

## FLOODPLAIN DEVELOPMENT APPLICATION

For Office Use Only			
STAFF CONTACT <b>Gardner</b>	PERMIT NO. <b>MISC-22-13</b>	PROJECT	
NON-REFUNDABLE FEE(S)	REFUNDABLE DEPOSIT(S)	<b>\$1,050</b>	TOTAL <b>\$1,050</b>

### Overview

In accordance with City of West Linn floodplain management regulations (West Linn Community Development Code Chapter 27), development within the West Linn regulatory floodplain must comply with the standards within Chapter 27. The regulatory floodplain is the Special Flood Hazard Area (SFHA) as defined on the currently effective Flood Insurance Rate Maps for West Linn and the area of inundation for the February 1996 flood.

### Before filling out this permit, complete the following checklist:

Location of Development:

1. Is the property that the proposed development activity will occur on at least partially within (horizontally within) the community's regulatory floodplain?
  - Yes
  - No, (If the answer is "No" then a floodplain development permit is NOT required)
  
2. Is the site where the proposed development activity will occur on the property at least partially within (horizontally within) the community's regulatory floodplain?
  - Yes
  - No, (If the answer is "No" then a floodplain development permit is NOT required)
  
3. Has FEMA, through a Letter of Map Change (LOMC) (i.e. LOMA, LOMR-F, LOMR), made a formal determination that this property or proposed development site is out of the regulatory floodplain?
  - Yes, (If the answer is "Yes" then a floodplain development permit is NOT required but a copy of the LOMC must be kept in the permitting records.)
  - No

## Section I: General Provisions

The undersigned hereby makes application for a permit to develop in a designated floodplain area. The work to be performed is described below and in attachments hereto. The undersigned agrees that all such work shall be done in accordance with the requirements of the City of West Linn and West Linn Community Development Code Chapters 27 and all other applicable local, state and federal regulations. This application does not create liability on the part of the City of West Linn or any officer or employee thereof for any flood damage that results from reliance on this application or administrative decision made lawfully hereunder.

1. When the community's floodplain regulatory standards apply to a proposed development activity, no work of any kind may begin in a regulatory floodplain area until a floodplain development permit is issued.
2. The permit may be revoked if any false statements are made herein. If revoked, all work must cease until a permit is re-issued.
3. The permit will expire if no work is commenced within 180 days of the date of issue.
4. The permit will not be issued until any other necessary local, state, or federal permits have been obtained (approved).

### Property Owner(s):\*

Chris Bozzini, Portland General Electric

Mailing Address: 121 SW Salmon St. 1WTC1302  
Portland, OR 97204

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ill . s i

Phone number: 503-464-7853

Fax number: \_\_\_\_\_

Email: Christopher.Bozzini@pgn.com

**Check box if Property Owner is Applicant**

### Applicant:

Jacob Neal, Portland General Electric

Mailing Address: 121 SW Salmon St. 3WTC0403  
Portland, OR 97204

Phone number: 503-863-6300

Fax number: \_\_\_\_\_

Email: Jacob.Neal@pgn.com

*\*All property owners must be listed.*

## Section II: Development Proposal Information

### PROJECT LOCATION

Address of Property: 4800 Mill Street, Boiler Beach, West Linn, OR 97068

Lot: 22E31 00700, 22E31 00702 Subdivision: \_\_\_\_\_ Block: \_\_\_\_\_

Township, Range, Section: Township 2S, Range 2E, SW ¼ of the NW ¼ of Section 31

(To avoid delay in processing the application, please provide enough information to easily identify the project location. A map or sketch attached to this application showing the project location is required.)

- the proposed development is NOT located horizontally within the Special Flood Hazard Area.\*
- the property is partially located horizontally within the Special Flood Hazard Area, but the proposed development activity site is NOT.\*

***\*If this box is checked then a floodplain development permit may not be required. Speak to community staff before completing the rest of this permit application.***

### PROJECT DESCRIPTION See Attachment A, Project Description Narrative

#### A. Structural Development (Check all that apply)

##### Activity

- New Structure
- Addition\*
- Alteration (includes repairs & improvements)\*
- Relocation\*\*
- Demolition
- Replacement
- Residential:  Single,  Two-Family, or  Multi-Family (3+)
- Non-Residential:  Elevated,  Floodproofed
- Combined Use (Residential and Non-Residential)
- Manufactured Home
- Recreational Vehicle (RV)
- Garage:  Attached,  Detached
- Appurtenant/Accessory Structure
- Other (please specify): \_\_\_\_\_

##### Structure Type

*\*An alternation includes the repair or improvement of a structure. If the value of an addition or alteration to a structure equals or exceeds 50% of the value of the structure before the addition or alteration, the entire structure must be treated a substantially improved structure.*

*\*\*A relocated structure must be treated as new construction.*

**B. Other Development (Check all that apply)**

- Clearing    Fill    Mining    Drilling    Grading    Dredging
- Excavation or Removal of Fill (Except for Structural Development Checked Above)
- Watercourse Alteration    Drainage Improvement (including culvert work)
- Individual water or Sewer System    Road, Street, or Bridge Construction
- Fencing    Utilities
- Subdivision (New Or Expansion), Partition, Master Plan, or Planned Unit Developments
- Other (Please Specify): \_\_\_\_\_

**FLOOD HAZARD INFORMATION**

1. The proposed development is located on FIRM Panel: 41005C0276D (number and suffix), Dated: 6/17/2008
2. The proposed development is located partially or fully within the horizontal boundaries of the Special Flood Hazard Area, Zone(s): AE (A, A1 -30, AE, AO, AH, AR, A99, V, V1-30, or VE)
3. The one-percent-annual chance (100 year) flood elevation at this site is: 57 ft  
NGVD 29 NAVD 88 (circle the correct datum),  
source: FIRM Panel 41005C0276D    None Available
4. Is the proposed development located partially or fully within a designated Floodway:    Yes    No  
If "Yes", then is this proposal for:  
Temporary encroachment (less than 30 days – outside of flood season (November – March)  
Fish habitat restoration or enhancement\*  
Fence (type and material: \_\_\_\_\_)  
*\*For habitat restoration projects a rise in elevation may be allowed if a CLOMR is approved by FEMA. Permit shall not be issued, until FEMA approval is received.*
5. If "Yes" was answered to (4.) above, then is a "No Rise Certification" with supporting engineering hydrologic and hydraulic data attached?    Yes    No
6. Are other federal, state, or local permits required?    Yes    No  
If yes, which ones: \_\_\_\_\_ as

**Section III. Additional Information Required (Complete all that apply)**

**1. Complete for Proposed Structures and Building Sites: NA**

- A. Base Flood Elevation at this site: \_\_\_\_\_ ft (NGVD 29/NAVD 88).
- B. Elevation of highest adjacent grade: \_\_\_\_\_ ft (NGVD 29/NAVD 88).
- C. Required Elevation of lowest floor\* (including basement): \_\_\_\_\_ ft (NGVD 29/NAVD 88).
- D. Proposed Elevation of lowest floor\* (including basement): \_\_\_\_\_ ft (NGVD 29/NAVD 88).
- E. Elevation of next highest floor: \_\_\_\_\_ ft (NGVD 29/NAVD 88).
- F. Elevation of top of proposed garage slab, if any: \_\_\_\_\_ ft (NGVD 29/NAVD 88).
- G. Details for anchoring structures (type of anchoring used and location of anchoring):  
\_\_\_\_\_  
\_\_\_\_\_

