, NO VERTICAL EXAGGERATION

Source: Pacific Survey & Engineering, Inc., 5/16/2017; Coastal Geologic Services, 2017

COASTAL GEOLOGIC SERVICES
1711 Elle St, Suite 103
Bellingham, WA 98225
360-647-1845 • coastalgeo.com

LANDAU ASSOCIATES
130 2ND AVENUE S.
EDMONDS, WASHINGTON 98020
(425) 778-0907, FAX (425) 778-6409

DRAFTED BY: ADT
DESIGNED BY: ACB
REVIEWED BY: JWJ
APPROVED BY:
DATE SURVEYED: 5/16/2017
SURVEYED BY: PSE
STATUS: FOR BIDDING PURPOSES

INTERIM SHORELINE STABILIZATION
CITY OF BELLINGHAM BOULEVARD PARK
BELLINGHAM, WASHINGTON

INTERIM SHORELINE STABILIZATION SECTIONS

NO.	DATE	REVISIONS
2	1/19/18	RECORD DRAWINGS
1	7/7/17	ISSUED FOR BID
0	6/20/17	ISSUED FOR PERMITTING

PROJECT NO. 015015.090.091
DATE 1/19/18
SHEET 6 OF 7
DRAWING NO. C.4

LANDAU ASSOCIATES INC. | K:\WHATCOM\BELLINGHAM\BOULEVARD\PARK\2017\N_END_REPAIR\17-003-BLVD_PARK_NSS-CGS-SHEETS-R02.DWG | 1/19/2018

BEST MANAGEMENT PRACTICES FOR PILE REMOVAL & DISPOSAL

(BASED ON WASHINGTON STATE DEPARTMENT OF ECOLOGY)

THE PURPOSE OF THE FOLLOWING BEST MANAGEMENT PRACTICES (BMPs) IS TO CONTROL TURBIDITY AND SEDIMENTS RE-ENTERING THE WATER COLUMN DURING PILE REMOVAL, AND PRESCRIBE DEBRIS CAPTURE AND DISPOSAL OF REMOVED PILES AND DEBRIS. THESE ARE GENERAL BMPs. SPECIFIC PROVISIONS, OF THE TECHNICAL SPECIFICATIONS, AND PROJECT PERMITS CONTROL.

BMP 1 PILE REMOVAL PROCEDURES THAT WERE FOLLOWED

A. VIBRATORY EXTRACTION IS THE PREFERRED METHOD OF PILE REMOVAL.

1. CRANE OPERATOR SHALL BE TRAINED TO REMOVE PILE SLOWLY. THIS WILL MINIMIZE TURBIDITY IN THE WATER COLUMN AS WELL AS SEDIMENT DISTURBANCE.
2. OPERATOR TO "WAKE UP" PILE TO BREAK UP BOND WITH SEDIMENT.
   - VIBRATE TO BREAK THE SKIN FRICTION BOND BETWEEN PILE AND SEDIMENT.
   - BOND BREAKING AVOIDS PULLING OUT A LARGE BLOCK OF SEDIMENT - POSSIBLY BREAKING OFF THE PILE IN THE PROCESS.
   - USUALLY THERE IS LITTLE OR NO SEDIMENT ATTACHED TO THE SKIN OF THE PILE DURING WITHDRAWAL. IN SOME CASES MATERIAL MAY BE ATTACHED TO THE PILE TIP, IN LINE WITH THE PILE.
3. THE GREATEST POTENTIAL FOR CREOSOTE RELEASE TO THE ENVIRONMENT OCCURS IF EQUIPMENT (BUCKET, STEEL CABLE, VIBRATORY HAMMER) PINCHES THE CREOSOTED PILING BELOW THE WATER LINE. THEREFORE, THE EXTRACTION EQUIPMENT MUST BE KEPT OUT OF THE WATER.
4. PILING MUST NOT BE BROKEN OFF INTENTIONALLY BY TWISTING, BENDING OR OTHER DEFORMATION. THIS PRACTICE HAS THE POTENTIAL FOR RELEASING CREOSOTE TO THE WATER COLUMN.
5. WORK SURFACE ON BARGE DECK OR PIER SHALL INCLUDE A CONTAINMENT BASIN FOR PILE AND ANY SEDIMENT REMOVED DURING PULLING.
6. BASIN MAY BE CONSTRUCTED OF DURABLE PLASTIC SHEETING WITH SIDEWALLS SUPPORTED BY HAY BALES OR SUPPORT STRUCTURE TO CONTAIN ALL SEDIMENT. WATER RUN OFF CAN RETURN TO THE WATERWAY AFTER FILTRATION.
7. WORK SURFACE SHALL BE CLEANED BY DISPOSING OF SEDIMENT OR OTHER RESIDUES ALONG WITH CUT-OFF PILING AS DESCRIBED IN BMP 2C BELOW.
8. CONTAINMENT BASIN SHALL BE REMOVED AND DISPOSED IN ACCORDANCE WITH BMP 2C BELOW OR IN ANOTHER MANNER COMPLYING WITH APPLICABLE FEDERAL AND STATE REGULATIONS.
9. UPON REMOVAL FROM SUBSTRATE, THE PILE SHALL BE MOVED EXPEDITIOUSLY FROM THE WATER INTO THE CONTAINMENT BASIN. THE PILE SHALL NOT BE SHAKEN, HOSED--OFF, LEFT HANGING TO DRIP, OR ANY OTHER ACTION INTENDED TO CLEAN OR REMOVE ADHERING MATERIAL FROM THE PILE.

B. CUTTING WILL BE NECESSARY IF THE PILE HAS BROKEN OFF AT OR NEAR THE EXISTING SUBSTRATE SO THAT IT CANNOT BE REMOVED WITHOUT EXCAVATION, OR BELOW THE WATER LINE. PILE CUTOFF IS AN ACCEPTABLE ALTERNATIVE IF VIBRATORY EXTRACTION OR PULLING IS NOT FEASIBLE. EVERY ATTEMPT SHOULD BE MADE, HOWEVER, TO COMPLETELY REMOVE THE PILING IN ITS ENTIRETY BEFORE CUTTING. IF A PILE IS BROKEN OR BREAKS ABOVE THE MUD LINE DURING VIBRATORY EXTRACTION, ONE OF THE METHODS LISTED BELOW SHOULD BE USED TO CUT THE PILE. PRIOR TO COMMENCEMENT OF THE WORK, CONTRACTOR SHALL ASSESS THE CONDITION OF THE PILINGS. CONTRACTOR SHALL CREATE A LOG OUTLINING THE LOCATION AND NUMBER OF PILINGS THAT NEED TO BE CUT AND HAVE THIS LOG AVAILABLE TO THE AGENCIES UPON REQUEST.

1) A CHAIN SHOULD BE USED, IF PRACTICAL, TO ATTEMPT TO ENTIRELY REMOVE THE BROKEN PILE.
2) IF THE ENTIRE PILE CANNOT BE REMOVED, THE PILE SHOULD BE CUT BELOW THE MUD LINE BY USING A PNEUMATIC UNDERWATER CHAINSAW. PILING SHOULD BE CUT OFF AT LEAST 2 FEET BELOW THE MUD LINE IN SUB-TIDAL AREAS.
3) PILES SHALL BE CUT OFF AT LOWEST PRACTICAL TIDE CONDITION AND AT SLACK WATER. THIS IS INTENDED TO REDUCE TURBIDITY DUE TO REDUCED FLOW AND SHORT WATER COLUMN THROUGH WHICH PILE MUST BE WITHDRAWN.
4) IF THE PILING IS BROKEN OFF GREATER THAN 2 FEET BELOW MUD LINE, THE PILING MAY REMAIN.
5) THE CONTRACTOR SHALL PROVIDE THE LOCATION OF THE BROKEN OR CUT PILE USING GPS AND DOCUMENT THE LOCATION OF THE PILE ON THE RECORD DRAWINGS. THIS WILL BE NECESSARY AS PART OF DEBRIS CHARACTERIZATION SHOULD FUTURE DREDGING BE A POSSIBILITY IN THE AREA OF PILING REMOVAL.

⚠ NOT USED

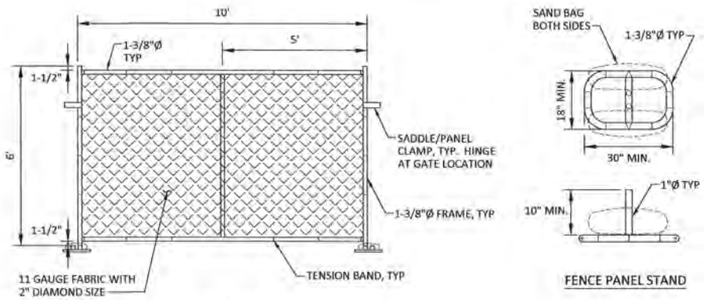
BMP 2 DISPOSAL OF PILING, SEDIMENT AND CONSTRUCTION RESIDUE PROCEDURES THAT WERE FOLLOWED

A. PULLED PILE SHALL BE PLACED IN A CONTAINMENT BASIN TO CAPTURE ANY ADHERING SEDIMENT. THIS SHOULD BE DONE IMMEDIATELY AFTER THE PILE IS INITIALLY REMOVED FROM THE WATER.

1. UTILIZE BASIN SET UP ON THE BARGE DECK.
2. BASIN MAY BE MADE OF HAY BALES AND DURABLE PLASTIC SHEETING.

B. PILING SHALL BE CUT INTO 4' LENGTHS WITH STANDARD CHAINSAW INSIDE CONTAINMENT SUCH THAT SAW DUST CAN NOT DROP INTO WATER.

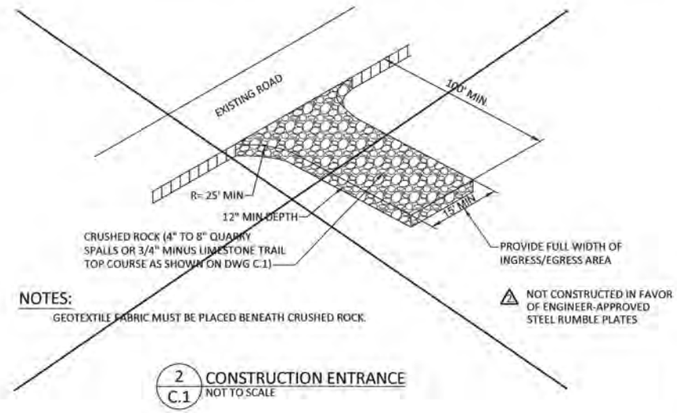
C. CUT-UP PILING, SEDIMENTS, CONSTRUCTION RESIDUE AND PLASTIC SHEETING FROM THE CONTAINMENT BASIN SHALL BE PACKED INTO A CONTAINER. DISPOSE OF MATERIAL IN A PERMITTED DISPOSAL FACILITY WHO HAS APPROVED ACCEPTANCE OF THESE WASTES FROM THIS PROJECT.



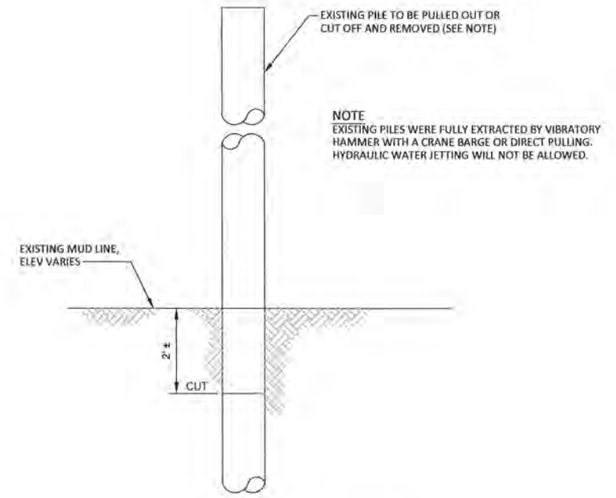
FENCE PANEL

FENCE PANEL STAND

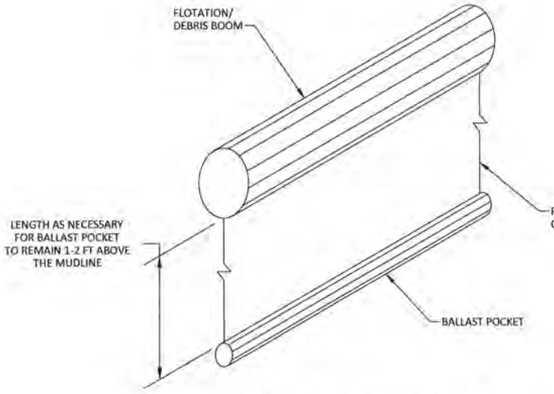
1 / C.1 TEMPORARY CONSTRUCTION FENCING
NOT TO SCALE



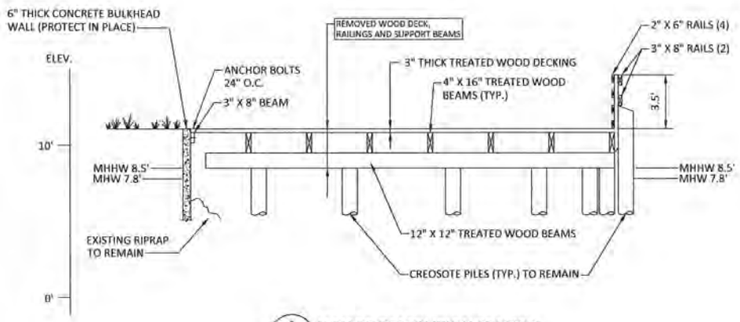
2 / C.1 CONSTRUCTION ENTRANCE
NOT TO SCALE



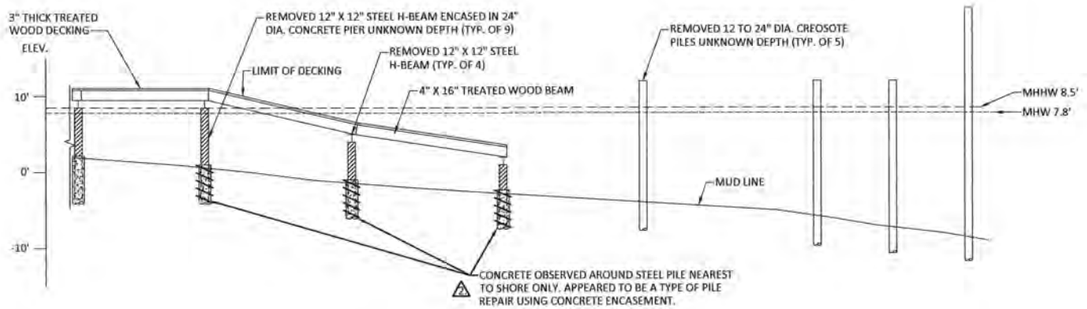
3 / C.3 TYPICAL PILE REMOVAL
NOT TO SCALE



4 / C.3 DEBRIS BOOM & SILT CURTAIN
NOT TO SCALE



A / C.3 WHARF DEMOLITION SECTION
SCALE: 1" = 5'-0"



B / C.3 PIER DEMOLITION SECTION
SCALE: 1" = 10'-0"

Source: Pacific Survey & Engineering, Inc., 5/16/2017; Coastal Geologic Services, 2017

CALL BEFORE YOU DIG 1-800-424-5555

COASTAL GEOLOGIC SERVICES
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DRAWN BY:	C. CARLSTROM
DESIGNED BY:	C. CARLSTROM
REVIEWED BY:	K. WIKEN
APPROVED BY:	J. DAVIS
DATE SURVEYED:	5/16/2017
SURVEYED BY:	PACIFIC S&E
STATUS:	RECORD DRAWINGS
CQC	CQC
KWW	KWW
JMD	JMD

INTERIM SHORELINE STABILIZATION
CITY OF BELLINGHAM BOULEVARD PARK
BELLINGHAM, WASHINGTON

SITE PREPARATION, OVER-WATER AND IN-WATER WORK DETAILS

NO.	DATE	REVISIONS
2.	1/19/18	RECORD DRAWINGS
1.	7/07/17	ISSUED FOR BID
0.	6/20/17	ISSUED FOR PERMITTING

PROJECT NO. 015015.091.095
DATE 1/19/18
SHEET 7 OF 7
DRAWING NO. C.5

LANDAU ASSOCIATES INC. | G:\PROJECTS\015\091\300\301\SHORELINE EROSION REPAIR PLAN SETS\OVERWATER & IN-WATER WORK DETAILS.DWG | 7/24/2018

APPENDIX B

Regulatory Approvals

B-1: Shoreline Permit Exemption #SHR2017-0029, Planning and Community Development Department

B-2: Washington Department of Fish and Wildlife (WDFW) Permit

B-3: Department of Ecology, State Environmental Policy Act (SEPA) Determination of Non-Significance (DNS)

B-4: United States Army Corps of Engineers, Nationwide Permit (NWP) 38

Shoreline Permit Exemption #SHR2017-0029, Planning and Community Development Department

PLANNING AND COMMUNITY DEVELOPMENT DEPARTMENT
210 Lottie Street, Bellingham, WA 98225
Telephone: (360) 778-8300 Fax: (360) 778-8302 TTY: (360) 778-8382

SHORELINE PERMIT EXEMPTION #SHR2017-0029
FINDINGS AND DECISION - TYPE I
SOUTH STATE STREET MGP MTCA INTERIM ACTION

Proposal: Two activities are proposed. The first is to install temporary shoreline stabilization in order to prevent additional seasonal erosion at Boulevard Park and to prevent contaminated materials originating from the South State Street Manufactured Gas Plant Cleanup Site (SSSMGP) from exposure to humans and from entering Bellingham Bay. The second activity is to remove an existing dilapidated over-water wharf and support pilings in order to reinforce the abutting bulkhead thereby reducing its likelihood of failure and sloughing into Bellingham Bay. Please see Exhibit A.

Both activities are considered an 'interim action' under the Model Toxics Control Act (MTCA) until a permanent solution (Cleanup Action Plan) is chosen by the Department of Ecology that includes coordination with the City of Bellingham and Puget Sound Energy for the SSSMGP. This interim action includes the following actions, generally, above and below the elevation of mean higher high water along the shoreline at Boulevard Park:

- ✓ Excavation along approximately 450 lineal feet of the current shoreline edge;
- ✓ Placement of a geotextile separator 'fabric' over exposed / excavated soil;
- ✓ Placement of a quarry spall base and 3-4 man rock (approx. 1,100 cubic yards) resulting in a 2-3 foot tall berm (above existing park grade) that will stabilize the shoreline and prevent further erosion and soil exposure;
- ✓ Removal of the wood pier currently closed to public access;
- ✓ Removal of the treated wood pilings supporting the wooden pier;
- ✓ Strengthening remaining bulkhead that supports the wooden pier; and
- ✓ Conducting the work during established fish-safe windows and at low tides to minimize impacts to aquatic species.

A complete project description is provided within the Draft Interim Action Work Plan for the SSSMGP Cleanup Site dated June 7, 2017 by Landau and Associates, Inc., provided on Exhibit B.

Applicant: Steve Quarterman, Landau and Associates, Inc., 425-329-0321 or squarterman@landauinc.com for City of Bellingham, Gina Austin, city project manager, 360-778-7014 or gaustin@cob.org

Location: Generally located at Boulevard Park at 470 Bayview Drive. Area 6, South Hill Neighborhood, public zoning, urban conservancy shoreline designation, marine reach #9.

Decision: September 1, 2017

Exhibits: A: Site Plans
B: Draft Interim Action Work Plan
C: SEPA DNS
D: Technical Memo: Biological Evaluation / Interim Shoreline Stabilization by Landau and Associates dated 6/30/2017.

I. FINDINGS OF FACT / CONCLUSIONS OF LAW

1. On June 30, 2017 a Biological Evaluation Technical Memorandum prepared by the applicant was submitted to the USACE in order to receive a Federal effects determination and subsequent approval of the project under Section 10 and Section 404 permits)
2. On July 27, 2017 the Department of Ecology's Toxics Cleanup Program issued a SEPA DNS for the proposed interim action. The comment period expired on August 21, 2017. The SEPA DNS is provided on Exhibit C.
3. On July 28, 2017 the applicant submitted materials for this shoreline exemption to the Planning and Community Development Department. (PCDD)
4. On August 30, 2017 the applicant provided to the PCDD provisions from WDFW detailing parameters and conditions to be implemented during the proposed interim action.
5. On September 1, 2017 the applicant provided to the PCDD USACE Nationwide Permit approvals for the proposed interim action including ESA Determination of "may affect, not likely to adversely affect" listed species, most notably Puget Sound Chinook and steelhead as well as Coastal Puget Sound bull trout and spawning pacific herring.
6. The SSSMGP Cleanup Site is governed by Agreed Order #7655. (April 2010)
7. The proposed interim action requires approval of an amendment to the original Agreed Order.
8. The proposed interim action occurs within Boulevard Park which comprises Area 6 of the South Hill Neighborhood. Area 6 is zoned public.
9. The proposed interim action is within marine reach #9, an urban conservancy shoreline designation.
10. The interim action does not occur in shorelines of statewide significance (water-ward of the elevation of mean lower low water.)
11. The existing use is Boulevard Park, a water-oriented use which provides public access, hand-carry craft launching and an eating facility. The Park is a conforming use with respect to zoning and shorelines.
12. Shoreline exemptions are issued for projects that fit any of the exemption criteria in BMC 22.05.020 B and are compliant with the goals, policies and regulations contained in BMC 22 overall. Shoreline permits and their associated procedures are not required for exemptions.
13. The proposed interim action qualifies for a shoreline exemption pursuant to BMC 22.05.020 B 1 b and q.
14. The proposed interim action is a maintenance and repair activity in order to prevent a cessation from a lawfully established condition - the Park. (subsection b)
15. The proposed interim action is a hazardous substance remedial action under the Agreed Order. (subsection q)
16. The removal of the over-water wharf and support pilings is a maintenance activity via removal.
17. The required buffer for marine reach #9 is 150-feet. However, certain structures and activities are permitted in buffers including shoreline modification and stabilization, pursuant to BMC 22.08.010 B 4 b.
18. BMC 22.08.010 B 4 b specifies that shoreline modification and stabilization may be permitted as an element of a water-oriented use provided that it is consistent with the policies and regulations in BMC 22.08.120: Shoreline Modification and Stabilization.
19. Boulevard Park is a water-oriented use as specified in finding #11, above.
20. BMC 22.08.120 requires, generally, that bio-engineered stabilization techniques should be considered prior to employing structural techniques and that the resulting action cannot result in a net loss to existing shoreline ecological function.

21. This particular reach of shoreline is susceptible to seasonal erosion resulting from severe tidal, current and wave energy - especially during fall and winter seasons. Weather originating from the south west during these periods continues to erode this particular reach of shoreline despite ongoing implementation of smaller less effective stabilization measures. Bio-engineered techniques will not achieve the intended objectives.
22. Past shoreline stabilization and nearshore restoration have occurred at Boulevard Park directly abutting to the south. Bio-engineered measures were not implemented due to the high susceptibility of erosional forces in that location also.
23. The applicant has provided a Biological Evaluation that concludes that potential impacts to habitat and water quality will not occur as a result of the entire project. Please also see findings 4 and 5. The BE is provided on Exhibit D.
24. While the interim action is not required to preserve any structures from destruction by flooding or erosion the contaminated materials within the SSSMFG Cleanup Site must be retained in place - hence the proposed action.
25. The action is an "interim action" under MTCA and may not be the final clean up action chosen. The final clean up option should include nearshore habitat restoration elements such that the existing shoreline ecological function in this location is improved.
26. The policy in RCW 90.58.020 clearly states that shoreline management is intended to "protect against adverse effects to the public health the land and its vegetation and wildlife and the waters of the state and their aquatic life, while protecting generally public rights of navigation..." all of which the proposed interim action achieves.
27. The proposed interim action is consistent with the exemption criteria specified in findings 13-15 and an exemption should be approved.

II. DECISION

Based upon the Findings of Fact and the Conclusions of Law, the Director of Planning and Community Development Department (PCDD), or designee, approves this shoreline permit exemption #SHR2017-0029 for the proposed interim action. This shoreline exemption is granted pursuant to BMC 22.05.020 B 1 b and q subject to the following condition:

The applicant or owner shall demonstrate that the proposed interim action is consistent with BMC 15.42.

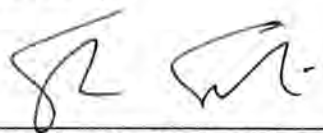
III. EXPIRATION

This shoreline exemption shall expire two years from the date of approval.

IV. APPEAL

Any party aggrieved by the decision of the Director may file an appeal within 14 days of the notice of decision in accordance with BMC 21.10.250.

Approved by



9-1-17

Steven Sundin, Senior Planner Date
Planning and Community Development Dept.

Washington Department of Fish and Wildlife Permit

WASHINGTON DEPARTMENT OF FISH AND WILDLIFE
BELLINGHAM BAY MTCA PROVISIONS
FOR; INTERIM SHORELINE STABILIZATION, CITY OF BELLINGHAM BOULEVARD PARK

TIMING LIMITATION

- Work below the ordinary high water line (OHWL) may occur only from August 1 - December 31 and from January 1 - February 15 of any year.

SHORELINE STABILIZATION

Working below the ordinary high water line (OHWL) on documented surf smelt beaches

- A survey for surf smelt eggs must be completed prior to initiating work to ensure that there will be no impact on surf smelt spawn. The survey must be conducted by a WDFW certified biologist.

- Work should only be conducted from August 1 through December 31 and January 1 through January 31 of any year IF the biologist does not detect surf smelt eggs during a beach survey.

- The biologist must follow the department-approved intertidal forage fish spawning protocol and use the standard department data sheets when conducting forage fish spawning beach surveys.

- Work must begin within seventy-two hours of the survey and you must complete the work within two weeks of the survey.

CREOSOTE-TREATED PILING REMOVALS

Extraction

- To the extent possible, piles shall be extracted in the dry to minimize sediment disturbance and turbidity.

- The piles shall be extracted with a vibratory hammer.

- Piles shall be removed slowly to minimize sediment disturbance and turbidity, and to minimize the likelihood of breakage.

- If the pile breaks off at or near the mudline, the area around the pile shall be excavated to expose sufficient competent pile length to attach the hammer. Additional attempts shall be made to extract the pile in its entirety.

- Excavation around the pile shall be a maximum of 3 feet deep and, to the extent possible, shall be performed in the dry.

- Extracted piles shall be immediately placed in a containment basin constructed on the barge or adjacent upland to capture and contain the extracted piles, adhering sediments and water.

