US Army Corps of Engineers
Seattle District

Joint Public Notice

Application for a Department of the Army Permit and a Washington Department of Ecology Water Quality Certification and/or Coastal Zone Management Consistency Concurrence

US Army Corps of Engineers
Regulatory Branch
Post Office Box 3755
Seattle, WA 98124-3755
Telephone (206) 764-6901
Attn: Jacalen Printz, Project Manager

WA Department of Ecology
SEA Program
Post Office Box 47600
Olympia, WA 98504-7600
Telephone (360) 407-6068
Attn: SEA Program, Federal Permit Coordinator

Public Notice Date: June 1, 2012
Expiration Date: July 1, 2012

Reference No.: NWS-2011-778-WRD
Name: Seattle Dept. of Transportation

Interested parties are hereby notified that the U.S. Army Corps of Engineers (Corps) and the Washington Department of Ecology (Ecology) have received an application to perform work in waters of the United States as described below and shown on the enclosed drawings dated May 2012.

The Corps will review the proposed work in accordance with Section 404 of the Clean Water Act (CWA) and Section 10 of the Rivers and Harbors Act. Ecology will review the work pursuant to Section 401 of the CWA, with applicable provisions of State water pollution control laws and the Coastal Zone Management Act.

APPLICANT: Seattle Department of Transportation
Post Office Box 34996
Seattle, Washington 98124-4996
Attention: Ms. Jennifer Wieland
Telephone: (206) 733-9970

LOCATION: In Elliott Bay, Puget Sound at Seattle, King County, Washington.

BACKGROUND: The City of Seattle is pursuing two parallel approaches to facilitate Elliott Bay Seawall replacement. The City of Seattle is the local sponsor for the ongoing Seattle District, Corps of Engineers, Civil Works Branch, Elliott Bay Seawall General Investigation Study, and the City is separately and concurrently applying for a permit from the Seattle District, Corps of Engineers, Regulatory Branch for Seawall replacement. Comments on the City of Seattle permit application described in this public notice should be directed to Jacalen Printz as noted in "CORPS COMMENTS" below. Questions about the General Investigation Study should be directed to Paul Massart, at 206-764-3514 or paul.m.massart@usace.army.mil.

WORK: Repair and replace 7,112 linear feet of seawall from S. Washington Street to Broad Street along the Seattle Waterfront abutting Elliott Bay in two phases – Central Seawall and North Seawall. The replacement seawall would be constructed 10 to 15 feet behind the existing seawall and the existing seawall face would be removed. In addition to the seawall repair and replacement, habitat enhancements in the nearshore would be incorporated into the project including intertidal habitat benches, substrate enhancements, cobble reefs, wall habitat surfaces, and an intertidal beach. Public amenities would also occur, including restoration of the Washington Street Boat Landing and installation of view decks, enhanced viewing areas, riparian planter boxes and street plantings in various locations along the seawall.

Seawall repair/replacement. The proposed seawall replacement would be constructed 10 to 15 feet behind the existing seawall and would result in approximately 2 acres of restored aquatic area. The approximate proposed location of the new seawall face relative to the existing seawall face would be as follows:

S. Washington St. to Madison St. – approximately 15 feet landward
Madison St. to University St. – approximately 10-15 feet landward
University St. to Broad St. – approximately 10 feet landward

The replacement seawall would be structurally supported by means of an anchored soil improvement, which includes a jet-grouted structure to stabilize the soils behind the new seawall and anchors or tie backs that extend down to non-liquefiable soil for seismic stability as necessary.

The following general elements of seawall replacement will occur first for the Central Seawall phase and then for the North Seawall phase.

General elements of seawall replacement and sequencing

A. Temporarily relocate the roadway, sidewalk, multi-use trail, parking, and roadway landscaping. Relocation would occur for the duration of each project phase. Street car tracks would be removed.

B. Remove existing railing, sidewalk, and road pavement. Remove up to 20 existing creosote-treated timber piles from the Central Seawall area and up to 45 existing creosote-treated timber piles and 3 concrete piles from the North Seawall area to facilitate construction access to the site. Multiple utility lines occur within the Alaskan Way right-of-way, including water, sanitary sewer, combined sewer overflow (CSO) outfalls, storm drains, electrical transmission, electrical distribution, steam, gas, and several telecommunication systems. Utilities would be protected in place wherever possible to minimize the need for relocation.

C. Install a temporary containment wall waterward of the existing seawall for use during construction. Up to 6,500 cubic yards of riprap would be removed from the toe of the existing seawall for the installation of the temporary containment wall. The temporary containment wall would be constructed of sheet pile, installed in pairs with a vibratory hammer and, where necessary, proofed with an impact hammer. A total of 1,740 pile pairs will be installed (930 for Central Seawall and 650 for North Seawall, includes 10% contingency). The Central Seawall containment wall would be 3,720 feet long and the North Seawall containment wall would be 2,608 feet long (6,328 linear feet total).

The temporary containment wall would remain in place though each construction season and would be removed using a vibratory method. For the Central Seawall, the containment wall would be installed and removed after each construction season (3 times over 3 years) as work progresses along the shoreline. For the North Seawall, the containment wall would be installed and removed every two construction seasons (2 times over 4 years) as work progresses along the shoreline. The containment wall would be constructed around existing combined sewer overflow (CSO) outfalls, which would be left in place. Gaps within the temporary containment wall would be sealed as feasible to minimize leakage from behind the containment wall. To the extent practicable, dewatering would occur behind the temporary wall at the beginning of each of the seven construction seasons. Fish would be salvaged and removed from behind the wall during dewatering. The process of dewatering is expected to last 2 days for each season.

Within the project area, there are seven major stormwater or CSO outfalls and approximately 50 small individual storm outfalls, owned by Seattle Public Utilities (SPU). The CSO outfalls are located at Madison Street, University Street, Vine Street, and Washington Street. Seattle Steam has an outfall at Pier 57 which would not be impacted by

this project. All outfalls would be preserved to the greatest extent practicable. No temporary or permanent extension of CSO outfalls is proposed. The individual storm drainage outfalls would generally be lowered to place their tops at mean lower low water (MLLW) or lower depending on site conditions.

D. Install temporary shoring east of the proposed soil improvement area to allow excavation above the existing relieving platform. A total of up to 790 16-inch-diameter steel H piles would be installed over 7,200 linear feet. For the Central Seawall, shoring would be approximately 3,800 feet long with 380 steel H piles (plus 10%) and for the North Seawall shoring would be approximately 3,400 feet long with 340 steel H piles (plus 10%).

E. Remove up to 3,900 existing untreated timber piles which support the existing relieving platform to facilitate jet grouting. In the two areas without an existing seawall face – one area from South Washington Street to Madison Street and the other area at Bell Harbor/Pier 66 – install a permanent sheet pile wall in front of the new seawall location (10 to 15 feet behind the existing seawall face) to contain the jet grouting operation and prevent grout from escaping through the existing seawall into Elliott Bay. This would include up to 515 steel sheet pile pairs. The permanent sheet pile wall is not proposed in other areas where the existing seawall concrete panels would provide containment for the grouting operations.

F. Remove a portion of the existing seawall. Install up to 850 face panels with an impact hammer (Central Seawall – 446 panels; North Seawall – 325 panels plus 10%). Face panels would be 8 feet wide by 30 feet long with two steel stringers at the bottom of the panels. Brace existing concrete face panel. Complete excavation of the relieving platform.

G. Complete jet grouting, which consists of adding grout to soils to form a block of improved soil that extends down to competent foundation soil levels. Grout is added to soils using a pressurized jet that is inserted into drilled holes using small-diameter radial nozzles at high pressure and velocity. As the jet rod rotates, it is withdrawn at a controlled rate, depositing grout mixed with soil, creating a cylindrical column. The grouted columns would be constructed on a grid pattern to create a jet-grouted block of improved soil. Up to 84,800 cubic yards of grout would be added to the soil in the Central Seawall area and up to 56,300 cubic yards of grout would be added to the soil in the North Seawall area.

H. Install anchors to tie back the soil block of improved soil. Install distribution slab over soil improvement area and backfill excavated area.

I. Remove temporary containment wall.

J. Restore roadway and install new cantilevered sidewalk and railing, including light penetrating surfaces (LPS) within the replaced cantilevered sidewalk. LPS would be composed of 5 to 10 foot wide prefabricated panels which would be installed in continuous structural framing elements. Composition of the LPS has yet to be determined and will be based on a study planned for July 2012.

Habitat elements – Construct intertidal habitat benches, confined fill substrate bench, substrate enhancements and cobble reefs covering approximately 5.8 acres of aquatic area. This would consist of placing clean fill to achieve appropriate intertidal and shallow water habitat beach elevations, improving underwater substrates with gravel-sized substrates on the habitat bench, increasing light penetration in the nearshore, and improving subtidal habitats.

A. Intertidal Habitat Bench – Purpose (as stated by the applicant): to provide a continuous, shallow water corridor along the project area (adjacent to the new seawall). Proposed elevation along new seawall is -0.2 feet (MLLW). The width from the new seawall face would vary from approximately 10 feet to 45 feet depending on site constraints such as depth, navigation needs, and limited construction access under the piers.

In areas with few constraints, the bench would be composed of unconfined gravel substrate with a diameter of 2 to 3 inches and would include sands and fine materials. The bench would be built up with a loose substrate base layer 3-feet thick using substrate material sizes from 0.5 to 8 inches with a median range of 2 to 4 inches. On top of the base material, modified loose substrate would be placed 2 feet thick at the bench surface. Up to 7,000 cubic yards of large angular rock (2.2 feet in diameter) would be needed to support the habitat bench in various locations across the project site. This material would be placed at a side slope of 1.5H:1V. The total area of the proposed unconfined habitat bench is one acre. Up to 8,400 cubic yards of material would be placed across the project site for the installation of the intertidal bench.

In areas with more constraints (those areas around existing structures), the bench would be constructed of marine mattresses filled with rock woven together with a high density polyethylene plastic geogrid. Rock within the grid would be approximately 2 to 6 inches with average size of 3 to 4 inches. Up to 5,260 cubic yards of material would be placed across the project site for the installation of the marine mattress. A total of 50 precast concrete piles would be installed to provide support beneath the marine mattress in locations of steep and soft substrates. To the extent practicable, mattresses would be installed prior to removal of the containment sheet pile wall to avoid in-water construction impacts. The total area of the proposed marine mattress placement is approximately 0.87 acres

B. Beach and Habitat Bench in Zone 1 – Purpose (as stated by the applicant): to maximize habitat area while providing small area for public access and beach use. The proposal includes a beach gradually sloping from mid- to supratidal elevations with a low gradient habitat bench below the beach, connecting to the bench that follows the seawall to the north. The beach elevation would range from approximately +15 feet to +5 feet (MLLW) with a slope of approximately 8H:1V. The beach would then connect directly to the larger habitat bench area located between approximately +4 feet and -4 feet (MLLW). Above the beach, riparian vegetation would be planted along a 30-foot-wide backshore zone. Up to 27,200 cubic yards of quarry crushed rock, clean sand, beach and cobble reef material (loose substrate, cobble reef and rounded beach substrate) would be placed over approximately 1.81 acres.

C. Substrate Enhancements – Purpose (as stated by the applicant): to improve benthic habitat for juvenile crabs and other invertebrates. Material would consist of a mix of pea gravel and shell totaling up to 160 cubic yards in the Central Seawall area and up to 140 cubic yards in the North Seawall area at approximately -8 feet (MLLW). Each area varies in shape but would generally be approximately 75 feet by 30 feet in size with a thickness of approximately 2 feet. Substrate enhancements would cover approximately 0.18 acres.

D. Cobble Reefs – Purpose (as stated by the applicant): encourage colonization by kelp vegetation. In seven locations, rock ranging in size from 6 inches to 10 inches in diameter would be placed offshore between -18 feet and -23 feet (MLLW) with up to 1,160 cubic yards of material placed throughout the project area. These cobble reef areas would be approximately 30 feet wide by 150 feet long and 2 feet thick. Cobble reefs would cover approximately 0.67 acres.

E. Increase seawall texture – Purpose (as stated by the applicant): improve algal and invertebrate attachment. Shelves would be placed in two rows with the bottom row at +3.8 feet (MLLW) and top row at +6.8 feet (MLLW) with varying widths from 1 foot to 3 feet. Three types of wall habitat would be installed.

F. Vegetation - Add vegetation contained by precast concrete boxes on sidewalks and backshore riparian areas.

Public amenities

A. Remove and restore the Washington Street Boat Landing, including removal of seven existing timber piles and installation of fifteen 16.5-inch-diameter precast concrete octagonal piles. Install 1,440 square feet of

overwater coverage on top of the new piles for the placement of the restored Washington Street Boat Landing.

B. Install up to 3,000 square feet of overwater view decks and enhanced view areas. Install up to 145 piles to support the viewing areas and sidewalks. LPS would be installed in the viewing areas to the greatest extent practicable. Proposed viewing areas are at Spring St. and University St. with other small enhanced viewing areas along the length of the seawall.

The entire seawall project would remove 2,220 square feet of existing overwater coverage and install up to 8,050 square feet of new overwater coverage. This increase in overwater coverage is due to the replacement of the Washington Street Boat Landing and the structure needed to support it (1,440 square feet) as well as view decks and viewing areas (2,670 square feet), and planter boxes proposed on the waterward side of proposed cantilevered sidewalks (3,940 square feet.

PROJECT CONSTRUCTION: Work would be conducted in phases progressing from north to south within each phase. Construction is expected to begin with the Central Seawall in Zone 4 and move southward through Zones 3, 2, and 1. Then the North Seawall phase would be constructed north to south from Zone 6 to 5. The entire seawall is proposed to be conducted over a period of 7 years (3 years for the Central area and 4 years for the North area). Work would not occur during the summer tourist months (July-August) and in-water work would occur within the established fish work window (September-February).

Construction of habitat enhancement elements located off shore of existing seawall face could occur prior to or following seawall repair and replacement activities. Construction of habitat elements in existing seawall setback areas would be coordinated during construction. Construction of temporary road and necessary utility protections and relocations would be coordinated with seawall construction.