H. Details of floodproofing or elevation of utilities. Provide the elevation of the utilities or the elevation to which the utilities were floodproofed. If floodproofed, provide details regarding how the utilities were floodproofed (describe the type of floodproofing used or manner in which the utilities were floodproofed):  
\_\_\_\_\_  
\_\_\_\_\_

I. Exact location(s) on structure of all flood openings, if required. Include the elevation of the bottom of the flood opening(s), the size of the openings, and note if engineered flood opening(s) will be used. (Provide a reference diagram, in site plan or drawings):  
\_\_\_\_\_  
\_\_\_\_\_

J. Types of water-resistant materials used below the first-floor and portions of the structure they were applied to:  
\_\_\_\_\_  
\_\_\_\_\_

*\*lowest floor is defined as: the lowest floor of the lowest enclosed area (including basement). An unfinished or flood resistant enclosure (such as a crawlspace), usable solely for parking of vehicles, building access or storage in an area other than a basement area is not considered a building's lowest floor; provided, that such enclosure is built in compliance with the required floodplain and building code regulations including but not limited to flood venting requirements.*

**2. Complete for Alterations or Additions to Existing Structures: NA**

Please complete **Appendix A** of the West Linn floodplain development permit and enter the cost of the proposed construction\* here: \$ \_\_\_\_\_

**\*PLEASE NOTE:** Cost of construction estimates must include all structural elements, interior finish elements, utility and service equipment, labor and other costs associated with demolishing, removing, or altering building components, and construction management. As well as any improvements being made to repair damage that go beyond just making repairs to return to pre-damaged conditions.

**3. Complete for Non-Residential Floodproofed Construction: NA**

. . .  
. . .  
. Fl . . .  
] Yes ] No

**4. Complete For Partitions, Subdivisions, Master Plan, Or Planned Unit Developments: NA**

. . .  
] Yes ] No  
. . .  
] Yes ] No  
. . .  
] Yes ] No

**5. Complete for Proposals NOT Included in 1-4 Above:**

. F all a . . .  
. . . **See Attachment B, Site Plans**  
. . .  
. . . **NA**  
. F s a a i a s a i a s a a l a i . **NA**  
. . .  
i. a . . .  
**Variable. Up to 3 ft. above existing elevation**

**6. Required Attachments:**

. . .  
. . . **See Attachment B, Site Plans**  
. . . **Federal and state permits will be provided once they are issued.**  
. . . **NA**

- D. Certification from a registered professional engineer that any proposed non-residential floodproofed structure will meet the floodproofing criteria of CDC Chapters 27 and Oregon Specialty Code requirements, if applicable. **NA**
- E. Other documentation as required per the above sections.

**Section IV: Property Owner and Applicant Signatures**

I/We hereby request a Floodplain Development Permit on the above described real property, located within West Linn, Oregon. I/We hereby acknowledge that this application is not considered filed, until all of the required information has been submitted as determined by the floodplain administrator and all required fees have been paid in full.

**Property Owner(s)\***

Signature(s): \_\_\_\_\_  
Name(s) (print): \_\_\_\_\_  
Date: \_\_\_\_\_

Tick box if the Property Owner is the Applicant.

**Applicant**

Signature: Christopher Bozzini  
Name (print): CHRISTOPHER BOZZINI  
Date: 10/26/22

*This application is only for Floodplain Development Permit. Building Permits and any other permits require separate applications.*

*\*All property owners must sign. The signature is an acknowledgement and consent to this floodplain development permit application.*

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**Section V: OFFICE USE ONLY**

**APPLICATION PROCESSING**

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**SUBSTANTIAL IMPROVEMENT REVIEW**

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**Market Value X 50% (.50) = Substantial Improvement Threshold**

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 Yes  No  
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 Yes, (If "Yes", then the proposed development activity qualifies as a substantial improvement\*).  
 No  
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 Yes  No

*Construction cost estimates must include all structural elements, interior finish elements, utility and service equipment, labor and other costs associated with demolishing, removing, or altering building components, and construction management. As well as any improvements being made to repair damage that go beyond just making repairs to return to pre-damaged conditions.*

*\*\*If the cost of the proposed construction equals or exceeds 50 percent of the market value of the structure, then the entire structure must be treated as a substantially improved structure and the substantial improvement provisions shall apply. See FEMA publication [P-758, Substantial Improvement/Substantial Damage Desk Reference](#) for more information regarding substantial improvement.*





## APPENDIX A

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### Section I.

#### COSTS TO BE INCLUDED

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#### ITEMS TO BE EXCLUDED:

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- F l i a i  s a i a l s a i a a s

**Section II.**

**ITEMIZATION OF CONSTRUCTION COSTS TO COMPLETE PROJECT**

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**Section III. Affidavit**

CONSTRUCTION COST AFFIDAVITS FROM FEMA PUBLICATION                     s a i a l                    s a i a l                    a a s                    

Completed by (circle one):     **Architect**                             **Contractor**                             **Property Owner**

Project Address: \_\_\_\_\_

Architect/Contractor/Property Owner Name \_\_\_\_\_

Company Name i a l i a l : \_\_\_\_\_

Address: \_\_\_\_\_

Phone: \_\_\_\_\_

Email: \_\_\_\_\_

I hereby attest to the following:

- a a i l s i s a a i a s s i l a s a s i i a i s l a a a .
- a s a l l i i a i s s l i s i i a .
- s a i a a i a l a s i i a i s s l \_\_\_\_\_ s i i s i a a i l a s a s i i a i s a s i s .

Additionally, I understand:

- i l l l s s i l a i s a a a i i l a a l .
- a s a i s a i s i s s l a l a l a s i i a a l i s i .
- a a i a l a a a s a a a s s s a i a i s s l .
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a i \_\_\_\_\_

**Total Cost** \_\_\_\_\_

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s a l l \_\_\_\_\_ i i a i \_\_\_\_\_

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AECOM  
888 SW 5th Ave, Suite 600  
Portland, OR 97204

Project name:  
PGE Boiler Beach Removal Action

To: City of West Linn

From:  
Sean Sutton, Certified Floodplain Manager  
(CFM)  
Andy Clodfelter

CC: Jacob Neal, Portland General Electric

Date:  
September 8, 2022

## **Attachment A. Project Description Memorandum City of West Linn Floodplain Development Application for PGE Boiler Beach Removal Action**

Portland General Electric Company (PGE) is proposing to implement a Removal Action along a Willamette River shoreline area ("Boiler Beach"), located adjacent to the Willamette Falls Paper Company in West Linn, Oregon. The project will be conducted pursuant to Oregon Department of Environmental Quality (DEQ) Removal Rule OAR 340-122-040 and under DEQ oversight (Environmental Cleanup Site Information ID 263). Previous surveys and site assessments have found high concentrations of lead and other contaminants in fill material primarily consisting of construction debris including SEMCO bricks. Removal of these bricks and placement of a riprap cap on the upper shoreline will remove the direct contaminant exposure pathway for humans and sensitive ecological receptors.

On the shoreline between elevation +9 ft NAVD88 (Ordinary Low Water) and +20 feet NAVD88 (top of bank), SEMCO bricks will be removed by hand and placed on a floating material barge. In-water SEMCO bricks will be removed by teams of divers supported by surface vessels. Vessels will raise collection containers of SEMCO bricks and place them on the barge. All bricks and other recovered waste will be properly profiled and shipped offsite for landfill disposal.