- Extracted piles shall not be shaken, hosed-off, left hanging to drip or any other action intended to clean or remove adhering material from the pile prior to placing the pile in the containment basin.

- Excavated sediment shall be collected and placed in the containment basin constructed on the barge or adjacent upland.

Cutting

- If, after excavating around the pile, a minimum of 2 vibratory extraction attempts are not successful, the pile shall be cut at the at the bottom surface of the excavation using a chainsaw.

- Prior to cutting, fabric containment shall be placed around the pile to catch any sawdust or wood debris.

- To the extent possible, piles shall be cut in the dry using a chainsaw with a containment bag to catch sawdust/wood debris during cutting.

- The cut-off pile shall be covered with 6 inches of bentonite clay. This material shall cover the entire bottom of the excavation.

- The remainder of the excavation void shall be filled to the level of the surrounding existing mudline with clean sand.

- To the extent possible, placement of the clay and sand shall be done in the dry.

- The GPS location of each piling that is cut off shall be logged and the log provided to Ecology.

- The cut off pile stub shall be captured, removed and deposited in the containment basin constructed on the barge or adjacent upland.

- The fabric containment, sawdust, and wood debris shall be removed and deposited in the containment basin constructed on the barge or adjacent upland.

Removal area

- After extracting/cutting piles in accordance with the above, 6 inches of clean gravel substrate shall be placed over the entire piling removal area to address any residual sediment contamination caused by the removal activities.

Debris capture in water

- A floating surface boom shall be installed around the pile extraction site to capture floating pile debris. Floating pile debris shall be removed and deposited in the containment basin constructed on the barge or adjacent upland.

- The floating surface boom shall be equipped with absorbent pads to contain any oil sheens. The absorbent pads shall be removed and deposited in the containment basin constructed on the barge or adjacent upland.

Barge operations, work surface, containment

- Construction barges shall be restricted to tide elevations adequate to prevent grounding of the barge.

- Barge anchors are not allowed.

- To the extent possible, the barge location shall be fixed through the use of methods that do not disturb the sediments (e.g. mooring dolphins, docks, piers, upland structures). Where these methods are not feasible spuds may be used. The use of walking spuds is not allowed.

- Motorized vessel operation shall be restricted to tidal elevations adequate to prevent prop scour disturbance to the sediments.

- Minimal propulsion power shall be used when maneuvering barges or other vessels to prevent prop scour disturbance to the sediments.

- A containment basin shall be constructed on the barge deck or adjacent upland to receive the piles, pile stubs, water, sawdust and sediment.

- The containment basin shall be constructed of a durable impermeable sheeting with sidewalls supported by hay bales or support structure.

- Extracted piles within the containment basin or disposal container shall be cut to size as required by container and disposal contractors. All sawdust and cuttings shall be contained within the containment basin or disposal container.

- All material collected within the containment basin, including rainwater contacting material in the containment basin, shall be confined to the containment basin.

Disposal

- Piles, pile stubs, piles cut to size, fabric containment, sawdust, wood debris, sediment, and absorbent pads from the floating surface boom shall be removed and disposed in accordance with applicable federal and state regulations.

- Water captured in the containment basin shall be removed and disposed in accordance with applicable federal and state regulations.

- The containment basin shall be removed and disposed in accordance with applicable federal and state regulations.

Department of Ecology, State Environmental Policy Act (SEPA) Determination of Non-Significance (DNS)

STATE OF WASHINGTON
DEPARTMENT OF ECOLOGY
Northwest Regional Office • 3190 160th Ave. SE • Bellevue, Washington 98008
(425) 649-7000 • FAX (360) 649-7161

STATE ENVIRONMENTAL POLICY ACT (SEPA)
DETERMINATION OF NON-SIGNIFICANCE (DNS)

Description of proposal: The proposed action includes amending the legal agreement (Agreed Order: DE 7655) between the Washington State Department of Ecology, City of Bellingham and Puget Sound Energy. This legal agreement enables the cleanup process for the South State Street Manufactured Gas Plant cleanup site under the state's Model Toxics Control Act (MTCA). The proposed project is described in the Draft Interim Action Work Plan. The proposed project will repair approximately 450 linear feet of shoreline that is eroding, remove approximately 3,500 square feet of wooden pier and associated wooden piles, and stabilize the concrete bulkhead wall that supports the pier. This interim action is critical to preventing 1) human exposure to potentially contaminated upland soil, and 2) the release of contamination to sediment in Bellingham Bay. The interim action will be designed to temporarily stabilize the shoreline to facilitate completion of the ongoing RI/FS implementation of the selected cleanup action which will include measures to provide long-term shoreline restoration and repair.

Proponent: Gina G. Austin, P.E., MSCE, City of Bellingham, Parks Development Division
gaustin@cob.org, (360) 778-7000, 210 Lottie Street, Bellingham, WA 98225

Location of proposal: Boulevard Park, Bellingham, WA, Township 38 North, Range 2 East, Section 36, W.M., 48.732925, -122.501598

SEPA Lead Agency: Department of Ecology, NWRO Toxics Cleanup Program

The lead agency for this proposal has determined that it does not have a probable significant adverse impact on the environment. An environmental impact statement (EIS) is not required under RCW 43.21C.030 (2)(c). This decision was made after review of a completed environmental checklist and other information on file with the lead agency. This information is available to the public on request.

This DNS is issued under WAC 197-11-340(2); the lead agency will not act on this proposal for 15 days from the date below. Comments must be submitted by August 21, 2017.

SEPA Responsible Official: Robert W. Warren

Position/Title: NWRO Toxics Cleanup Program Section Manager

Phone: (425) 649-7123

Address: 3190 160th Ave., SE, Bellevue, WA 98008

Date Issued: 7/27/17 **Signature:** _____

There is no agency appeal.

SEPA ENVIRONMENTAL CHECKLIST

Purpose of checklist:

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

***Instructions for applicants*:**

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

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

Instructions for Lead Agencies:

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

Use of checklist for nonproject proposals: [help]

For nonproject proposals (such as ordinances, regulations, plans and programs), complete the applicable parts of sections A and B plus the SUPPLEMENTAL SHEET FOR NONPROJECT ACTIONS (part D). Please completely answer all questions that apply and note that the words "project," "applicant," and "property or site" should be read as "proposal," "proponent," and "affected geographic area," respectively. The lead agency may exclude (for non-projects) questions in Part B - Environmental Elements –that do not contribute meaningfully to the analysis of the proposal.

A. Background [help]

1. Name of proposed project, if applicable: [help]

Interim Shoreline Stabilization, City of Bellingham Boulevard Park

2. Name of applicant: [help]

City of Bellingham - Parks Development Division

3. Address and phone number of applicant and contact person: [help]

Gina G. Austin, P.E., MSCE
Project Engineer
City of Bellingham - Parks Development Division
Bellingham City Hall, 210 Lottie Street, Bellingham, Washington 98225
Phone: (360) 778-7000
Email: gaustin@cob.org

4. Date checklist prepared: [help]

June 12, 2017

5. Agency requesting checklist: [help]

Washington State Department of Ecology (Ecology)

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

Construction of the interim shoreline stabilization is planned after August 1 through October 2017.

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

A remedial investigation and feasibility study (RI/FS) is being conducted under an Agreed Order (No. 7655, as amended) between the City of Bellingham (City), Puget Sound Energy (PSE), and Ecology (Document No. 7655). The RI/FS will lead to a final cleanup action in accordance with the Model Toxics Control Act (MTCA) regulations. This project is an interim stabilization action to provide protective measures during the time required to complete the MTCA RI/FS process. The interim stabilization action will be implemented prior to selecting the final cleanup action for the site and will not prevent the selection or implementation of other reasonable alternatives for the final cleanup action, per Washington Administrative Code (WAC) 173 340 430(3)(b).

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

- Interim Action Work Plan
- Basis of Design Technical Memorandum

- Joint Aquatic Resources Permit Application – in process
- Biological Assessment – in process

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

- As previously noted, the property is going through the MTCA cleanup processes under Agreed Order 7655. In accordance with the Agreed Order, all investigation and cleanup activities, including this Interim Action to stabilize the shoreline, are subject to review and approval by Ecology prior to implementation. Ecology has reviewed a preliminary draft of the Interim Action work plan, and is expected to provide approval to proceed after completing the public review and commenting period, required by MTCA.
- A remedial investigation (RI) report is being prepared to present the site's environmental data with comparisons to regulatory criteria. A feasibility study (FS) is underway to develop and evaluate cleanup actions to address contamination. The cleanup process is being conducted under the supervision of Ecology, who will select the preferred remedy for site cleanup upon completion of the FS.
- The City has proposed an over-water walkway extending from Boulevard Park to Cornwall Avenue. Environmental permits for the walkway were initially submitted June 14, 2010. Permit review is on hold pending negotiation with the regulatory agencies and tribes.

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

The project will require acquisition and/or meet the substantive requirements of:

- Shoreline Exemption – City of Bellingham
- Hydraulic Project Approval – Washington Department of Fish and Wildlife
- Section 10/Section 404 Authorization – US Army Corps of Engineers
- Aquatic Lands Lease Approval – Washington Department of Natural Resources
- Interim Action Approval - Washington State Department of Ecology

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

The proposed project will repair approximately 450 linear feet of shoreline that is eroding, remove approximately 3,500 square feet of wooden pier and associated wooden piles, and stabilize the concrete bulkhead wall that supports the pier. Most of the bulkhead, pier, piling, and wood decking has shifted and bowed, and the top of the bulkhead is rotated outward toward the water. The interim shoreline stabilization includes:

- Site preparation involving movement of some existing riprap armor to provide a smooth surface of exposed soil for proposed riprap foundation.
- Placing a separation geotextile over the exposed soil.
- Placing appropriately-sized rock on the separation geotextile and filling in the gap formed by erosion to a height established by the design.
- Over-water demolishing the public wharf and pier wood decking.
- Demolishing select steel and concrete piles that extend out from and below the public pier by first trying vibratory removal with direct pull; if removal is not possible or the pile breaks and cannot be grabbed, exposing an approximate 3-foot diameter around each pile and cutting the timber approximately 2 feet below the mudline.
- Placing appropriately-sized rock against the water side of the bulkhead wall and backfilling voids on the upland side of the wall with rock.

This interim action is critical to preventing 1) human exposure to potentially contaminated upland soil, and 2) the release of contamination to sediment in Bellingham Bay. The interim action will be designed to temporarily stabilize the shoreline to facilitate completion of the ongoing RI/FS implementation of the selected cleanup action which will include measures to provide long-term shoreline restoration and repair.

12. Location of the proposal. Give sufficient information for a person to understand the precise location of your proposed project, including a street address, if any, and section, township, and range, if known. If a proposal would occur over a range of area, provide the range or boundaries of the site(s). Provide a legal description, site plan, vicinity map, and topographic map, if reasonably available. While you should submit any plans required by the agency, you are not required to duplicate maps or detailed plans submitted with any permit applications related to this checklist. [help]

The proposed project is located along the northwest and north shoreline of Boulevard Park. Boulevard Park is located on Bellingham Bay along South State Street and Bay View Drive in the South Hill Neighborhood.

B. ENVIRONMENTAL ELEMENTS [help]

1. Earth [help]

a. **General description of the site: [help]**

(circle one): Flat, rolling, hilly, steep slopes, mountainous, other _____

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

Boulevard Park is relatively flat in the area of interest (along the shoreline). Slope at the face of the existing bulkhead located in a portion of the shoreline is approximately 100 percent (vertical).

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

Boulevard Park has a low bank shoreline where fill was placed historically to expand the low lying shoreline waterward into Bellingham Bay. Much of this fill material consists of wood debris, soil, and rubble (e.g., broken concrete and riprap) that were used to control erosion. The repairs proposed are intended to be placed over existing exposed soils with minimal to no disturbance or removal of the exposed soils.

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

The shoreline of Boulevard Park has a low slope that is exposed to wind-driven waves from predominant southwest winds of winter and northwest winds of the summer. Riprap along the west side of the site was originally placed along the shoreline to protect it from erosion. However, the higher elevation portions of the riprap at the interface with the grassed upland has washed away and exposed the underlying fill soils—some of which may be contaminated. The public pier on the north end has been damaged and is failing. The underlying concrete bulkhead wall, which serves as the landward connection point for the public pier, is also cracking and showing signs of failure. Significant shoreline erosion occurred as a result of a February 2017 storm event.

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

Purpose

- The purpose for movement or placement of materials is to provide temporary erosion control.

Materials

- Armor rocks will generally be 3- and 4-man size; underlain by quarry spall bedding. 1- and 2-man rocks will be used between the quarry spall and armor rock layers. Rocks will be angular and durable; sedimentary rock will not be used
- Armor rocks will be unweathered igneous quarry stone from Whatcom County quarries.
- A non-woven geotextile filter fabric will be used to create a separation layer between existing and newly placed materials.

Area/Quantities/Grading

- Rock erosion control will be placed along approximately 540 linear feet of shoreline.

- Project activities will occur landward of mean higher high water (MHHW), except for rock placement in front of an existing concrete bulkhead to limit further deterioration of that feature during completion of the RI/FS.
- In elevation, the rock erosion control will crest at 14 feet above mean lower low water (MLLW) with a front face slope on the waterward side of 1:1, a crest width of approximately 6 feet, and a landward-side slope of 2:1 to tie in the existing grass lawn. The 6-foot crest width allows for stability using large rock.
- Anticipated volume of materials:
  - 700 cubic yards (CY) of large rock (3- and 4-man)
  - 135 CY of small rock (1- and 2-man)
  - 215 CY of quarry spall
  - 1,200 square yards of geotextile
  - 60–100 CY of current rubble, debris, pile, and stone will be removed from its current location for project implementation. Most of this material will be reused in the project (see *Excavation* below).

Excavation

- Excavation will be limited to the greatest extent possible with the design intent of conducting no excavation. Some existing rock materials along the shoreline will be reworked to provide a stable or flatter working surface for placement of the stabilization materials. Brick or concrete fill materials which prevent creation of a stable or flatter working surface will be removed, containerized, and properly disposed of at an offsite solid waste disposal facility permitted to accept such materials.

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

Some minor short-term erosion during construction could occur; however, no long-term erosion is anticipated as a result of project activities, as the project objective is shoreline stabilization.

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

The proposed project will not add any impervious surfaces.

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

Proposed shoreline stabilization will preserve existing uplands in Boulevard Park adjacent to Bellingham Bay. All shoreline work will be conducted in the dry when tidal waters are at a lower elevation. During construction, best management practices (BMPs) will be used for erosion control

and pile removal. Any necessary temporary erosion and sediment control (TESC) measures will be developed as necessary, approved by the City, and implemented by the contractor.

2. Air [help]

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

Project construction activities could generate onsite dust from equipment operation, but these effects are anticipated to be temporary, minor, and largely contained at and within short distances from the proposed project site. Construction equipment and vehicles will generate minor amounts of localized carbon monoxide, and other products of combustion and particulate emissions. These emissions would only slightly degrade local air quality and on a temporary basis. No emissions will result from the completed project.

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

No offsite sources of emissions or odor have been identified that would affect the proposed project.

c. Proposed measures to reduce or control emissions or other impacts to air, if any: [help]

Construction BMPs will be incorporated into construction plans and contractor specifications. To reduce carbon monoxide and particulate emissions from gasoline and diesel engines, construction equipment will be well maintained and equipment will be turned off when not in use.

3. Water [help]

a. Surface Water:

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

The project is in and adjacent to Bellingham Bay (Puget Sound) along the shoreline of Boulevard Park.

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

The proposed project occurs in and adjacent to Bellingham Bay. The interim shoreline stabilization includes:

- Site preparation involving movement of some existing riprap armor and to provide a smooth surface of exposed soil for proposed riprap foundation.
- Placing a separation geotextile over the exposed soil.
- Placing appropriately-sized rock on the separation geotextile and filling in the gap formed by erosion to a height established by the design.
- Over-water demolishing the public wharf and pier wood decking.
- Demolishing select steel and concrete piles that extend out from and below the public pier by first by trying vibratory removal with direct pull; if removal is not possible or the pile breaks and cannot be grabbed, exposing an approximate 3-foot diameter around each pile and cutting the timber approximately 2 feet below the mudline.
- Placing appropriately-sized rock against the water side of the bulkhead wall and backfilling voids on the upland side of the wall with rock.

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

Along most of the shoreline, all work will be above MHHW, so generally no material removed from or added to the surface water or wetlands. However, in the northern portion of the project, rock will be placed on the water-side of the existing concrete bulkhead. The amount will be less than 1 CY of material per 1 lineal foot of bulkhead.

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

No surface water withdrawals or diversions will be required as part of the project.

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

FEMA floodplain mapping identifies 100-year floodplain associated with Bellingham Bay extending to the shoreline of Boulevard Park (base flood elevation is not provided).

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

Marine work will occur within approved in-water work windows, and will be conducted in a controlled manner that limits turbidity and dispersal of material in the water, maintains surface water quality at the mixing zone boundary, and prevents the spread of contaminated sediments. Anticipated measures to be employed to maintain surface water quality include:

- Piles to be removed will be vibrated to break the skin-friction bond between the pile and adjacent sediment, and slowly extracted with a vibratory hammer and in a manner that limits turbidity and sediment from re-entering the water column during pile removal. Piles will not be broken off intentionally by twisting, bending, or other deformation.
- A floating surface boom will be deployed around the perimeter of the work area in the event that floatable debris appears as a result of the dredging and marine demolition operations. Such debris will be collected and disposed at a properly permitted waste disposal facility.
- Spill prevention and response equipment will be used on all project barges to prevent the release of petroleum products and other hazardous substances to surface water.
- In-water work will be performed in accordance with permit conditions.
- No creosote-treated timber pilings or other wood products removed will be reused in the marine environment. If the City allows the salvage of any creosoted wood products, the contractor will be required to certify that the materials will not be reused for marine or other aquatic applications.

b. Ground Water:

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

No groundwater withdrawal will occur as part of the proposed project.

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

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

c. Water runoff (including stormwater):

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

Stormwater on the shoreline either infiltrates or drains to Bellingham Bay, which will be maintained by the proposed project.

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

The proposed project is an interim shoreline stabilization to prevent further erosion from a known contaminated site. The interim stabilization action will be implemented in advance of selection of the final cleanup action for the site.

Release of waste material from construction activities could potentially occur from accidental fuel leaks or spills, but is not likely. During construction, standard BMPs for spill prevention, and erosion and sediment control will be implemented. Spill prevention and response equipment will be used on all project barges to prevent the release of petroleum products and other hazardous substances to surface water.

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

No. The proposed project will not affect site drainage patterns.

d. Proposed measures to reduce or control surface, ground, and runoff water, and drainage pattern impacts, if any: [help]

During construction, standard BMPs for erosion and sediment control will be implemented. See Question 3.a.6 for a list of the measures currently anticipated to be employed to maintain surface water quality.

4. Plants [help]

a. Check the types of vegetation found on the site: [help]

__X__**deciduous tree: alder, maple, aspen, other**
__X__**evergreen tree: fir, cedar, pine, other**
____**shrubs**
__X__**grass**
____**pasture**

____**crop or grain**
____ **Orchards, vineyards or other permanent crops.**
____ **wet soil plants: cattail, buttercup, bullrush, skunk cabbage, other**
____**water plants: water lily, eelgrass, milfoil, other**
____**other types of vegetation**

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

One tree will be removed and areas of lawn along the shoreline may be impacted to facilitate project construction.

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

No listed threatened or endangered plant species are known to be on or near the site.

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

The proposed project will limit vegetation impacts to the minimum amount necessary to stabilize the existing shoreline. Areas of existing lawn in Boulevard Park adjacent to the project will be preserved to the extent practicable.

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

Boulevard Park is an existing recreational facility with maintained landscaping. Weed species identified by the Washington State Noxious Weed Control Board common in urban environments may be present in or near the project area and may include, but are not limited to, Himalayan blackberry (*Rubus armeniacus*; Class C weed), herb Robert (*Geranium robertianum*; Class B weed), and common catsear (*Hypochaeris radicata*; Class C weed).

5. Animals [help]

a. List any birds and other animals which have been observed on or near the site or are known to be on or near the site. [help]

Examples include:

birds: hawk, heron, eagle, songbirds, other: seabirds
mammals: deer, bear, elk, beaver, other: marine mammals
fish: bass, salmon, trout, herring, shellfish, other surf smelt

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

Listed species that may occur in the project vicinity in Bellingham Bay include:

- Puget Sound Chinook salmon *(Oncorhynchus tshawytscha*),
- Puget Sound steelhead (*O. mykiss*),
- Coastal-Puget Sound bull trout (*Salvelinus confluentus*),
- Yelloweye rockfish (*Sebastes ruberrimus*)
- Bocaccio (*S. paucispinis*)
- Marbled murrelet (*Brachyramphus marmoratus*), and
- Southern Resident killer whale *(Orcinus orca).*

c. Is the site part of a migration route? If so, explain. [help]

Nearshore waters in the project area are used as a migration corridor for salmon and sea run trout.

d. Proposed measures to preserve or enhance wildlife, if any: [help]

See Question 3.a.6 for a list of the measures currently anticipated to be employed to maintain surface water quality and that will also act to preserve aquatic wildlife.

e. List any invasive animal species known to be on or near the site. [help]

None known.

6. Energy and Natural Resources [help]

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

Construction equipment will require electric and diesel fuel for operation.

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

The proposed project will not affect the potential use of solar energy by nearby properties.

c. What kinds of energy conservation features are included in the plans of this proposal? List other proposed measures to reduce or control energy impacts, if any: [help]

Construction vehicle idling will be minimized to reduce fuel consumption.

7. Environmental Health [help]

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

Polycyclic aromatic hydrocarbons (PAHs) are the primary constituents of concern along the shoreline that needs repair. Exposure is expected to be minimal. Field workers will have the appropriate HAZWOPER training per OSHA 29 CFR 1910.120.

1) Describe any known or possible contamination at the site from present or past uses. [help]

Prior to development of the park, the site was used as a lumber mill, a manufactured gas plant (MGP) that manufactured gas from coal, and a railroad alignment. In 1975, the City acquired most of the MGP property for use as a park. Several environmental investigations have been conducted at the site and are summarized in the ongoing RI. The RI report is currently in progress, but studies to date have confirmed that historical activities resulted in site contamination. PAHs are the primary constituents of concern along the shoreline in need of repair.

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

Polycyclic aromatic hydrocarbons (PAHs) are the primary constituents of concern along the shoreline.

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

There will be no long-term storage or creation of hazardous or toxic chemicals. Equipment fuels, oils, and liquids will be onsite during construction and will be removed after project completion.

4) Describe special emergency services that might be required. [help]

No special emergency services will be required for the proposed project. No additional police, firefighting, or other emergency services, other than those that will normally be required at a construction site, will be necessary.

5) Proposed measures to reduce or control environmental health hazards, if any: [help]

A site-specific health and safety plan will be available for the proposed project. BMPs will be in place to ensure any minor spillage of equipment liquids (fuel, oil, etc.) is properly contained and disposed of. Any spill of materials such as diesel fuel and lubricating oil will be cleaned up immediately. Site workers will be HAZWOPER trained to comply with OSHA 29 CFR 1910.120, and made aware of the potentially contaminated soil along the shoreline.

b. Noise [help]

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

Noise associated with adjacent park activities in the project area will not affect the proposed project.

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

Construction of the proposed project will generate temporary short-term increases in noise levels at adjacent and nearby areas. Construction will be conducted in accordance with City of Bellingham noise ordinance. Noise sources will include construction equipment such as large trucks and excavators. Construction activities may occur during nighttime hours.

3) Proposed measures to reduce or control noise impacts, if any: [help]

Construction BMPs will be incorporated into construction plans and contractor specifications, which may include, but are not limited to, the following: fitting construction equipment engines with adequate mufflers, intake silencers, or engine enclosures; and turning off construction equipment when not in use.

8. Land and Shoreline Use [help]

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

The project site is currently used as a public park. Adjacent properties include Burlington Northern Santa Fe railroad and multifamily residential.

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

No. Prior to development of the park, the site was used as a lumber mill, an MGP that manufactured gas from coal, and a railroad alignment.

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

No.

c. Describe any structures on the site. [help]

Structures within the project area include a public pier extending from the shoreline.

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

As part of the project, the public wharf and pier (which is currently not safe for public access) will be removed.

e. What is the current zoning classification of the site? [help]

The project area is zoned Public.

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

The current comprehensive plan designation of the site is Public.

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

Urban Conservancy (UC)

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

The upland areas of the project are mapped by the City as a Seismic Hazard Area.

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

None.

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

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

k. Proposed measures to avoid or reduce displacement impacts, if any: [help]

Not applicable; no displacements will occur.

L. Proposed measures to ensure the proposal is compatible with existing and projected land uses and plans, if any: [help]

The proposed project is an interim shoreline stabilization, which will maintain existing areas of Boulevard Park.

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

None proposed as no impacts will occur.

9. Housing [help]

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

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

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

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

c. Proposed measures to reduce or control housing impacts, if any: [help]

Not applicable; no impacts to housing will occur.

10. Aesthetics [help]

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

Not applicable; the proposed project is an interim shoreline stabilization. No structures are proposed.

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

None.

c. Proposed measures to reduce or control aesthetic impacts, if any: [help]

None as no impacts will occur.

11. Light and Glare [help]

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

During construction, temporary lighting could be used by contractors during early morning hours (before 8 a.m.) or during nighttime work. The lights will be turned off at the end of the workday.

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

Any temporary lighting used during construction will not interfere with views or present a safety hazard.

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

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

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

Lighting used during construction, if necessary, will be temporary.

12. Recreation [help]

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

The project site is part of Boulevard Park. Boulevard Park is a City park providing beach access, trails, viewpoints, playground, and picnic amenities. "Concerts in the Park" is also hosted at Boulevard Park.

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

Trail and beach access to the public may be limited during construction activities.

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

Construction staging will be located to maintain public access to a majority of Boulevard Park and to facilitate "Concerts in the Park." Construction may occur at night to maintain day-use of the park by the public. The project is an interim shoreline stabilization that will maintain use of the park by the public.

13. Historic and cultural preservation [help]

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

None known. Prior to development of the park, the site was used as a lumber mill, an MGP that manufactured gas from coal, and a railroad alignment. In 1975, the City acquired most of the MGP property for use as a park. In early 1979, the City Parks and Recreation Department began development of the park, including construction of trails, parking lots, restrooms, and a picnic shelter.