PURPOSE: The project purpose, as stated by the applicant, is to reduce the risks of coastal storm and seismic damages and to protect public safety, critical infrastructure, and associated economic activities along Seattle's central waterfront. Additionally, the project will improve the degraded ecosystem functions and processes of the Elliott Bay nearshore in the vicinity of the existing seawall.

ADDITIONAL INFORMATION: Copies of this public notice which have been mailed or otherwise physically distributed feature project drawings in black and white. The electronic version features those drawings in color, which we think more accurately communicates the scope of project impacts. To access the electronic version of this public notice, go to the Seattle District's web page at http://www.nws.usace.army.mil/ and scroll down the alphabetical listing of District elements, and click on "Regulatory" and then "Regulatory – Permits" for the Seattle District's Regulatory homepage. Select the prominently displayed "Public Notices" heading and a list of recently-issued public notices will appear, in chronological order of the date of issuance. Select and view the listing for this project.

At this time, the Corps jurisdiction extends over the entire project area.

MITIGATION: None proposed.

ENDANGERED SPECIES: The Endangered Species Act (ESA) requires federal agencies to consult with the National Marine Fisheries Service (NMFS) and/or U.S. Fish and Wildlife Service (USFWS) pursuant to Section 7 of the ESA on all actions that may affect a species listed (or proposed for listing) under the ESA as threatened or endangered or any designated critical habitat. After receipt of comments from this public notice, the U.S. Army Corps of Engineers will evaluate the potential impacts to proposed and/or listed species and their designated critical habitat.

ESSENTIAL FISH HABITAT: The Magnuson-Stevens Fishery Conservation and Management Act, as amended by the Sustainable Fisheries Act of 1996, requires all Federal agencies to consult with the NMFS on all actions, or proposed actions, permitted, funded, or undertaken by the agency, that may adversely affect Essential Fish Habitat (EFH). The proposed action would impact EFH in the project area. If the U.S. Army Corps of Engineers (Corps) determines that the proposed action may adversely affect EFH for federally managed fisheries in Washington waters, the Corps will initiate EFH consultation with the NMFS. The Corps' final determination relative to project impacts and the need for mitigation measures is subject to review by and coordination with the NMFS.

CULTURAL RESOURCES: The District Engineer has reviewed the latest published version of the National Register of Historic Places, lists of properties determined eligible and other sources of information. The District Engineer invites responses to this public notice from Native American Nations or tribal governments; Federal, State, and local agencies; historical and archeological societies; and other parties likely to have knowledge of or concerns with historic properties in the area.

PUBLIC HEARING: Any person may request, in writing, within the comment period specified in this notice, that a public hearing be held to consider this application. Requests for public hearings shall state, with particularity, the reasons for holding a public hearing.

EVALUATION – CORPS: The decision whether to issue a permit will be based on an evaluation of the probable impacts, including cumulative impacts, of the proposed activity on the public interest. That decision will reflect the national concern for both protection and utilization of important resources. The benefits, which reasonably may be expected to accrue from the proposal, must be balanced against its reasonably foreseeable detriments. All factors which may be relevant to the proposal will be considered, including the cumulative effects thereof; among those are conservation, economics, aesthetics, general environmental concerns, wetlands, historic properties, fish and wildlife values, flood hazards, floodplain values, land use, navigation, shoreline erosion and accretion, recreation, water supply and conservation, water quality, energy needs, safety, food and fiber production, mineral needs, considerations of property ownership, and, in general, the needs and welfare of the people.

The Corps is soliciting comments from the public; Native American Nations or tribal governments; Federal, State, and local agencies and officials; and other interested parties in order to consider and evaluate the impacts of this activity. Any comments received will be considered by the Corps to determine whether to issue, modify, condition or deny a permit for the work. To make this decision, comments are used to assess impacts on endangered species, historic properties, water quality, general environmental effects, and the other public interest factors listed above. Comments are used in the preparation of an Environmental Assessment and/or an Environmental Impact Statement pursuant to the National Environmental Policy Act. Comments are also used to determine the need for a public hearing and to determine the overall public interest of the activity.

EVALUATION – ECOLOGY: Ecology is soliciting comments from the public; Federal, Native American Nations or tribal governments, State, and local agencies and officials; and other interested parties in order to consider and evaluate the impacts of this activity. Ecology will be considering all comments to determine whether to certify or deny certification for the proposed project.

ADDITIONAL EVALUATION: This proposal is the subject of Shorelines Substantial Development Permit No. 3013171, being processed by the City of Seattle.

COMMENT AND REVIEW PERIOD: Conventional mail or e-mail comments on this public notice will be accepted and made part of the record and will be considered in determining whether it would be in the public interest to authorize this proposal. In order to be accepted, e-mail comments must originate from the author's e-mail account and must include on the subject line of the e-mail message the permit applicant's name and reference number as shown below. Either conventional mail or e-mail comments must include the permit applicant's name

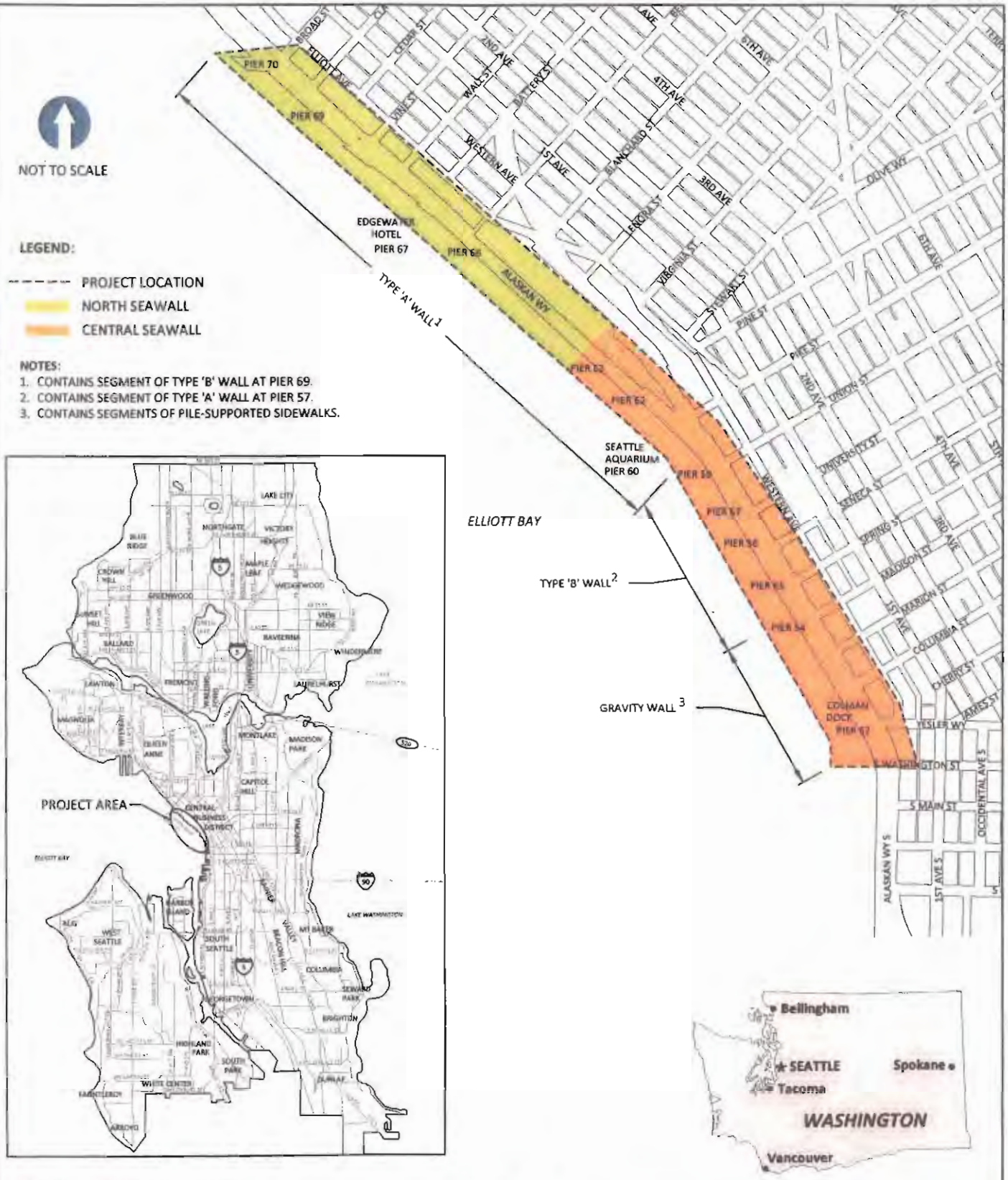
and reference number, as shown below, and the commentator's name, address, and phone number. All comments whether conventional mail or e-mail must reach this office, no later than the expiration date of this public notice to ensure consideration.

CORPS COMMENTS: All e-mail comments should be sent to jacalen.m.printz@usace.army.mil. Conventional mail comments should be sent to: U.S. Army Corps of Engineers, Regulatory Branch, Attention: Ms. Jacalen Printz, Post Office Box 3755, Seattle, Washington 98124-3755.

ECOLOGY COMMENTS: Any person desiring to present views on the project pertaining to a request for water quality certification under Section 401 of the CWA and/or Coastal Zone Management consistency concurrence, may do so by submitting written comments to the following address: Washington State Department of Ecology, Attention: SEA program – Federal Permit Coordinator, Post Office Box 47600, Olympia, Washington 98504-7600, or e-mail to ecyrefedpermits@ecy.wa.gov.

To ensure proper consideration of all comments, responders must include the following name and reference number in the text of their comments: Seattle Dept. of Transportation; NWS-2011-778-WRD

Encl: Figures (24)



SOURCE: DRAWING PREPARED BY CAD FILES PROVIDED BY TETRA TECH, INC. DATED 1/2012.

VICINITY MAP

PURPOSE: REPLACING CRITICAL INFRASTRUCTURE; IMPROVING PUBLIC SAFETY; RESTORING NEARSHORE ECOSYSTEM FUNCTIONS AND PROCESSES

DATUM: MLLW = 0.0'
LATITUDE: 47°36'29.90"
LONGITUDE: -122°20'36.10"

NAME: ELLIOTT BAY SEAWALL PROJECT

SITE LOCATION ADDRESS:
BETWEEN S. WASHINGTON STREET AND BROAD STREET ALONG ELLIOTT BAY
SEATTLE, WASHINGTON

ADJACENT PROPERTY OWNERS:
PLEASE SEE JARPA ATTACHMENT 1

PROPOSED: SEAWALL REPAIR AND REPLACEMENT AND HABITAT ENHANCEMENTS

IN: ELLIOTT BAY
NEAR/AT: SEATTLE
COUNTY OF: KING
STATE: WASHINGTON

DATE: MAY 2012

Elliott Bay Seawall Project

City of Seattle
Department of Transportation
700 5th Avenue, Suite 3900
Seattle, WA 98124

NWS-2011-778-WRD

SHEET: 1 OF 24

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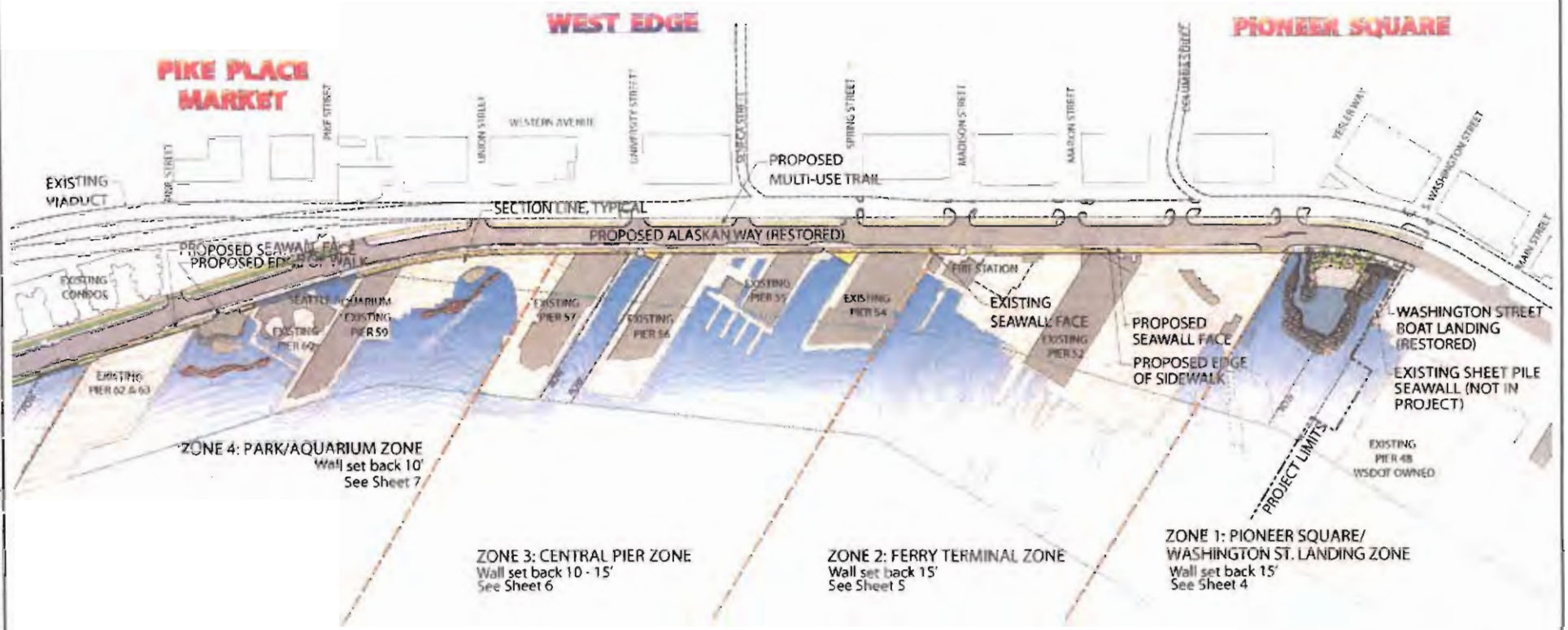

SOURCE: DRAWING PREPARED BY ADOBE ILLUSTRATOR FILES PROVIDED BY J.A. BRENNAN ASSOCIATES DATED 1/2012.