A riprap cap will be installed up to 3 feet in thickness from the top of the bank (+20 feet NAVD88) up to the Boiler House building foundations. Riprap will be placed over a majority of the capped area at a depth of 2 feet, with thicker cap depths in areas requiring slope smoothing. The riprap is designed to mimic reference conditions adjacent to the project site while preventing future erosion of contaminated bricks and fine-grained material. All work will be performed using conventional construction equipment (excavators, skid steers, and loaders, etc.). The final grade will be constructed to prevent adverse effects to the fish bypass geometry system and flow regime at the site. Please refer to the Site Plans (Attachment B) for construction details and drawings.

PGE will seek a floodplain development permit and a Land Use Compatibility Statement from the City of West Linn as part of the Joint Permit Application process to ensure that the project meets City code requirements. No fill will be placed within the regulatory floodway to avoid the need for a Federal

Emergency Management Agency (FEMA) no-rise certification. Further, to offset placement of fill within the 100-year floodplain, PGE will seek cut credits from an approved source, such as PGE's Harborton mitigation site, to meet City code cut/fill balance requirements. The project is scheduled to occur during the in-water work window (July 1-October 31) once all local, state, and federal permits and approvals are obtained.

Below, we describe PGE's plan to meet pertinent sections of the City of West Linn floodplain regulations, which are specified in Chapter 27 of the City's Community Development Code (CDC) (approved 2/14/22). This information is provided in support of the Floodplain Development Application:

- 27.020. Applicability. A flood management area permit is required for all development in the Flood Management Area Overlay Zone. *PGE will seek a flood management permit from the City of West Linn because the project is located within the City's flood management area overlay zone. The project site is located within the 100-year floodplain (Zone AE) but outside of the regulatory floodway (otherwise known as the "floodway fringe area").*
- 27.070 (I). Balanced Cut and Fill.
  - (1) Development, excavation, and fill shall be performed in a manner to maintain or increase flood storage and conveyance capacity and not increase design flood elevations. *The proposed cap is located within the hydraulic conveyance shadow of the adjacent (upstream and downstream) large buildings. It is not expected to appreciably decrease the flood conveyance area due to the presence of these significant flow obstructions adjacent to the site. Further, the base flood elevation increase from the cap would be negligible (well below the one-foot threshold within the floodway fringe area).*
  - (2) No net fill increase in any floodplain is allowed. All fill placed in a floodplain shall be balanced with an equal amount of soil material removal. Excavation areas shall not exceed fill areas by more than 50 percent of the square footage. Any excavation below the ordinary high water line shall not count toward compensating for fill. *PGE proposes to balance cap fill placement with an equal amount of cut/removal credits from the Harborton mitigation site, located downstream in the Willamette River. The cut credits would be derived from excavation conducted within the floodplain, above the ordinary high water elevation (OHWE) unless the City approves balancing fill with excavation below the OHWE (i.e., in kind cut/fill balance).*
  - (3) Excavation to balance a fill shall be located on the same lot or parcel as the fill unless it is not reasonable or practicable to do so. In such cases, the excavation shall be located in the same drainage basin and as close as possible to the fill site, so long as the proposed excavation and fill will not increase flood impacts for surrounding properties as determined through hydrologic and hydraulic analysis. *PGE has determined that there would be less environmental impacts from using off-site cut credits rather than performing on-site rock excavation to balance fill volumes at the site. As such, PGE proposes to use cut credits from the Harborton mitigation site located in Lower Willamette Sub-basin (River Mile 3). This mitigation site is located within the same drainage basin as the project site and meets the code requirements.*

- 27.080. Residential Construction. *These standards would not apply because the project does not involve construction of a residential structure.*
- 27.090. Standards for Floodways. *These standards would not apply because no work is proposed within the floodway. This eliminates the need for a “no-rise” analysis or certification, which is only required when encroaching within the floodway. Since all work would be limited to the floodway fringe, a Conditional Letter of Map Revision (CLOMR) or Letter of Map Revision (LOMR) will not be required. If the project changes and PGE determines that some work in the floodway is needed, PGE would work with the City to ensure that the project adheres to all City floodplain code requirements.*

## **ATTACHMENT B. SITE PLANS**





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**PROJECT CONTACTS:**

**PROJECT CONTACTS**

PROJECT OWNER PORTLAND GENERAL ELECTRIC COMPANY  
 CONTACT JACOB NEAL  
 TITLE SENIOR ENVIRONMENTAL SPECIALIST  
 ADDRESS 121 SW SALMON ST. 3WTCBR05  
 CITY, STATE, ZIP PORTLAND, OR, 97204  
 EMAIL JACOB.NEAL@PGN.COM  
 OFFICE 503-863-6300

**REGULATORY OVERSIGHT**

DEPARTMENT OF ENVIRONMENTAL QUALITY  
 CONTACT MARK PUGH  
 TITLE PROJECT MANAGER  
 ADDRESS 700 NE MULTNOMAH STREET, SUITE 600  
 CITY, STATE, ZIP PORTLAND, OR, 97232  
 EMAIL MARK.PUGH@DEQ.OREGON.GOV  
 OFFICE 503-229-5587

CONSULTANT AECOM  
 CONTACT MAYA TAYLOR  
 TITLE PROJECT MANAGER  
 ADDRESS 888 SW 5TH AVE., SUITE 600  
 CITY, STATE, ZIP PORTLAND, OR, 97204  
 EMAIL MAYA.TAYLOR@AECOM.COM  
 OFFICE 503-789-5384