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

The Washington Department of Archaeology and Historic Preservation (DAHP) Washington Information System for Architectural and Archaeological Records Data (WISAARD) identifies Predictive Model – Environmental Factors with Archaeological Resources Results as Survey Highly Advised: High Risk. Archaeological survey of the Boulevard/Cornwall Overwater Pedestrian

Walkway Project, which partially overlaps the proposed project, found no evidence of potentially significant archaeological resources and that the potential for as yet undetected resources being present is very low. The proposed project includes minor excavations along an eroded shoreline containing fill and areas of known contamination.

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

Review of DAHP WISAARD website. Review of April 2010 *An Archaeological Survey of the Boulevard/Cornwall Overwater Pedestrian Walkway Project*, prepared by Wessen & Associates.

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

None proposed.

14. Transportation [help]

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

Boulevard Park is accessible from South State Street and Bay View Drive.

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

Boulevard Park is served by Whatcom Transit Authority route 401. Bus stops occur along South State Street adjacent to the park.

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

None.

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

No.

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

The proposed project occurs adjacent to /in Bellingham Bay but will not affect navigability.

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

The completed project is not expected to change the number of vehicle trips in the project area.

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

No.

h. Proposed measures to reduce or control transportation impacts, if any: [help]

None proposed as no impacts will occur.

15. Public Services [help]

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

The project will not generate a need for additional public services.

b. Proposed measures to reduce or control direct impacts on public services, if any. [help]

None proposed.

16. Utilities [help]

a. Circle utilities currently available at the site: [help]
electricity, natural gas, water, refuse service, telephone, sanitary sewer, septic system, other _____

No utilities occur within the project area, which is located along the shoreline of Boulevard Park.

b. Describe the utilities that are proposed for the project, the utility providing the service, and the general construction activities on the site or in the immediate vicinity which might be needed. [help]

Utilities will not be required for the proposed project.

C. Signature [help]

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

Signature: _____

Name of signee Gina Austin

Position and Agency/Organization Project Engineer, City of Bellingham

Date Submitted: 6/13/2017

APPENDIX B-4

United States Army Corps of Engineers, Nationwide Permit (NWP) 38

DEPARTMENT OF THE ARMY
SEATTLE DISTRICT, CORPS OF ENGINEERS
P.O. BOX 3755
SEATTLE, WASHINGTON 98124-3755

REPLY TO
ATTENTION OF

August 31, 2017

Regulatory Branch

Bellingham Parks and Recreation Department
Ms. Gina Austin
210 Lottie Street
Bellingham, Washington 98225

Reference: NWS-2017-615
Bellingham Parks
and Recreation Department

Dear Ms. Austin:

We have reviewed your application to place fill and remove structures in Bellingham Bay at Bellingham, Whatcom County, Washington. Based on the information you provided to us, Nationwide Permit (NWP) 38, Cleanup of Hazardous and Toxic Waste (Federal Register January 6, 2017, Vol. 82, No. 4), authorizes your proposal to stabilize the shoreline at a WA State Model Toxic Cleanup Site as depicted on the enclosed drawings dated June 29, 2017. In order for this authorization to be valid, you must ensure the work is performed in accordance with the enclosed *NWP 38, Terms and Conditions* and the following special conditions:

a. You must implement and abide by the Endangered Species Act (ESA) requirements and/or agreements set forth in the document titled, "*Biological Evaluation, Interim Shoreline Stabilization, City of Bellingham Boulevard Park*," dated June 30, 2017, in their entirety. The U.S. Fish and Wildlife Service (USFWS) concurred with a finding of "may affect, not likely to adversely affect" based on this document on August 31, 2017 (USFWS Reference Number 01EWFW00-2017-I-1336). The National Marine Fisheries Service (NMFS) concurred with a finding of "may affect, not likely to adversely affect" based on this document on August 18, 2017 (NMFS Reference Number 2017-7463). Both agencies will be informed of this permit issuance. Failure to comply with the commitments made in this document constitutes non-compliance with the ESA and your U.S. Army Corps of Engineers permit. The USFWS/NMFS is the appropriate authority to determine compliance with ESA.

b. In order to meet the requirements of the Endangered Species Act and for the protection of Puget Sound Chinook and steelhead and Coastal/Puget Sound bull trout and spawning pacific herring, the permittee may conduct the authorized activities from July 16 through February 15 in any year this permit is valid. The permittee shall not conduct work authorized by this permit from February 16 through July 15 in any year this permit is valid.

c. Incidents where any individuals of [insert NMFS species name or general category of species with the "may affect" determination (e.g. Puget Sound Chinook, Puget Sound steelhead, Stellar Sea Lion) if in doubt, look at your MFS] listed by NOAA Fisheries under the Endangered Species Act appear to be injured or killed as a result of discharges of dredged or fill material into waters of the United States or structures or work in navigable waters of the United States authorized by this NWP shall be reported to NOAA Fisheries, Office of Protected Resources at (301) 713-1401 and the Regulatory Office of the Seattle District of the U.S. Army Corps of Engineers at (206) 764-3495. The finder should leave the plant or animal alone, make note of any circumstances likely causing the death or injury, note the location and number of individuals involved and, if possible, take photographs. Adult animals should not be disturbed unless circumstances arise where they are obviously injured or killed by discharge exposure or some unnatural cause. The finder may be asked to carry out instructions provided by NOAA Fisheries, Office of Protected Resources, to collect specimens or take other measures to ensure that evidence intrinsic to the specimen is preserved.

We have reviewed your project pursuant to the requirements of the Endangered Species Act, the Magnuson-Stevens Fishery Conservation and Management Act and the National Historic Preservation Act. We have determined this project complies with the requirements of these laws provided you comply with all of the permit general and special conditions.

The authorized work complies with the Washington State Department of Ecology's (Ecology) Water Quality Certification (WQC) requirements and Coastal Zone Management (CZM) consistency determination response for this NWP. No further coordination with Ecology for WQC and CZM is required.

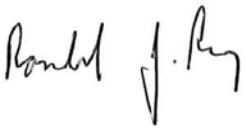
You have not requested a jurisdictional determination for this proposed project. If you believe the Corps does not have jurisdiction over all or portions of your project you may request a preliminary or approved jurisdictional determination (JD). If one is requested, please be aware that we may require the submittal of additional information to complete the JD and work authorized in this letter may not occur until the JD has been completed.

Our verification of this NWP authorization is valid until March 18, 2022, unless the NWP is modified, reissued, or revoked prior to that date. If the authorized work has not been completed by that date and you have commenced or are under contract to commence this activity before March 18, 2022, you will have until March 18, 2023, to complete the activity under the enclosed terms and conditions of this NWP. Failure to comply with all terms and conditions of this NWP verification invalidates this authorization and could result in a violation of Section 404 of the Clean Water Act and/or Section 10 of the Rivers and Harbors Act. You must also obtain all local, State, and other Federal permits that apply to this project.

Upon completing the authorized work, you must fill out and return the enclosed *Certificate of Compliance with Department of the Army Permit*. Thank you for your cooperation during the permitting process. We are interested in your experience with our Regulatory Program and encourage you to complete a customer service survey. These documents and information about our program are available on our website at www.nws.usace.army.mil, select "Regulatory Branch, Permit Information" and then "Contact Us."

A copy of this letter with enclosures will be furnished to Mr. Steven Quarterman of Landau and Associates at 130 2nd Avenue South, Edmonds, Washington 98020. If you have any questions, please feel free to contact me at (360) 734-3156 or via email at randel.j.perry@usace.army.mil.

Sincerely,



Randel Perry, Project Manager
Regulatory Branch

Enclosures

US Army Corps of Engineers
Seattle District

NATIONWIDE PERMIT 38
Terms and Conditions

Effective Date: March 19, 2017

In addition to any special condition that may be required on a case-by-case basis by the District Engineer, the following terms and conditions must be met, as applicable, for a Nationwide Permit (NWP) authorization to be valid in Washington State.

A. DESCRIPTION OF AUTHORIZED ACTIVITIES

Cleanup of Hazardous and Toxic Waste. Specific activities required to effect the containment, stabilization, or removal of hazardous or toxic waste materials that are performed, ordered, or sponsored by a government agency with established legal or regulatory authority. Court ordered remedial action plans or related settlements are also authorized by this NWP. This NWP does not authorize the establishment of new disposal sites or the expansion of existing sites used for the disposal of hazardous or toxic waste.

Notification: The permittee must submit a pre-construction notification to the district engineer prior to commencing the activity. (See general condition 32.) (Authorities: Sections 10 and 404)

Note: Activities undertaken entirely on a Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) site by authority of CERCLA as approved or required by EPA, are not required to obtain permits under Section 404 of the Clean Water Act or Section 10 of the Rivers and Harbors Act.

B. CORPS NATIONAL GENERAL CONDITIONS FOR ALL NWPs

To qualify for NWP authorization, the prospective permittee must comply with the following general conditions, as applicable, in addition to any regional or case-specific conditions imposed by the division engineer or district engineer. Every person who may wish to obtain permit authorization under one or more NWPs, or who is currently relying on an existing or prior permit authorization under one or more NWPs, has been and is on notice that all of the provisions of 33 CFR 330.1 through 330.6 apply to every NWP authorization. Note especially 33 CFR 330.5 relating to the modification, suspension, or revocation of any NWP authorization.

1. Navigation. (a) No activity may cause more than a minimal adverse effect on navigation. (b) Any safety lights and signals prescribed by the U.S. Coast Guard, through regulations or otherwise, must be installed and maintained at the permittee's expense on authorized facilities in navigable waters of the United States. (c) The permittee understands and agrees that, if future operations by the United States require the removal, relocation, or other alteration, of the structure or work herein authorized, or if, in the opinion of the Secretary of the Army or his authorized representative, said structure or work shall cause

unreasonable obstruction to the free navigation of the navigable waters, the permittee will be required, upon due notice from the Corps of Engineers, to remove, relocate, or alter the structural work or obstructions caused thereby, without expense to the United States. No claim shall be made against the United States on account of any such removal or alteration.

2. Aquatic Life Movements. No activity may substantially disrupt the necessary life cycle movements of those species of aquatic life indigenous to the waterbody, including those species that normally migrate through the area, unless the activity's primary purpose is to impound water. All permanent and temporary crossings of waterbodies shall be suitably culverted, bridged, or otherwise designed and constructed to maintain low flows to sustain the movement of those aquatic species. If a bottomless culvert cannot be used, then the crossing should be designed and constructed to minimize adverse effects to aquatic life movements.

3. Spawning Areas. Activities in spawning areas during spawning seasons must be avoided to the maximum extent practicable. Activities that result in the physical destruction (e.g., through excavation, fill, or downstream smothering by substantial turbidity) of an important spawning area are not authorized.

4. Migratory Bird Breeding Areas. Activities in waters of the United States that serve as breeding areas for migratory birds must be avoided to the maximum extent practicable.

5. Shellfish Beds. No activity may occur in areas of concentrated shellfish populations, unless the activity is directly related to a shellfish harvesting activity authorized by NWPs 4 and 48, or is a shellfish seeding or habitat restoration activity authorized by NWP 27.

6. Suitable Material. No activity may use unsuitable material (e.g., trash, debris, car bodies, asphalt, etc.). Material used for construction or discharged must be free from toxic pollutants in toxic amounts (see section 307 of the Clean Water Act).

7. Water Supply Intakes. No activity may occur in the proximity of a public water supply intake, except where the activity is for the repair or improvement of public water supply intake structures or adjacent bank stabilization.

8. Adverse Effects From Impoundments. If the activity creates an impoundment of water, adverse effects to the aquatic system due to accelerating the passage of water, and/or restricting its flow must be minimized to the maximum extent practicable.

9. Management of Water Flows. To the maximum extent practicable, the pre-construction course, condition, capacity, and location of open waters must be maintained for each activity, including stream channelization, storm water management activities, and temporary and permanent road crossings, except as provided below. The activity must be constructed to withstand expected high flows. The activity must not restrict or impede the passage of normal or high flows, unless the primary purpose of the activity is to impound water or manage high flows. The activity may alter the pre-construction course, condition, capacity, and location of open waters if it benefits the aquatic environment (e.g., stream restoration or relocation activities).

10. Fills Within 100-Year Floodplains. The activity must comply with applicable FEMA-approved state or local floodplain management requirements.

11. Equipment. Heavy equipment working in wetlands or mudflats must be placed on mats, or other measures must be taken to minimize soil disturbance.

12. Soil Erosion and Sediment Controls. Appropriate soil erosion and sediment controls must be used and maintained in effective operating condition during construction, and all exposed soil and other fills, as well as any work below the ordinary high water mark or high tide line, must be permanently stabilized at the earliest practicable date. Permittees are encouraged to perform work within waters of the United States during periods of low-flow or no-flow, or during low tides.

13. Removal of Temporary Fills. Temporary fills must be removed in their entirety and the affected areas returned to pre-construction elevations. The affected areas must be revegetated, as appropriate.

14. Proper Maintenance. Any authorized structure or fill shall be properly maintained, including maintenance to ensure public safety and compliance with applicable NWP general conditions, as well as any activity-specific conditions added by the district engineer to an NWP authorization.

15. Single and Complete Project. The activity must be a single and complete project. The same NWP cannot be used more than once for the same single and complete project.

16. Wild and Scenic Rivers. (a) No NWP activity may occur in a component of the National Wild and Scenic River System, or in a river officially designated by Congress as a "study river" for possible inclusion in the system while the river is in an official study status, unless the appropriate Federal agency with direct management responsibility for such river, has determined in writing that the proposed activity will not adversely affect the Wild and Scenic River designation or study status. (b) If a proposed NWP activity will occur in a component of the National Wild and Scenic River System, or in a river officially designated by Congress as a "study river" for possible inclusion in the system while the river is in an official study status, the permittee must submit a pre-construction notification (see general condition 32). The district engineer will coordinate the PCN with the Federal agency with direct management responsibility for that river. The permittee shall not begin the NWP activity until notified by the district engineer that the Federal agency with direct management responsibility for that river has determined in writing that the proposed NWP activity will not adversely affect the Wild and Scenic River designation or study status. (c) Information on Wild and Scenic Rivers may be obtained from the appropriate Federal land management agency responsible for the designated Wild and Scenic River or study river (e.g., National Park Service, U.S. Forest Service, Bureau of Land Management, U.S. Fish and Wildlife Service). Information on these rivers is also available at: http://www.rivers.gov/.

17. Tribal Rights. No NWP activity may cause more than minimal adverse effects on tribal rights (including treaty rights), protected tribal resources, or tribal lands.

18. Endangered Species. (a) No activity is authorized under any NWP which is likely to directly or indirectly jeopardize the continued existence of a threatened or endangered species or a species proposed for such designation, as identified under the Federal Endangered Species Act (ESA), or which will directly or indirectly destroy or adversely modify the critical habitat of such species. No activity is authorized under any NWP which "may affect" a listed species or critical habitat, unless ESA section 7 consultation addressing the effects of the proposed activity has been completed. Direct effects are the immediate effects on listed species and critical habitat caused by the NWP activity. Indirect effects are those effects on listed species and critical habitat that are caused by the NWP activity and are later in time, but still are reasonably certain to occur. (b) Federal agencies should follow their own procedures for complying with the requirements of the ESA. If pre-construction notification is required for the proposed activity, the Federal permittee must provide the district engineer with the appropriate documentation to demonstrate compliance with those requirements. The district engineer will verify that the appropriate documentation has been submitted. If the appropriate documentation has not been submitted, additional ESA section 7 consultation may be necessary for the activity and the respective federal agency would be responsible for fulfilling its obligation under section 7 of the ESA. (c) Non-federal permittees must submit a pre-construction notification to the district engineer if any listed species or designated critical

habitat might be affected or is in the vicinity of the activity, or if the activity is located in designated critical habitat, and shall not begin work on the activity until notified by the district engineer that the requirements of the ESA have been satisfied and that the activity is authorized. For activities that might affect Federally-listed endangered or threatened species or designated critical habitat, the pre-construction notification must include the name(s) of the endangered or threatened species that might be affected by the proposed activity or that utilize the designated critical habitat that might be affected by the proposed activity. The district engineer will determine whether the proposed activity "may affect" or will have "no effect" to listed species and designated critical habitat and will notify the non-Federal applicant of the Corps' determination within 45 days of receipt of a complete pre-construction notification. In cases where the non-Federal applicant has identified listed species or critical habitat that might be affected or is in the vicinity of the activity, and has so notified the Corps, the applicant shall not begin work until the Corps has provided notification that the proposed activity will have "no effect" on listed species or critical habitat, or until ESA section 7 consultation has been completed. If the non-Federal applicant has not heard back from the Corps within 45 days, the applicant must still wait for notification from the Corps. (d) As a result of formal or informal consultation with the FWS or NMFS the district engineer may add species-specific permit conditions to the NWPs. (e) Authorization of an activity by an NWP does not authorize the "take" of a threatened or endangered species as defined under the ESA. In the absence of separate authorization (e.g., an ESA Section 10 Permit, a Biological Opinion with "incidental take" provisions, etc.) from the FWS or the NMFS, the Endangered Species Act prohibits any person subject to the jurisdiction of the United States to take a listed species, where "take" means to harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect, or to attempt to engage in any such conduct. The word "harm" in the definition of "take" means an act which actually kills or injures wildlife. Such an act may include significant habitat modification or degradation where it actually kills or injures wildlife by significantly impairing essential behavioral patterns, including breeding, feeding or sheltering. (f) If the non-federal permittee has a valid ESA section 10(a)(1)(B) incidental take permit with an approved Habitat Conservation Plan for a project or a group of projects that includes the proposed NWP activity, the non-federal applicant should provide a copy of that ESA section 10(a)(1)(B) permit with the PCN required by paragraph (c) of this general condition. The district engineer will coordinate with the agency that issued the ESA section 10(a)(1)(B) permit to determine whether the proposed NWP activity and the associated incidental take were considered in the internal ESA section 7 consultation conducted for the ESA section 10(a)(1)(B) permit. If that coordination results in concurrence from the agency that the proposed NWP activity and the associated incidental take were considered in the internal ESA section 7 consultation for the ESA section 10(a)(1)(B) permit, the district engineer does not need to conduct a separate ESA section 7 consultation for the proposed NWP activity. The district engineer will notify the non-federal applicant within 45 days of receipt of a complete pre-construction notification whether the ESA section 10(a)(1)(B) permit covers the proposed NWP activity or whether additional ESA section 7 consultation is required. (g) Information on the location of threatened and endangered species and their critical habitat can be obtained directly from the offices of the FWS and NMFS or their world wide web pages at http://www.fws.gov/ or http://www.fws.gov/ipac and http://www.nmfs.noaa.gov/pr/species/esa/ respectively.

19. Migratory Birds and Bald and Golden Eagles. The permittee is responsible for ensuring their action complies with the Migratory Bird Treaty Act and the Bald and Golden Eagle Protection Act. The permittee is responsible for contacting appropriate local office of the U.S. Fish and Wildlife Service to determine applicable measures to reduce impacts to migratory birds or eagles, including whether "incidental take" permits are necessary and available under the Migratory Bird Treaty Act or Bald and Golden Eagle Protection Act for a particular activity.

20. Historic Properties. (a) In cases where the district engineer determines that the activity may have the potential to cause effects to properties listed, or eligible for listing, in the National Register of Historic Places, the activity is not authorized, until the requirements of Section 106 of the National Historic Preservation Act (NHPA) have been satisfied. (b) Federal permittees should follow their own procedures

for complying with the requirements of section 106 of the National Historic Preservation Act. If pre-construction notification is required for the proposed NWP activity, the Federal permittee must provide the district engineer with the appropriate documentation to demonstrate compliance with those requirements. The district engineer will verify that the appropriate documentation has been submitted. If the appropriate documentation is not submitted, then additional consultation under section 106 may be necessary. The respective federal agency is responsible for fulfilling its obligation to comply with section 106. (c) Non-federal permittees must submit a pre-construction notification to the district engineer if the NWP activity might have the potential to cause effects to any historic properties listed on, determined to be eligible for listing on, or potentially eligible for listing on the National Register of Historic Places, including previously unidentified properties. For such activities, the pre-construction notification must state which historic properties might have the potential to be affected by the proposed NWP activity or include a vicinity map indicating the location of the historic properties or the potential for the presence of historic properties. Assistance regarding information on the location of, or potential for, the presence of historic properties can be sought from the State Historic Preservation Officer, Tribal Historic Preservation Officer, or designated tribal representative, as appropriate, and the National Register of Historic Places (see 33 CFR 330.4(g)). When reviewing pre-construction notifications, district engineers will comply with the current procedures for addressing the requirements of section 106 of the National Historic Preservation Act. The district engineer shall make a reasonable and good faith effort to carry out appropriate identification efforts, which may include background research, consultation, oral history interviews, sample field investigation, and field survey. Based on the information submitted in the PCN and these identification efforts, the district engineer shall determine whether the proposed NWP activity has the potential to cause effects on the historic properties. Section 106 consultation is not required when the district engineer determines that the activity does not have the potential to cause effects on historic properties (see 36 CFR 800.3(a)). Section 106 consultation is required when the district engineer determines that the activity has the potential to cause effects on historic properties. The district engineer will conduct consultation with consulting parties identified under 36 CFR 800.2(c) when he or she makes any of the following effect determinations for the purposes of section 106 of the NHPA: no historic properties affected, no adverse effect, or adverse effect. Where the non-Federal applicant has identified historic properties on which the activity might have the potential to cause effects and so notified the Corps, the non-Federal applicant shall not begin the activity until notified by the district engineer either that the activity has no potential to cause effects to historic properties or that NHPA section 106 consultation has been completed. (d) For non-federal permittees, the district engineer will notify the prospective permittee within 45 days of receipt of a complete pre-construction notification whether NHPA section 106 consultation is required. If NHPA section 106 consultation is required, the district engineer will notify the non-Federal applicant that he or she cannot begin the activity until section 106 consultation is completed. If the non-Federal applicant has not heard back from the Corps within 45 days, the applicant must still wait for notification from the Corps. (e) Prospective permittees should be aware that section 110k of the NHPA (54 U.S.C. 306113) prevents the Corps from granting a permit or other assistance to an applicant who, with intent to avoid the requirements of section 106 of the NHPA, has intentionally significantly adversely affected a historic property to which the permit would relate, or having legal power to prevent it, allowed such significant adverse effect to occur, unless the Corps, after consultation with the Advisory Council on Historic Preservation (ACHP), determines that circumstances justify granting such assistance despite the adverse effect created or permitted by the applicant. If circumstances justify granting the assistance, the Corps is required to notify the ACHP and provide documentation specifying the circumstances, the degree of damage to the integrity of any historic properties affected, and proposed mitigation. This documentation must include any views obtained from the applicant, SHPO/THPO, appropriate Indian tribes if the undertaking occurs on or affects historic properties on tribal lands or affects properties of interest to those tribes, and other parties known to have a legitimate interest in the impacts to the permitted activity on historic properties.

21. Discovery of Previously Unknown Remains and Artifacts. If you discover any previously unknown historic, cultural or archeological remains and artifacts while accomplishing the activity authorized by this

permit, you must immediately notify the district engineer of what you have found, and to the maximum extent practicable, avoid construction activities that may affect the remains and artifacts until the required coordination has been completed. The district engineer will initiate the Federal, Tribal, and state coordination required to determine if the items or remains warrant a recovery effort or if the site is eligible for listing in the National Register of Historic Places.

22. Designated Critical Resource Waters. Critical resource waters include, NOAA-managed marine sanctuaries and marine monuments, and National Estuarine Research Reserves. The district engineer may designate, after notice and opportunity for public comment, additional waters officially designated by a state as having particular environmental or ecological significance, such as outstanding national resource waters or state natural heritage sites. The district engineer may also designate additional critical resource waters after notice and opportunity for public comment. (a) Discharges of dredged or fill material into waters of the United States are not authorized by NWPs 7, 12, 14, 16, 17, 21, 29, 31, 35, 39, 40, 42, 43, 44, 49, 50, 51, and 52 for any activity within, or directly affecting, critical resource waters, including wetlands adjacent to such waters. (b) For NWPs 3, 8, 10, 13, 15, 18, 19, 22, 23, 25, 27, 28, 30, 33, 34, 36, 37, 38, and 54, notification is required in accordance with general condition 32, for any activity proposed in the designated critical resource waters including wetlands adjacent to those waters. The district engineer may authorize activities under these NWPs only after it is determined that the impacts to the critical resource waters will be no more than minimal.

23. Mitigation. The district engineer will consider the following factors when determining appropriate and practicable mitigation necessary to ensure that the individual and cumulative adverse environmental effects are no more than minimal: (a) The activity must be designed and constructed to avoid and minimize adverse effects, both temporary and permanent, to waters of the United States to the maximum extent practicable at the project site (i.e., on site). (b) Mitigation in all its forms (avoiding, minimizing, rectifying, reducing, or compensating for resource losses) will be required to the extent necessary to ensure that the individual and cumulative adverse environmental effects are no more than minimal. (c) Compensatory mitigation at a minimum one-for-one ratio will be required for all wetland losses that exceed 1/10-acre and require pre-construction notification, unless the district engineer determines in writing that either some other form of mitigation would be more environmentally appropriate or the adverse environmental effects of the proposed activity are no more than minimal, and provides an activity-specific waiver of this requirement. For wetland losses of 1/10-acre or less that require pre-construction notification, the district engineer may determine on a case-by-case basis that compensatory mitigation is required to ensure that the activity results in only minimal adverse environmental effects. (d) For losses of streams or other open waters that require pre-construction notification, the district engineer may require compensatory mitigation to ensure that the activity results in no more than minimal adverse environmental effects. Compensatory mitigation for losses of streams should be provided, if practicable, through stream rehabilitation, enhancement, or preservation, since streams are difficult-to-replace resources (see 33 CFR 332.3(e)(3)). (e) Compensatory mitigation plans for NWP activities in or near streams or other open waters will normally include a requirement for the restoration or enhancement, maintenance, and legal protection (e.g., conservation easements) of riparian areas next to open waters. In some cases, the restoration or maintenance/protection of riparian areas may be the only compensatory mitigation required. Restored riparian areas should consist of native species. The width of the required riparian area will address documented water quality or aquatic habitat loss concerns. Normally, the riparian area will be 25 to 50 feet wide on each side of the stream, but the district engineer may require slightly wider riparian areas to address documented water quality or habitat loss concerns. If it is not possible to restore or maintain/protect a riparian area on both sides of a stream, or if the waterbody is a lake or coastal waters, then restoring or maintaining/protecting a riparian area along a single bank or shoreline may be sufficient. Where both wetlands and open waters exist on the project site, the district engineer will determine the appropriate compensatory mitigation (e.g., riparian areas and/or wetlands compensation) based on what is best for the aquatic environment on a watershed basis. In cases where riparian areas are determined to be the most appropriate form of minimization or compensatory

mitigation, the district engineer may waive or reduce the requirement to provide wetland compensatory mitigation for wetland losses. (f) Compensatory mitigation projects provided to offset losses of aquatic resources must comply with the applicable provisions of 33 CFR part 332.