CENTRAL SEAWALL PLAN

PURPOSE: REPLACING CRITICAL INFRASTRUCTURE; IMPROVING PUBLIC SAFETY; RESTORING NEARSHORE ECOSYSTEM FUNCTIONS AND PROCESSES

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DATE: MAY 2012

Elliott Bay Seawall

City of Seattle
Department of Transportation
700 5th Avenue, Suite 3900
Seattle, WA 98124

NWS-2011-778-WRD

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SOURCE: DRAWING PREPARED BY ADOBE ILLUSTRATOR FILES PROVIDED BY J.A. BRENNAN ASSOCIATES DATED 1/2012.

NORTH SEAWALL PLAN

PURPOSE: REPLACING CRITICAL INFRASTRUCTURE; IMPROVING PUBLIC SAFETY; RESTORING NEARSHORE ECOSYSTEM FUNCTIONS AND PROCESSES

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ADJACENT PROPERTY OWNERS:
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IN: ELLIOTT BAY
NEAR/AT: SEATTLE
COUNTY OF: KING
STATE: WASHINGTON

DATE: MAY 2012

Elliott Bay Seawall

City of Seattle
Department of Transportation
700 5th Avenue, Suite 3900
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NWS-2011-778-WRD

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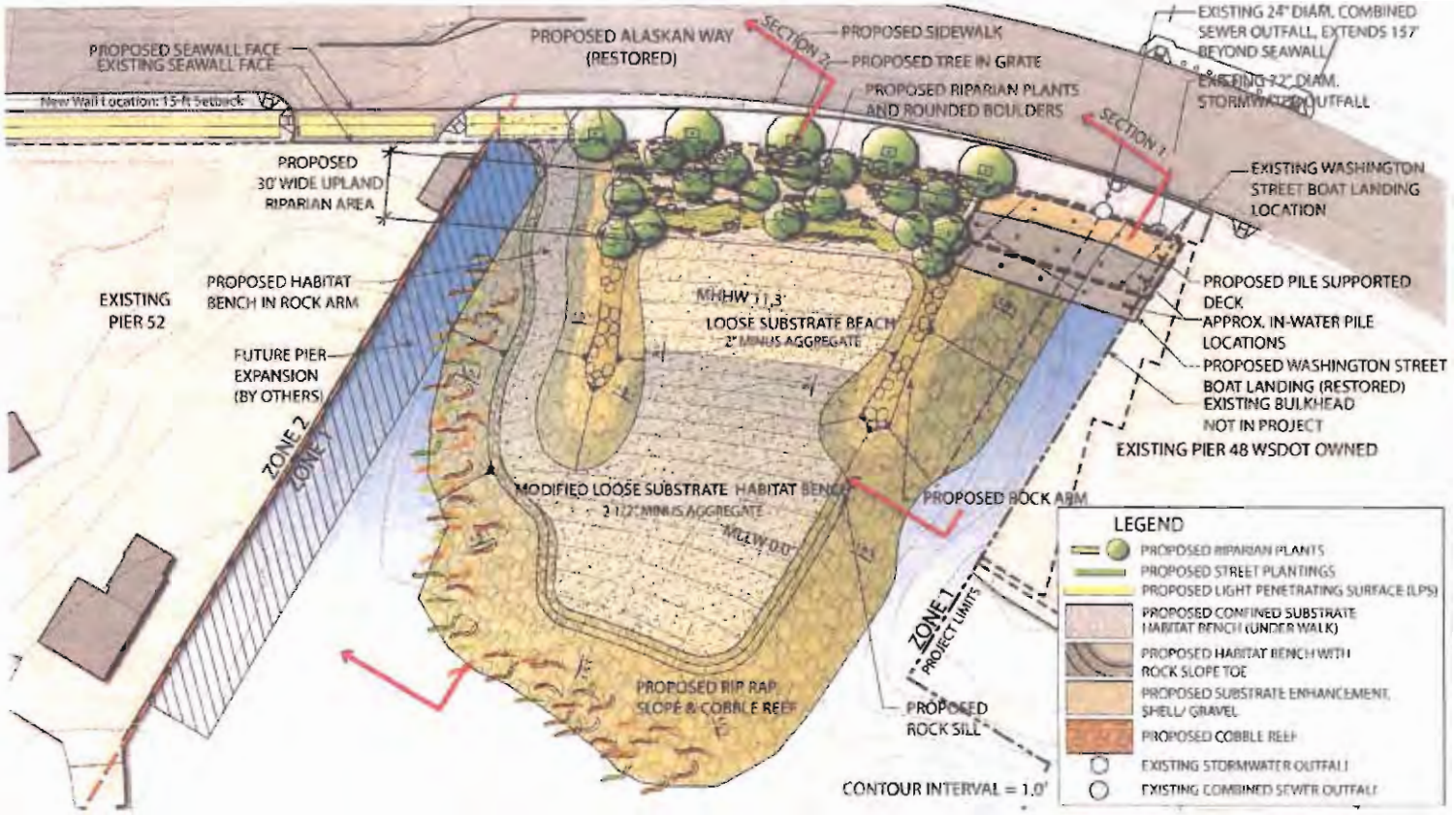

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Scale in Feet

SOURCE: DRAWING PREPARED BY ADOBE ILLUSTRATOR FILES PROVIDED BY J.A. BRENNAN ASSOCIATES DATED 1/2012.

ZONE 1 PLAN (*PIONEER SQUARE/WASHINGTON STREET ZONE*)

PURPOSE: REPLACING CRITICAL INFRASTRUCTURE; IMPROVING PUBLIC SAFETY; RESTORING NEARSHORE ECOSYSTEM FUNCTIONS AND PROCESSES

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STATE: WASHINGTON

DATE: MAY 2012

Elliott Bay Seawall Project

City of Seattle
Department of Transportation
700 5th Avenue, Suite 3900
Seattle, WA 98124

NWS-2011-778-WRD

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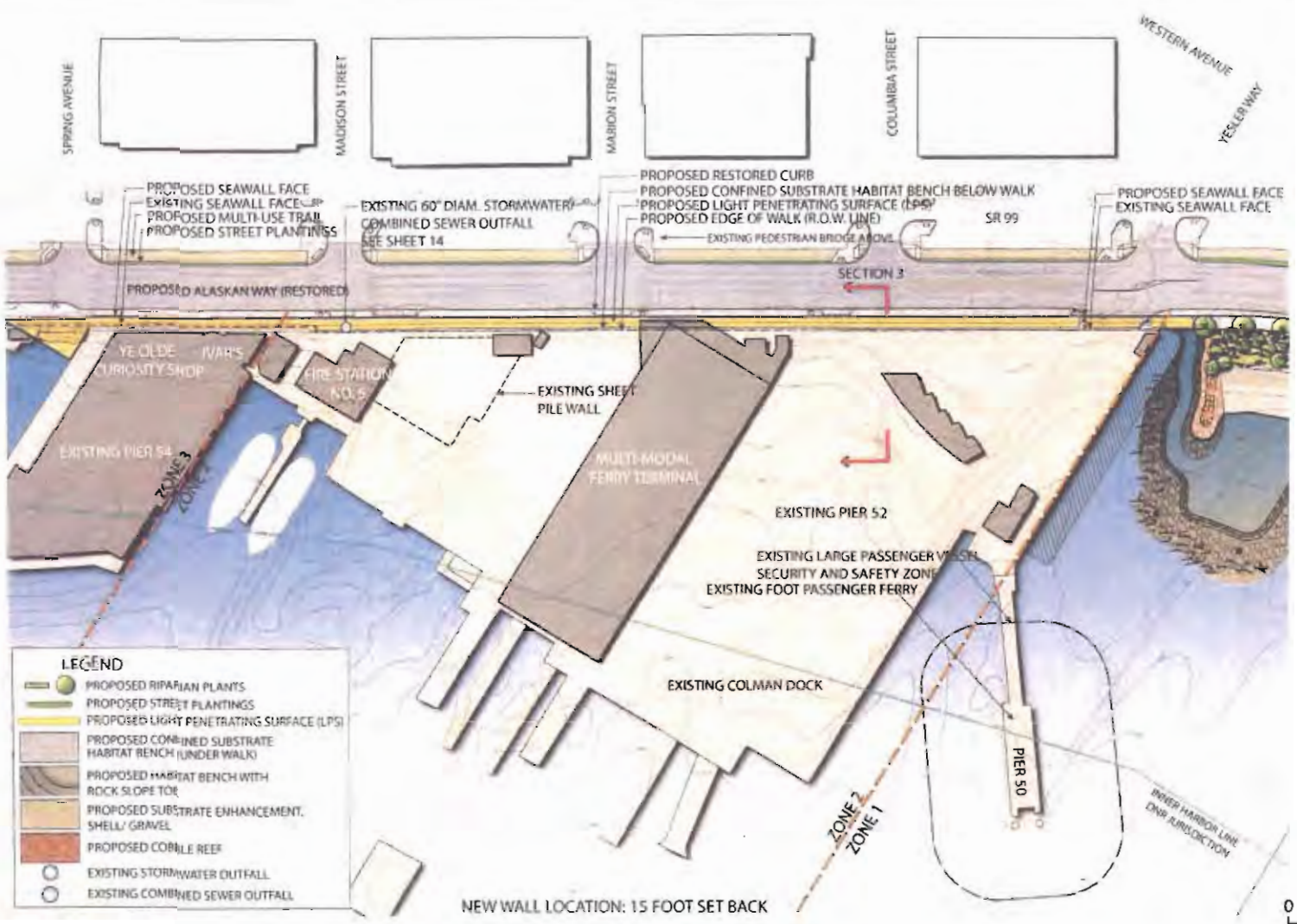

SOURCE: DRAWING PREPARED BY ADOBE ILLUSTRATOR FILES PROVIDED BY J.A. BRENNAN ASSOCIATES DATED 1/2012.

ZONE 2 PLAN (*FERRY TERMINAL ZONE*)

PURPOSE: REPLACING CRITICAL INFRASTRUCTURE; IMPROVING PUBLIC SAFETY; RESTORING NEARSHORE ECOSYSTEM FUNCTIONS AND PROCESSES

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NEAR/AT: SEATTLE
COUNTY OF: KING
STATE: WASHINGTON

DATE: MAY 2012

Elliott Bay Seawall

City of Seattle
Department of Transportation
700 5th Avenue, Suite 3900
Seattle, WA. 98124

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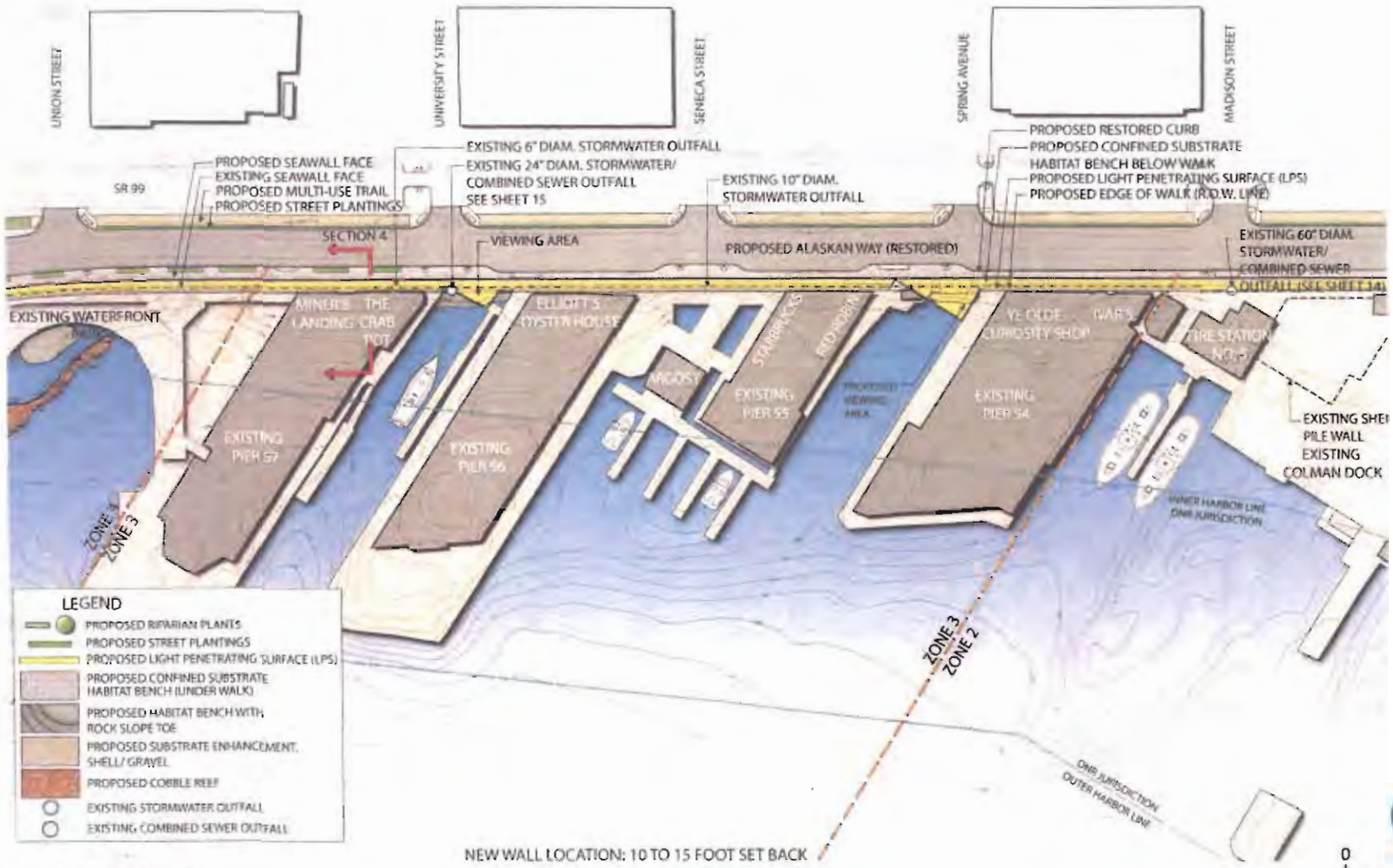

SOURCE: DRAWING PREPARED BY ADOBE ILLUSTRATOR FILES PROVIDED BY J.A. BRENNAN ASSOCIATES DATED 1/2012.