CONTRACTOR TBD  
 CONTACT  
 TITLE  
 ADDRESS  
 CITY, STATE, ZIP  
 EMAIL  
 OFFICE

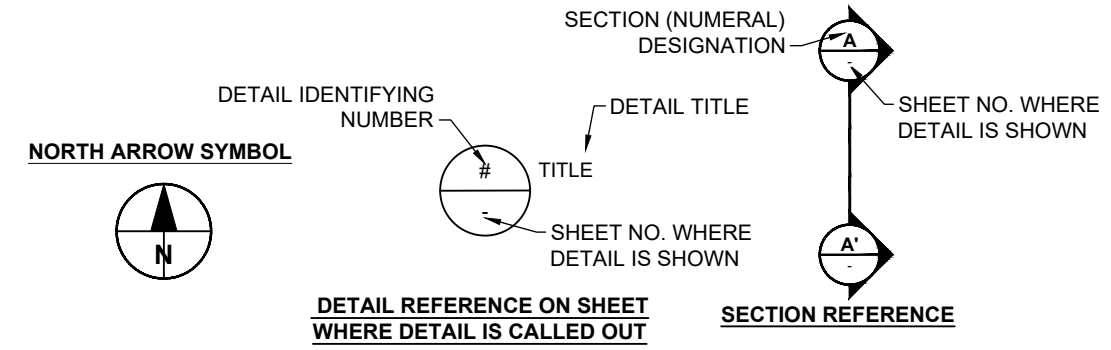
**ACRONYMS:**

APPROX APPROXIMATE  
 BGS BELOW GROUND SURFACE  
 CORPS U.S. ARMY CORPS OF ENGINEERS  
 CQAP CONSTRUCTION QUALITY ASSURANCE PLAN  
 CY CUBIC YARD  
 DEQ [OREGON] DEPARTMENT OF ENVIRONMENTAL QUALITY  
 DFR DAILY FIELD REPORT  
 DSL [OREGON] DEPARTMENT OF STATE LANDS  
 FT FOOT  
 H HORIZONTAL  
 IN INCHES  
 LF LINEAR FOOT  
 MAX MAXIMUM  
 MIN MINIMUM  
 NAD83 NORTH AMERICAN DATUM 1983  
 NAVD88 NORTH AMERICAN VERTICAL DATUM 1988  
 NAVD88 NATIONAL MARINE FISHERIES SERVICE  
 OHWE ORDINARY HIGH WATER ELEVATION  
 PGE PORTLAND GENERAL ELECTRIC  
 QA/QC QUALITY ASSURANCE AND QUALITY CONTROL  
 SF SQUARE FEET  
 SHPO [OREGON] STATE HISTORIC PRESERVATION OFFICE  
 TBD TO BE DETERMINED  
 TYP TYPICAL  
 USGS U.S. GEOLOGICAL SURVEY  
 V VERTICAL

**LEGEND:**

**SYMBOL DESCRIPTION OF OBJECT**  
  
 -10/-2- EXISTING GRADE CONTOURS (2' AND 10' INTERVAL)  
 -10/2- FINAL GRADE CONTOURS (2' AND 10' INTERVAL)  
 ——— LIMIT OF WORK  
 —SF— SILT FENCE  
 BEACH ACCESS AND AVAILABLE STAGING AREA  
 UPLAND AND SHORELINE AREA DEBRIS/BRICK REMOVAL AND CAPPING  
 RIVERBANK AREA BRICK REMOVAL  
 IN-WATER AREA BRICK REMOVAL  
 POTENTIAL ABUTMENT REPAIR AREA TO BE DESIGNED BY OTHERS  
 POTENTIAL LOCATION FOR VISUAL TURBIDITY MONITORING

**DETAILING & SECTION IDENTIFICATION NOMENCLATURE**



**PROJECT DOCUMENTS:**

DOCUMENT NAME	AUTHOR
DRAFT REMOVAL ACTION WORK PLAN	AECOM
JOINT PERMIT	CORPS/DSL
LAND USE COMPATABILITY STATEMENT	DEQ/CITY OF WEST LINN
BIOLOGICAL ASSESSMENT	NMFS
ESSENTIAL FISH HABITAT ASSESSMENT	NMFS
FLOODPLAIN DEVELOPMENT PERMIT AUTHORIZATION FOR REMEDIATION/RESTORATION ACTIVITY	CITY OF WEST LINN
FINDING OF EFFECT	DSL
	SHPO

No.	DATE	BY	REVISION	JOB No. 60683948	DESIGNED: JS	PROJ. ENGINEER: AC	 WARNING 1/2 IF BAR DOES NOT MEASURE 1" AT FULL SIZE, THEN SCALES ON DRAWING NOT TO SCALE.	 888 SW 5th Avenue, Suite 600 Portland, Oregon 97204 (tel) 503-222-7200 (fax) 503-222-4292 www.aecom.com	Portland General Electric Company . 121 SW Salmon Street Portland, Oregon 97201-5814 www.portlandgeneral.com (503) 464-8490	<b>BOILER BEACH</b>  LEGEND	DRAWING NUMBER: G-002	
					SCALE: NTS	DRAWN BY: JS					APPROVED BY: --	CAD FILE NUMBER: --
					CHECKED BY: AC	DATE: OCTOBER 2022					SHEET: 3 OF 9	REV. --

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<b>PERMIT SET</b> <b>DRAFT</b>		
No.	DATE	BY
		REVISION

JOB No. 60683948	DESIGNED: JS	PROJ. ENGINEER: AC
SCALE: 1" = 300'	DRAWN BY: JS	APPROVED BY: ---
	CHECKED BY: AC	DATE: OCTOBER 2022

WARNING  
1/2

IF BAR DOES NOT MEASURE 1" AT FULL SIZE, THEN SCALES ON DRAWING NOT TO SCALE.



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**BOILER BEACH**  
**OVERALL SITE MAP**

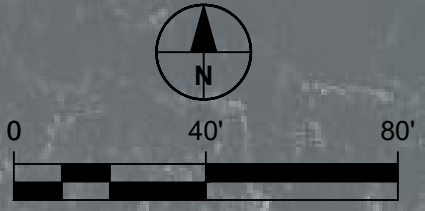
DRAWING NUMBER: G-003	
CAD FILE NUMBER: ---	
SHEET: 4 OF 9	REV. A



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**NOTES:**

1. THE EXISTING UPLAND, SHORELINE AND RIVERBANK TOPOGRAPHIC SURVEY WAS COMPLETED BY PGE ON JULY 5, 2004, AND SUPPLEMENTAL HIGH DENSITY AERIAL LIDAR DATA WAS ACQUIRED IN THE SPRING OF 2019.
2. MULTIBEAM BATHYMETRIC SURVEY COMPLETED ON MAY 14, 2021 BY SOLMAR HYDRO INC.



<p style="text-align: center;"><b>PERMIT SET</b> <b>DRAFT</b></p>		JOB No. 60683948	DESIGNED: JS	PROJ. ENGINEER: AC	<p style="text-align: center;">WARNING 1/2</p>  <p style="text-align: center;">IF BAR DOES NOT MEASURE 1" AT FULL SIZE, THEN SCALES ON DRAWING NOT TO SCALE.</p>		Portland General Electric Company 121 SW Salmon Street Portland, Oregon 97201-5814 www.portlandgeneral.com (503) 464-8490	<b>BOILER BEACH</b>  <b>EXISTING CONDITIONS</b>		DRAWING NUMBER: V-001	
		SCALE: 1" = 40'	DRAWN BY: JS	APPROVED BY: ---				CAD FILE NUMBER: ---			
No.	DATE	BY	REVISION	CHECKED BY: AC	DATE: OCTOBER 2022					SHEET: 5 OF 9	REV. A