(1) The prospective permittee is responsible for proposing an appropriate compensatory mitigation option if compensatory mitigation is necessary to ensure that the activity results in no more than minimal adverse environmental effects. For the NWPs, the preferred mechanism for providing compensatory mitigation is mitigation bank credits or in-lieu fee program credits (see 33 CFR 332.3(b)(2) and (3)). However, if an appropriate number and type of mitigation bank or in-lieu credits are not available at the time the PCN is submitted to the district engineer, the district engineer may approve the use of permittee-responsible mitigation. (2) The amount of compensatory mitigation required by the district engineer must be sufficient to ensure that the authorized activity results in no more than minimal individual and cumulative adverse environmental effects (see 33 CFR 330.1(e)(3)). (See also 33 CFR 332.3(f)). (3) Since the likelihood of success is greater and the impacts to potentially valuable uplands are reduced, aquatic resource restoration should be the first compensatory mitigation option considered for permittee-responsible mitigation. (4) If permittee-responsible mitigation is the proposed option, the prospective permittee is responsible for submitting a mitigation plan. A conceptual or detailed mitigation plan may be used by the district engineer to make the decision on the NWP verification request, but a final mitigation plan that addresses the applicable requirements of 33 CFR 332.4(c)(2) through (14) must be approved by the district engineer before the permittee begins work in waters of the United States, unless the district engineer determines that prior approval of the final mitigation plan is not practicable or not necessary to ensure timely completion of the required compensatory mitigation (see 33 CFR 332.3(k)(3)). (5) If mitigation bank or in-lieu fee program credits are the proposed option, the mitigation plan only needs to address the baseline conditions at the impact site and the number of credits to be provided. (6) Compensatory mitigation requirements (e.g., resource type and amount to be provided as compensatory mitigation, site protection, ecological performance standards, monitoring requirements) may be addressed through conditions added to the NWP authorization, instead of components of a compensatory mitigation plan (see 33 CFR 332.4(c)(1)(ii)).

(g) Compensatory mitigation will not be used to increase the acreage losses allowed by the acreage limits of the NWPs. For example, if an NWP has an acreage limit of 1/2-acre, it cannot be used to authorize any NWP activity resulting in the loss of greater than 1/2-acre of waters of the United States, even if compensatory mitigation is provided that replaces or restores some of the lost waters. However, compensatory mitigation can and should be used, as necessary, to ensure that an NWP activity already meeting the established acreage limits also satisfies the no more than minimal impact requirement for the NWPs. (h) Permittees may propose the use of mitigation banks, in-lieu fee programs, or permittee-responsible mitigation. When developing a compensatory mitigation proposal, the permittee must consider appropriate and practicable options consistent with the framework at 33 CFR 332.3(b). For activities resulting in the loss of marine or estuarine resources, permittee-responsible mitigation may be environmentally preferable if there are no mitigation banks or in-lieu fee programs in the area that have marine or estuarine credits available for sale or transfer to the permittee. For permittee-responsible mitigation, the special conditions of the NWP verification must clearly indicate the party or parties responsible for the implementation and performance of the compensatory mitigation project, and, if required, its long-term management. (i) Where certain functions and services of waters of the United States are permanently adversely affected by a regulated activity, such as discharges of dredged or fill material into waters of the United States that will convert a forested or scrub-shrub wetland to a herbaceous wetland in a permanently maintained utility line right-of-way, mitigation may be required to reduce the adverse environmental effects of the activity to the no more than minimal level.

24. Safety of Impoundment Structures. To ensure that all impoundment structures are safely designed, the district engineer may require non-Federal applicants to demonstrate that the structures comply with

established state dam safety criteria or have been designed by qualified persons. The district engineer may also require documentation that the design has been independently reviewed by similarly qualified persons, and appropriate modifications made to ensure safety.

25. Water Quality. Where States and authorized Tribes, or EPA where applicable, have not previously certified compliance of an NWP with CWA section 401, individual 401 Water Quality Certification must be obtained or waived (see 33 CFR 330.4(c)). The district engineer or State or Tribe may require additional water quality management measures to ensure that the authorized activity does not result in more than minimal degradation of water quality.

26. Coastal Zone Management. In coastal states where an NWP has not previously received a state coastal zone management consistency concurrence, an individual state coastal zone management consistency concurrence must be obtained, or a presumption of concurrence must occur (see 33 CFR 330.4(d)). The district engineer or a State may require additional measures to ensure that the authorized activity is consistent with state coastal zone management requirements.

27. Regional and Case-By-Case Conditions. The activity must comply with any regional conditions that may have been added by the Division Engineer (see 33 CFR 330.4(e)) and with any case specific conditions added by the Corps or by the state, Indian Tribe, or U.S. EPA in its section 401 Water Quality Certification, or by the state in its Coastal Zone Management Act consistency determination.

28. Use of Multiple Nationwide Permits. The use of more than one NWP for a single and complete project is prohibited, except when the acreage loss of waters of the United States authorized by the NWPs does not exceed the acreage limit of the NWP with the highest specified acreage limit. For example, if a road crossing over tidal waters is constructed under NWP 14, with associated bank stabilization authorized by NWP 13, the maximum acreage loss of waters of the United States for the total project cannot exceed 1/3-acre.

29. Transfer of Nationwide Permit Verifications. If the permittee sells the property associated with a nationwide permit verification, the permittee may transfer the nationwide permit verification to the new owner by submitting a letter to the appropriate Corps district office to validate the transfer. A copy of the nationwide permit verification must be attached to the letter, and the letter must contain the following statement and signature: "When the structures or work authorized by this nationwide permit are still in existence at the time the property is transferred, the terms and conditions of this nationwide permit, including any special conditions, will continue to be binding on the new owner(s) of the property. To validate the transfer of this nationwide permit and the associated liabilities associated with compliance with its terms and conditions, have the transferee sign and date below."

_____

(Transferee)

_____

(Date)

30. Compliance Certification. Each permittee who receives an NWP verification letter from the Corps must provide a signed certification documenting completion of the authorized activity and implementation of any required compensatory mitigation. The success of any required permittee-responsible mitigation, including the achievement of ecological performance standards, will be addressed separately by the district engineer. The Corps will provide the permittee the certification document with the NWP verification letter. The certification document will include: (a) A statement that the authorized activity was done in accordance with the NWP authorization, including any general, regional, or activity-specific conditions; (b) A statement that the implementation of any required compensatory mitigation was completed in accordance with the permit conditions. If credits from a mitigation bank or in-lieu fee program are used to satisfy the compensatory mitigation requirements, the certification must include the

documentation required by 33 CFR 332.3(l)(3) to confirm that the permittee secured the appropriate number and resource type of credits; and (c) The signature of the permittee certifying the completion of the activity and mitigation. The completed certification document must be submitted to the district engineer within 30 days of completion of the authorized activity or the implementation of any required compensatory mitigation, whichever occurs later.

31. Activities Affecting Structures or Works Built by the United States. If an NWP activity also requires permission from the Corps pursuant to 33 U.S.C. 408 because it will alter or temporarily or permanently occupy or use a U.S. Army Corps of Engineers (USACE) federally authorized Civil Works project (a "USACE project"), the prospective permittee must submit a pre-construction notification. See paragraph (b)(10) of general condition 32. An activity that requires section 408 permission is not authorized by NWP until the appropriate Corps office issues the section 408 permission to alter, occupy, or use the USACE project, and the district engineer issues a written NWP verification.

32. Pre-Construction Notification. (a) Timing. Where required by the terms of the NWP, the prospective permittee must notify the district engineer by submitting a pre-construction notification (PCN) as early as possible. The district engineer must determine if the PCN is complete within 30 calendar days of the date of receipt and, if the PCN is determined to be incomplete, notify the prospective permittee within that 30 day period to request the additional information necessary to make the PCN complete. The request must specify the information needed to make the PCN complete. As a general rule, district engineers will request additional information necessary to make the PCN complete only once. However, if the prospective permittee does not provide all of the requested information, then the district engineer will notify the prospective permittee that the PCN is still incomplete and the PCN review process will not commence until all of the requested information has been received by the district engineer. The prospective permittee shall not begin the activity until either:

(1) He or she is notified in writing by the district engineer that the activity may proceed under the NWP with any special conditions imposed by the district or division engineer; or

(2) 45 calendar days have passed from the district engineer's receipt of the complete PCN and the prospective permittee has not received written notice from the district or division engineer. However, if the permittee was required to notify the Corps pursuant to general condition 18 that listed species or critical habitat might be affected or are in the vicinity of the activity, or to notify the Corps pursuant to general condition 20 that the activity might have the potential to cause effects to historic properties, the permittee cannot begin the activity until receiving written notification from the Corps that there is "no effect" on listed species or "no potential to cause effects" on historic properties, or that any consultation required under Section 7 of the Endangered Species Act (see 33 CFR 330.4(f)) and/or section 106 of the National Historic Preservation Act (see 33 CFR 330.4(g)) has been completed. Also, work cannot begin under NWPs 21, 49, or 50 until the permittee has received written approval from the Corps. If the proposed activity requires a written waiver to exceed specified limits of an NWP, the permittee may not begin the activity until the district engineer issues the waiver. If the district or division engineer notifies the permittee in writing that an individual permit is required within 45 calendar days of receipt of a complete PCN, the permittee cannot begin the activity until an individual permit has been obtained. Subsequently, the permittee's right to proceed under the NWP may be modified, suspended, or revoked only in accordance with the procedure set forth in 33 CFR 330.5(d)(2).

(b) Contents of Pre-Construction Notification: The PCN must be in writing and include the following information:

(1) Name, address and telephone numbers of the prospective permittee;

(2) Location of the proposed activity;

(3) Identify the specific NWP or NWP(s) the prospective permittee wants to use to authorize the proposed activity;

(4) A description of the proposed activity; the activity's purpose; direct and indirect adverse environmental effects the activity would cause, including the anticipated amount of loss of wetlands, other special aquatic sites, and other waters expected to result from the NWP activity, in acres, linear

feet, or other appropriate unit of measure; a description of any proposed mitigation measures intended to reduce the adverse environmental effects caused by the proposed activity; and any other NWP(s), regional general permit(s), or individual permit(s) used or intended to be used to authorize any part of the proposed project or any related activity, including other separate and distant crossings for linear projects that require Department of the Army authorization but do not require pre-construction notification. The description of the proposed activity and any proposed mitigation measures should be sufficiently detailed to allow the district engineer to determine that the adverse environmental effects of the activity will be no more than minimal and to determine the need for compensatory mitigation or other mitigation measures. For single and complete linear projects, the PCN must include the quantity of anticipated losses of wetlands, other special aquatic sites, and other waters for each single and complete crossing of those wetlands, other special aquatic sites, and other waters. Sketches should be provided when necessary to show that the activity complies with the terms of the NWP. (Sketches usually clarify the activity and when provided results in a quicker decision. Sketches should contain sufficient detail to provide an illustrative description of the proposed activity (e.g., a conceptual plan), but do not need to be detailed engineering plans);

(5) The PCN must include a delineation of wetlands, other special aquatic sites, and other waters, such as lakes and ponds, and perennial, intermittent, and ephemeral streams, on the project site. Wetland delineations must be prepared in accordance with the current method required by the Corps. The permittee may ask the Corps to delineate the special aquatic sites and other waters on the project site, but there may be a delay if the Corps does the delineation, especially if the project site is large or contains many wetlands, other special aquatic sites, and other waters. Furthermore, the 45 day period will not start until the delineation has been submitted to or completed by the Corps, as appropriate;

(6) If the proposed activity will result in the loss of greater than 1/10-acre of wetlands and a PCN is required, the prospective permittee must submit a statement describing how the mitigation requirement will be satisfied, or explaining why the adverse environmental effects are no more than minimal and why compensatory mitigation should not be required. As an alternative, the prospective permittee may submit a conceptual or detailed mitigation plan.

(7) For non-Federal permittees, if any listed species or designated critical habitat might be affected or is in the vicinity of the activity, or if the activity is located in designated critical habitat, the PCN must include the name(s) of those endangered or threatened species that might be affected by the proposed activity or utilize the designated critical habitat that might be affected by the proposed activity. For NWP activities that require pre-construction notification, Federal permittees must provide documentation demonstrating compliance with the Endangered Species Act;

(8) For non-Federal permittees, if the NWP activity might have the potential to cause effects to a historic property listed on, determined to be eligible for listing on, or potentially eligible for listing on, the National Register of Historic Places, the PCN must state which historic property might have the potential to be affected by the proposed activity or include a vicinity map indicating the location of the historic property. For NWP activities that require pre-construction notification, Federal permittees must provide documentation demonstrating compliance with section 106 of the National Historic Preservation Act;

(9) For an activity that will occur in a component of the National Wild and Scenic River System, or in a river officially designated by Congress as a "study river" for possible inclusion in the system while the river is in an official study status, the PCN must identify the Wild and Scenic River or the "study river" (see general condition 16); and

(10) For an activity that requires permission from the Corps pursuant to 33 U.S.C. 408 because it will alter or temporarily or permanently occupy or use a U.S. Army Corps of Engineers federally authorized civil works project, the pre-construction notification must include a statement confirming that the project proponent has submitted a written request for section 408 permission from the Corps office having jurisdiction over that USACE project.

(c) Form of Pre-Construction Notification: The standard individual permit application form (Form ENG 4345) may be used, but the completed application form must clearly indicate that it is an NWP PCN and

must include all of the applicable information required in paragraphs (b)(1) through (10) of this general condition. A letter containing the required information may also be used. Applicants may provide electronic files of PCNs and supporting materials if the district engineer has established tools and procedures for electronic submittals. (d) Agency Coordination: (1) The district engineer will consider any comments from Federal and state agencies concerning the proposed activity's compliance with the terms and conditions of the NWPs and the need for mitigation to reduce the activity's adverse environmental effects so that they are no more than minimal. (2) Agency coordination is required for: (i) all NWP activities that require pre-construction notification and result in the loss of greater than 1/2-acre of waters of the United States; (ii) NWP 21, 29, 39, 40, 42, 43, 44, 50, 51, and 52 activities that require pre-construction notification and will result in the loss of greater than 300 linear feet of stream bed; (iii) NWP 13 activities in excess of 500 linear feet, fills greater than one cubic yard per running foot, or involve discharges of dredged or fill material into special aquatic sites; and (iv) NWP 54 activities in excess of 500 linear feet, or that extend into the waterbody more than 30 feet from the mean low water line in tidal waters or the ordinary high water mark in the Great Lakes. (3) When agency coordination is required, the district engineer will immediately provide (e.g., via e-mail, facsimile transmission, overnight mail, or other expeditious manner) a copy of the complete PCN to the appropriate Federal or state offices (FWS, state natural resource or water quality agency, EPA, and, if appropriate, the NMFS). With the exception of NWP 37, these agencies will have 10 calendar days from the date the material is transmitted to notify the district engineer via telephone, facsimile transmission, or e-mail that they intend to provide substantive, site-specific comments. The comments must explain why the agency believes the adverse environmental effects will be more than minimal. If so contacted by an agency, the district engineer will wait an additional 15 calendar days before making a decision on the pre-construction notification. The district engineer will fully consider agency comments received within the specified time frame concerning the proposed activity's compliance with the terms and conditions of the NWPs, including the need for mitigation to ensure the net adverse environmental effects of the proposed activity are no more than minimal. The district engineer will provide no response to the resource agency, except as provided below. The district engineer will indicate in the administrative record associated with each pre-construction notification that the resource agencies' concerns were considered. For NWP 37, the emergency watershed protection and rehabilitation activity may proceed immediately in cases where there is an unacceptable hazard to life or a significant loss of property or economic hardship will occur. The district engineer will consider any comments received to decide whether the NWP 37 authorization should be modified, suspended, or revoked in accordance with the procedures at 33 CFR 330.5. (4) In cases of where the prospective permittee is not a Federal agency, the district engineer will provide a response to NMFS within 30 calendar days of receipt of any Essential Fish Habitat conservation recommendations, as required by section 305(b)(4)(B) of the Magnuson-Stevens Fishery Conservation and Management Act. (5) Applicants are encouraged to provide the Corps with either electronic files or multiple copies of pre-construction notifications to expedite agency coordination.

District Engineer's Decision: 1. In reviewing the PCN for the proposed activity, the district engineer will determine whether the activity authorized by the NWP will result in more than minimal individual or cumulative adverse environmental effects or may be contrary to the public interest. If a project proponent requests authorization by a specific NWP, the district engineer should issue the NWP verification for that activity if it meets the terms and conditions of that NWP, unless he or she determines, after considering mitigation, that the proposed activity will result in more than minimal individual and cumulative adverse effects on the aquatic environment and other aspects of the public interest and exercises discretionary authority to require an individual permit for the proposed activity. For a linear project, this determination will include an evaluation of the individual crossings of waters of the United States to determine whether they individually satisfy the terms and conditions of the NWP(s), as well as the cumulative effects caused by all of the crossings authorized by NWP. If an applicant requests a waiver of the 300 linear foot limit on impacts to streams or of an otherwise applicable limit, as provided for in NWPs 13, 21, 29, 36, 39, 40, 42, 43, 44, 50, 51, 52, or 54, the district engineer will only grant the waiver upon a written determination that the NWP activity will result in only minimal individual and cumulative

adverse environmental effects. For those NWPs that have a waivable 300 linear foot limit for losses of intermittent and ephemeral stream bed and a 1/2-acre limit (i.e., NWPs 21, 29, 39, 40, 42, 43, 44, 50, 51, and 52), the loss of intermittent and ephemeral stream bed, plus any other losses of jurisdictional waters and wetlands, cannot exceed 1/2-acre. 2. When making minimal adverse environmental effects determinations the district engineer will consider the direct and indirect effects caused by the NWP activity. He or she will also consider the cumulative adverse environmental effects caused by activities authorized by NWP and whether those cumulative adverse environmental effects are no more than minimal. The district engineer will also consider site specific factors, such as the environmental setting in the vicinity of the NWP activity, the type of resource that will be affected by the NWP activity, the functions provided by the aquatic resources that will be affected by the NWP activity, the degree or magnitude to which the aquatic resources perform those functions, the extent that aquatic resource functions will be lost as a result of the NWP activity (e.g., partial or complete loss), the duration of the adverse effects (temporary or permanent), the importance of the aquatic resource functions to the region (e.g., watershed or ecoregion), and mitigation required by the district engineer. If an appropriate functional or condition assessment method is available and practicable to use, that assessment method may be used by the district engineer to assist in the minimal adverse environmental effects determination. The district engineer may add case-specific special conditions to the NWP authorization to address site-specific environmental concerns. 3. If the proposed activity requires a PCN and will result in a loss of greater than 1/10-acre of wetlands, the prospective permittee should submit a mitigation proposal with the PCN. Applicants may also propose compensatory mitigation for NWP activities with smaller impacts, or for impacts to other types of waters (e.g., streams). The district engineer will consider any proposed compensatory mitigation or other mitigation measures the applicant has included in the proposal in determining whether the net adverse environmental effects of the proposed activity are no more than minimal. The compensatory mitigation proposal may be either conceptual or detailed. If the district engineer determines that the activity complies with the terms and conditions of the NWP and that the adverse environmental effects are no more than minimal, after considering mitigation, the district engineer will notify the permittee and include any activity-specific conditions in the NWP verification the district engineer deems necessary. Conditions for compensatory mitigation requirements must comply with the appropriate provisions at 33 CFR 332.3(k). The district engineer must approve the final mitigation plan before the permittee commences work in waters of the United States, unless the district engineer determines that prior approval of the final mitigation plan is not practicable or not necessary to ensure timely completion of the required compensatory mitigation. If the prospective permittee elects to submit a compensatory mitigation plan with the PCN, the district engineer will expeditiously review the proposed compensatory mitigation plan. The district engineer must review the proposed compensatory mitigation plan within 45 calendar days of receiving a complete PCN and determine whether the proposed mitigation would ensure the NWP activity results in no more than minimal adverse environmental effects. If the net adverse environmental effects of the NWP activity (after consideration of the mitigation proposal) are determined by the district engineer to be no more than minimal, the district engineer will provide a timely written response to the applicant. The response will state that the NWP activity can proceed under the terms and conditions of the NWP, including any activity-specific conditions added to the NWP authorization by the district engineer. 4. If the district engineer determines that the adverse environmental effects of the proposed activity are more than minimal, then the district engineer will notify the applicant either: (a) that the activity does not qualify for authorization under the NWP and instruct the applicant on the procedures to seek authorization under an individual permit; (b) that the activity is authorized under the NWP subject to the applicant's submission of a mitigation plan that would reduce the adverse environmental effects so that they are no more than minimal; or (c) that the activity is authorized under the NWP with specific modifications or conditions. Where the district engineer determines that mitigation is required to ensure no more than minimal adverse environmental effects, the activity will be authorized within the 45-day PCN period (unless additional time is required to comply with general conditions 18, 20, and/or 31, or to evaluate PCNs for activities authorized by NWPs 21, 49, and 50), with activity-specific conditions that state the mitigation requirements. The authorization will include the necessary conceptual or detailed mitigation plan or a requirement that the applicant submit a

mitigation plan that would reduce the adverse environmental effects so that they are no more than minimal. When compensatory mitigation is required, no work in waters of the United States may occur until the district engineer has approved a specific mitigation plan or has determined that prior approval of a final mitigation plan is not practicable or not necessary to ensure timely completion of the required compensatory mitigation.

Further Information: 1. District Engineers have authority to determine if an activity complies with the terms and conditions of an NWP. 2. NWPs do not obviate the need to obtain other federal, state, or local permits, approvals, or authorizations required by law. 3. NWPs do not grant any property rights or exclusive privileges. 4. NWPs do not authorize any injury to the property or rights of others. 5. NWPs do not authorize interference with any existing or proposed Federal project (see general condition 31).

C. CORPS SEATTLE DISTRICT REGIONAL GENERAL CONDITIONS: The following conditions apply to all NWPs for the Seattle District in Washington State, unless specified.

1. Project Drawings: Drawings must be submitted with pre-construction notification (PCN). Drawings must provide a clear understanding of the proposed project, and how waters of the U.S. will be affected. Drawings must be originals and not reduced copies of large-scale plans. Engineering drawings are not required. Existing and proposed site conditions (manmade and landscape features) must be drawn to scale.

2. Aquatic Resources Requiring Special Protection: Activities resulting in a loss of waters of the United States in mature forested wetlands, bogs and peatlands, aspen-dominated wetlands, alkali wetlands, vernal pools, camas prairie wetlands, estuarine wetlands, wetlands in coastal lagoons, and wetlands in dunal systems along the Washington coast cannot be authorized by a NWP, except by the following NWPs:

NWP 3 – Maintenance
NWP 20 – Response Operations for Oil and Hazardous Substances
NWP 32 – Completed Enforcement Actions
NWP 38 – Cleanup of Hazardous and Toxic Waste

In order to use one of the above-referenced NWPs in any of the aquatic resources requiring special protection, prospective permittees must submit a PCN to the Corps of Engineers (see NWP general condition 32) and obtain written authorization before commencing work.

3. New Bank Stabilization in Tidal Waters of Puget Sound: Activities involving new bank stabilization in tidal waters in Water Resource Inventory Areas (WRIAs) 8, 9, 10, 11 and 12 (within the areas identified on Figures 1a through 1e on Corps website) cannot be authorized by NWP.

4. Commencement Bay: The following NWPs may not be used to authorize activities located in the Commencement Bay Study Area (see Figure 2 on Corps website):

NWP 12 – Utility Line Activities (substations)
NWP 13 – Bank Stabilization
NWP 14 – Linear Transportation Projects
NWP 23 – Approved Categorical Exclusions
NWP 29 – Residential Developments
NWP 39 – Commercial and Institutional Developments
NWP 40 – Agricultural Activities
NWP 41 – Reshaping Existing Drainage Ditches
NWP 42 – Recreational Facilities
NWP 43 – Stormwater and Wastewater Management Facilities

5. Bank Stabilization: All projects including new or maintenance bank stabilization activities require PCN to the Corps of Engineers (see NWP general condition 32). For new bank stabilization projects only, the following must be submitted to the Corps of Engineers:

a. The cause of the erosion and the distance of any existing structures from the area(s) being stabilized.
b. The type and length of existing bank stabilization within 300 feet of the proposed project.
c. A description of current conditions and expected post-project conditions in the waterbody.
d. A statement describing how the project incorporates elements avoiding and minimizing adverse environmental effects to the aquatic environment and nearshore riparian area, including vegetation impacts in the waterbody.

In addition to a. through d., the results from any relevant geotechnical investigations can be submitted with the PCN if it describes current or expected conditions in the waterbody.

6. Crossings of Waters of the United States: Any project including installing, replacing, or modifying crossings of waters of the United States, such as culverts or bridges, requires submittal of a PCN to the Corps of Engineers (see NWP general condition 32). If a culvert is proposed to cross waters of the U.S. where salmonid species are present or could be present, the project must apply the stream simulation design method from the Washington Department of Fish and Wildlife located in the *Water Crossing Design Guidelines* (2013), or a design method which provides passage at all life stages at all flows where the salmonid species would naturally seek passage. If the stream simulation design method is not applied for a culvert where salmonid species are present or could be present, the project proponent must provide a rationale in the PCN sufficient to establish one of the following:

a. The existence of extraordinary site conditions.
b. How the proposed design will provide equivalent or better fish passage and fisheries habitat benefits than the stream simulation design method.

If a culvert is proposed to cross waters of the U.S. where salmonid species are present or could be present, project proponents must provide a monitoring plan with the PCN that specifies how the proposed culvert will be assessed over a five-year period from the time of construction completion to ensure its effectiveness in providing passage at all life stages at all flows where the salmonid species would naturally seek passage. Culverts installed under emergency authorization that do not meet the above design criteria will be required to meet the above design criteria to receive an after-the-fact nationwide permit verification.

7. Stream Loss: A PCN is required for all activities that result in the loss of any linear feet of stream beds. No activity shall result in the loss of any linear feet of perennial stream beds or the loss of greater than 300 linear feet of intermittent and/or ephemeral stream beds. A stream may be rerouted if it is designed in a manner that maintains or restores hydrologic, ecologic, and geomorphic stream processes, provided there is not a reduction in the linear feet of stream bed. Streams include brooks, creeks, rivers, and historical waters of the U.S. that have been channelized into ditches. This condition does not apply to ditches constructed in uplands. Stream loss restrictions may be waived by the district engineer on a case-by-case basis provided the activities result in net increases of aquatic resource functions and services.