ZONE 3 PLAN (*CENTRAL PIER ZONE*)

PURPOSE: REPLACING CRITICAL INFRASTRUCTURE; IMPROVING PUBLIC SAFETY; RESTORING NEARSHORE ECOSYSTEM FUNCTIONS AND PROCESSES

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PLEASE SEE JARPA ATTACHMENT 1

PROPOSED: SEAWALL REPAIR AND REPLACEMENT AND HABITAT ENHANCEMENTS

IN: ELLIOTT BAY
NEAR/AT: SEATTLE
COUNTY OF: KING
STATE: WASHINGTON

DATE: MAY 2012

Elliott Bay Seawall Project
City of Seattle
Department of Transportation
700 5th Avenue, Suite 3900
Seattle, WA 98124

NWS-2011-778-WRD

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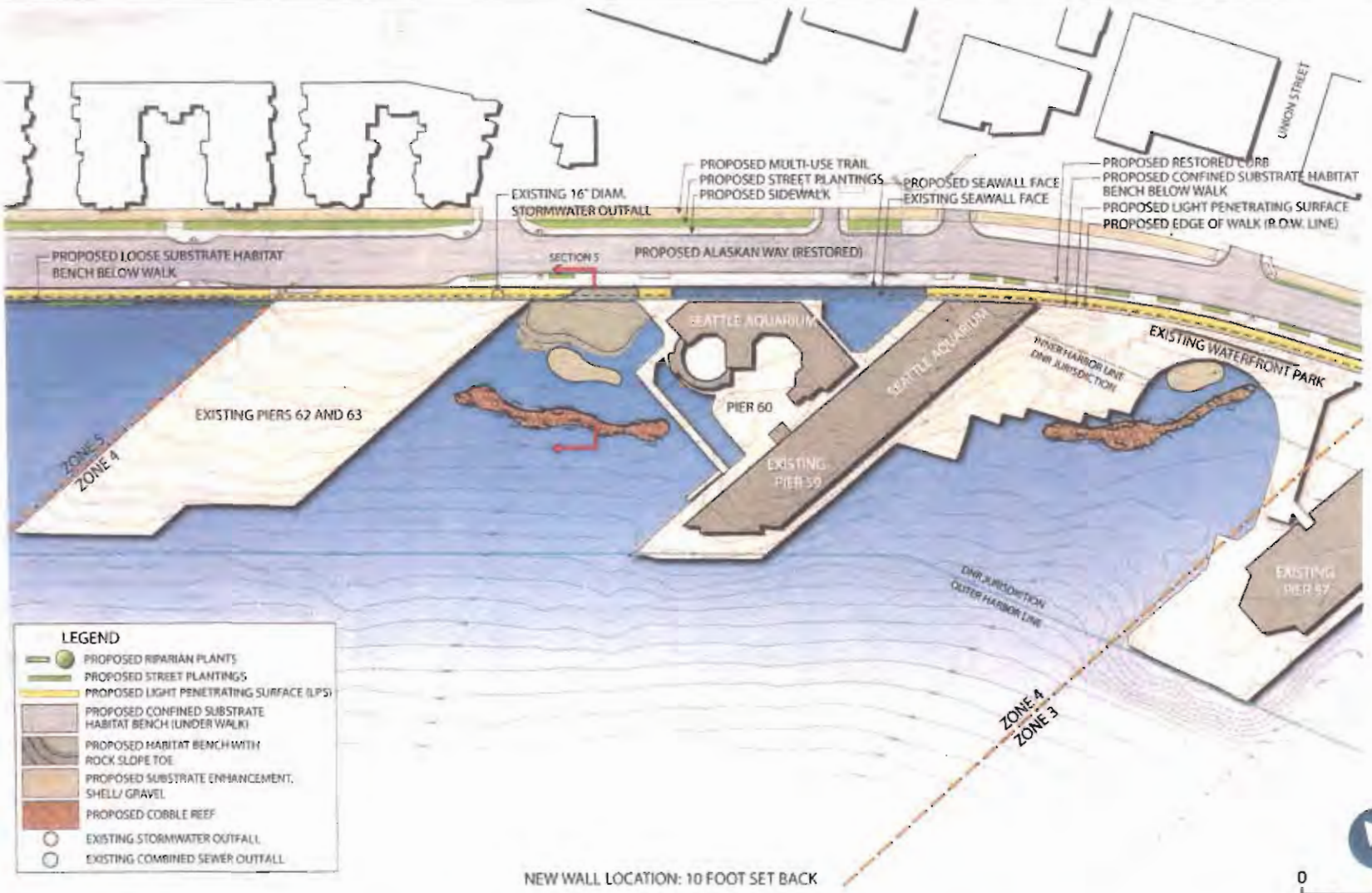
May 18, 2012 10:36am aspooner



SOURCE: DRAWING PREPARED BY ADOBE ILLUSTRATOR FILES PROVIDED BY J.A. BRENNAN ASSOCIATES DATED 1/2012.

ZONE 4 PLAN (*PARK/AQUARIUM ZONE*)

PURPOSE: REPLACING CRITICAL INFRASTRUCTURE; IMPROVING PUBLIC SAFETY; RESTORING NEARSHORE ECOSYSTEM FUNCTIONS AND PROCESSES

DATUM: MLLW = 0.0'
LATITUDE: 47°36'29.90"
LONGITUDE: -122°20'36.10"

NAME: ELLIOTT BAY SEAWALL PROJECT

SITE LOCATION ADDRESS:
BETWEEN S. WASHINGTON STREET AND BROAD STREET ALONG ELLIOTT BAY
SEATTLE, WASHINGTON

ADJACENT PROPERTY OWNERS:
PLEASE SEE JARPA ATTACHMENT 1

PROPOSED: SEAWALL REPAIR AND REPLACEMENT AND HABITAT ENHANCEMENTS

IN: ELLIOTT BAY
NEAR/AT: SEATTLE
COUNTY OF: KING
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Elliott Bay Seawall Project

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700 5th Avenue, Suite 3900
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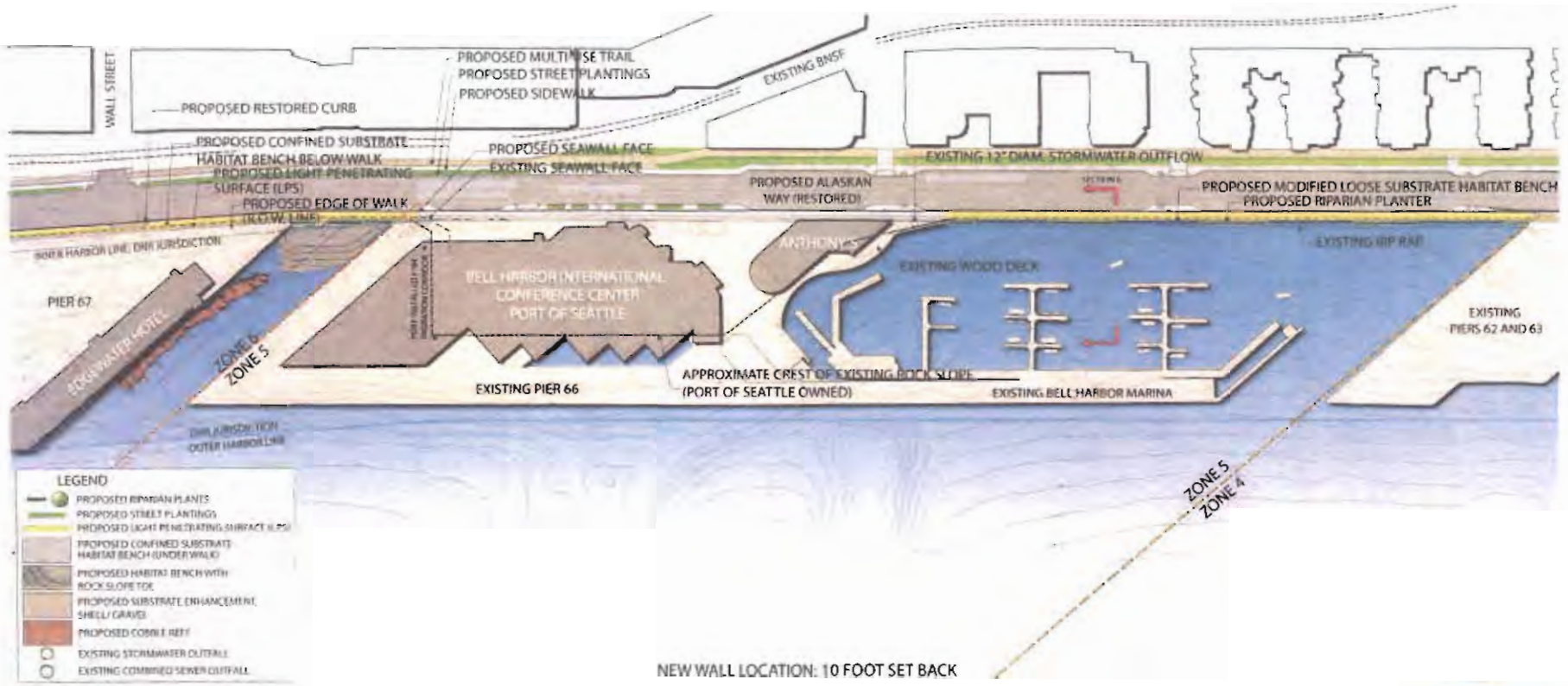

0 240
Scale in Feet

SOURCE: DRAWING PREPARED BY ADOBE ILLUSTRATOR FILES PROVIDED BY J.A. BRENNAN ASSOCIATES DATED 1/2012.

ZONE 5 PLAN (*BELL HARBOR ZONE*)

PURPOSE: REPLACING CRITICAL INFRASTRUCTURE; IMPROVING PUBLIC SAFETY; RESTORING NEARSHORE ECOSYSTEM FUNCTIONS AND PROCESSES	NAME: ELLIOTT BAY SEAWALL PROJECT	PROPOSED: SEAWALL REPAIR AND REPLACEMENT AND HABITAT ENHANCEMENTS
	SITE LOCATION ADDRESS: BETWEEN S. WASHINGTON STREET AND BROAD STREET ALONG ELLIOTT BAY SEATTLE, WASHINGTON	IN: ELLIOTT BAY NEAR/AT: SEATTLE COUNTY OF: KING STATE: WASHINGTON
DATUM: MLLW = 0.0' LATITUDE: 47°36'29.90" LONGITUDE: -122°20'36.10"	ADJACENT PROPERTY OWNERS: PLEASE SEE JARPA ATTACHMENT 1	DATE: MAY 2012

Elliott Bay Seawall

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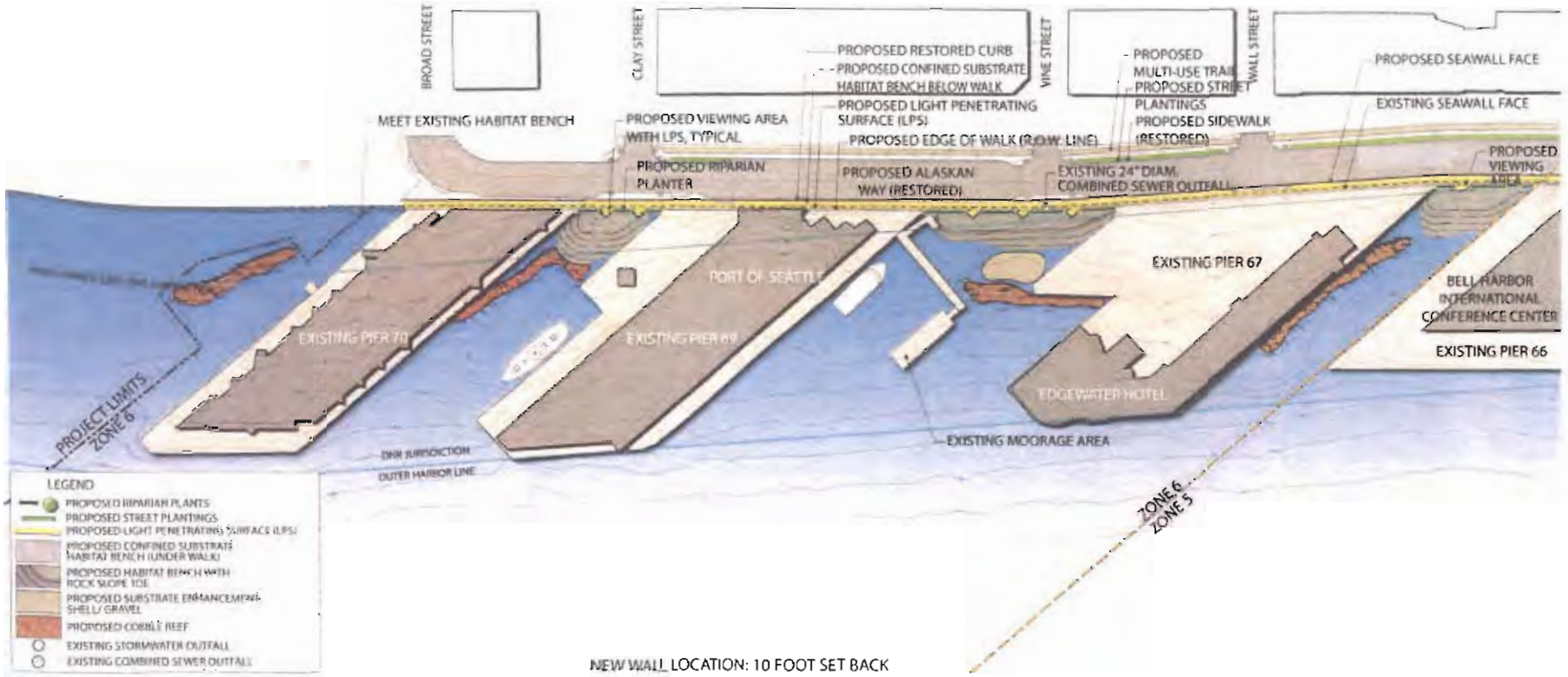

NEW WALL LOCATION: 10 FOOT SET BACK

0 240
Scale in Feet

SOURCE: DRAWING PREPARED BY ADOBE ILLUSTRATOR FILES PROVIDED BY J.A. BRENNAN ASSOCIATES DATED 1/2012.