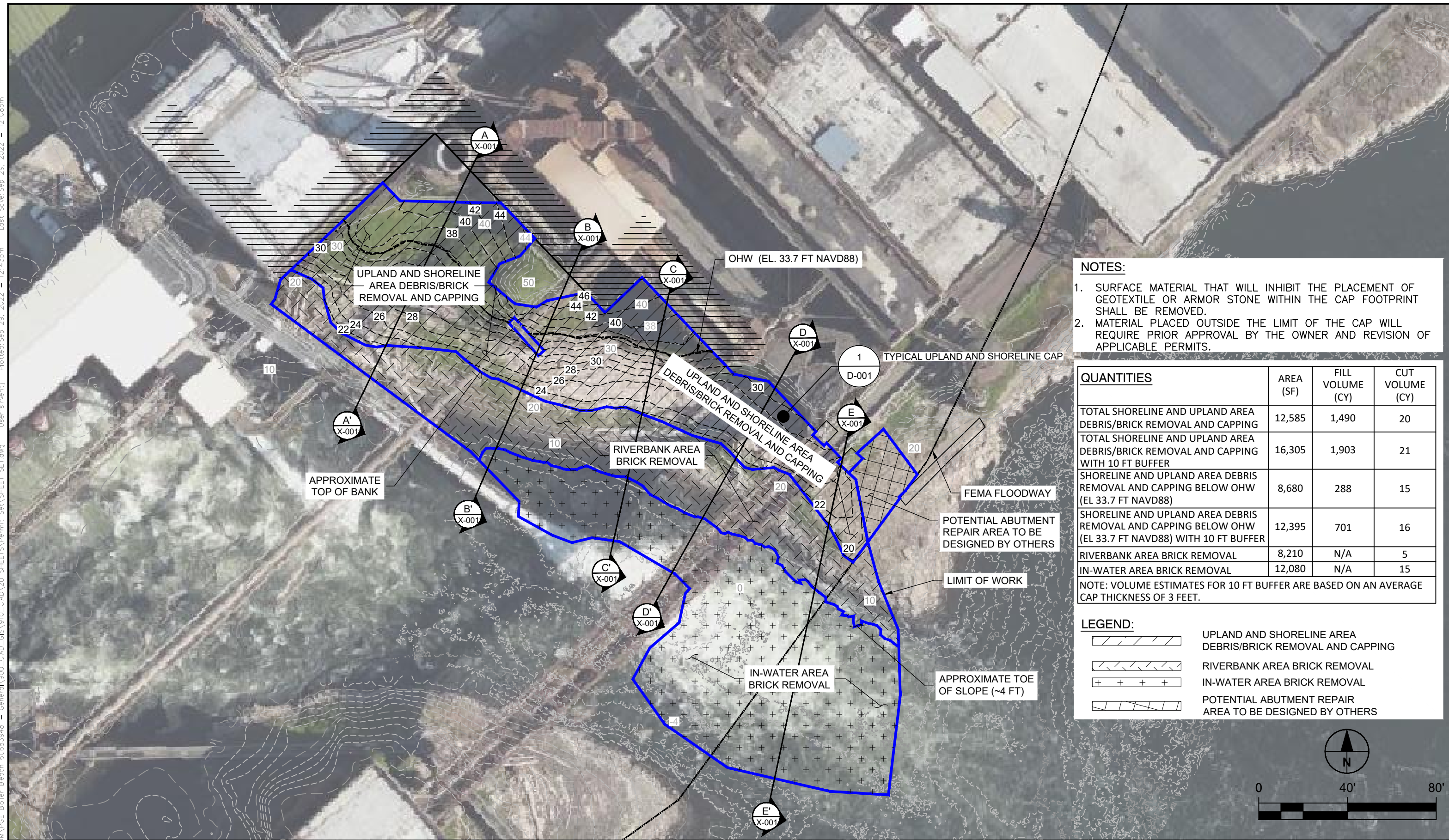
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- NOTES:**
1. PROTECT EXISTING STRUCTURES AND BUILDINGS.
  2. THE CONTRACTOR SHALL ESTABLISH TWO VISUAL TURBIDITY MONITORING LOCATIONS FOR VISUAL TURBIDITY MONITORING DURING ALL WORK BELOW ORDINARY HIGH WATER.
  3. THE CONTRACTOR SHALL INSTALL A SILT FENCE AT THE BOUNDARY BETWEEN THE SHORELINE AND UPLAND AREA AND THE RIVERBANK AREA FOLLOWING THE REMOVAL OF LARGE WOODY DEBRIS.
  4. CONTRACTOR TO ESTABLISH STAGING AREA ON LAND OR ON BARGE.
  5. ALL WASTE MATERIAL STOCKPILED IN SITE SHALL BE CONTAINERIZED IN A COVERED CONTAINER.

<p style="text-align: center;"><b>PERMIT SET</b> DRAFT</p>		JOB No. 60683948	DESIGNED: JS	PROJ. ENGINEER: AC	<p style="text-align: center;">WARNING 1/2</p> <p>IF BAR DOES NOT MEASURE 1" AT FULL SIZE, THEN SCALES ON DRAWING NOT TO SCALE.</p>		<p>888 SW 5th Avenue, Suite 600          Portland, Oregon 97204          (tel) 503-222-7200          (fax) 503-222-4292          www.aecom.com</p>	<p>Portland General Electric Company          121 SW Salmon Street          Portland, Oregon 97201-5814          www.portlandgeneral.com          (503) 464-8490</p>	<p><b>BOILER BEACH</b></p> <p>SITE PREPARATION AND EROSION CONTROL</p>	DRAWING NUMBER: C-001	
		SCALE: 1" = 40'	DRAWN BY: JS	APPROVED BY: ---						CAD FILE NUMBER: ---	
No.	DATE	BY	CHECKED BY: AC	DATE: OCTOBER 2022					SHEET: 5 OF 9		REV. A

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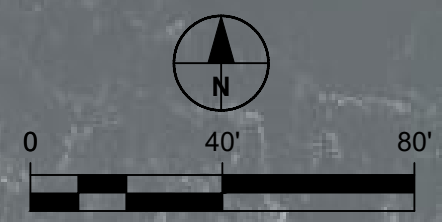
- NOTES:**
1. SURFACE MATERIAL THAT WILL INHIBIT THE PLACEMENT OF GEOTEXTILE OR ARMOR STONE WITHIN THE CAP FOOTPRINT SHALL BE REMOVED.
  2. MATERIAL PLACED OUTSIDE THE LIMIT OF THE CAP WILL REQUIRE PRIOR APPROVAL BY THE OWNER AND REVISION OF APPLICABLE PERMITS.

QUANTITIES	AREA (SF)	FILL VOLUME (CY)	CUT VOLUME (CY)
TOTAL SHORELINE AND UPLAND AREA DEBRIS/BRICK REMOVAL AND CAPPING	12,585	1,490	20
TOTAL SHORELINE AND UPLAND AREA DEBRIS/BRICK REMOVAL AND CAPPING WITH 10 FT BUFFER	16,305	1,903	21
SHORELINE AND UPLAND AREA DEBRIS REMOVAL AND CAPPING BELOW OHW (EL 33.7 FT NAVD88)	8,680	288	15
SHORELINE AND UPLAND AREA DEBRIS REMOVAL AND CAPPING BELOW OHW (EL 33.7 FT NAVD88) WITH 10 FT BUFFER	12,395	701	16
RIVERBANK AREA BRICK REMOVAL	8,210	N/A	5
IN-WATER AREA BRICK REMOVAL	12,080	N/A	15

NOTE: VOLUME ESTIMATES FOR 10 FT BUFFER ARE BASED ON AN AVERAGE CAP THICKNESS OF 3 FEET.