8. Mitigation: Pre-construction notification is required for any project that will result in permanent wetland losses that exceed 1,000 square feet. In addition to the requirements of General Condition 23 (Mitigation), compensatory mitigation at a minimum one-to-one ratio will be required for all permanent wetland losses that exceed 1,000 square feet. When a PCN is required for wetland losses less than 1,000 square feet, the Corps of Engineers may determine on a case-by-case basis that compensatory mitigation is required to ensure that the activity results in minimal adverse effects on the aquatic environment. Compensatory mitigation for impacts to marine waters, lakes, and streams will be determined on a case-by-case basis. If temporary impacts to waters of the U.S. exceed six months, the Corps of Engineers may require compensatory mitigation for temporal effects.

9. Magnuson-Stevens Fishery Conservation and Management Act – Essential Fish Habitat
Essential Fish Habitat (EFH) is defined as those waters and substrate necessary to fish for spawning, breeding, feeding, or growth to maturity. If EFH may be adversely affected by a proposed activity, the prospective permittee must provide a written EFH assessment with an analysis of the effects of the proposed action on EFH. The assessment must identify the type(s) of essential fish habitat (i.e., Pacific salmon, groundfish, and/or coastal-pelagic species) that may be affected. If the Corps of Engineers determines the project will adversely affect EFH, consultation with NOAA Fisheries will be required. Federal agencies should follow their own procedures for complying with the requirements of the Magnuson-Stevens Fishery Conservation and Management Act. If PCN is required for the proposed activity, Federal permittees must provide the district engineer with the appropriate documentation to demonstrate compliance with those requirements.

10. Forage Fish: For projects in forage fish spawning habitat, in-water work must occur within designated forage fish work windows, or when forage fish are not spawning. If working outside of a designated work window, or if forage fish work windows are closed year round, work may occur if the work window restriction is released for a period of time after a forage fish spawning survey has been conducted by a biologist approved by the Washington State Department of Fish and Wildlife (WDFW). Forage fish species with designated in-water work windows include Pacific sand lance (*Ammodytes hexapterus*), Pacific herring (*Clupea pallasi*), and surf smelt (*Hypomesus pretiosus*). This RGC does not apply to NWP 48, *Commercial Shellfish Aquaculture Activities*. Please see specific regional conditions for NWP 48.

11. Notification of Permit Requirements: The permittee must provide a copy of the nationwide permit authorization letter, conditions, and permit drawings to all contractors and any other parties performing the authorized work prior to the commencement of any work in waters of the U.S. The permittee must ensure all appropriate contractors and any other parties performing the authorized work at the project site have read and understand relevant NWP conditions as well as plans, approvals, and documents referenced in the NWP letter. A copy of these documents must be maintained onsite throughout the duration of construction.

12. Construction Boundaries: Permittees must clearly mark all construction area boundaries before beginning work on projects that involve grading or placement of fill. Boundary markers and/or construction fencing must be maintained and clearly visible for the duration of construction. Permittees should avoid and minimize removal of native vegetation (including submerged aquatic vegetation) to the maximum extent possible.

13. Temporary Impacts and Site Restoration
a. Temporary impacts to waters of the U.S. must not exceed six months unless the prospective permittee requests and receives a waiver by the district engineer. Temporary impacts to waters of the U.S. must be identified in the PCN.
b. No more than 1/2 acre of waters of the U.S. may be temporarily filled unless the prospective permittee requests and receives a waiver from the district engineer (temporary fills do not affect specified limits for loss of waters associated with specific nationwide permits).
c. Native soils removed from waters of the U.S. for project construction should be stockpiled and used for site restoration. Restoration of temporarily disturbed areas must include returning the area to pre-project ground surface contours. If native soil is not available from the project site for restoration, suitable clean soil of the same textural class may be used. Other soils may be used only if identified in the PCN.
d. The permittee must revegetate disturbed areas with native plant species sufficient in number, spacing, and diversity to restore affected functions. A maintenance and monitoring plan commensurate with the impacts, may be required. Revegetation must begin as soon as site conditions allow within the same growing season as the disturbance unless the schedule is approved by the Corps of Engineers.

Native plants removed from waters of the U.S. for project construction should be stockpiled and used for revegetation when feasible. Temporary Erosion and Sediment Control measures must be removed as soon as the area has established vegetation sufficient to control erosion and sediment.

e. If the Corps determines the project will result in temporary impacts of submerged aquatic vegetation (SAV) that are more than minimal, a monitoring plan must be submitted. If recovery is not achieved by the end of the monitoring period, contingencies must be implemented, and additional monitoring will be required.

This RGC does not apply to NWP 48, *Commercial Shellfish Aquaculture Activities*. Please see specific regional conditions for NWP 48.

D. CORPS REGIONAL SPECIFIC CONDITIONS FOR THIS NWP:

Non-government project proponents must submit a copy of court ordered remedial plans or related settlements with the pre-construction notification.

E. ECOLOGY 401 CERTIFICATION: GENERAL CONDITIONS

In addition to all the Corps National and Seattle Districts' Regional permit conditions, the following State General Section 401 Water Quality Certification (Section 401) conditions apply to all Nationwide Permits whether **certified** or **partially certified** in the State of Washington.

1. **For in-water construction activities**. Ecology Section 401 review is required for projects or activities authorized under NWPs that will cause, or may be likely to cause or contribute to an exceedance of a State water quality standard (Chapter 173-201A WAC) or sediment management standard (Chapter 173-204 WAC). State water quality standards and sediment management standards are available on Ecology's website. Note: In-water activities include any activity within a wetland and/or activities below the ordinary high water mark (OHWM).

2. **Projects or Activities Discharging to Impaired Waters**. Ecology Section 401 review is required for projects or activities authorized under NWPs if the project or activity will occur in a 303(d) listed segment of a waterbody or upstream of a listed segment and may result in further exceedances of the specific listed parameter. To determine if your project or activity is in a 303(d) listed segment of a waterbody, visit Ecology's Water Quality Assessment webpage for maps and search tools.

3. **Application**. For projects or activities that will require Ecology Section 401 review, applicants must provide Ecology with a Joint Aquatic Resources Permit Application (JARPA) along with the documentation provided to the Corps, as described in National General Condition 32, Pre-Construction Notification, including, when applicable: (a) A description of the project, including site plans, project purpose, direct and indirect adverse environmental effects the project would cause, best management practices (BMPs), and any other Department of the Army or federal agency permits used or intended to be used to authorize any part of the proposed project or any related activity. (b) Drawings indicating the Ordinary High Water Mark (OHWM), delineation of special aquatic sites and other waters of the state. Wetland delineations must be prepared in accordance with the current method required by the Corps and shall include Ecology's Wetland Rating form. Wetland rating forms are subject to review and verification by Ecology staff. Guidance for determining the OHWM is available on Ecology's website. (c) A statement describing how the mitigation requirement will be satisfied. A conceptual or detailed mitigation or restoration plan may be submitted. See State General Condition 5 for details on mitigation requirements. (d) Other applicable requirements of Corps Nationwide Permit General Condition 32, Corps Regional Conditions, or notification conditions of the applicable NWP. (e) Within 180 calendar days from receipt of applicable documents noted above **and** a copy of the final authorization letter from the Corps providing coverage for a proposed project or activity under the NWP Program Ecology will provide the applicant notice of whether an individual Section 401 will be required for the project. If

Ecology fails to act within a year after receipt of **both** of these documents, Section 401 is presumed waived.

4. **Aquatic resources requiring special protection**. Certain aquatic resources are unique, difficult-to-replace components of the aquatic environment in Washington State. Activities that would affect these resources must be avoided to the greatest extent possible. Compensating for adverse impacts to high value aquatic resources is typically difficult, prohibitively expensive, and may not be possible in some landscape settings. Ecology Section 401 review is required for activities in or affecting the following aquatic resources (and not prohibited by Seattle District Regional General Condition): (a) Wetlands with special characteristics (as defined in the Washington State Wetland Rating Systems for western and eastern Washington, Ecology Publications #14-06-029 and #14-06-030):

- Estuarine wetlands.
- Wetlands of High Conservation Value.
- Bogs.
- Old-growth and mature forested wetlands.
- Wetlands in coastal lagoons.
- Interdunal wetlands.
- Vernal pools.
- Alkali wetlands.

(b) Fens, aspen-dominated wetlands, camas prairie wetlands. (c) Marine water with eelgrass (*Zostera marina*) beds (except for NWP 48). (d) Category I wetlands. (e) Category II wetlands with a habitat score ≥ 8 points. This State General Condition does not apply to the following Nationwide Permits: NWP 20 – *Response Operations for Oil and Hazardous Substances,* NWP 32 – *Completed Enforcement Actions*

5. Mitigation. Applicants are required to show that they have followed the mitigation sequence and have first avoided and minimized impacts to aquatic resources wherever practicable. For projects requiring Ecology Section 401 review with unavoidable impacts to aquatics resources, adequate compensatory mitigation must be provided.

(a) Wetland mitigation plans submitted for Ecology review and approval shall be based on the most current guidance provided in Wetland Mitigation in Washington State, Parts 1 and 2 (available on Ecology's website) and shall, at a minimum, include the following:

i. A description of the measures taken to avoid and minimize impacts to wetlands and other waters of the U.S.
ii. The nature of the proposed impacts (i.e., acreage of wetlands and functions lost or degraded).
iii. The rationale for the mitigation site that was selected.
iv. The goals and objectives of the compensatory mitigation project.
v. How the mitigation project will be accomplished, including construction sequencing, best management practices to protect water quality, proposed performance standards for measuring success and the proposed buffer widths.
vi. How it will be maintained and monitored to assess progress towards goals and objectives. Monitoring will generally be required for a minimum of five years. For forested and scrub-shrub wetlands, 10 years of monitoring will often be necessary.
vii. How the compensatory mitigation site will be legally protected for the long term.

Refer to Wetland Mitigation in Washington State – Part 2: Developing Mitigation Plans (Ecology Publication #06-06-011b) and Selecting Wetland Mitigation Sites Using a Watershed Approach (Ecology Publications #09-06-032 (Western Washington) and #10-06-007 (Eastern Washington)) for guidance on selecting suitable mitigation sites and developing mitigation plans. Ecology encourages the use of alternative mitigation approaches, including credit/debit methodology, advance mitigation, and other programmatic approach such as mitigation banks and in-lieu fee programs. If you are interested in proposing use of an alternative mitigation approach, consult with the appropriate Ecology regional staff person. Information on alternative mitigation approaches is available on Ecology's website.

(b) Mitigation for other aquatic resource impacts will be determined on a case-by-case basis.

6. Temporary Fills. Ecology Section 401 review is required for any project or activity with temporary fill in wetlands or other waters of the state for more than 90 days, unless the applicant has received written approval from Ecology. Note: This State General Condition does not apply to projects or activities authorized under NWP 33, *Temporary Construction, Access, and Dewatering*

7. Stormwater pollution prevention: All projects that involve land disturbance or impervious surfaces must implement stormwater pollution prevention or control measures to avoid discharge of pollutants in stormwater runoff to waters of the State.

(a) For land disturbances during construction, the applicant must obtain and implement permits (e.g., Construction Stormwater General Permit) where required and follow Ecology's current stormwater manual.

(b) Following construction, prevention or treatment of on-going stormwater runoff from impervious surfaces shall be provided.

Ecology's Stormwater Management and Design Manuals and stormwater permit information are available on Ecology's website.

8. State Section 401 Review for PCNs not receiving 45-day response from the Seattle District. In the event the Seattle District Corps does not issue a NWP authorization letter within 45 calendar days of receipt of a **complete** pre-construction notification, the applicant must contact Ecology for Section 401 review prior to commencing work.

F. ECOLOGY 401 CERTIFICATION: SPECIFIC CONDITIONS FOR THIS NWP:

Certified subject to conditions. Ecology Section 401 review is required for projects or activities authorized under this NWP if:

1. The project or activity affects more than ½ acre of waters of the state.

2. The project or activity is not authorized though a Model Toxics Control Act (MTCA) order or a Comprehensive Environmental Response, Compensation and Liability Act (CERCLA) order.

G. COASTAL ZONE MANAGEMENT CONSISTENCY RESPONSE FOR THIS NWP:
(Note: This is only applies in the following counties: Clallam, Grays Harbor, Island, Jefferson, King, Kitsap, Mason, Pacific, Pierce, San Juan, Skagit, Snohomish, Thurston, Wahkiakum and Whatcom)

NWP Specific Response: Ecology concurs that this NWP is consistent with the CZMP, subject to the following condition: An individual Coastal Zone Management Consistency Determination is required for project or activities under this NWP if State Section 401 review is required.

If an individual Coastal Zone Management Consistency Determination is required:
General Conditions: For Non-Federal Permittees
1. Necessary Data and Information. A Coastal Zone Management Program "Certification of Consistency" form is required for projects located within a coastal county. "Certification of Consistency" forms are available on Ecology's website. The form shall include a description of the proposed project or activity and evidence of compliance with the applicable enforceable policies of the Washington Coastal Zone Management Program (CZMP). Also, a map of the site location is required.
2. Timing. Within 6 months from receipt of the necessary data and information, Ecology will provide a federal consistency determination for the proposed project or activity. If Ecology fails to act within the 6 month period, concurrence with the CZMP is presumed.

General Conditions: For Federal Permittees (Agencies)
1. Necessary Data and Information. Federal agencies shall submit the determination, information, and analysis required by 15 CFR 930.39 to obtain a federal consistency determination.
2. Timing. Within 60 days from receipt of the necessary data and information, Ecology will provide a federal consistency determination for the proposed project or activity. If Ecology fails to act within the 60 day period, concurrence with the CZMP is presumed.

APPENDIX C

Construction Observation Documentation

C-1: Construction Meetings

C-2: Field Reports and Photographs

C-3: Construction Changes

APPENDIX C-1

Construction Meetings

September 21st, 2017
September 28th, 2017
October 5th, 2017

PARKS AND RECREATION DEPARTMENT
210 Lottie Street, Washington 98225
Telephone: (360) 778-7000 Fax: (360) 778-7001 TTY (360) 738-7366

MEETING SUMMARY NO. 1

MEETING DATE: September 21, 2017
PROJECT: Central Pier Structure
BY: Gina Gobo Austin, PE
LOCATION: Park's Office, City Hall
DATE ISSUED: September 21, 2017

1. ATTENDANCE

Name	Company
Gina Austin, PE	City of Bellingham Parks
Josh Neyman	City of Bellingham Parks
Joel Cameron	RAZZ Construction
Kent Wiken	Landau & Associates (via telephone)

2. GENERAL

a. None

3. SCHEDULE

a.	Weekly Statement of Working Days:	**5** working days counted as of Sept. 22, 2017 **25** working days remaining
b.	Notice to proceed:	September 18, 2017
c.	Unworkable Days:	None
d.	Extensions:	None
e.	Substantial Completion:	October 20, 2017
f.	Look-Ahead Schedule:	No work this Thursday and Friday. Start pier decking removal Thursday next week. Start geotextile October 6 (tentative). Start piling removal first week of October (by American Construction). Survey staking complete. RAZZ will submit revised project schedule next week.

4. REQUEST FOR INFORMATION (RFI)

#	Description	Reference	Date Issued	Status
1	None			

5. PROPOSAL REQUESTS / CONSTRUCTION CHANGE DIRECTIVES

#	Description	Reference	Date Issued	Status
1	None			

6. CHANGE ORDERS

a. Force Account: move of shell hash waterward in reach 5 (keep on site)

b. Force Account: use equipment to break off partially buried brick or concrete (no excavation) to create flatter surface for geotextile

7. SUBMITTALS

a. Need truck tickets for disposal, tonnage

b. Need confirmation of waste acceptance and transfer to Subtitle D landfill

RECORD DOCUMENTS

a. None

8. QUALITY CONTROL/INSPECTIONS

a. Shoreline subgrade inspection expected to be ready the first week of October

b. GeoEngineers may be on site next week to observe work

9. PARK LOGISTICS

a. Josh working with Park staff to install detour signs

b. Move project signs to chain link fence. Two existing projects signs are located within the construction site.

10. APPLICATION FOR PAYMENT

a. Review pay app #1 next week.

11.OTHER TOPICS

a. Forklift is not operational. Waiting for repair.
b. One of the piling shown on sheet C3 is noted as steel, but it's actually wood. It still needs to be removed.
c. Brick, concrete and asbestos pipe shall be disposed of as Subtitle D landfill material.
d. Re-use of rock shall be paid under Lump Sum, Site Prep bid item
e. Discussed sequence of work along shoreline: Move existing rock suitable for reuse water ward, confirm inspection with costal engineer, place geotextile, place quarry spalls, place large rock, rake back re-use rock
    i. "Re-use" rock is minimal.
f. About 1 Ton of material (brick and concrete) was hauled offsite on Friday, Sept. 15.

13. NEXT MEETING:

a. September 28, 2017 at City Hall Park's Office

Notice: *This summary is issued to serve as a general overview of the items discussed at the subject meeting. This meeting summary shall stand as written, unless discrepancies are discovered and brought to the attention of Gina Gobo Austin, P.E. within seven (7) calendar days of issuance, 360-778-7000, gaustin@cob.org.*

PARKS AND RECREATION DEPARTMENT
210 Lottie Street, Washington 98225
Telephone: (360) 778-7000 Fax: (360) 778-7001 TTY (360) 738-7366

MEETING SUMMARY NO. 2

MEETING DATE: September 28, 2017
PROJECT: Central Pier Structure
BY: Gina Gobo Austin, PE
LOCATION: Park's Office, City Hall
DATE ISSUED: September 28, 2017

1. ATTENDANCE

Name	Company
Gina Austin, PE	City of Bellingham Parks
Josh Neyman	City of Bellingham Parks
Joel Cameron	RAZZ Construction
Kent Wiken	Landau & Associates (via telephone)

2. GENERAL

a. None

3. SCHEDULE

a.	Weekly Statement of Working Days:	**10** working days counted as of Sept. 29, 2017 **20** working days remaining
b.	Notice to proceed:	September 18, 2017
c.	Unworkable Days:	None
d.	Extensions:	None
e.	Substantial Completion:	October 27, 2017
f.	Look-Ahead Schedule:	Deck & structure demo next week; piling removal October 5.

4. REQUEST FOR INFORMATION (RFI)

#	Description	Reference	Date Issued	Status
1	Gravel backfill at piling	HPA supplemental requirements	9/26 via email	Pending

5. PROPOSAL REQUESTS / CONSTRUCTION CHANGE DIRECTIVES

#	Description	Reference	Date Issued	Status
1	None			

6. CHANGE ORDERS

a. Force Account: move shell hash water ward in reach 5 (keep on site)

b. Force Account: use equipment to break off partially buried brick or concrete (no excavation) to create flatter surface for geotextile

c. Force Account: Additional cut depth at broken piles (3 ft vs 1 ft)

7. SUBMITTALS

a. None

RECORD DOCUMENTS

a. None

8. QUALITY CONTROL/INSPECTIONS

a. Shoreline subgrade inspection by Coastal Geologic: October 11 or 12

b. GeoEngineers may be on site next week to observe work

c. Josh (city) will track materials and collect truck tickets

9. PARK LOGISTICS

a. Some construction fence was moved for the Bellingham Bay Marathon. The fence has been moved back to its original location.

10. APPLICATION FOR PAYMENT

a. Review pay app #1 this week.

   i. Confirm Statement of Intent filed for Razz, Larry Steel

   ii. Cut-off date for pay estimate: September 30

   iii. Josh will prepare pay request this week.

11.OTHER TOPICS

a. One of the piling shown on sheet C3 is noted as steel, but it's actually wood. It still needs to be removed. There are several other wood piling in this area that will remain.
b. Razz will construction plastic-lined containment bin on wharf structure. Piles will be placed in containment bin, cut into 4ft sections, and then loaded in truck for haul-off.

13. NEXT MEETING:

a. October 5, 2017 at jobsite

Notice: *This summary is issued to serve as a general overview of the items discussed at the subject meeting. This meeting summary shall stand as written, unless discrepancies are discovered and brought to the attention of Gina Gobo Austin, P.E. within seven (7) calendar days of issuance, 360-778-7000, gaustin@cob.org.*

PARKS AND RECREATION DEPARTMENT
210 Lottie Street, Washington 98225
Telephone: (360) 778-7000 Fax: (360) 778-7001 TTY (360) 738-7366

MEETING SUMMARY NO. 3

MEETING DATE: October 5, 2017
PROJECT: Central Pier Structure
BY: Gina Gobo Austin, PE
LOCATION: Park's Office, City Hall
DATE ISSUED: October 6, 2017

1. ATTENDANCE

Name	Company
Gina Austin	City of Bellingham Parks
Josh Neyman	City of Bellingham Parks
Joel Cameron	RAZZ Construction
Kent Wiken	Landau & Associates
Carolyn Carlstrom	Landau & Associates
John Guenther	Ecology

2. GENERAL

a. None

3. SCHEDULE

a.	Weekly Statement of Working Days:	**15** working days counted as of Sept. 29, 2017 **15** working days remaining
b.	Notice to proceed:	September 18, 2017
c.	Unworkable Days:	None
d.	Extensions:	None
e.	Substantial Completion:	October 27, 2017
f.	Look-Ahead Schedule:	Piling removal started today and will be complete by end of day today. Project is on schedule. Razz will submit updated schedule tomorrow. Place geotextile and armor rock next week.

4. REQUEST FOR INFORMATION (RFI)

#	Description	Reference	Date Issued	Status
1	Gravel backfill at piling	HPA supplemental requirements	9/26 via email	Resolved. No gravel backfill. Sand backfill at pile extraction locations; clay and sand at any cut piles left below the mudline

5. PROPOSAL REQUESTS / CONSTRUCTION CHANGE DIRECTIVES

#	Description	Reference	Date Issued	Status
1	None			

6. CHANGE ORDERS

a. Force Account: move shell hash water ward in reach 5 (keep on site)
b. Force Account: use equipment to break off partially buried brick or concrete (no excavation) to create flatter surface for geotextile
c. Force Account: Additional tree removal & trimming
d. Force Account: sand placement

7. SUBMITTALS

a. None

RECORD DOCUMENTS

a. None

8. QUALITY CONTROL/INSPECTIONS

a. Shoreline subgrade inspection by Coastal Geologic: Tuesday afternoon next week
b. CB inserts are in place
c. Josh (city) will track materials and collect truck tickets
d. Contractor will conduct daily health and safety training meetings at the beginning of each day.

9. PARK LOGISTICS

a. Contractor to maintain traffic control and ensure park users don't enter construction site

10. APPLICATION FOR PAYMENT

a. Review pay app #1 this week.
    i. Confirm Statement of Intent filed for Razz, Larry Steel
    ii. Cut-off date for pay estimate: September 30
    iii. Josh will prepare pay request this week.

11. OTHER TOPICS

a. Piling removal in progress (note: Later in the day it was confirmed that all piling were removed in their entirety. No piles were cut.)
b. One steel pile fell over and was left underwater. Razz will retrieve it next week during low tide.
c. Shoreline armoring: Need to move "reuse" rock waterward, before fabric is installed.
d. Demolition material is paid by the ton. Razz will obtain scale tickets from Cowden/Stoneridge.
    i. Other wood material has already been hauled to Razz's construction yard. Josh will measure material and calculate weight.
    ii. Steel pile will be taken to RDS for recycle. RDS will issue weight tickets

13. NEXT MEETING:

a. October 12, 2017 at jobsite

Notice: *This summary is issued to serve as a general overview of the items discussed at the subject meeting. This meeting summary shall stand as written, unless discrepancies are discovered and brought to the attention of Gina Gobo Austin, P.E. within seven (7) calendar days of issuance, 360-778-7000, gaustin@cob.org.*

APPENDIX C-2

Field Reports and Photographs

Coastal Geologic Services, September 20th, 2017
Landau Associates, October 5th, 2017
Coastal Geologic Services, October 10th, 2017
Coastal Geologic Services, October 11th, 2017
Landau Associates, October 11th, 2017
Coastal Geologic Services, October 12th, 2017
Coastal Geologic Services, October 16th, 2017
Coastal Geologic Services, October 17th, 2017
Coastal Geologic Services, October 18th, 2017
Coastal Geologic Services, October 19th, 2017
Coastal Geologic Services, October 20th, 2017
Coastal Geologic Services, October 23rd, 2017
Coastal Geologic Services, October 25th, 2017
Coastal Geologic Services, October 27th, 2017

Project: Blvd Park North Shoreline Stabilization Job #:17-003 Task #:5

Location: Blvd Park, Bellingham, WA

Date: 9/20/2017 Time: 3:20-4:30pm

Tidal Predictions/observations:4.5' MLLW rising to 6' MLLW before leaving

Weather Conditions: Clear yet gray and cool, slightly windy

CGS representative(s): Alexis Blue

Client representative(s): Landowner: Josh Neyman and Russ (CGS is a sub to Landau on this project, Landau not present)

Contractor, subs and personnel present: Contractor: Rick

Others individuals present on site and affiliation: na

Equipment present on site: Forklift, boat with 130 motor

Condition of site: Good. Observed spill prevention kit, fencing of the perimeter of project, boom around wharf area

Work performed/inspected: Contractor stated some of the debris between MHHW and lawn had been removed by hand. Actual debris removed not observed, contractor stated it was already taken offsite. Assumed to be about a ton of material. There was additional debris to be removed. I suggested field-identifying MHHW visually along the shore to better assist with understanding what debris can be moved. All material including concrete, sandstone, angular rock, bricks and other debris shall be removed if not needing a sledge hammer (Gina's suggestion stated by Josh). I suggested all material that can be moved without disturbing sediment and not requiring more than a 2-person lift. Equipment with articulated thumb is allowable to use for removal.

I suggest having CGS come out again after removal and before geotech placement, it is best to give 2 days for notice for inspection to ensure CGS representative is available. I identified angular rock to be reused in the ban between MHHW and the lawn to be 1 to 2man rock and quarry spall.

Quality control use observed: na

Questions(who/what/outcome): Contractor asked what to do with the asbestos pipe that is near the corner of shoreline alignment change. I instructed to have it removed but team should decide where to dispose of it and how to pay. Picture attached.
Team to decide how to pay for angular rock reused onsite.

Notes/comments/observations: ABlue will be unavailable for inspection all day on Wednesday October 4. If CGS rep is needed, another CGS staff member will be used.