ZONE 6 PLAN (*NORTH PIER ZONE*)

PURPOSE: REPLACING CRITICAL INFRASTRUCTURE; IMPROVING PUBLIC SAFETY; RESTORING NEARSHORE ECOSYSTEM FUNCTIONS AND PROCESSES

DATUM: MLLW = 0.0'
LATITUDE: 47°36'29.90"
LONGITUDE: -122°20'36.10"

NAME: ELLIOTT BAY SEAWALL PROJECT

SITE LOCATION ADDRESS:
BETWEEN S. WASHINGTON STREET AND BROAD STREET ALONG ELLIOTT BAY
SEATTLE, WASHINGTON

ADJACENT PROPERTY OWNERS:
PLEASE SEE JARPA ATTACHMENT 1

PROPOSED: SEAWALL REPAIR AND REPLACEMENT AND HABITAT ENHANCEMENTS

IN: ELLIOTT BAY
NEAR/AT: SEATTLE
COUNTY OF: KING
STATE: WASHINGTON

DATE: MAY 2012

Elliott Bay Seawall

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Department of Transportation
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Seattle, WA 98124

NWS-2011-778-WRD

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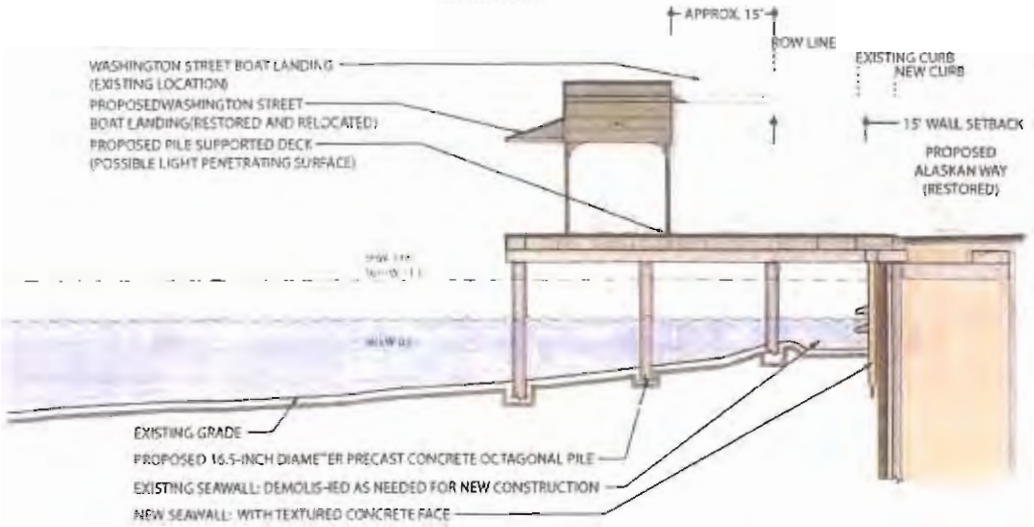
SECTION 1



GENERAL NOTES

1. ALL ELEVATIONS BASED ON MLLW = 0.0'
2. EXISTING AND PROPOSED SEAWALL STRUCTURES ARE APPROXIMATE AND SHOWN FOR REFERENCE.
3. EXISTING PIERS AND PILINGS ARE SHOWN IN APPROXIMATE LOCATIONS FOR REFERENCE ONLY. VERIFY ACTUAL LOCATION ON SITE.

0 30
Scale in Feet

SOURCE: DRAWING PREPARED BY ADOBE ILLUSTRATOR FILES PROVIDED BY J.A. BRENNAN ASSOCIATES DATED 1/2012.

ZONE 1 SECTION (*PIONEER SQUARE*)

PURPOSE: REPLACING CRITICAL INFRASTRUCTURE; IMPROVING PUBLIC SAFETY; RESTORING NEARSHORE ECOSYSTEM FUNCTIONS AND PROCESSES

DATUM: MLLW = 0.0'
LATITUDE: 47°36'29.90"
LONGITUDE: -122°20'36.10"

NAME: ELLIOTT BAY SEAWALL PROJECT

SITE LOCATION ADDRESS:
BETWEEN S. WASHINGTON STREET AND BROAD STREET ALONG ELLIOTT BAY
SEATTLE, WASHINGTON

ADJACENT PROPERTY OWNERS:
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PROPOSED: SEAWALL REPAIR AND REPLACEMENT AND HABITAT ENHANCEMENTS

IN: ELLIOTT BAY
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Elliott Bay Seawall

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GENERAL NOTES:

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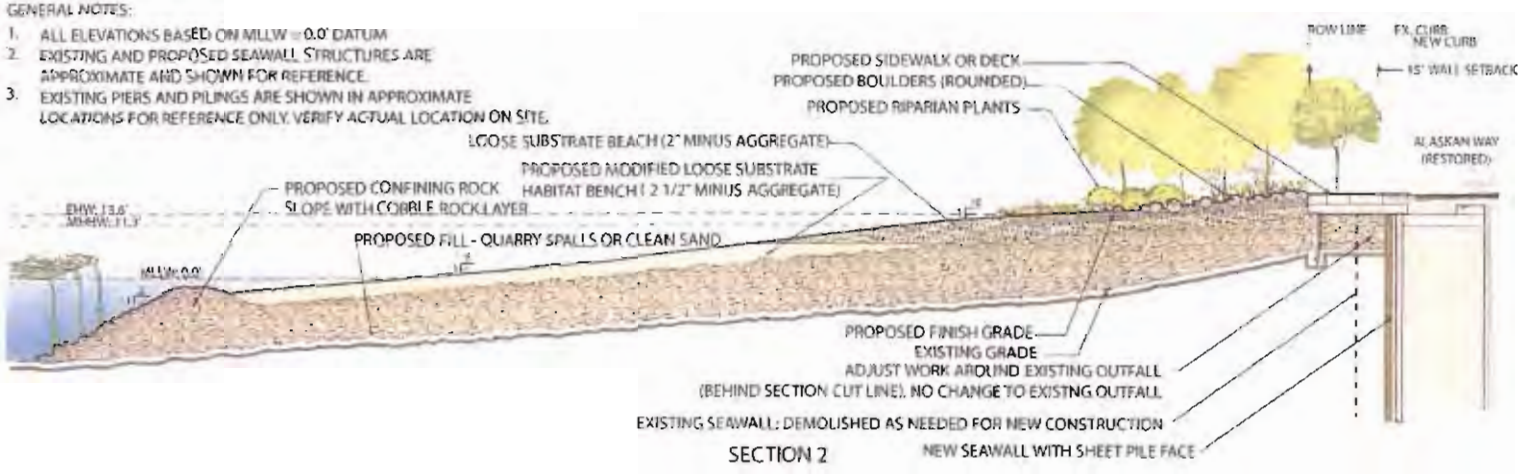

SECTION 2

0 40
Scale in Feet

SOURCE: DRAWING PREPARED BY ADOBE ILLUSTRATOR FILES PROVIDED BY J.A. BRENNAN ASSOCIATES DATED 1/2012.

ZONE 1 SECTION (*PIONEER SQUARE*)

PURPOSE: REPLACING CRITICAL INFRASTRUCTURE; IMPROVING PUBLIC SAFETY; RESTORING NEARSHORE ECOSYSTEM FUNCTIONS AND PROCESSES

DATUM: MLLW = 0.0'
LATITUDE: 47°36'29.90"
LONGITUDE: -122°20'36.10"

NAME: ELLIOTT BAY SEAWALL PROJECT

SITE LOCATION ADDRESS:
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SEATTLE, WASHINGTON

ADJACENT PROPERTY OWNERS:
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PROPOSED: SEAWALL REPAIR AND REPLACEMENT AND HABITAT ENHANCEMENTS

IN: ELLIOTT BAY
NEAR/AT: SEATTLE
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STATE: WASHINGTON

DATE: MAY 2012

Elliott Bay Seawall
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SHEET: 11 OF 24

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May 18, 2012 10:55am aspooner

GENERAL NOTES:

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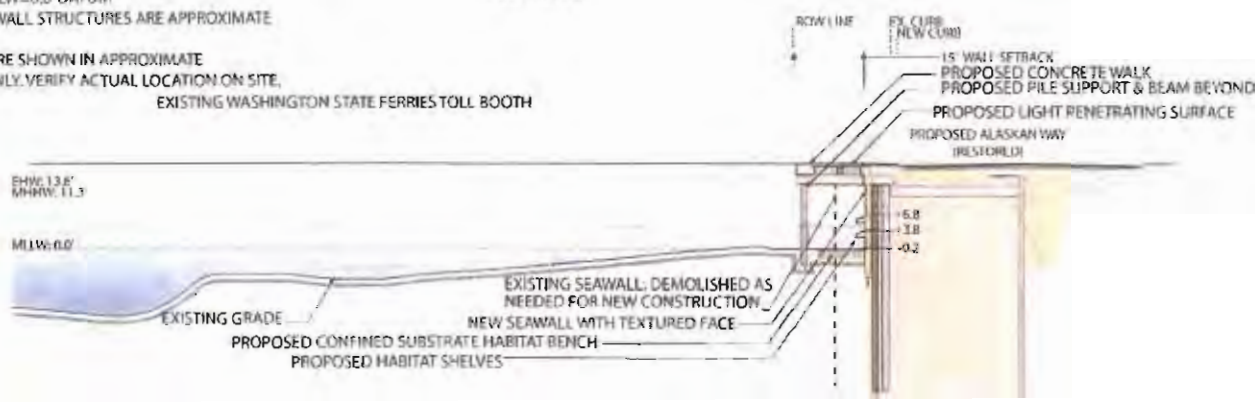
3. EXISTING PIERS AND PILINGS ARE SHOWN IN APPROXIMATE LOCATIONS FOR REFERENCE ONLY. VERIFY ACTUAL LOCATION ON SITE.

SECTION 3



0 40
Scale in Feet

SOURCE: DRAWING PREPARED BY ADOBE ILLUSTRATOR FILES PROVIDED BY J.A. BRENNAN ASSOCIATES DATED 1/2012.

ZONE 2 SECTION (*FERRY TERMINAL ZONE*)

PURPOSE: REPLACING CRITICAL INFRASTRUCTURE; IMPROVING PUBLIC SAFETY; RESTORING NEARSHORE ECOSYSTEM FUNCTIONS AND PROCESSES	NAME: ELLIOTT BAY SEAWALL PROJECT	PROPOSED: SEAWALL REPAIR AND REPLACEMENT AND HABITAT ENHANCEMENTS
	SITE LOCATION ADDRESS: BETWEEN S. WASHINGTON STREET AND BROAD STREET ALONG ELLIOTT BAY SEATTLE, WASHINGTON	IN: ELLIOTT BAY NEAR/AT: SEATTLE COUNTY OF: KING STATE: WASHINGTON
DATUM: MLLW = 0.0' LATITUDE: 47°36'29.90" LONGITUDE: -122°20'36.10"	ADJACENT PROPERTY OWNERS: PLEASE SEE JARPA ATTACHMENT 1	DATE: MAY 2012

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City of Seattle
Department of Transportation
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May 18, 2012 10:55am aspooner

GENERAL NOTES:

1. ALL ELEVATIONS BASED ON MLLW = 0.0' DATUM
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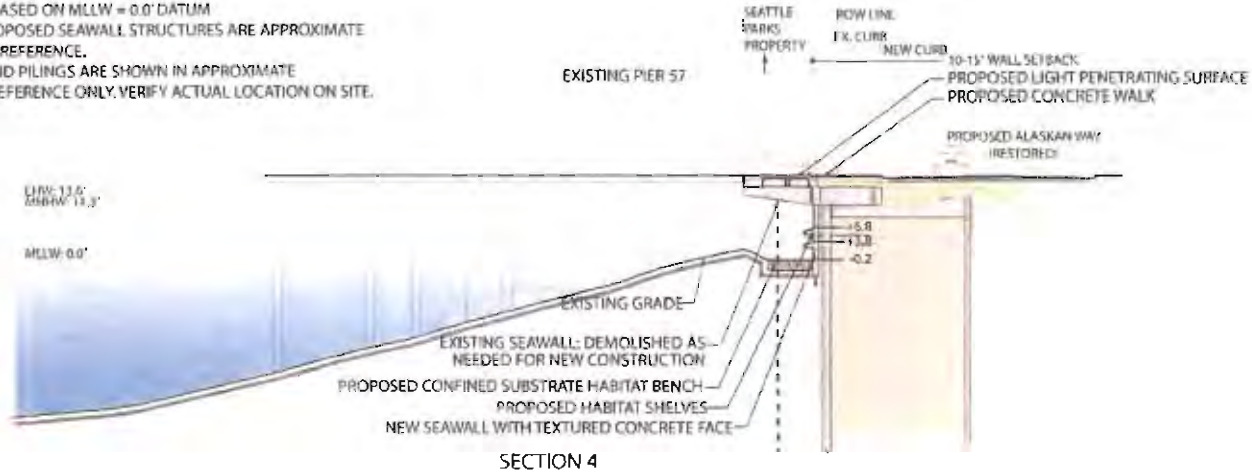

SECTION 4

0 40

Scale in Feet

SOURCE: DRAWING PREPARED BY ADOBE ILLUSTRATOR FILES PROVIDED BY J.A. BRENNAN ASSOCIATES DATED 1/2012.