**LEGEND:**

	UPLAND AND SHORELINE AREA DEBRIS/BRICK REMOVAL AND CAPPING
	RIVERBANK AREA BRICK REMOVAL
	IN-WATER AREA BRICK REMOVAL
	POTENTIAL ABUTMENT REPAIR AREA TO BE DESIGNED BY OTHERS



<b>PERMIT SET</b> DRAFT		
No.	DATE	BY
		REVISION

JOB No. 60683948	DESIGNED: JS	PROJ. ENGINEER: AC
SCALE: 1" = 40'	DRAWN BY: JS	APPROVED BY: ---
	CHECKED BY: AC	DATE: OCTOBER 2022

WARNING  
1/2

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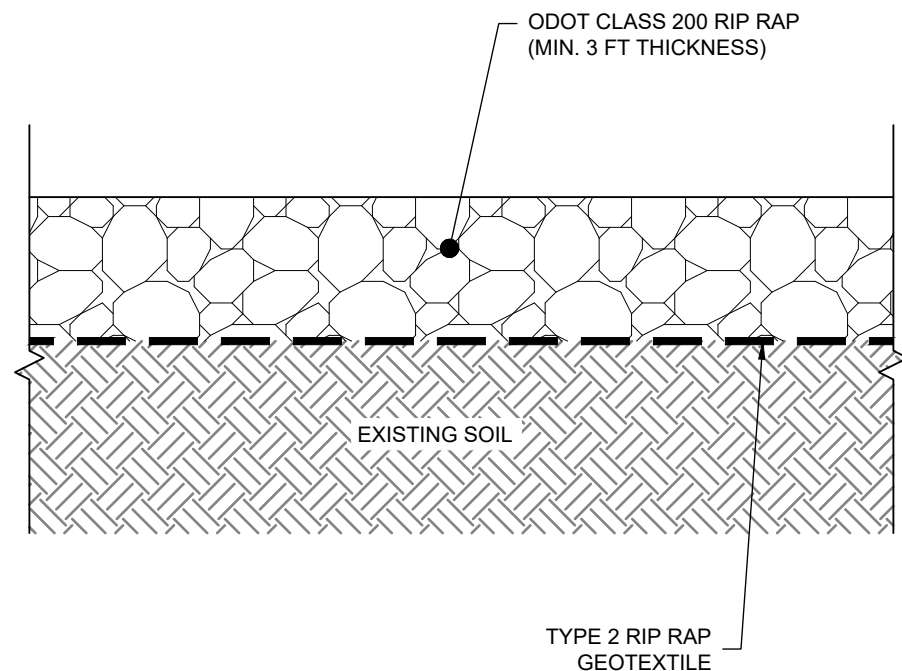
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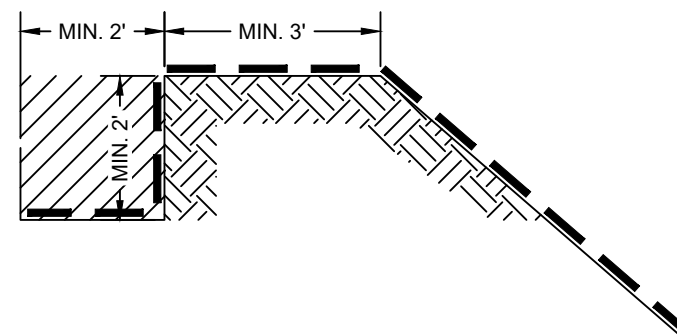
<b>BOILER BEACH</b>	
<b>WORK PLAN</b>	
DRAWING NUMBER: C-002	
CAD FILE NUMBER: --	
SHEET: 7 OF 9	REV. A

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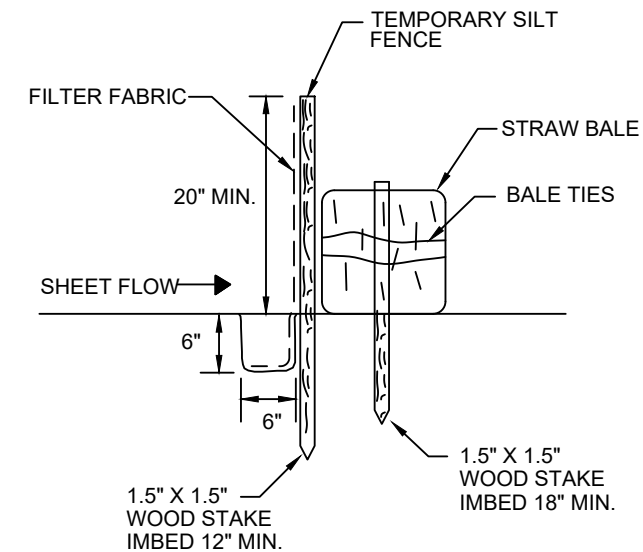
- NOTES:**
1. ODOT CLASS 200 RIPRAP TO BE PLACED IN ACCORDANCE WITH ODOT SECTION 00390 - RIPRAP PROTECTION.
  2. GEOTEXTILE TO BE PLACED IN AREAS WHERE LOOSE SOIL IS VISIBLE AT THE SURFACE, LOCATION OF GEOTEXTILE PLACEMENT TO BE CONFIRMED BY CONSTRUCTION MANAGER.

**1** TYPICAL UPLAND AND SHORELINE CAP  
C-002 SCALE: NTS



- NOTES:**
1. EXCAVATED MATERIALS FROM THE ANCHOR TRENCH, IF SUITABLE ARE TO BE STORED AND REUSED TO FILL THE ANCHOR TRENCH. CORNERS MUST BE ROUNDED. THE ANCHOR TRENCH IS TO BE FREE OF LOOSE DIRT, STICKS AND STONES.
  2. IF IT IS TOO ROUGH IT SHOULD BE LINED ACROSS THE CRESS "ONLY" WITH A NON-WOVEN GEOTEXTILE.
  3. COMPACT IN 12" LIFTS USING A PLATE COMPACTOR.