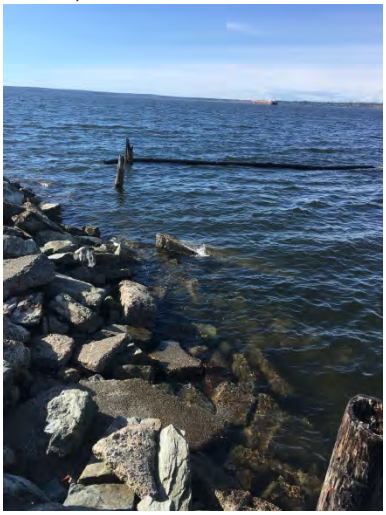
Photo log:

Asbestos pipe in middle of photo. Note pile with boom to help identify location in field.

Shore conditions near drift sill of pocket beach

Geotextile on site, three rolls.

Shore conditions looking north



Boom connection to shore, west of wharf.

Boom connection to shore, east of wharf.

LANDAU ASSOCIATES
Edmonds, Washington
(425) 778-0907 Telephone
(425) 778-6409 Fax

Field Report

Report No. _____
Page 1 of 2

Project Shoreline Restoration Project No. 0015015.091.095
Location Boulevard Park, S State St. Client ~~Port~~ City of Bellingham Date 10/5/17
Weather Conditions 40°f, blue skies Prepared By CQC

Description of work done, locations, equipment used, quantity estimate. *(Indicate location and elevation, and mark locations on plans, use separate paragraph for each subject work item, show if approved as meeting specifications or not.)*

915 - ARRIVED ON SITE (Carolyn Carlstrom + Kent Wiken)
crane + barge arrived on site ~900, began set-up for pile pulling
pulling steel H beams from deck
1030 H-piles under decking removed and placed on shore
H-piles below mudline are rusted through
→ to get diver for capping broken off piles
1100 - 3 steel piles removed so far

1135 - vibrating hammer for pulling wood piles set up, wood pile extraction start
1215 - all wood piles loosened - ready for extraction
1230 - Broke for lunch
1300 - Construction meeting: Joel (RAZZ), Gina Austin, Josh Nayman (City Parks Dept.), John Gunther (Ecology), Kent Wiken (LAI), CQC (Landau) in attendance
1350 - American switching back to steel attachment for pulling remaining H-piles
1440 - H-pile with concrete collar close to shore pulled
1450 - 2nd H-pile " " " close to shore pulled
Cross member attached to H-beam below mud-line found when pulling
1600 - first creosote pile out of water and placed on visqlene for disposal
1645 - all 5 creosote piles out of water plus additional wood pile originally thought to be steel → total 6 creosote wood piles out of water + on visqlene
1700 - removal of 4 remaining H-beams, one H-beam from earlier in day still under water after being bumped by boat

Visitors RAZZ Construction, Gina Austin, Bellingham Park Dept. (2) reps. American Construction
Unsatisfactory Conditions and Recommended Correction gap in silt fence boom, asked to close gap

Attachments
Distribution Signed Carolyn Carlstrom

LANDAU ASSOCIATES
Edmonds, Washington
(425) 778-0907 Telephone
(425) 778-6409 Fax

Field Report

Report No. _____
Page 2 of 2

Project Shoreline Restoration Project No. 001515.091.095
Location Boulevard Park, S. State St. Client City of Bellingham Date 10/5/17
Weather Conditions 64° f sunny - clear skies Prepared By CAC

Description of work done, locations, equipment used, quantity estimate. *(Indicate location and elevation, and mark locations on plans, use separate paragraph for each subject work item, show if approved as meeting specifications or not.)*

1740 – 6 creosote timber piles + 8 steel piles out of water and on decking/ shore for removal, buoys left as markers on pulled piles for sand pour

1753- began covering pile pull locations with sand using "Garbo bucket" - shroud

1830 - Left site

Visitors _____

Unsatisfactory Conditions and Recommended Correction _____

Attachments 10/5/17 Tide Chart + Construction Mtng. Notes

Distribution _____ Signed [signature]

LANDAU ASSOCIATES

By CQC Date 10/5/17 Project Bellingham Shoreline Project No. 0015015 091.095.

Checked By _____ Date 13:00 Subject Construction Mtng. Sheet Attm of 1

In Attendance: Joel w/ Razz
Gina Austin w/ City
KWW
CQC
Josh w/ City
John Gunther w/ Ecology

- divers needed to cap pilings
- need to retriere pile that was knocked in by ~~boat~~
- Schedule – still on track with last schedule sent last week
  Alexis to be out next week for subgrade (Thurs. + Fri) Landau to follow up to confirm.
  ↳ Rock to go towards water to clear
- American will be done on site E O.D.
- Wood to Razz's yard
  have scale tickets for what went to RDS
  remaining wood in pile @ Razz's yard → C of B to verify
  steel also to go to RDS b/c so rusted - decayed
  Remaining decking going to RAZZ to weigh on way to yard?
- Josh working on pay request
- Piles will be cut up on visquene
  Ecology asking about any water quality monitoring
- No RFI's
- Daily H+S meetings? or weekly? – note of lots of traffic coming through site

Att nt 2

Tides:Bellingham Bay, Bellingham

based on Port Townsend, Admiralty Inlet, Wa (NOAA)
48° 44 42 N 122° 29 42 W

Thursday, October 5, 2017

Average Tides	
Mean Range:	5.4 ft
MHHW:	8.5 ft
Mean Tide:	5.1 ft

Daily Highs & Lows		
05:18	7.4 ft	High
11:22	1.9 ft	Low
17:35	8.2 ft	High
23:52	1.3 ft	Low

(PDT)	Tide
00:00	2.4 ft
00:15	2.5 ft
00:30	2.7 ft
00:45	3.0 ft
01:00	3.2 ft
01:15	3.4 ft
01:30	3.7 ft
01:45	4.0 ft
02:00	4.3 ft
02:15	4.6 ft
02:30	4.9 ft
02:45	5.2 ft
03:00	5.6 ft
03:15	5.9 ft
03:30	6.2 ft
03:45	6.5 ft
04:00	6.7 ft
04:15	6.9 ft
04:30	7.1 ft
04:45	7.3 ft
05:00	7.4 ft
05:15	7.4 ft
05:30	7.4 ft
05:45	7.3 ft
06:00	7.2 ft
06:15	7.1 ft
06:30	6.9 ft
06:45	6.7 ft
07:00	6.5 ft
07:15	6.2 ft
07:30	5.9 ft
07:45	5.6 ft
08:00	5.2 ft
08:15	4.9 ft
08:30	4.5 ft
08:45	4.2 ft
09:00	3.8 ft
09:15	3.5 ft
09:30	3.1 ft
09:45	2.9 ft
10:00	2.6 ft
10:15	2.3 ft
10:30	2.2 ft
10:45	2.0 ft
11:00	1.9 ft
11:15	1.9 ft
11:30	1.9 ft
11:45	1.9 ft
12:00	2.0 ft
12:15	2.2 ft
12:30	2.4 ft
12:45	2.7 ft
13:00	2.9 ft
13:15	3.2 ft
13:30	3.6 ft
13:45	3.9 ft
14:00	4.2 ft
14:15	4.6 ft
14:30	4.9 ft
14:45	5.3 ft
15:00	5.7 ft
15:15	6.0 ft
15:30	6.4 ft
15:45	6.7 ft
16:00	7.1 ft
16:15	7.4 ft
16:30	7.6 ft
16:45	7.9 ft
17:00	8.0 ft
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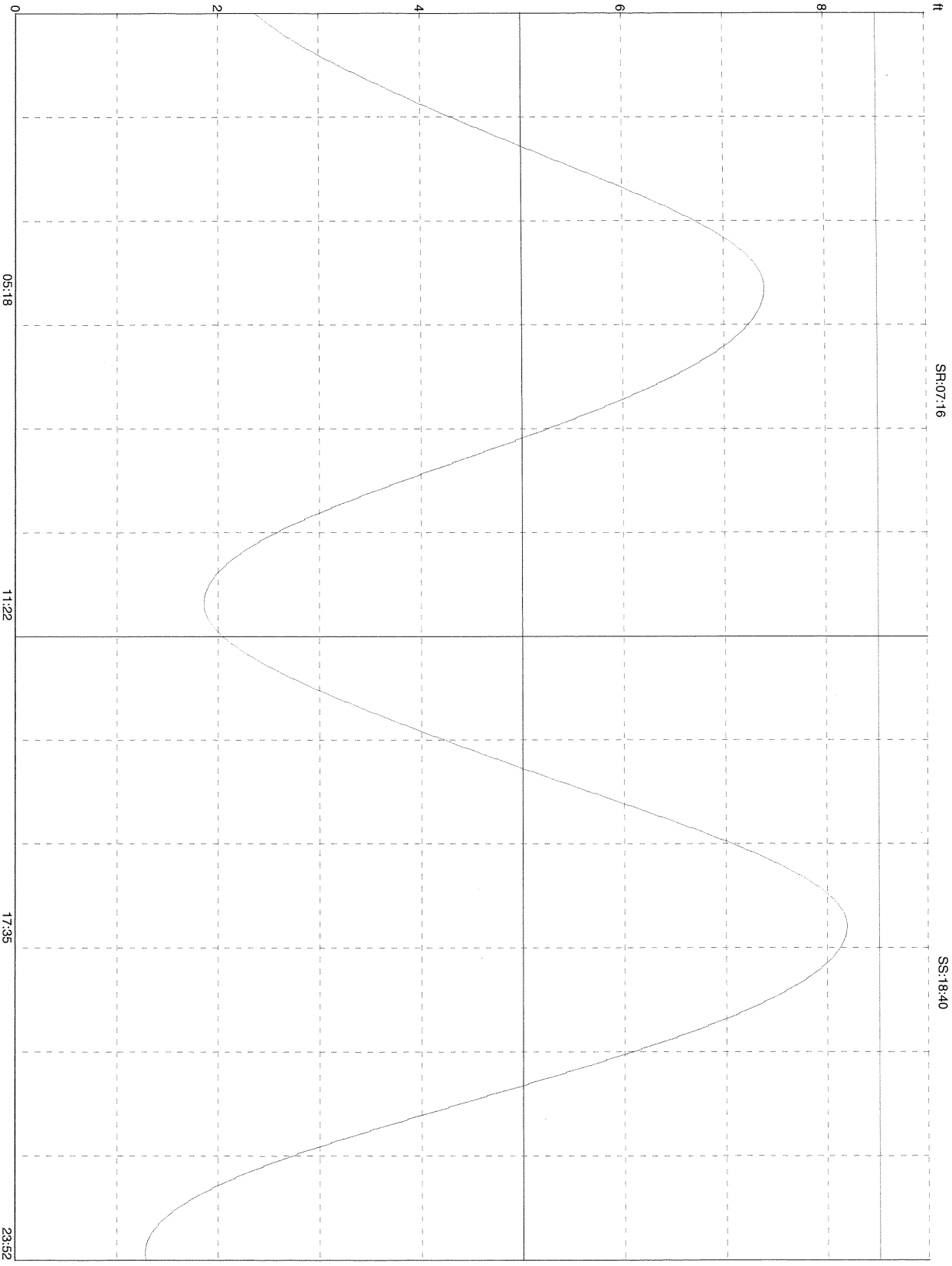
23:30	1.3 ft
23:45	1.3 ft
00:00	1.3 ft



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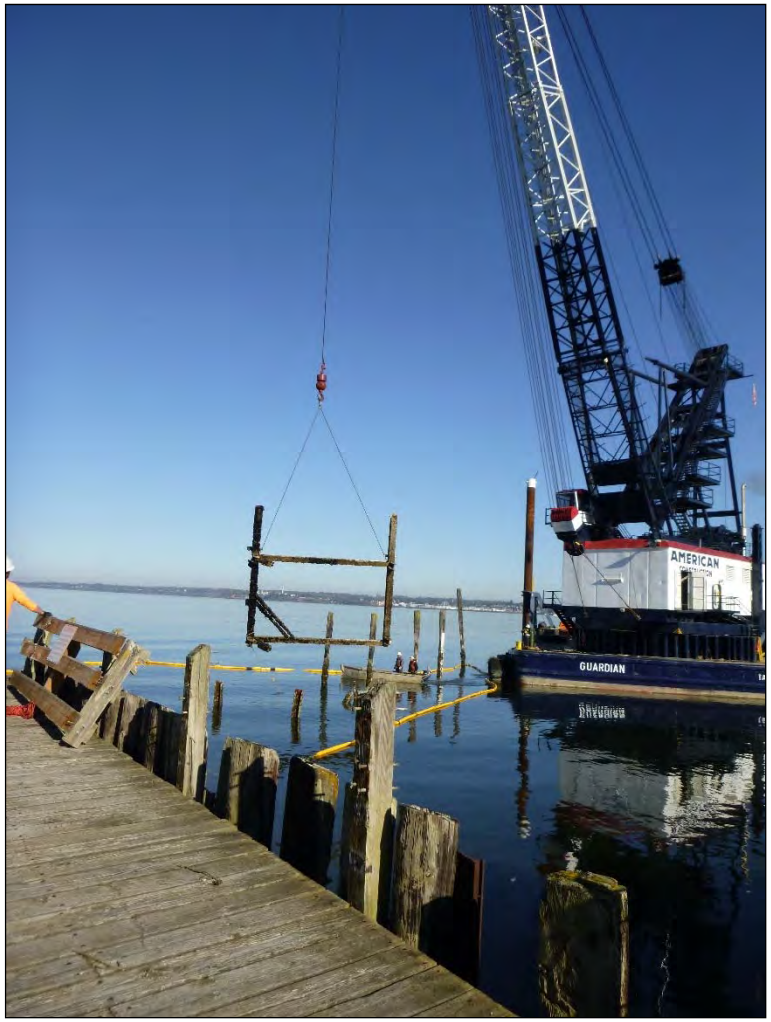


1. Removal of 12”x12” steel H-beams from superstructure.

2. Concrete collar demolition on H-pile near shore to allow extraction equipment jaws to attach.

LANDAU ASSOCIATES

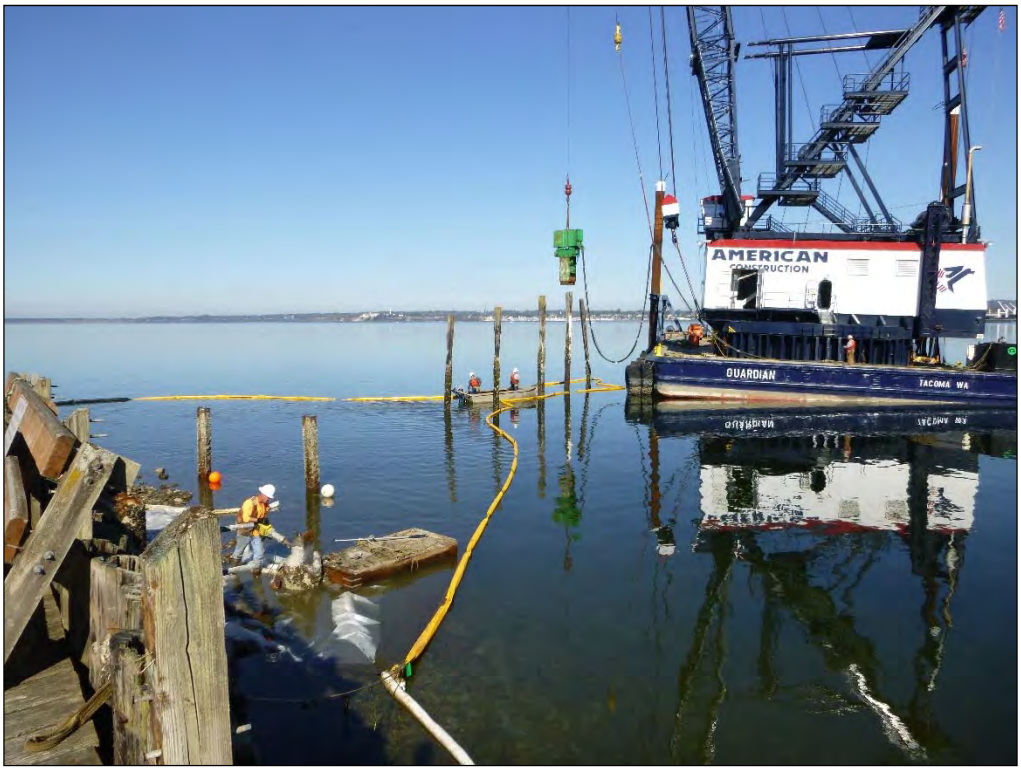
Shoreline Restoration
Boulevard Park
Bellingham, Washington

Selected Site Photographs
October 5, 2017

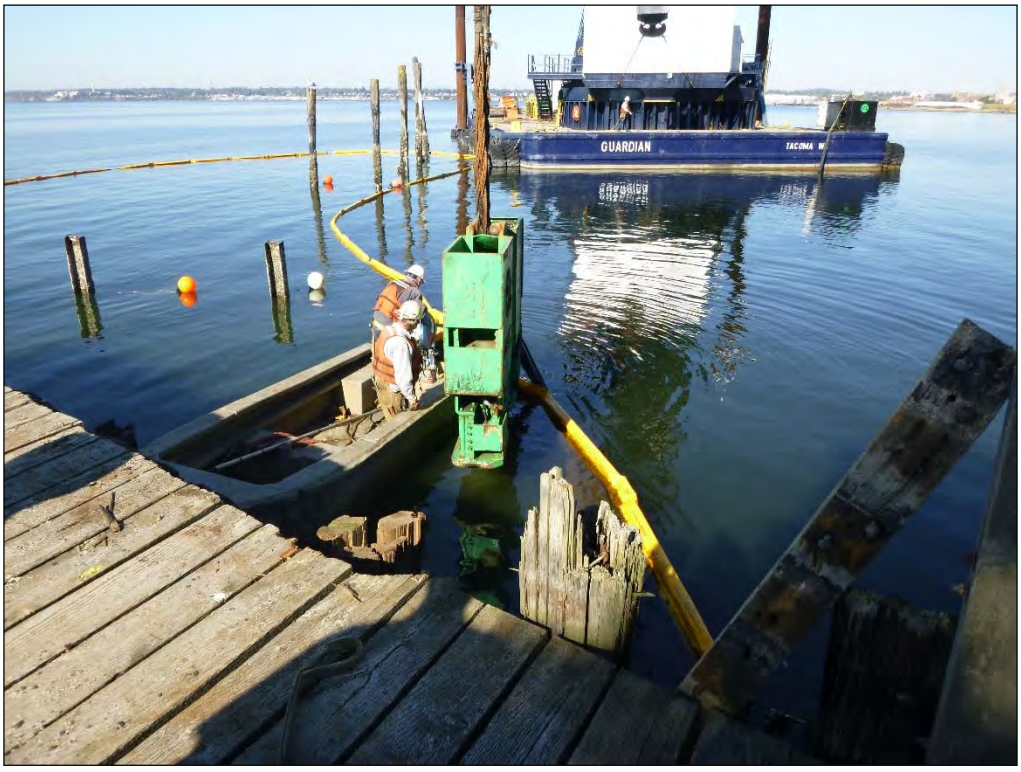
Figure
F-1

3. Looking north at first H-pile removal.

4. Two pulled steel H-piles with substantial rust and corrosion of steel below mudline placed on plastic sheeting for containment.



5. Looking north at creosote piles being loosened for extraction.



6. H-pile with concrete collar requiring vibratory hammer for extraction.

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Shoreline Restoration Boulevard Park Bellingham, Washington	**Selected Site Photographs October 5, 2017**	Figure F-3

7. Looking northwest at all remaining creosote and H-piles, loosened and ready for extraction.

8. Full length of creosote wood pile removed and being placed on plastic sheeting for cutting and loading to disposal.

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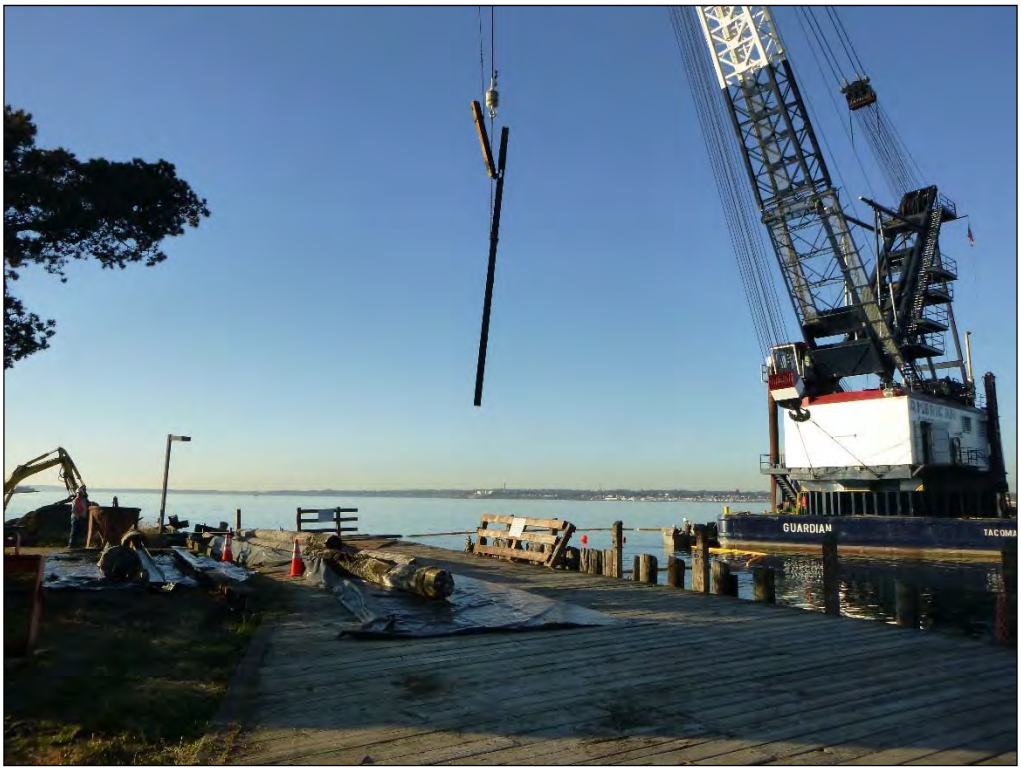
Shoreline Restoration Boulevard Park Bellingham, Washington	**Selected Site Photographs October 5, 2017**	Figure F-4



9. Final pile removed with cross member attached below mudline. All piles contained on decking for disposal.

10. Piles removed and buoys in place for sand drop locations.

10/6/17 Document1

LANDAU ASSOCIATES

Shoreline Restoration Boulevard Park Bellingham, Washington	**Selected Site Photographs October 5, 2017**	Figure F-5

11. Gar-bro bucket filled with sand, ready for drop over previous pile location, located using weight on end of buoy and yellow line placed before pile was pulled.

12. Sand drop over previous H-pile location. Other pile locations marked with buoys in background.

LANDAU ASSOCIATES

Shoreline Restoration Boulevard Park Bellingham, Washington	**Selected Site Photographs October 5, 2017**	Figure F-6

Project: Blvd Park, Interim Shoreline Stabilization Job #: 17-003 Task #: Task 5

Location: Blvd Park

Date: 10/10/2017 Time: 2:00-4:00pm

Tidal Predictions/observations: 6.5 to 5.5 ' MLLW

Weather Conditions: Clear, cool, slightly windy

CGS representative(s): Alexis Blue

Client representative(s): no Landau representative, Josh Neyman (COB)

Contractor, subs and personnel present: Rick and at least two other men, one potential additional driver of truck

Others individuals present on site and affiliation: na

Equipment present on site: Track 200, mini track, forklift, 2 pickup trucks, 1 larger pickup truck with dump capabilities

Condition of site: good, construction entrance seemed adequate for work. There is a pile of crushed gravel between the shell hash beach and contractor entrance that should most likely be moved elsewhere and miniumally cleaned/removed from site before project is complete. Additionally, the "TRAIL CLOSED" sign could most likely be more apparent to pedestrians. I personally had to tell 4 (two sets of 2) the work area was closed.

Work performed/inspected: Subgrade of interim shoreline erosion control structure.
Removal of debris between scarp and 8.5' MLLW marking.

Quality control use observed: contractor had marked 8.5' MLLW (toe of structure) with white paint as clearing limit and subgrade prep extent.

Questions(who/what/outcome): Contractor ensured what material to remove between white 8.5' line and lawn scarp. Contractor asked for clarification of the concrete bench pad near the shore pine. I instructed to keep it in place and cover with fabric, then quarry spall then armor stone as typical of the interim shoreline erosion technique. Contractor asked what to do about monitoring well ery near the landward extent of interm shoreline technique. I suggested to make the structure slightly steeper in the area and having a smaller footprint in the area to miss the monitoring well. I suggested asking a geotechnical specialist the recommended buffer to stay away from armor stone placement for the monitoring well. Contractor asked what to do about the sign near the concrete bench pad. I deferred to Parks and was agreeable to cut a concrete. Contractor wanted clarification on where to put the large stone within the art piece that is within the footprint of interim structure, I deferred to Parks. Josh from Parks directed contractor where to place the stone art. Contractor asked what to do about the light pole within the foot print, I deferred to Parks if they want to keep it. If Parks want to keep it, I am agreeable to build around as best as possible.

Notes/comments/observations: Contractor stated the asbestos pipe would be gone by the next day. I suggested to mark the lawn scarp before fabric is laid down and quarry spalls placed to help determine where armor stone can be placed in reference to the scarp. Instructed contractor to remove all concrete within the footprint between 8.5' MLLW line and lawn scarp if not buried in sediment.

Photo log attached

Subgrade prep near the concrete bench pad

Subgrade prep and 8.5’ MLLW white designating line

Monitoring well, contractor instructed to stop structure waterward

Unknown if the current state of intertidal curtain is a fish trap near the pile.

New location of art stone

Brick and concrete debris instructed to remove all that is not embedded between scarp and 8.5’ MLLW toe

Photo Page 1. Ground photographs of the project area taken 10/10/2017

Project: Blvd Park, Interim Shoreline Stabilization Job #: 17-003 Task #: Task 5

Location: Blvd Park

Date: 10/11/2017 Time: 9:15 am – 12:15pm

Tidal Predictions/observations: 6.5 to 8.1 ' MLLW

Weather Conditions: Gray, cool

CGS representative(s): Alexis Blue

Client representative(s): no Landau representative, Josh Neyman (COB)

Contractor, subs and personnel present: Rick and quarry spall delivery drivers, truck and trailer

Others individuals present on site and affiliation: na

Equipment present on site: Track 200, mini track, forklift, 1 pickup truck, delivery truck and trailers

Condition of site: good,

Work performed/inspected: Subgrade of interim shoreline erosion control structure. Geotextile fabric placement. Quarry spall delivery. Quarry spall placement.