ZONE 3 SECTION (*CENTRAL PIER ZONE*)

PURPOSE: REPLACING CRITICAL INFRASTRUCTURE; IMPROVING PUBLIC SAFETY; RESTORING NEARSHORE ECOSYSTEM FUNCTIONS AND PROCESSES	NAME: ELLIOTT BAY SEAWALL PROJECT	PROPOSED: SEAWALL REPAIR AND REPLACEMENT AND HABITAT ENHANCEMENTS
	SITE LOCATION ADDRESS: BETWEEN S. WASHINGTON STREET AND BROAD STREET ALONG ELLIOTT BAY SEATTLE, WASHINGTON	IN: ELLIOTT BAY NEAR/AT: SEATTLE COUNTY OF: KING STATE: WASHINGTON
DATUM: MLLW = 0.0' LATITUDE: 47°36'29.90" LONGITUDE: -122°20'36.10"	ADJACENT PROPERTY OWNERS: PLEASE SEE JARPA ATTACHMENT 1	DATE: MAY 2012

Elliott Bay Seawall

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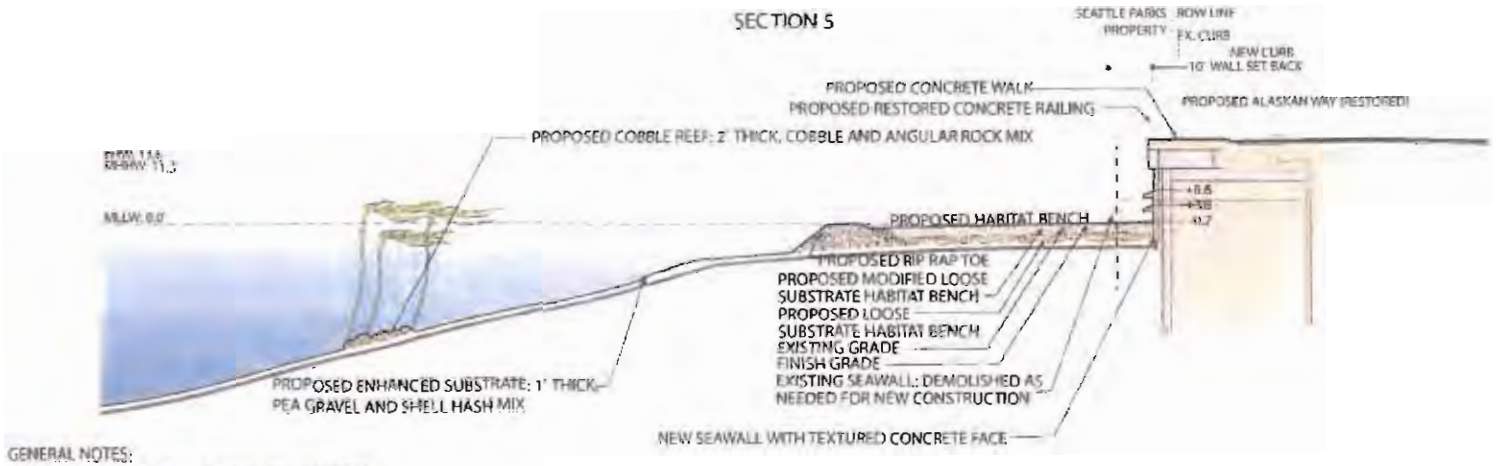
SECTION 5



GENERAL NOTES:

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0 40
Scale in Feet

SOURCE: DRAWING PREPARED BY ADOBE ILLUSTRATOR FILES PROVIDED BY J.A. BRENNAN ASSOCIATES DATED 1/2012.

ZONE 4 SECTION (*PARK/AQUARIUM ZONE*)

PURPOSE: REPLACING CRITICAL INFRASTRUCTURE; IMPROVING PUBLIC SAFETY; RESTORING NEARSHORE ECOSYSTEM FUNCTIONS AND PROCESSES

DATUM: MLLW = 0.0'
LATITUDE: 47°36'29.90"
LONGITUDE: -122°20'36.10"

NAME: ELLIOTT BAY SEAWALL PROJECT

SITE LOCATION ADDRESS:
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SEATTLE, WASHINGTON

ADJACENT PROPERTY OWNERS:
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PROPOSED: SEAWALL REPAIR AND REPLACEMENT AND HABITAT ENHANCEMENTS

IN: ELLIOTT BAY
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COUNTY OF: KING
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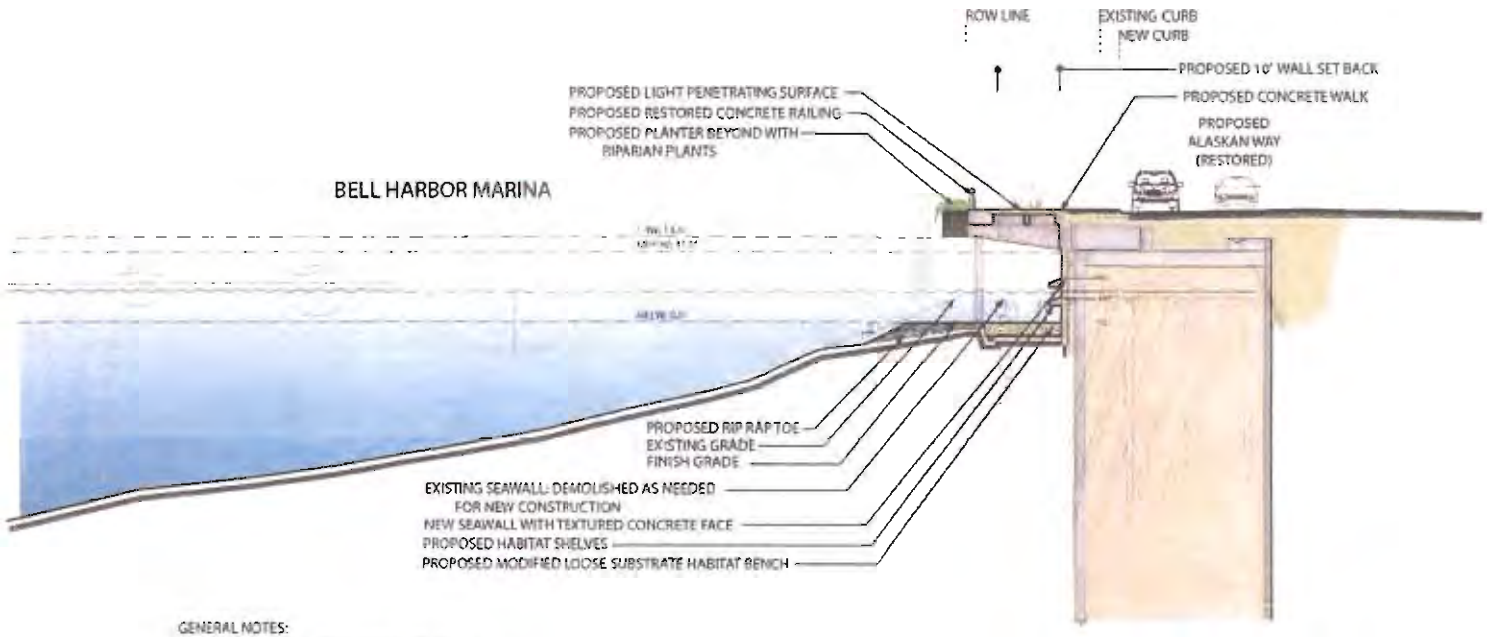
May 22, 2012 10:12am aspooner

SECTION 6



GENERAL NOTES:

1. ALL ELEVATIONS BASED ON MLLW = 0.0'
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0 30
Scale in Feet

SOURCE: DRAWING PREPARED BY ADOBE ILLUSTRATOR FILES PROVIDED BY J.A. BRENNAN ASSOCIATES DATED 1/2012.

ZONE 5 SECTION (*BELL HARBOR ZONE*)

PURPOSE: REPLACING CRITICAL INFRASTRUCTURE; IMPROVING PUBLIC SAFETY; RESTORING NEARSHORE ECOSYSTEM FUNCTIONS AND PROCESSES

DATUM: MLLW = 0.0'
LATITUDE: 47°36'29.90"
LONGITUDE: -122°20'36.10"

NAME: ELLIOTT BAY SEAWALL PROJECT

SITE LOCATION ADDRESS:
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SEATTLE, WASHINGTON

ADJACENT PROPERTY OWNERS:
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IN: ELLIOTT BAY
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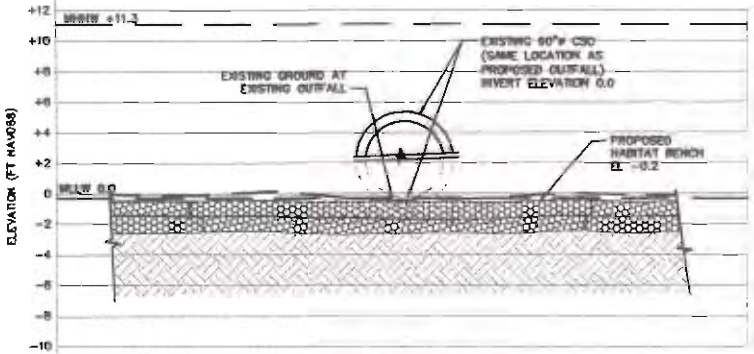
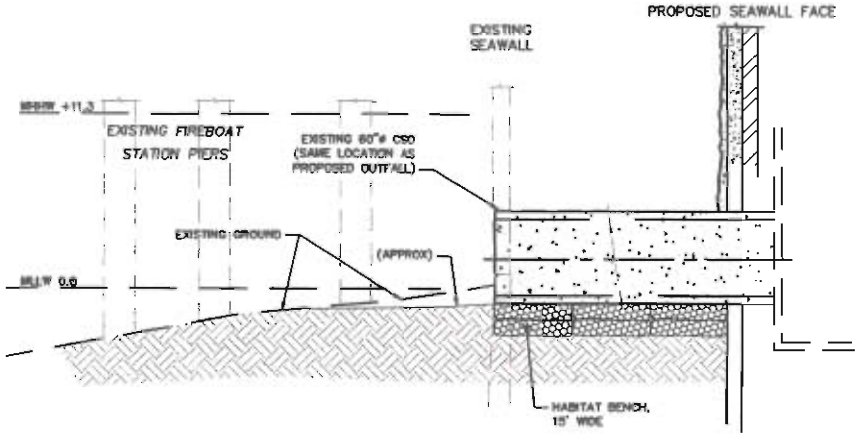


ELEVATION AT END OF EXISTING OUTFALL



SECTION THROUGH OUTFALL

NOTES:

1. TIDAL DATUMS (MLLW = 0.0 FT):

   MHHW = 11.34 FT
   MLLW = 0.0 FT

2. EXISTING SEAWALL TYPES SHOWN ARE SCHEMATIC. SEE SD SHEETS FOR ACTUAL WALL TYPES AND DETAILS AT OUTFALL LOCATIONS.

0 12
Scale in Feet

SOURCE: DRAWING PREPARED BY CAD FILES PROVIDED BY TETRA TECH, INC. DATED 1/2012.

DETAIL - MADISON STREET OUTFALL

PURPOSE: REPLACING CRITICAL INFRASTRUCTURE; IMPROVING PUBLIC SAFETY; RESTORING NEARSHORE ECOSYSTEM FUNCTIONS AND PROCESSES

DATUM: MLLW = 0.0'
LATITUDE: 47°36'29.90"
LONGITUDE: -122°20'36.10"

NAME: ELLIOTT BAY SEAWALL PROJECT

SITE LOCATION ADDRESS:
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SEATTLE, WASHINGTON

ADJACENT PROPERTY OWNERS:
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Seattle, WA 98124

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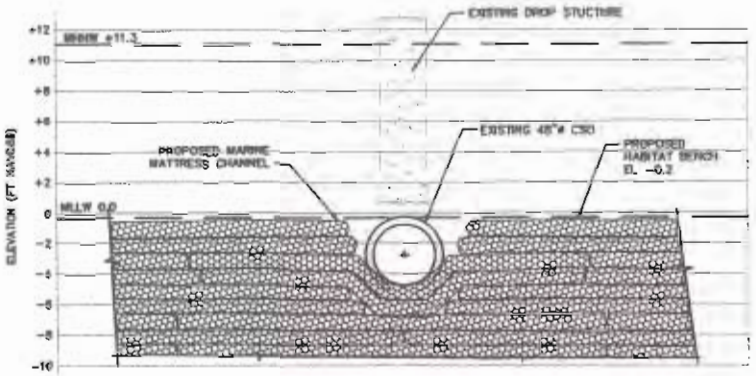
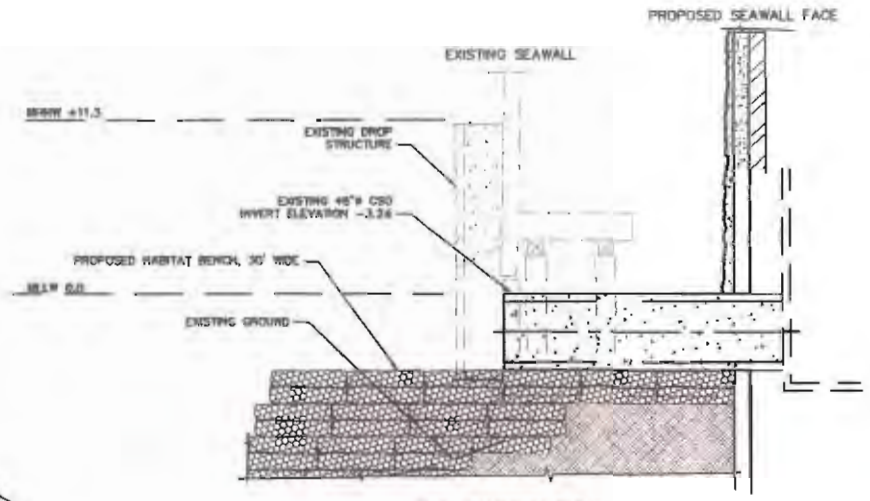
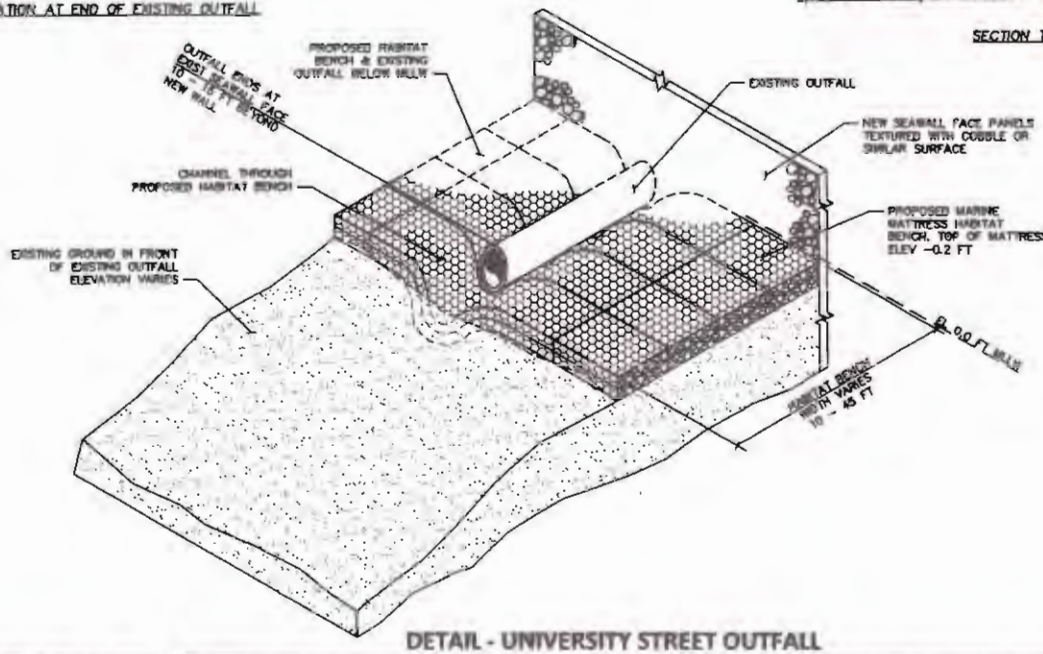
May 16, 2012 11:23am aspooner K:\Projects\0295-TetraTech\Elliott Bay Seawall Phase 2\JARPAs\0295-JA-014 14-15.dwg 16 J16