**2** TYPICAL ANCHOR TRENCH  
D-001 SCALE: NTS

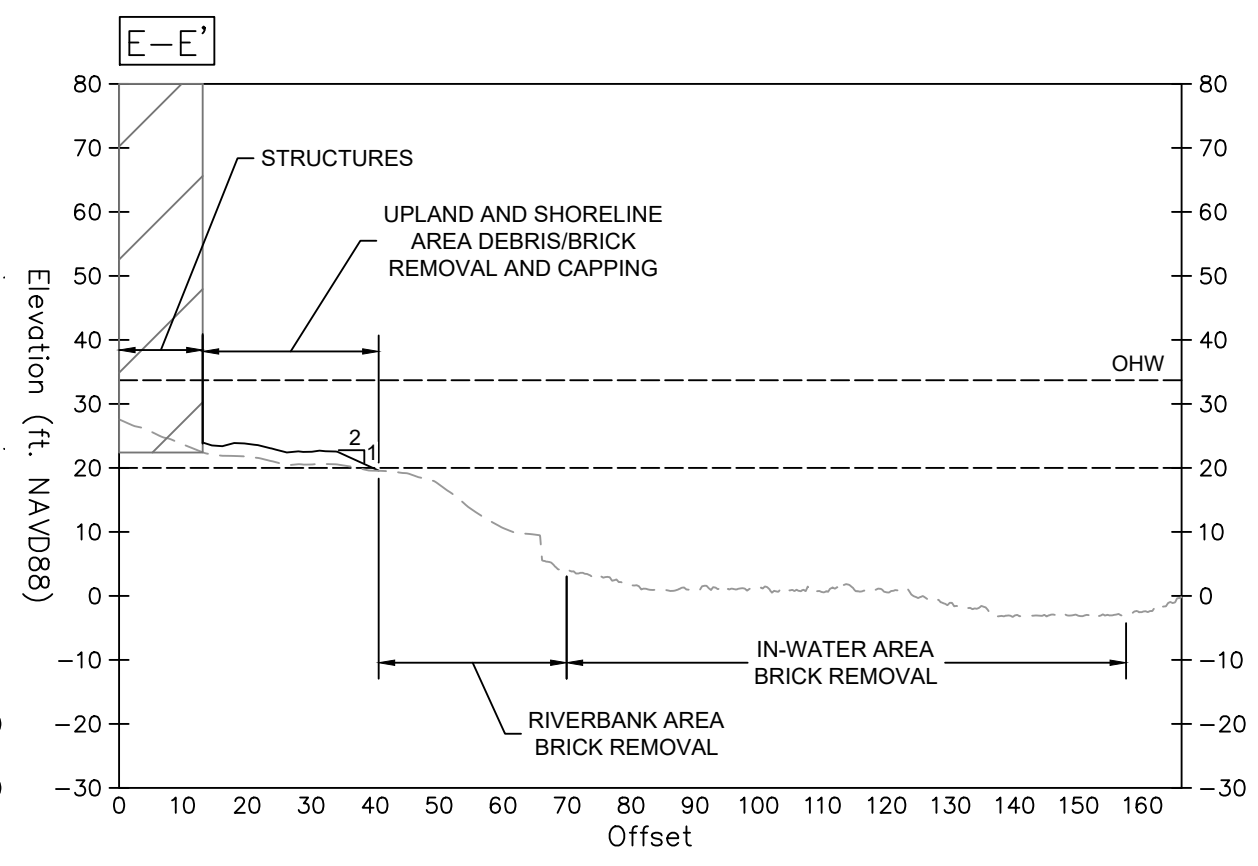
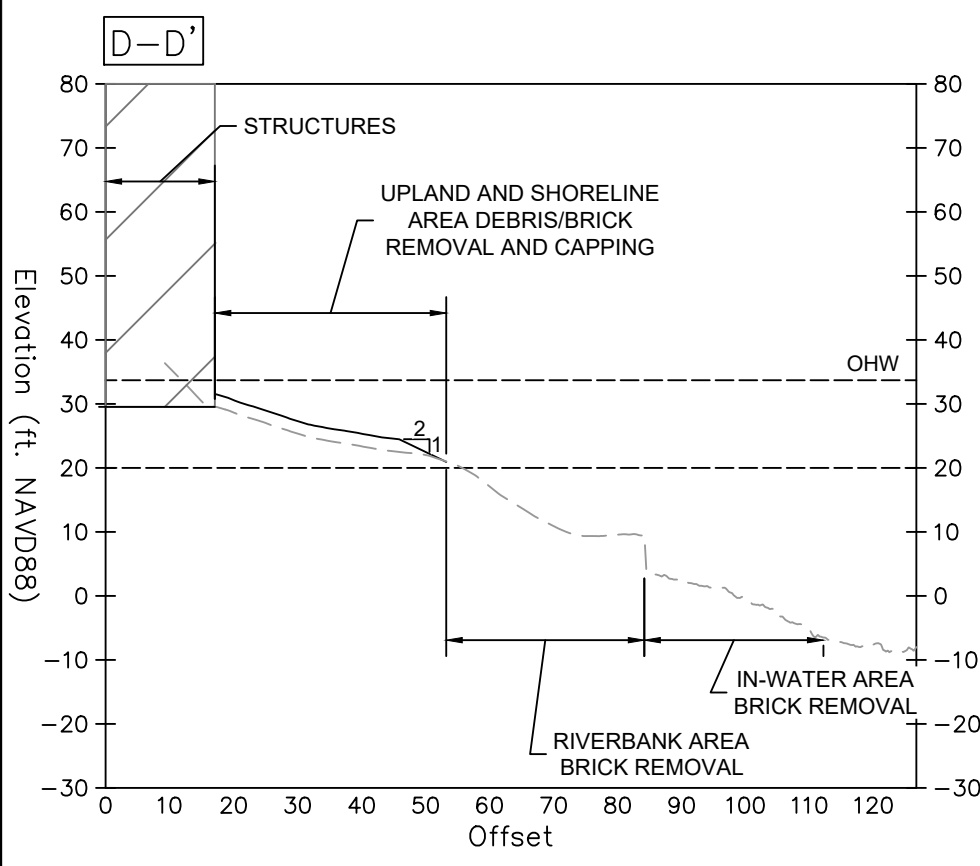
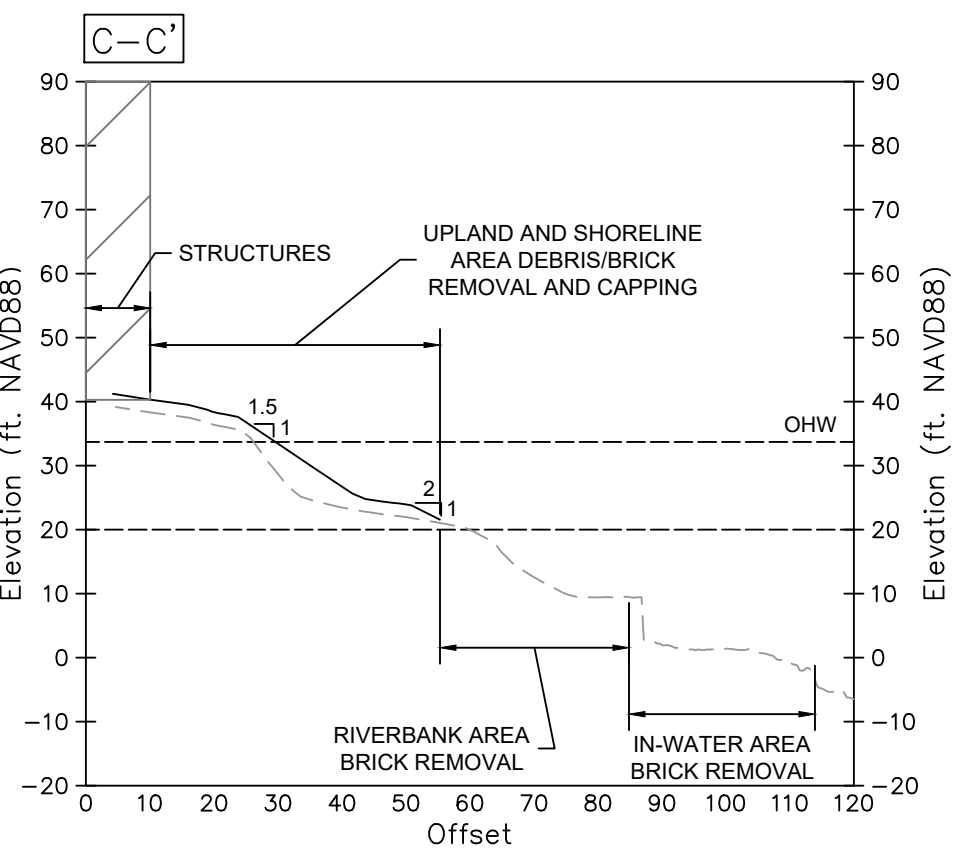
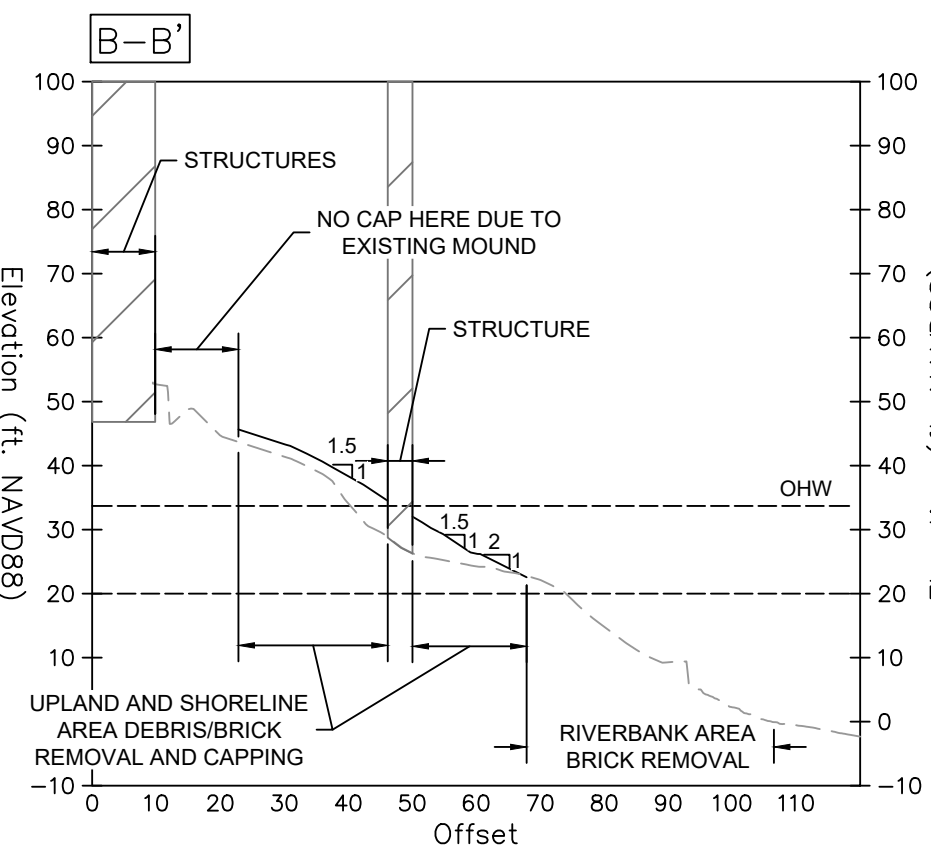
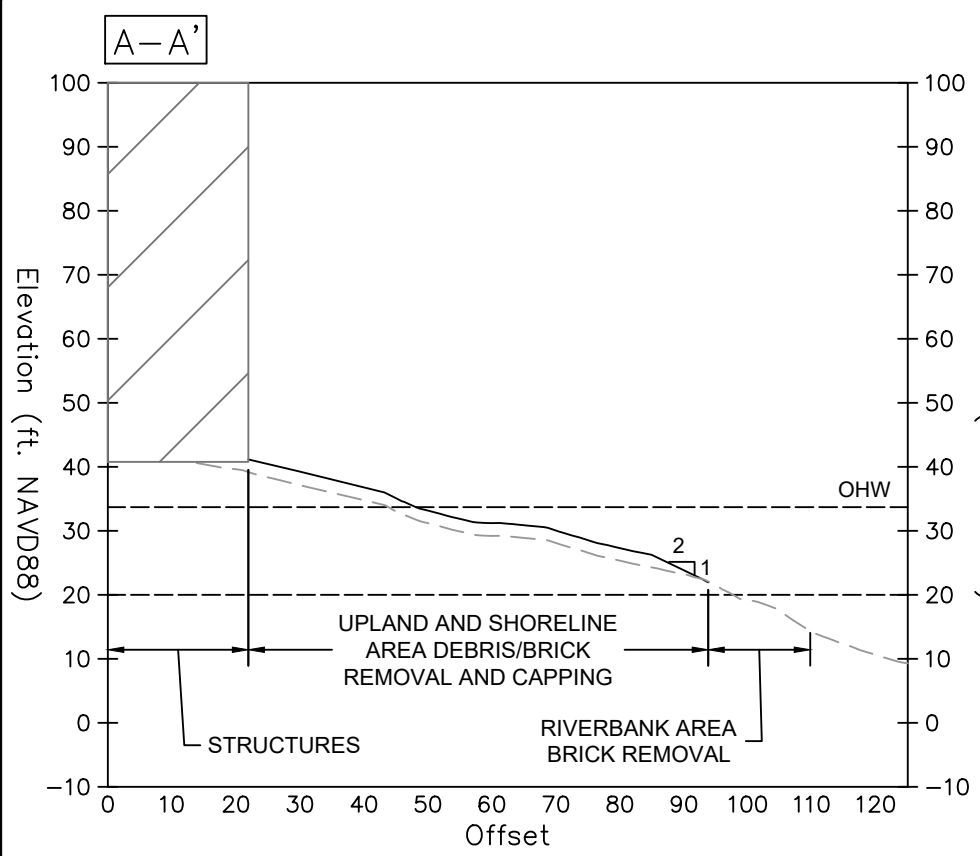