Quality control use observed: contractor had marked with white paint and on stakes for lawn scarp location.

Questions(who/what/outcome): Contractor asked if it was agreeable to not have the most landward fabric placed and I said all rock shall be placed atop fabric but most likely the very most 1 foot would be agreeable but if anymore than one foot, it is not agreeable. I am confident the structure can be built with the fabric laid with one less foot of width.

Notes/comments/observations: After first quarry spall delivery observed, I did a quick and rough field calculation of quarry spall need and calculated the quantity being delivered per liner foot would go over bid item amount. The contractor was instructed through Josh to be as light thickness as possible on the lawn with 1' thickness waterward of lawn scarp. Email communication to Kent (Landua), Gina (COB) with Jim (CGS) and Josh (COB) documents the issue further. When I left site just before 12:30, it was roughly calculated the contractor will have approximately 75 tons over the 145 ton bid quantity.

The subgrade for the interim shoreline structure is approved.

Photo log attached

Crushed gravel that shall be removed before project completion

Supgrade before fabric was placed

Subgrade before fabric was placed

Fabric placement and quarry spall before grading

Quarry spall rough placement before grading

Quarry spall placement

Photo Page 1. Ground photographs of the project area taken 10/11/0217

LANDAU ASSOCIATES

Field Report

Project No.: 015015.091 Report No.:

Client: City of Bellingham Date: 10/11/17

Project Name: SSSMGP – Shoreline Erosion Repair DPD Permit No.:

Location: Bellingham, WA – Boulevard Park

Weather Conditions: Sunny; 60F

Prepared By: JMD

Arrive on site at 315 – check in with operator from Razz Construction – Rick E.

Discuss progress:

1- Piles removed yesterday 10/10

2- Wharf decking scheduled for removal tomorrow 10/12

3- Placing riprap along shoreline today 10/11

4- Planning to place large boulders along shoreline tomorrow 10/12

Visitors: None

Unsatisfactory Conditions & Recommended Correction: None

Attachments: 2 photos

Signed: JMD 10/11/17

1. Riprap bedding placement along shoreline to provide stable and flatter surface for boulder placement. Geotextile visible at right.

LANDAU ASSOCIATES	Shoreline Restoration Boulevard Park Bellingham, Washington	**Selected Site Photographs October 11, 2017**	Figure F-1

1. Wharf deck conditions; 3:30pm. Piles stored on the deck have been removed. Decking still in-place.

LANDAU ASSOCIATES	Shoreline Restoration Boulevard Park Bellingham, Washington	**Selected Site Photographs October 11, 2017**	Figure F-2

Project: Blvd Park, Interim Shoreline Stabilization Job #: 17-003 Task #: Task 5

Location: Blvd Park

Date: 10/12/2017 - morning Time: 8:30-10:30am

Tidal Predictions/observations: 3 to 5 ' MLLW

Weather Conditions: Gray, calm winds

CGS representative(s): Alexis Blue

Client representative(s): no Landau representative, Josh Neyman (COB)

Contractor, subs and personnel present: Rick, Matt, Don

Others individuals present on site and affiliation: John Guenther, Ecology

Equipment present on site: Track 200, mini track, forklift, 1 pickup truck, rock delivery trucks

Condition of site: good, Rick placed a steel sheet on the dock for Matt's safety while pulling boards from the wharf.

Work performed/inspected: Quarry spall placement, hand wharf demolition and delivery of armor stone.

Quality control use observed: Orange paint to denote lawn scarp atop quarry spalls that cover the scarp.

Questions(who/what/outcome): Contractor asked how to tie in to the drift sill from the beach project. It was decided to use the large Lummi Quarry rocks that could be removed without excavation should be placed in the drift sill alignment for the new armor stones to tie in to. Contractor notified me that the most southern stakes were tampered with (pulled out and laid down) by the public the previous day and therefore the structure went more southern than the previous day's assumption. Descriptions of how to lay out the large armor stone and how to interpret the detail was discussed with Rick and Josh.

Notes/comments/observations: John Guenther took a tour of the current site with my assistance.

Photo log attached

Project: Blvd Park, Interim Shoreline Stabilization Job #: 17-003 Task #: Task 5

Location: Blvd Park

Date: 10/12/2017 - afternoon Time: 1:00pm-2:15pm

Tidal Predictions/observations: 8' to 7' MLLW

Weather Conditions: cool, light rain, calm winds

CGS representative(s): Alexis Blue

Client representative(s): no Landau representative, Josh Neyman (COB)

Contractor, subs and personnel present: Rick, Matt

Others individuals present on site and affiliation: none

Equipment present on site: Track 200, mini track, forklift, 1 pickup truck, rock delivery trucks

Condition of site: large hole at wharf, fall hazard should be roped off minimally

Work performed/inspected: Delivery of armor stone, placement of armor stone near drift sill.

Quality control use observed: contractor installed grade line to show elevation of 14' MLLW

Questions(who/what/outcome): I showed Josh was to look for in rocks that had been placed since I was on site in the morning. Some had to be moved slightly. Elements discussed in the field for Josh and Rick: Tight contact for all, especially for toe rock. Largest rocks at the toe, minimum voids. I demonstrated it's sometimes best to point exactly what is wanted since the operator cannot see all angles.

Notes/comments/observations: Overall the placement of armor stone is going well but Josh and I (or similar) must be diligent to ensure all rocks are good before the contractor moves away from the area.

Photo log attached

Orange line to denote scarp, looking north

Orange line to denote scarp, looking towards wharf on northwest corner

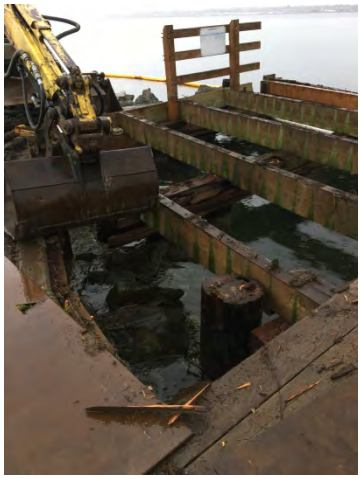
Hand demolition of wharf

Drift sill tie in location before quarry spall placement.

Placement of steel sheets on wharf. Note construction access for rock delivery

Armor stone delivery, stockpiled between 8.5'MLLW and extent of quarry spall placement.

Photo Page 1. Ground photographs of the project area taken morning 10/12/2017



Wharf demolition.

Armor stone placement, not approved as pictured, some additional movement was needed.

Armor stone placement

Photo Page 1. Ground photographs of the project area taken afternoon 10/12/0217

Project: Blvd Park, Interim Shoreline Stabilization Job #: 17-003 Task #: Task 5

Location: Blvd Park

Date: 10/16/2017 Time: 8:00-10:00am and 12:30-2:30

Tidal Predictions/observations:

Weather Conditions: gray, light rain, light wind

CGS representative(s): Alexis Blue

Client representative(s): no Landau representative, Josh Neyman (COB)

Contractor, subs and personnel present: Rick, David, truck driver,

Others individuals present on site and affiliation: none

Equipment present on site: Track 200, mini track, forklift, 1 pickup truck, rock delivery truck, 345 track at stockpile area. No boat, it was stolen over the weekend

Condition of site: Slightly muddy, one tooth of bucket fell off in the morning

Work performed/inspected: Delivery of armor stone, placement of armor stone, quarry spall placement approval north, hand removal of wharf.

Quality control use observed: contractor using grade line to show elevation of 14' MLLW

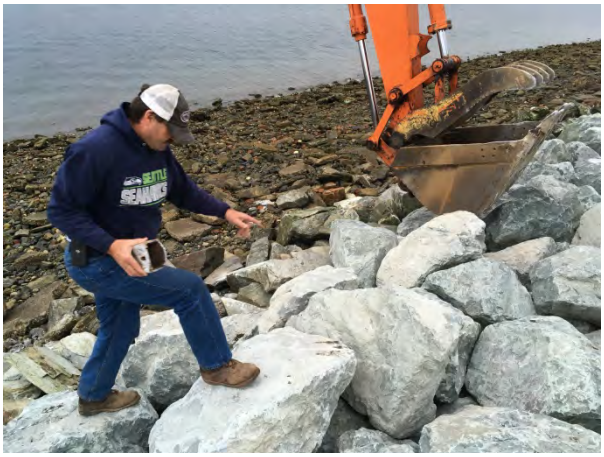
Questions(who/what/outcome): Directed contractor to make revetment have less width near the tie in line due to the size of rock making grade quicker near the waterward toe, he was a bit reluctant to do so but did. Placement looks good, with close proximity with adjacent stones. One of the Cowden trucks was delivering small rock, instructed to use on north-facing or within in the core. Rock Supplier switch from Beaver Lake to Cowden. Cowden material is more angular the Beaver Creek and cracks/shatters regularly when thrown atop each other like when dumped from the truck. When placed individually, it does not break as often. The material still passes spec but any more brittle material than seen today, it would not.

Notes/comments/observations: Overall the placement of armor stone is going well but Josh and I (or similar) must be diligent to ensure all rocks are acceptable in regards to placement and material before the contractor moves away from the area.

Photo log attached

Quarry spall used as haul road.

Hand removal of wharf wood



Tooth of bucket in Rick's hand

Rock stockpile in Fairhaven. Field notebook to help show scale

Rock delivery using quarry spall as haul road

This truck brought the smaller rock.

Photo Page 1. Ground photographs of the project area taken morning 10/16/2017

Project: Blvd Park, Interim Shoreline Stabilization Job #: 17-003 Task #: Task 5

Location: Blvd Park

Date: 10/17/2017 Time: 8:00-9:15am

Tidal Predictions/observations:

Weather Conditions: gray, rain, windy, bad weather

CGS representative(s): Alexis Blue

Client representative(s): no Landau representative, Josh Neyman (COB)

Contractor, subs and personnel present: Rick, David, truck driver,

Others individuals present on site and affiliation: none

Equipment present on site: Track 200, mini track, forklift, 1 pickup truck, rock delivery truck, 345 track at stockpile area.

Condition of site: Muddy where hauling rock to revetment since running out of rock during placement. Boom in place to collect wood debris

Work performed/inspected: Removal of wharf with equipment.

Quality control use observed:

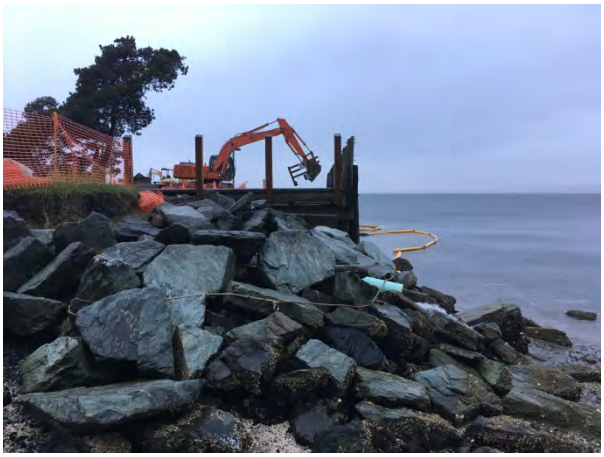
Questions(who/what/outcome):

Notes/comments/observations: Fence blown over, Contractor advise by City to correct and support per Drawings

Photo log attached

Grade line and Syper quarry rock

Boom trapping wood debris



Equipment removal of wharf with boom.

Fence blown over

Equipment removal of wharf

Muddy conditions

Photo Page 1. Ground photographs of the project area taken morning 10/17/2017

Project: Blvd Park, Interim Shoreline Stabilization Job #: 17-003 Task #: Task 5

Location: Blvd Park

Date: 10/18/2017 Time: 8:00-9:30am, 1:30-2:45

Tidal Predictions/observations:

Weather Conditions: gray, rain, wind, bad weather

CGS representative(s): Alexis Blue

Client representative(s): no Landau representative, Josh Neyman (COB)

Contractor, subs and personnel present: Rick, David, new laborer, truck driver,

Others individuals present on site and affiliation: none

Equipment present on site: Track 200, mini track, forklift, 1 pickup truck, rock delivery truck, 345 track at stockpile area.

Condition of site: Wet, muddy, Some of the pavement has been damaged near the wharf.

Work performed/inspected: Mostly removal of wharf with equipment in the morning, placement of rock after lunch.

Quality control use observed: Orange marked rock showing rock height going north as described to Rick through Josh.

Questions(who/what/outcome): I suggest the city understand if 750 tons of rock truck is only from one source or includes both sources to ensure only 750 tons has been sent to the project site.

Notes/comments/observations: Overall the placement of armor stone is going well but Josh and I (or similar) must be diligent to ensure all rocks are acceptable in regards to placement and material before the contractor moves away from the area. Rock placement quantity seems to be tracking well. Contractor has stated 750 tons has been delivered as of today. I most likely observe more than 750 tons.

In the morning before rock placement, I rough field estimated that 100 approximate of rock was still left in stockpile and was told 750 had been trucked to fairhaven/blvd so assume approximately 650 from those statements to be on site. I estimated on site that the rock delivered could place approximately 260 linear feet as currently being. Therefore calculate to be2.5 tons/linear foot which is an acceptable amount of material per linear foot

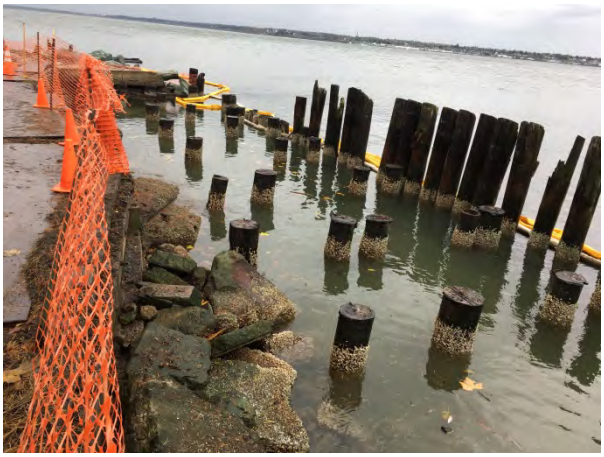
Alternatively, in the morning, if I looked at to estimate just the rocks placed and delivered to the project site, I estimated 780 tons of rock had been delivered to the project site (not including stockpile) assuming 1.6 tons/cubic yard and approximately 1.8 cubic yards per foot (17.5 ft wide, 2.75 ft average height) and assuming 260 linear feet of rock could be placed on site.

It was also stated only rocks that were in stockpile in Fairhaven have been delivered to the project site by the end of the day and no more.

Photo log attached

Armor stone from stockpile

Removed Wharf and shoreline condition underneath. Contractor directed to remove wood debris before boom is removed.



Removed wharf and shoreline condition

Orange marked rock to show placement going north.

Pavement damage near wharf

Directing rock placement.

Photo Page 1. Ground photographs of the project area taken morning 10/18/2017

Project: Blvd Park, Interim Shoreline Stabilization Job #: 17-003 Task #: Task 5

Location: Blvd Park

Date: 10/19/2017 Time: 8:00-9:30am, 1:30-2:45

Tidal Predictions/observations:

Weather Conditions: storm conditions, high winds, heavy rain, too wet for pictures with equipment (smartphone) brought to project location.

CGS representative(s): Alexis Blue

Client representative(s): no Landau representative, Gina Austin and Josh Neyman (COB)

Contractor, subs and personnel present: Rick, Joel

Others individuals present on site and affiliation: none

Equipment present on site: Track 200, mini track, forklift, 1 pickup truck

Condition of site: Muddy, equipment (buckets, orange fencing, temporary fence) blown by winds. All secured before end of day for overnight safety.

Work performed/inspected: Construction progress meeting, armor rock placement.

Questions(who/what/outcome): Rick asked for documented determination on width of revetment. The more narrow revetment footprint is acceptable due to the rock being slightly bigger than 3 man and making crest elevation grade more waterward than per plan therefore tying into landward conditions with a more narrow footprint. It is acceptable to the design criteria to have a narrower footprint.

Notes/comments/observations:

No photo log attached

Project: Blvd Park, Interim Shoreline Stabilization Job #: 17-003 Task #: Task 5

Location: Blvd Park

Date: 10/20/2017 Time: 10:00-11:00

Tidal Predictions/observations:

Weather Conditions: cloudy, cool, slightly windy

CGS representative(s): Alexis Blue

Client representative(s): no Landau representative, Josh Neyman (COB)

Contractor, subs and personnel present: Rick

Others individuals present on site and affiliation: none

Equipment present on site: Track 200, mini track, forklift, 1 pickup truck

Condition of site: Muddy

Work performed/inspected: Placement of armor rock

Quality control use observed: checked height of pink grade line with laser for 13.5 FT MLLW

Questions(who/what/outcome):
Approximately 950-1,000 Tons of armor stone have been delivered to the project site, not 750 tons as assumed previously.

Notes/comments/observations:
I directed the contractor to build the armor stone berm with a 13.5' MLLW crest elevation. This is an acceptable field directed change that allows for interim shoreline stabilization due to the larger size of armor stone being used (> 3 man). Crest elevation will be re-evaluated at Profile H and will most likely be 13' MLLW starting at Profile H and to the east.

Low to mid tide work (sub 4' MLLW) is needed for armor stone placement at the removed wharf. Tides are not sufficient during daylight hours next week for dry placement.

Rick was, once again, told to not place small (sub 2 man rock) on top of the revetment.

Photo log attached

Location of profile H where 13.5 ' MLLW elevation crest width will be re-evaluated once contractor placing rock until Profile H

Location near tree between Profile D and E where 13.5' MLLW is directed elevation going north.

Small, unacceptable rocks atop. Instructed contractor to remove

Directing armor stone placement

Photo Page 1. Ground photographs of the project area taken 10/20/2017

Project: Blvd Park, Interim Shoreline Stabilization Job #: 17-003 Task #: Task 5

Location: Blvd Park

Date: 10/23/2017 Time: 9:30am-10:30am

Tidal Predictions/observations: 8' – 7' MLLW

Weather Conditions: cool, gray

CGS representative(s): Alexis Blue. Jim Johannessen before AB arrived; we did not overlap at project.

Client representative(s): no Landau representative, no COB

Contractor, subs and personnel present: Rick

Others individuals present on site and affiliation: none

Equipment present on site: Track 200, mini track, forklift, 1 pickup truck

Condition of site: Muddy, some pavement ripped adjacent to steel plates near profile H.

Work performed/inspected: Armor stone placement and discussions of details for rock placement near existing concrete apron located where north shore existing concrete wall and old wharf met old pier and dock area.

QA/QC observed: Orange spray paint dots to show exact elevation of 14' south of the grade stake pictures and 13.5 north of the grade stake along the armor stone berm, grade line, and laser level.

Questions (who/what/outcome): Rick asked for direction of how to tie in the concrete apron near the western terminus of the now-removed wharf. Jim and I wrote a memo for this direction. Planning timing for low tide rock placement on north shore.

Notes/comments/observations:
Rick stated the track equipment will be available for the entire armor stone berm for any final updates needed (small armor stones atop, large voids, additional tamping with the bucket, etc.).

Photo log attached

Damaged pavement

Checking grade, Rick showing 13.5' MLLW. In this location, 13' will be the crest elevation.

Orange dots showing exact 13.5' crest elevation to the right of this stake, and 14' to the left and grade line.

Concrete apron. Contractor asked for direction of how to tie into armor stone berm. Photographed from the west

Concrete apron from above

Armor stone direction (directed to move a rock to touch adjacent stones). Rick states this type of direction will be available for final walkthrough on entire armor stone berm.

Photo Page 1. Ground photographs of the project area taken morning 10/23/2017

Kent Wiken

To: Jim Johannessen
Cc: Alexis Blue
Subject: RE: Blvd Shoreline Cleanup - inspection tomorrow

Kent Wiken
Landau Associates

Ext. 185
Direct: (425) 329-0285
Mobile: (206) 604-6167

From: Jim Johannessen [mailto:jim@coastalgeo.com]
Sent: Wednesday, October 25, 2017 5:47 PM
To: Kent Wiken <kwiken@landauinc.com>
Cc: Alexis Blue <alexis@coastalgeo.com>
Subject: Re: Blvd Shoreline Cleanup - inspection tomorrow

Hi Kent,
I am on site now. Rick just finished placing rock on the East End of the North Shore a few minutes ago. Now he's stockpiling a little more rock today before you leaves. We were talking in detail about the tides. He says he's planning on starting at 6:30 tomorrow. Which seems like a great idea as it's one of his last good tides. I will be there at that time to oversee. I will have to leave at about seven 7:30–7:40 in the morning to make my commitment, at the latest.

Only Rick on site again today. He said he will have a helper tomorrow.

I was here early and late today. I overlapped with Josh both times, arriving before him, and then getting back here just after four when he was getting ready to leave. I showed Josh a few places on the west shore where a little bit of rock was in excess and could be pulled off as it was over built. I also showed him one place where it was low at the top with a crest that was too narrow. They addressed all of those but the one that was furthest from the active work area during the day. Another spot near the north end of the west shore had rock stacked too steeply on the outside and after I identified that, Josh had him pull a few off there and make it a more reasonable slope.

They've got enough rock stockpiled st the North Shore which should be enough to finish the North Shore and all rock work. Josh said they have on the order of 160 or so tons over the bid quantity for armor stone. I'm not quite sure why Josh let them bring in that much until we are absolutely sure it was needed today but that's what was done through the middle of the day today. Looks like about the right amount but there is a chance I'll be a little extra on site – not sure if you can direct them to take it away without charging tomorrow if that's the case.

I was careful keeping him from building to North Shore rock too wide later today. The East End scales to about 13 feet wide at the bottom, as measured from the existing concrete bulkhead. The plan for the morning is to build the toe all the way across well the tide is out. It's at about +2.5 feet MLLW at 6:30 in the morning so he should have time to do that if he hustles. Obviously it's all up to him though.

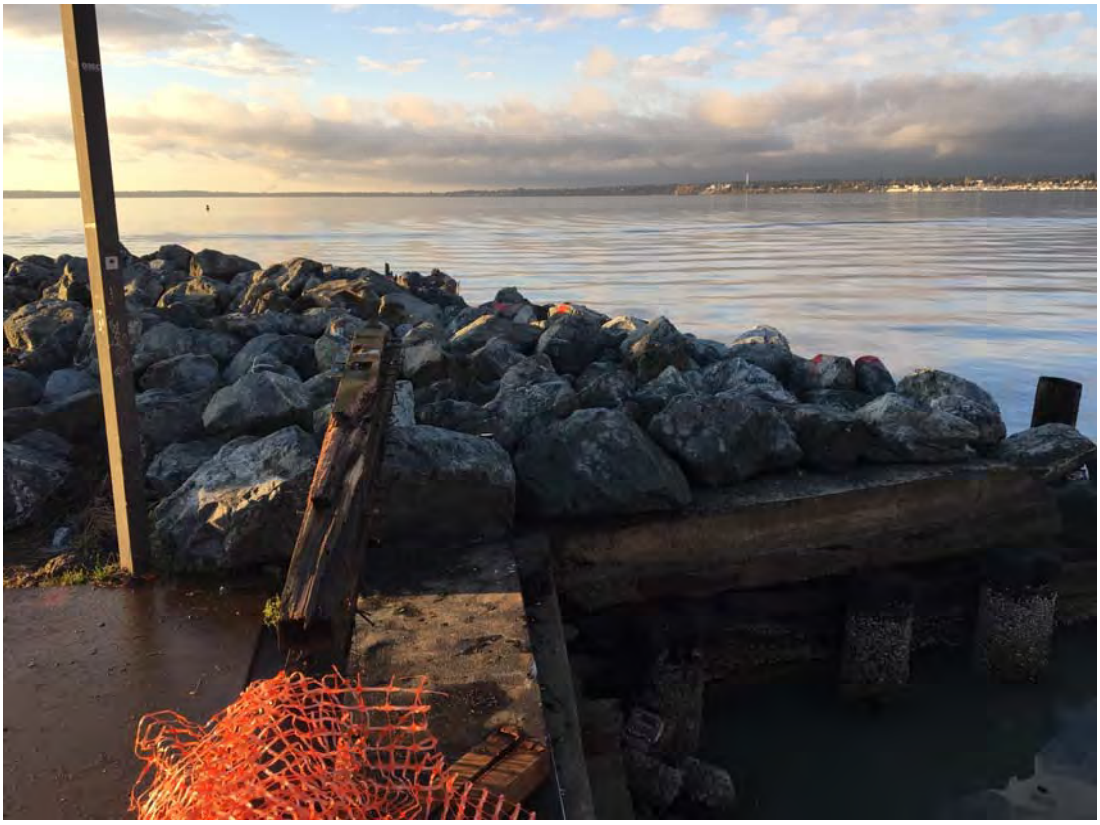
Rick has cleaned up the extra quarry spall he placed along the back of the west shore revetment today also. And they spread topsoil as an additional cost as per parks request – Gina, and rough graded that. You will see it tomorrow.

Would you like me to spend a little time writing the key points of this up in a daily field observation form or will this suffice?

I Will try to tell you where we are with current budget later when I get home this evening.

Here's a few photos from late today.
The first one is the East End of the North Shore looking towards the west.

The second one is the transition area we talked about in the last few days looking west – in finished form with a bit of extra rock stockpiled immediately landward of it for his use tomorrow, which is mostly not visible in this picture.