ELEVATION AT END OF EXISTING OUTFALL



SECTION THROUGH OUTFALL



NOTES:

1. TIDAL DATUMS (MLLW = 0.0 FT):
   MHHW = 11.34 FT
   MLLW = 0.0 FT
2. EXISTING SEAWALL TYPES SHOWN ARE SCHEMATIC.
3. OUTFALL TREATMENT AT UNIV ST (BETWEEN PIERS) IS NOT TYPICAL – DOES NOT OCCUR AT OTHER OUTFALL LOCATIONS IN CENTRAL WATERFRONT.

0 12
Scale in Feet

SOURCE: DRAWING PREPARED BY CAD FILES PROVIDED BY TETRA TECH, INC. DATED 1/2012.

DETAIL - UNIVERSITY STREET OUTFALL

PURPOSE: REPLACING CRITICAL INFRASTRUCTURE; IMPROVING PUBLIC SAFETY; RESTORING NEARSHORE ECOSYSTEM FUNCTIONS AND PROCESSES

DATUM: MLLW = 0.0'
LATITUDE: 47°36'29.90"
LONGITUDE: -122°20'36.10"

NAME: ELLIOTT BAY SEAWALL PROJECT

SITE LOCATION ADDRESS:
BETWEEN S. WASHINGTON STREET AND BROAD STREET ALONG ELLIOTT BAY
SEATTLE, WASHINGTON

ADJACENT PROPERTY OWNERS:
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SHEET: 17 OF 24

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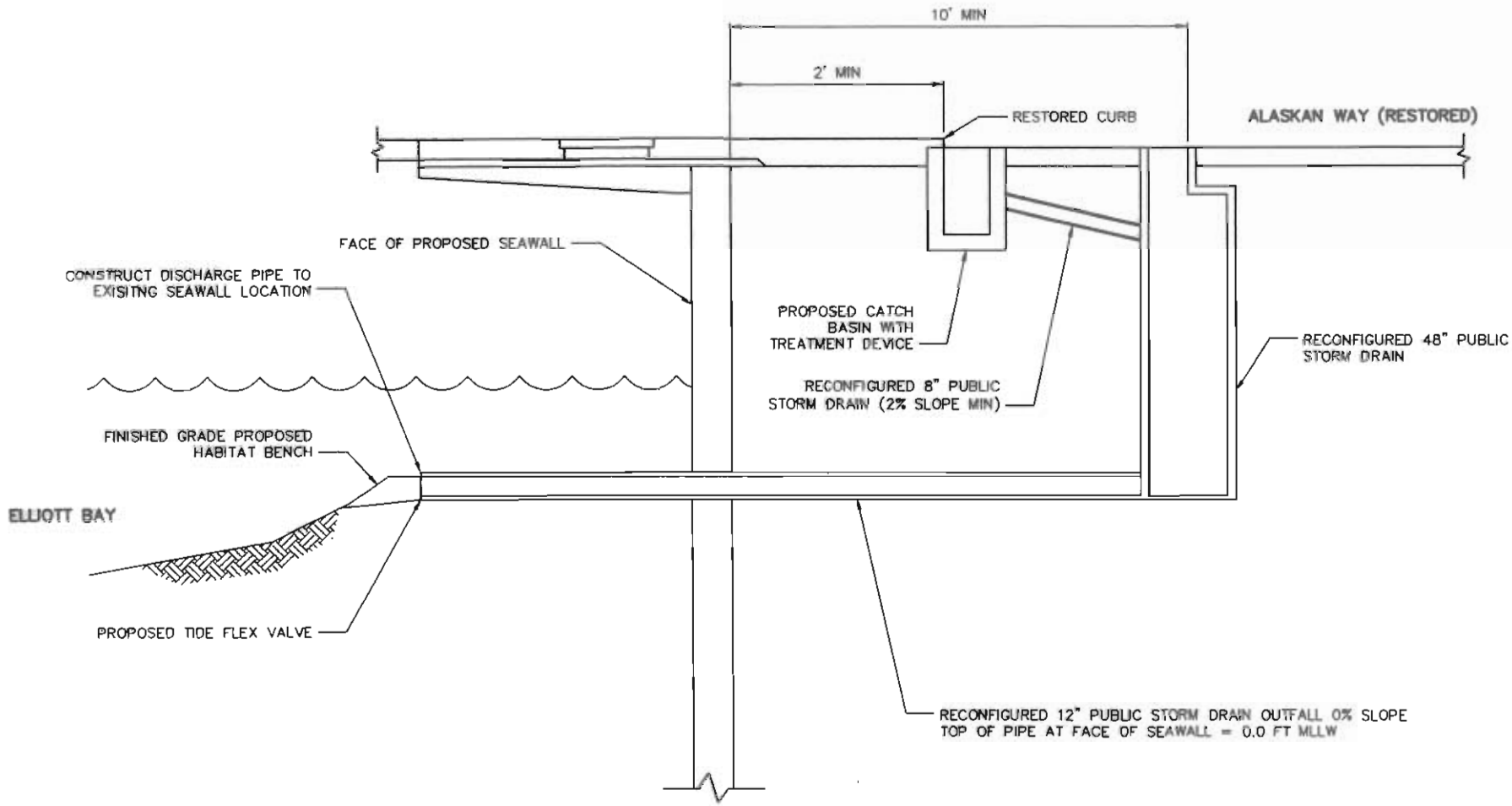

NOT TO SCALE

SOURCE: DRAWING PREPARED BY CAD FILES PROVIDED BY TETRA TECH, INC. DATED 1/2012.

INDIVIDUAL STORM DRAIN OUTFALL (TYPICAL)

PURPOSE: REPLACING CRITICAL INFRASTRUCTURE; IMPROVING PUBLIC SAFETY; RESTORING NEARSHORE ECOSYSTEM FUNCTIONS AND PROCESSES

DATUM: MLLW = 0.0'
LATITUDE: 47°36'29.90"
LONGITUDE: -122°20'36.10"

NAME: ELLIOTT BAY SEAWALL PROJECT

SITE LOCATION ADDRESS:
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ADJACENT PROPERTY OWNERS:
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PROPOSED: SEAWALL REPAIR AND REPLACEMENT AND HABITAT ENHANCEMENTS

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DATE: MAY 2012

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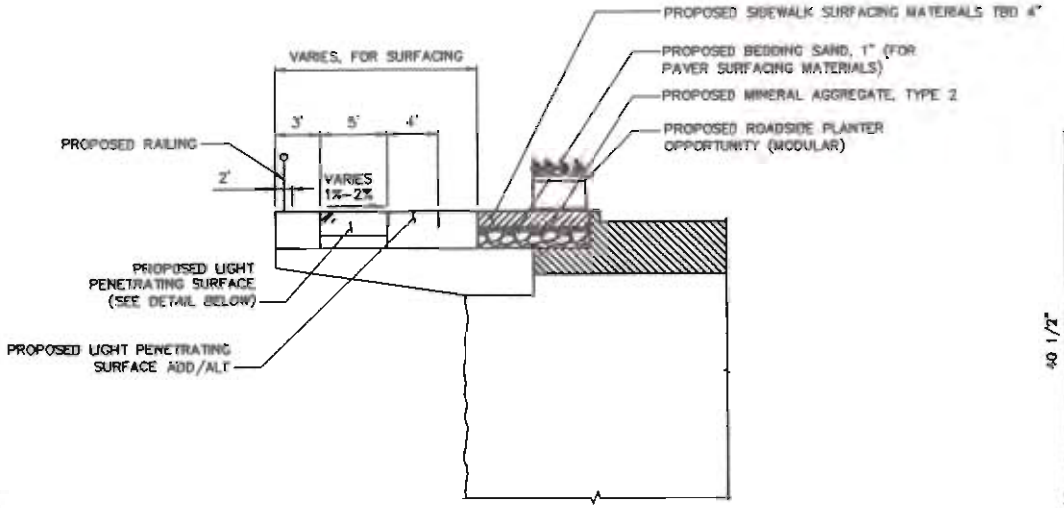
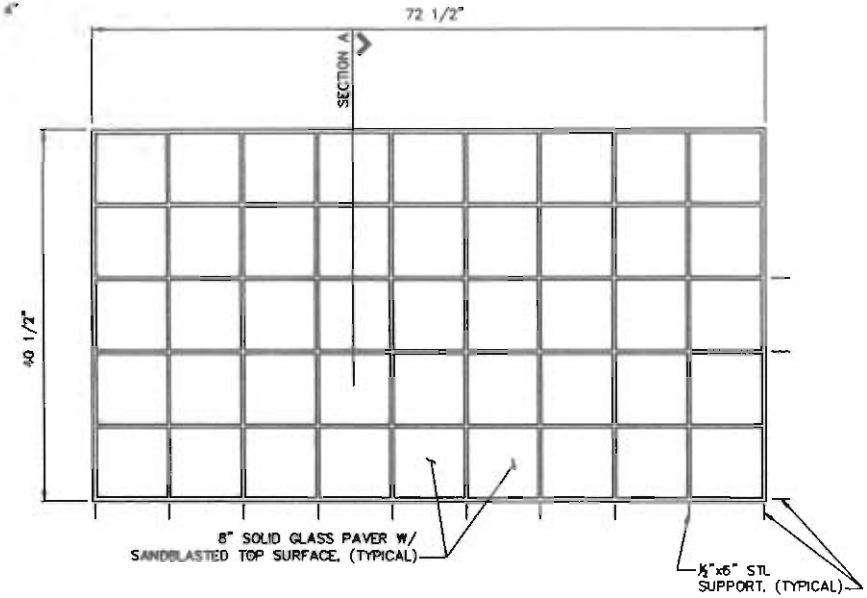
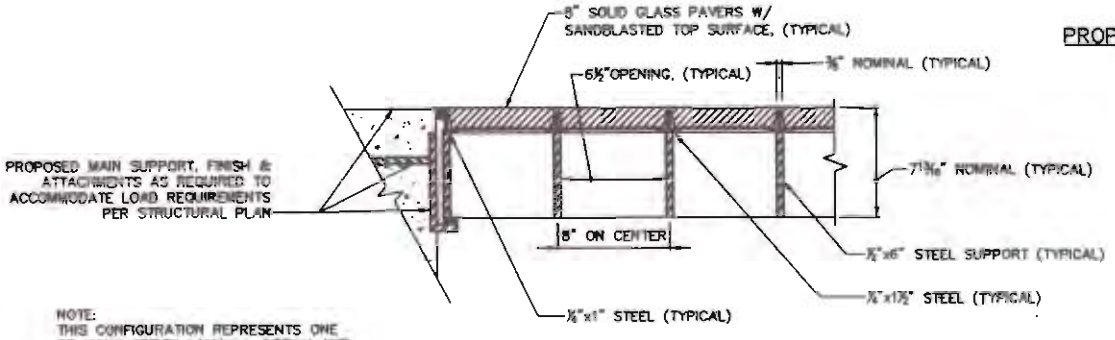
May 18, 2012 11:22am aspooner



TYPICAL SECTION – SITE SIDEWALK (FACING NORTH)



PROPOSED LIGHT PENETRATING SURFACE (TYPICAL) – PLAN VIEW



NOTE:
THIS CONFIGURATION REPRESENTS ONE OF MANY DESIGN LAYOUTS. DESIGN AND DIMENSIONS ARE NOT TO BE USED FOR CONSTRUCTION.

PROPOSED LIGHT PENETRATING CONFIGURATION

NOT TO SCALE

SOURCE: DRAWING PREPARED BY CAD FILES PROVIDED BY TETRA TECH, INC. DATED 1/2012 AND MAGNUSSON KLEMENCIC ASSOCIATES DATED 3/2012.