- NOTES:**
1. SET POSTS AND EXCAVATE A 6" BY 6" TRENCH UPSLOPE ALONG THE LINE OF POSTS.
  2. ATTACH FILTER FABRIC TO FENCE POST AND EXTEND IT INTO THE TRENCH.
  3. IF USING PRE-MADE SILT FENCE WITH FABRIC STAPLED TO THE POST IN ADVANCE; EXCAVATE TRENCH, SET POSTS AND ATTACHED FILTER FABRIC INTO THE TRENCH.
  4. BACKFILL AND COMPACT THE TRENCH USING THE EXCAVATED SOIL.

**3** EROSION CONTROL  
D-001 SCALE: NTS

<p style="text-align: center;"><b>PERMIT SET</b> DRAFT</p>		JOB No. 60683948	DESIGNED: JS	PROJ. ENGINEER: AC	<p style="text-align: center;">WARNING 1/2</p> <p>IF BAR DOES NOT MEASURE 1" AT FULL SIZE, THEN SCALES ON DRAWING NOT TO SCALE.</p>		<p>Portland General Electric Company 121 SW Salmon Street Portland, Oregon 97201-5814 www.portlandgeneral.com (503) 464-8490</p>	<p><b>BOILER BEACH</b> DETAILS</p>	DRAWING NUMBER: D-001	
		SCALE: NTS	DRAWN BY: JS	APPROVED BY: ---					CAD FILE NUMBER: ---	
No.	DATE	BY	REVISION	CHECKED BY: AC	DATE: OCTOBER 2022			SHEET: 8 OF 9		REV. A

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**LEGEND:**

--- EXISTING GRADE

— FINAL GRADING

▣ STRUCTURE

<b>PERMIT SET</b> DRAFT			JOB No. 60683948	DESIGNED: JS	PROJ. ENGINEER: AC	<p>WARNING</p> <p>1/2</p> <p>IF BAR DOES NOT MEASURE 1" AT FULL SIZE, THEN SCALES ON DRAWING NOT TO SCALE.</p>	<b>AECOM</b>	888 SW 5th Avenue, Suite 600 Portland, Oregon 97204 (tel) 503-222-7200 (fax) 503-222-4292 www.aecom.com	Portland General Electric Company 121 SW Salmon Street Portland, Oregon 97201-5814 www.portlandgeneral.com (503) 464-8490	<b>BOILER BEACH</b>		DRAWING NUMBER: X-001	
			SCALE: 1" = 30'	DRAWN BY: JS	APPROVED BY: ---					<b>SECTIONS</b>		CAD FILE NUMBER: ---	
No.	DATE	BY	REVISION	CHECKED BY: AC	DATE: OCTOBER 2022					SHEET: 9 OF 9	REV. A		