Jim Johannessen

On Wed, Oct 25, 2017 at 4:58 PM Kent Wiken <kwiken@landauinc.com> wrote:

> Thanks Jim. I am driving up from Monroe and plan to be there by 7:30 am.
>
> Kent Wiken
> 206/604-6167
>
> Sent via the Samsung GALAXY S® 5, an AT&T 4G LTE smartphone
>
> -------- Original message --------
> From: Jim Johannessen <jim@coastalgeo.com>
> Date: 10/25/2017 3:26 PM (GMT-08:00)
> To: "Austin, Gina G." <gaustin@cob.org>
> Cc: Kent Wiken <kwiken@landauinc.com>, Jeremy Davis <JDavis@landauinc.com>, Alexis Blue <alexis@coastalgeo.com>
> Subject: Re: Blvd Shoreline Cleanup - inspection tomorrow
>
> Kent and All,
> I also plan to be there around 6:45-7:30am tomorrow prior to my other commitment.
>
> Jim Johannessen, Licensed Eng. Geologist, MS

Kent Wiken

From: Jim Johannessen <jim@coastalgeo.com>
Sent: Friday, October 27, 2017 2:50 PM
To: Kent Wiken
Cc: Alexis Blue; rebecca cayen
Subject: Blvd oversight photo page 10/27/17
Attachments: 171027_Blvd_Oversight_Photopage.pdf

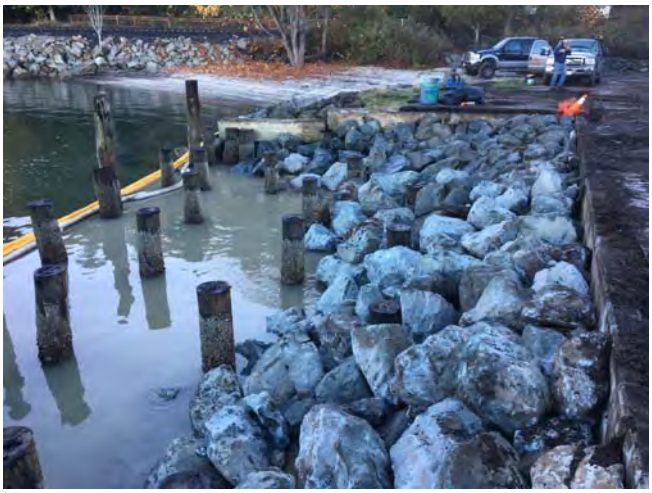
Categories: Filed by Newforma

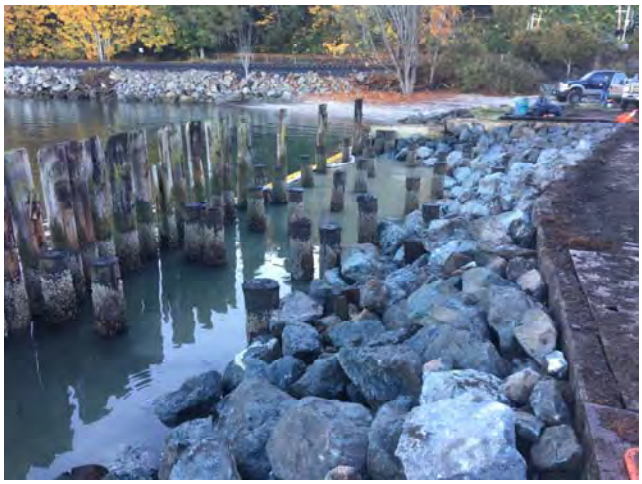
Hi Kent,
here is a photo page that gives you an overview of what was accomplished this morning, as of around 10am. Josh was on sight for a bit before I left and we went through all the details. They were still adding just a few leftover rocks to the very top of the north shore against that wall-in the middle. They did no t go into the transition area corner for a few extra rocks. We also completed the small patch at the revetment on the far northeast end to my satisfaction.

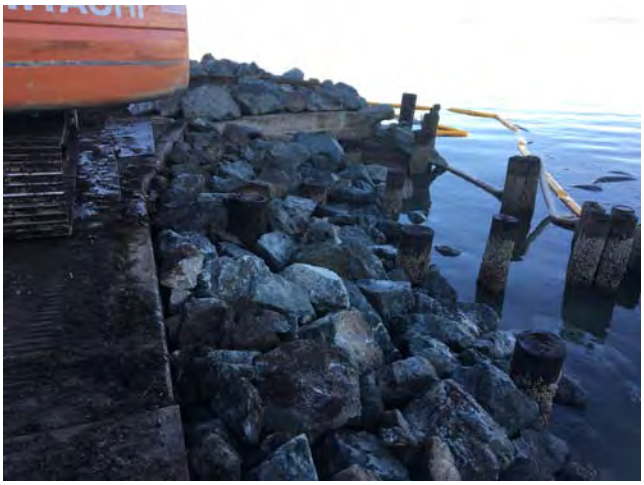
The main task after this was cleanup and topsoil, and raking away stray rocks etc. Josh was having them put up a fence to open the trail form the big west beach to the stage.

At this point I am not planning on going back Monday. Let us know if we are need next week at all. We will let you know about the budget status early next week, so you can reinstate some of the first phase design task money that was removed with the first go at the most recent amendment to cover most of our time this week.
Jim

Jim Johannessen, Licensed Eng. Geologist, MS
Coastal Geologic Services, Inc.
1711 Ellis St, #103
Bellingham, WA 98225
360.647.1845 ext 21
jim@coastalgeo.com
www.coastalgeo.com







Ground photographs of Boulevard Park Emergency Erosion Control project Oct. 27, 2017, around 10am. In order from northeast to northwest portion of the park.

APPENDIX C-3

Construction Changes

memorandum

Date: October 13, 2017

To: Kent Wiken and Jeremy Davis
Landau Associates

CC: Gina G. Austin, PE
City of Bellingham
Parks, Design and Development

From: Alexis Blue, PE, MS
Coastal Geologic Services, Inc.

Re: Subgrade and Quarry Spall Placement Approval, Interim Shoreline Stablization, Boulevard Park, WA

I, Alexis Blue, PE, MS oversaw the majority of the subgrade preparation and quarry spall placement of the Interim Shoreline Stabilization project at Boulevard Park in Bellingham, WA, Bid No. 36B-2017. The subgrade preparation, placement and implementation of the project has been accomplished within the allowable tolerances to date and currently include approximately 424 linear feet of approved subgrade, 439 linear feet of quarry spall placement. The differences in linear feet result from subgrade preparation was not needed near the drift sill of the previous beach project.

Allowable tolerances are needed with this type of construction due to the highly variable shapes and angularity of the quarry rock material. As seen in Detail 2 on C.4 sheet 6 of 7 of the project plan set (Figure 1 below), the quarry spall base has a variable thickness to allow for the variability of material. It must be noted, the detail is not to scale but assists with placement direction by giving some dimensions. For relative scale, 0.5 FT is shown as designated by the red line. The yellow lines landward of the typical lawn scarp show where the quarry spall material is less than 0.5ft within in the detail. The dark blue line waterward of the scarp designates 1.0 FT thickness with the light blue line showing where some areas will need no quarry spall placement.

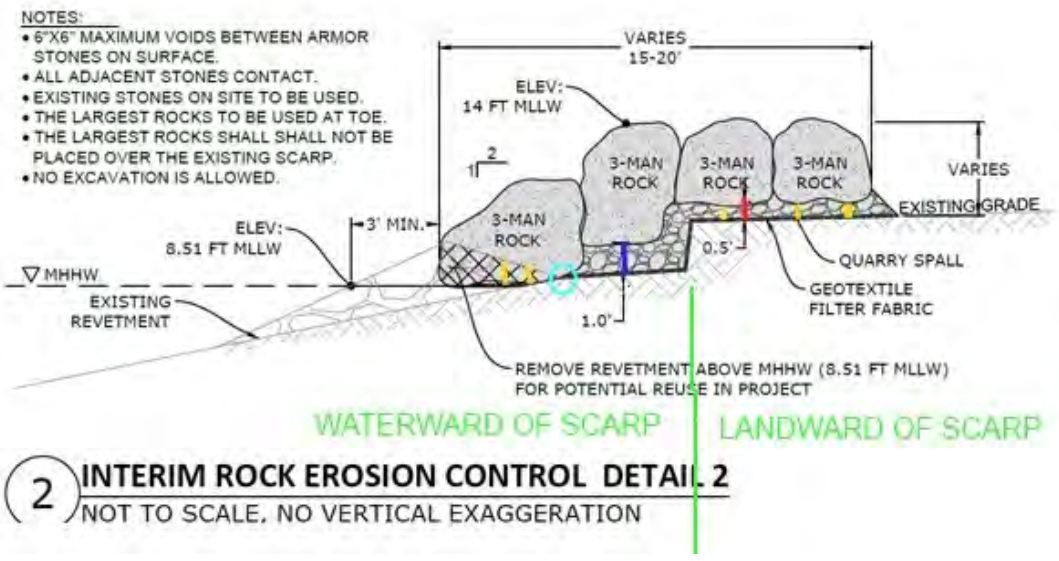


Figure 1. Not to scale Detail 2 from the C.4. Red shows typical 0.5FT, dark blue line shows 1.0 FT typical, yellow shows areas less than 0.5FT landward of scarp and less than 1.0FT waterward of scarp, light blue line shows no quarry spall.

Ground photos (Figures 2 and 3) show approved placement of quarry spalls with scarp designated by the orange paint line.

Figure 2. Ground photo showing approved quarry spall placement looking north on the west shore of Boulevard Park.

Figure 3. Ground photo showing approved quarry spall placement looking south on the west shore of Boulevard Park.

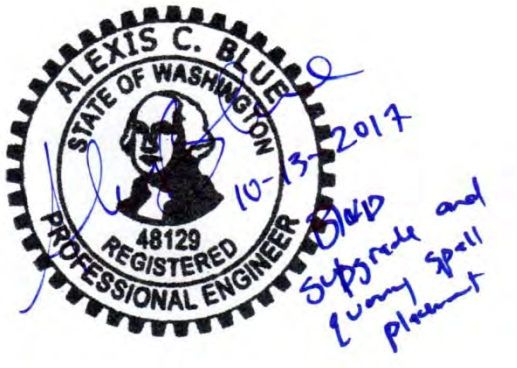
Figure 4. Ground photo showing approved subgrade looking south on the northwest corner of Boulevard Park.

I certify the subgrade for the shoreline stabilization interim rock structure has been built in accordance to the plans.

I certify the quarry spalls have been placed in accordance to the plans.

Coastal Geologic Services, Inc.

Alexis Blue,
Coastal Engineer, PE, MS



memorandum

Date: October 23, 2017

To: Kent Wiken

Landau Associates

From: Alexis Blue, PE, MS and Jim Johannessen, LEG, MS, Coastal Geologic Services, Inc.

Re: Contractor Direction, Concrete and Armor Stone Transition, Interim Shoreline Stabilization, Boulevard Park, WA

This morning during field observation of the Interim Shoreline Stabilization project at Boulevard Park, the contractor asked for direction on how to transition from the armor stone berm to the pile-supported concrete apron that is immediately north of the existing concrete bulkhead associated with the wharf (in blue in Figure 1).

To avoid the contractor from damaging the concrete apron, we advise only minor work on the concrete. Additionally since the existing concrete bulkhead and all other existing shore stabilization structures on the north shore are below 11 FT MLLW, this transition area immediately northwest of the north shore does not need to be as high as +13.5 FT MLLW.

Figure 1 helps depicts the direction. The contractor shall place 3 man armor stones on the concrete slab along the edges that are adjacent to the proposed revetment. No individual armor stone placed atop the concrete apron shall be smaller than 2.5 FT nominal diameter. Therefore, most of the concrete slab shall remain exposed and shown in Figure 1. The armor stone shall be in tight contact with adjacent stones including ones atop the concrete and ones within the armor stone berm. The contract shall place the armor stone atop the concrete as gently as possible.

The approximate 13 FT MLLW contour is highlighted in red for slope and tie in purposes. Most likely, the 13 FT MLLW crest will be more waterward than shown.

The contractor shall tie into the 13 FT MLLW crest west of the concrete apron. East of the concrete apron, the contractor shall tie into existing conditions under the previous wharf with a 2:1 slope. Waterward of the vertical concrete bulkhead, the contractor shall tie into existing conditions as per plan with a 2:1 slope.

West and south of the Profile H, the crest height of the armor stone berm shall be 13.5’ MLLW. East and north of Profile H, the crest height of the armor stone berm shall be 13.0’ MLLW as shown. The crest will most likely be more waterward than shown.

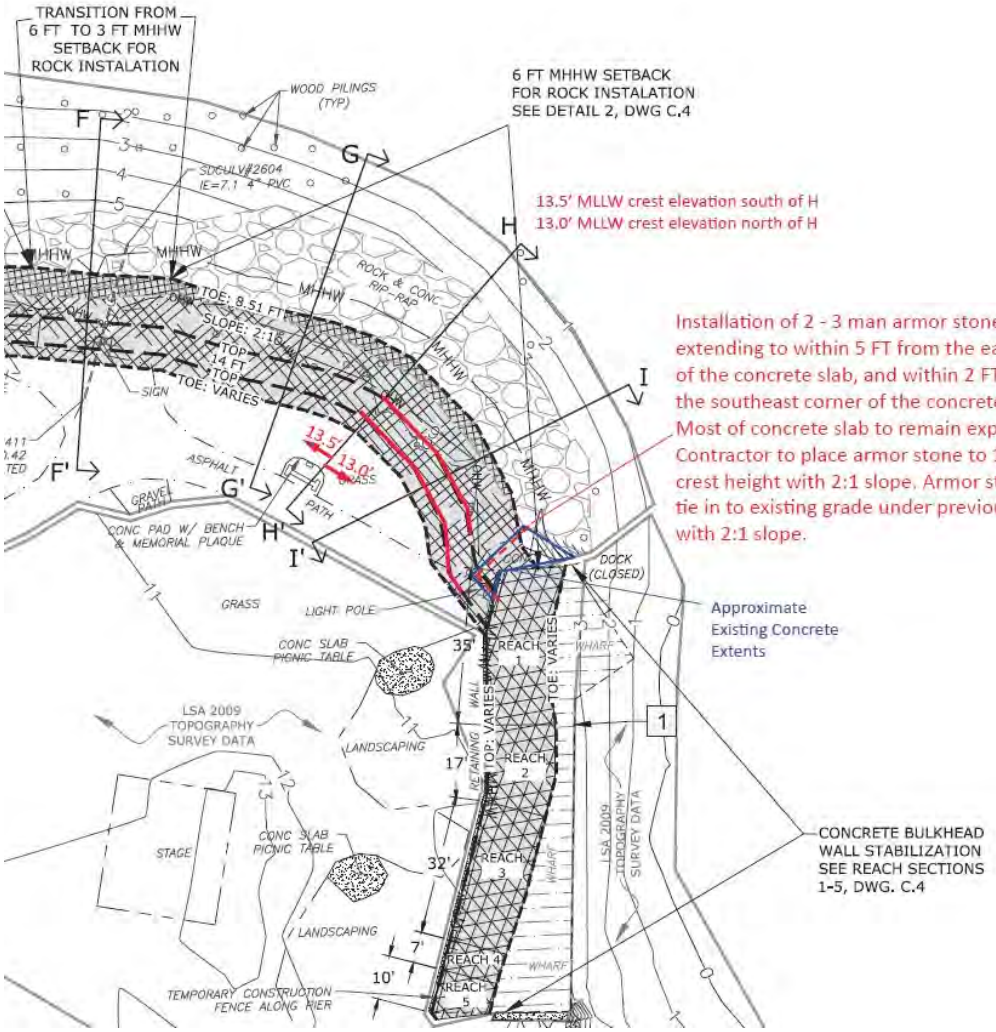


Figure 1.
Section from Sheet C.2, Sheet 5 of 7, of Interim Shoreline Stabilization, City of Bellingham, Boulevard Park, Bid #36B-2017 with additional notes in red for contractor direction.

Figure 2. Ground photo of concrete apron taken today, 10/23/2017.

APPENDIX D

LAI Final Site Punch List Review

Technical Memorandum

TO: Gina Austin, PE
Josh Neyman
City of Bellingham

FROM: Kent Wiken, PE

DATE: October 27, 2017

RE: **Pre-Final Inspection Deficiency List (Punch List)**
Interim Shoreline Stabilization, Boulevard Park
Bellingham, Washington
Project No. 0015015.091

Per Section 1-05.11 of the project specifications, a pre-final inspection was conducted on October 26, 2017 by the City of Bellingham (City) with the Contractor (Razz Construction). In attendance were:

- City of Bellingham – Gina Austin and Josh Neyman
- Razz Construction – Joel Cameron
- Washington State Department of Ecology – John Guenther
- GeoEngineers – Garrett Leque
- Landau Associates, Inc. – Kent Wiken

The following pre-final punch list was developed during the meeting and is provided for your review. This pre-final punch list includes the items Razz Construction will complete prior to final inspection and approval of the Interim Shoreline Stabilization project, and includes:

1) Even out and top dress the remaining ruts in the grass with topsoil (base bid restoration).
2) Reseed the topsoil-repaired areas, which will include:
    a. Purchase the City-Parks-specified seed on Wednesday November 1, and plant the seed over topsoil-dressed areas. The seed bed will be covered by straw or biodegradable erosion control blanket to prevent erosion during germination.
    b. Fence off the area with high-visibility orange fencing and green t-bar posts.
    c. Track force account restoration work separate from base bid restoration work. Coordinate directly with City inspector.
3) Stack City-owned temporary construction fencing and signs near the closed restroom building.
4) Finish armor rock placement along bulkhead wall (note: this work was completed as scheduled on October 27, 2017 under supervision of Jim Johannessen of Coastal Geologic Services).
5) Stabilize eroded shoreline area east of wharf area to the beach with leftover geotextile on the subgrade, overlain by surplus quarry spalls and surplus armor rock or moving existing rock into that area (note: this work was completed as scheduled on October 27, 2017 under supervision of Jim Johannessen of Coastal Geologic Services).

6) Retrieve steel pile from under water (scheduled to be completed during low tide Monday, October 30, 2017).
7) Remove steel plates and construction entrance from site including cold patch asphalt ramp over curb.
8) Repair any damaged trail pavement after steel plates have been removed.
9) Scrape up excess limestone aggregate trail cover and remove from site after steel plates have been removed.
10) Smooth grade areas south of area under plate, remove ruts and rock pieces, and cover with topsoil for seeding per item 2 above.
11) Replace damaged light stand and make electrical connections using a licensed electrician.
    a. Note: Provide credit to City for light pole material provided to Contractor. City is currently obtaining quote for replacement pole from manufacturer.
12) Prune tree branches that were damaged by the construction equipment.
13) Remove all catch basin inserts except those adjacent to new topsoil areas (City will remove those inserts at a later date).
14) Reassemble all park benches and tables.
15) Complete final cleanup.
16) Remove floating debris boom only after turbidity of water inside boom containment appears equal to the turbidity outside the boom at the discretion of City inspector.
17) Follow-up final inspection scheduled on November 2, 2017 at 1 pm at the project site.
18) Provide remaining submittals. See attached list.

Please let me know if there are additional items to be added to this punch list.

KWW/ljl
[P:\015\015\090\T\CONSTRUCTION OVERSIGHT\PUNCH LIST\INTERIM SHORELINE STAB PRE-FINAL PUNCH LIST_10272017.DOCX]

Attachment: #36B-2017 Interim Shoreline Stabilization - Record of Materials

	A	B	C	D	E	F	G	H	I	J	K	L
1	**#36B-2017 Interim Shoreline Stabilization Blvd Park**											
2	**Record of Materials (ROM)**											**Updated**
3	**WSDOT Standard Specification 1-06.1 & 1-05.6 Approval of Materials Prior To Use**											**10/17/2017**
4	**Item Number**	**Item Qty**	**Unit of Measure**	**Bid Item Description**	**Material**	**Documentation Requirement**	**Standard Specification**	**SP**	**Drawing Reference**	**Submittal No.**	**Complete**	**Notes**
5	**GENERAL CONDITIONS**											
6				Incidental		Supplemental Bidder Responsibility Criteria Form due two days after bid opening	Bidder's checklist			n/a	X	
7				Incidental		Progress Schedule	1-02.15, 1-08.3			16	X	
8				Incidental		Progress Schedule Updates	1-08.3(3)			n/a	X	
9				Incidental		Weekly look-ahead schedule	1-08.3(2) D					
10				Incidental		Preconstruction Conference	1-02.15			n/a	X	9/5/2017
11				Incidental		Executed contract	1-03.3	G-10A		n/a	X	
12				Incidental		Emergency Contact List	1-05.13(1)			3	X	
13				Incidental		Lump sum breakdown	1-02.15			14	X	
14				Incidental		Record Drawings	1-05.18 SP					
15				Incidental		List of subcontractors	1-08.1	Bid procedures item 12				American Construction, Larry Steele
16				Incidental		List of work to be performed by contractor		Bid procedures item 12			X	
17				Incidental		City of Bellingham business license, contractor		G-25, Bid Procedures item 13		n/a	X	
18				Incidental		City of Bellingham business license, subcontractor(s)		G-25, Bid Procedures item 13				
19				Incidental		Statement of Intent to Pay Prevailing Wages, Contractor	1-07.9(5)	Bid procedures item 15				
20				Incidental		Statement of Intent to Pay Prevailing Wages, subcontractor(s)	1-07.9(5)	Bid procedures item 15				
21				Incidental		Affidavit of Wages Paid, Contractor	1-07.9(5)	Bid procedures item 15				
22				Incidental		Affidavit of Wages Paid, subcontractor(s)	1-07.9(5)	Bid procedures item 15				
23				Incidental		Contractor's daily activity log, upon request		G-38				
24				Incidental		Written Accident Prevention Program and Site Specific Safety Plan		G-95		11, 9	X	Submitted plan ok for general condition G-95, but not sufficient for bid item #1, HASP
25	1	1	LS	Mobilization		Approved statement of intent, current city of Bellingham business license, progress schedule and other incidental general provision items	1-09.07	G-42		n/a	X	
26						Health and Safety Plan	2-05.3, 2-05.3(1), 2-05.3(2)	Division 2		11, 11.1, 11.2, 9	X	
27						Resume of Site Health and Safety Officer	2-05.3, 2-05.3(1), 2-05.3(2)	Division 2		10	X	
28						Waste management Plan	2-05.3, 2-05.3(1), 2-05.3(2)	Division 2		12, 12.1, 12.2	X	
29	2	1	LS	Traffic Control		Traffic Control Plan	1-10	G-28, G-30, G-31		13	X	
30	3	1	LS	TESC		Contractor's adoption of TESC plan, name of ESC lead, certification card, inspection report	8-01			2	X	
31						DMR Reporting	8-01			n/a	X	No discharge, no NPDES permit required

	A	B	C	D	E	F	G	H	I	J	K	L
1	**#36B-2017 Interim Shoreline Stabilization Blvd Park**											
2	**Record of Materials (ROM)**											**Updated**
3	**WSDOT Standard Specification 1-06.1 & 1-05.6 Approval of Materials Prior To Use**											**10/17/2017**
4	**Item Number**	**Item Qty**	**Unit of Measure**	**Bid Item Description**	**Material**	**Documentation Requirement**	**Standard Specification**	**SP**	**Drawing Reference**	**Submittal No.**	**Complete**	**Notes**
32	4	1	LS	Site Preparation		Layout & work limits reviewed in the field					X	
33						Site access				8	X	
34	5	1	LS	Demolition of existing wharf, pier & piles		Permits for disposal of surplus excavated material, copies of disposal invoices	2.02 SP, 2-03.3(7)C	G-70		7	X	
35	5					Demolition work plan				6, 6.1	X	
36	5					Proof of compliance with contractor's and crew experience requirements. List three prior projects in the last 7 years						
37	6	30	TONS	Transportation & disposal of project generated waste		Waste acceptance authorization from a permitted disposal facility						
38						Documentation that demonstrates that the contractor or sub is properly licensed and in compliance with DOT regs.				17	X	
39	6					Copy of SPCC plan	1-07.15			1	X	
40	7	126	TONS	Transportation & recycling of project demolition materials		Recycling plan		G-68		5	X	
41	8	1200	SY	Separate geotextile		Reviewed submittal	9-33.2(1)			RAM 001	X	
42	9	145	TONS	Quarry Spalls			2-03 SP					
43	9					Reviewed submittal	1-05.6			4	X	
44	9					Truck Tickets	3-04					
45	9					Source approval	9-03			4	X	
46	9					Sample for review				n/a	X	Visual at quarry on 9/6
47	10	1360	TONS	Armor rock			2-03 SP					
48	10					Reviewed submittal	1-05.6			4	X	
49	10					Truck Tickets	3-04					
50	10					Sample for review	1-06.2			n/a	X	
51	10					Source approval	9-03			4	X	Visual at quarry on 9/6
52	11	1	EST	Minor Change		Approved force account equipment and labor rates	1-04	G-90		15	X	
53	**Other Inspections/Notifications**											
54				**Phase of Work**		**Requirements**	**Standard Specification**	**SP**	**Drawing Reference**			
55				Preconstruction Conference		Contractor, Owner, Special Inspection, City Staff to attend					X	9/5/2017
56				Clearing Limits		Mark in the field					X	
57				TESC		Post sign with name and phone number of ESC/CESL						
58				Utility Locate		Contractor		G-35, 1-07.17			X	
59				Erosion control		Contractor, Public Works Inspector					X	
60				Substantial Completion		Contractor, Owner	1-08.5, 1-09.9					
61				Final Inspection		Contractor, Owner	1-05.11, 1-09.9					
62				Final Cleanup		Contractor	1-04.11					

APPENDIX E

Waste Disposal Manifests

RDS Recycling & Disposal Services Inc.

4916 Labounty Drive - PO Box 2219 - Ferndale, WA 98248
Phone (360) 384-8011 - Fax (360) 384-0873
RDS@RDSdisposal.com

001064
Razz Construction
4055 Hammer Dr
Bellingham, WA 98226

BOL#

SITE	TICKET#	CASHIER
01	1983497	candace

DATE IN	DATE OUT	TIME IN	TIME OUT	VEHICLE
9/15/17	9/15/17	4:11 pm	4:19 pm	RAZZ CONSTRUCT

REFERENCE	ORIGIN
17SS	

GROSS WEIGHT	11,820	lb
TARE WEIGHT	9,660	lb
NET WEIGHT	2,160	lb

INVOICE
INBOUND

QTY	UNIT	DESCRIPTION	RATE	TAX	TOTAL
1.08	TN	Contractors (Accounts ONLY)	$90.00	$16.62	$113.82

VENDOR
JOB# 17SS
PHASE 60
COST CODE 01569-0
G.L.
VOUCHER#
CK OR CC#
APPROVED JPC

Tax Total	
Ferndale Refuse Tax	$13.12
Wa St Refuse Tax	$3.50

Driver's Signature:

Total:	$113.82
Paid:	$0.00
Payment Type:	
Change:	$0.00

RDS INC. Recycling & Disposal Services Inc.

Certificate of Destruction

This is to certify that material coming from Interrim Shoreline Stabilization Boulevard Park Project and received by Recycling & Disposal Services, Inc. will be destroyed. The waste will be shipped to Waste Management's Columbia Ridge Landfill in Arlington, Oregon for final disposal. The above-described NON-DANGEROUS WASTE will be destroyed and managed in compliance with all Permits and Laws Regulating this Facility.

Final Disposition: **Subtitle D and WAC 173-351 MSW Landfill**

Signature

9/21/2017
Date

For Recycling & Disposal Services, Inc.

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