LIGHT PENETRATING SURFACE DETAILS

PURPOSE: REPLACING CRITICAL INFRASTRUCTURE; IMPROVING PUBLIC SAFETY; RESTORING NEARSHORE ECOSYSTEM FUNCTIONS AND PROCESSES

DATUM: MLLW = 0.0'
LATITUDE: 47°36'29.90"
LONGITUDE: -122°20'36.10"

NAME: ELLIOTT BAY SEAWALL PROJECT

SITE LOCATION ADDRESS:
BETWEEN S. WASHINGTON STREET AND BROAD STREET ALONG ELLIOTT BAY
SEATTLE, WASHINGTON

ADJACENT PROPERTY OWNERS:
PLEASE SEE JARPA ATTACHMENT 1

PROPOSED: SEAWALL REPAIR AND REPLACEMENT AND HABITAT ENHANCEMENTS

IN: ELLIOTT BAY
NEAR/AT: SEATTLE
COUNTY OF: KING
STATE: WASHINGTON

DATE: MAY 2012

Elliott Bay Seawall

City of Seattle
Department of Transportation
700 5th Avenue, Suite 3900
Seattle, WA 98124

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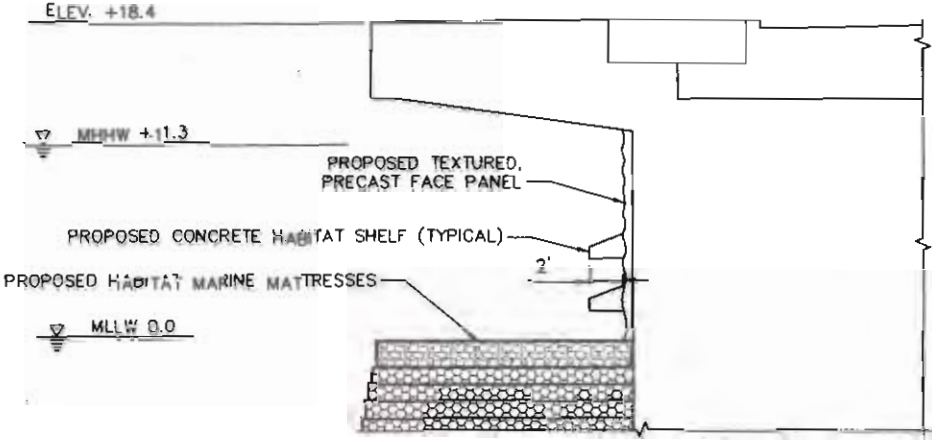
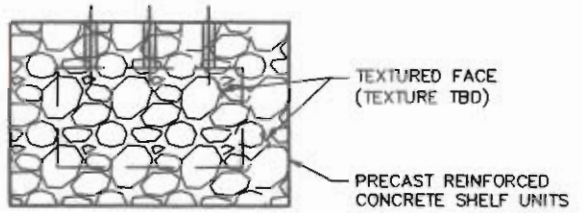
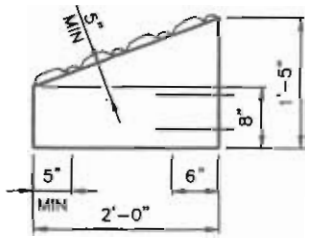


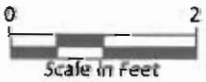
PROPOSED HABITAT SHELF DETAIL
NOT TO SCALE



PROPOSED TEXTURED FACE PANEL
SCALE: 1"=2'-0"



PROPOSED HABITAT SHELF
SCALE: 1"=2'-0"



SOURCE: DRAWING PREPARED BY CAD FILES PROVIDED BY TETRA TECH, INC. DATED 1/2012 AND MAGNUSSON KLEMENCIC ASSOCIATES DATED 3/2012.

SEAWALL STRUCTURAL HABITAT FEATURES

PURPOSE: REPLACING CRITICAL INFRASTRUCTURE; IMPROVING PUBLIC SAFETY; RESTORING NEARSHORE ECOSYSTEM FUNCTIONS AND PROCESSES

DATUM: MLLW = 0.0'
LATITUDE: 47°36'29.90"
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NAME: ELLIOTT BAY SEAWALL PROJECT

SITE LOCATION ADDRESS:
BETWEEN S. WASHINGTON STREET AND BROAD STREET ALONG ELLIOTT BAY
SEATTLE, WASHINGTON

ADJACENT PROPERTY OWNERS:
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PROPOSED: SEAWALL REPAIR AND REPLACEMENT AND HABITAT ENHANCEMENTS

IN: ELLIOTT BAY
NEAR/AT: SEATTLE
COUNTY OF: KING
STATE: WASHINGTON

DATE: MAY 2012

Elliott Bay Seawall Project
City of Seattle
Department of Transportation
700 5th Avenue, Suite 3900
Seattle, WA 98124

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SHEET: 20 OF 24

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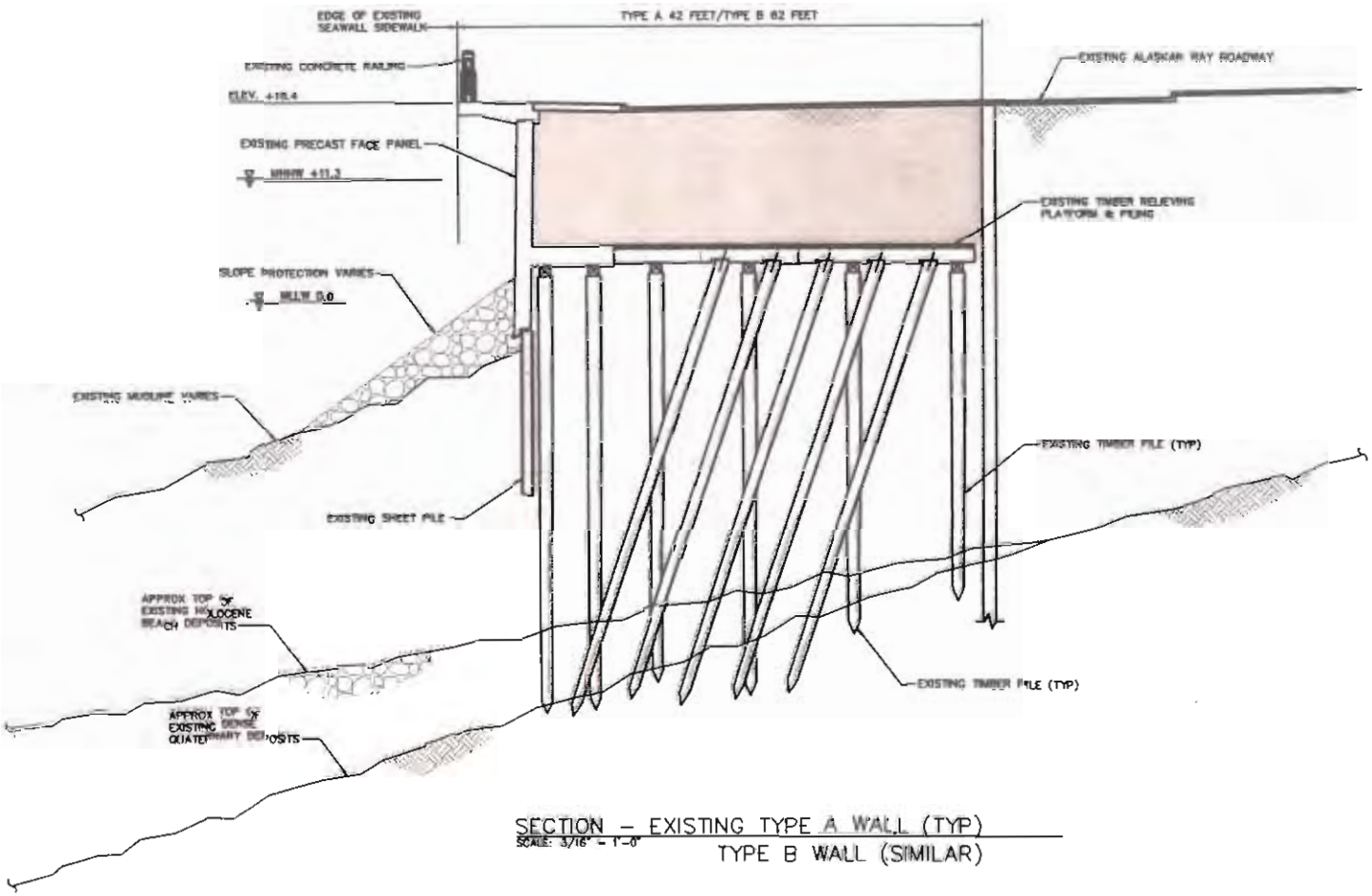

SECTION – EXISTING TYPE A WALL (TYP)
SCALE: 3/16" = 1'-0"
TYPE B WALL (SIMILAR)

0 16
Scale in Feet

SOURCE: DRAWING PREPARED BY CAD FILES PROVIDED BY TETRA TECH, INC. DATED 1/2012.

CONSTRUCTION SEQUENCING - TYPE A PLATFORM

PURPOSE: REPLACING CRITICAL INFRASTRUCTURE; IMPROVING PUBLIC SAFETY; RESTORING NEARSHORE ECOSYSTEM FUNCTIONS AND PROCESSES

DATUM: MLLW = 0.0'
LATITUDE: 47°36'29.90"
LONGITUDE: -122°20'36.10"

NAME: ELLIOTT BAY SEAWALL PROJECT

SITE LOCATION ADDRESS:
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ADJACENT PROPERTY OWNERS:
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DATE: MAY 2012

Elliott Bay Seawall
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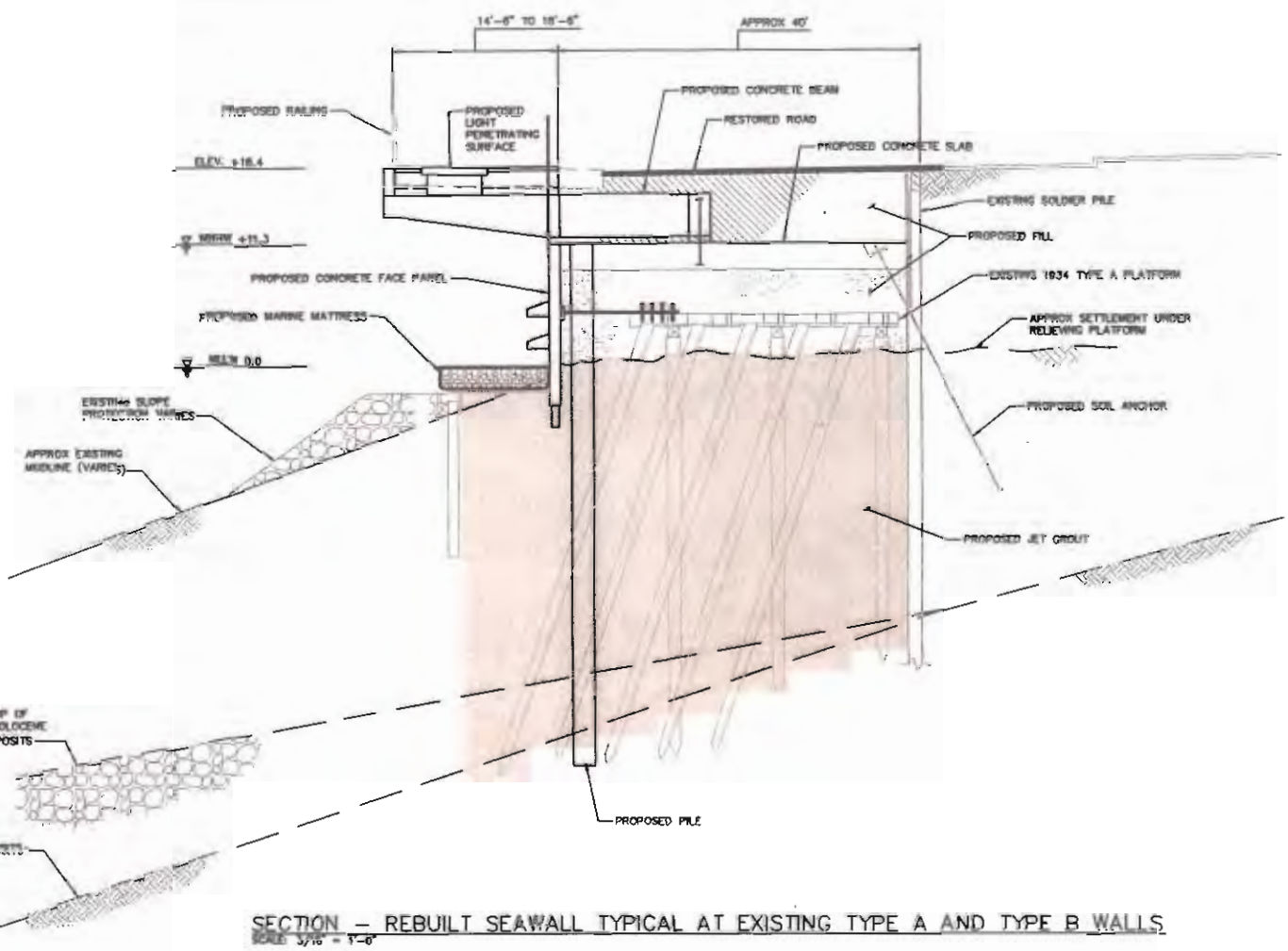

SECTION – REBUILT SEAWALL TYPICAL AT EXISTING TYPE A AND TYPE B WALLS

SCALE: 3/16" = 1'-0"

APPLICABLE TO TYPE A PLATFORM NORTH AND SOUTH OF VINE ST.
TYPE B PLATFORM, SIMILAR

0 16
Scale in Feet

SOURCE: DRAWING PREPARED BY CAD FILES PROVIDED BY TETRA TECH, INC. DATED 1/2012.

CONSTRUCTION SEQUENCING - TYPE A PLATFORM

PURPOSE: REPLACING CRITICAL INFRASTRUCTURE; IMPROVING PUBLIC SAFETY; RESTORING NEARSHORE ECOSYSTEM FUNCTIONS AND PROCESSES

DATUM: MLLW = 0.0'
LATITUDE: 47°36'29.90"
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NAME: ELLIOTT BAY SEAWALL PROJECT

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City of Seattle
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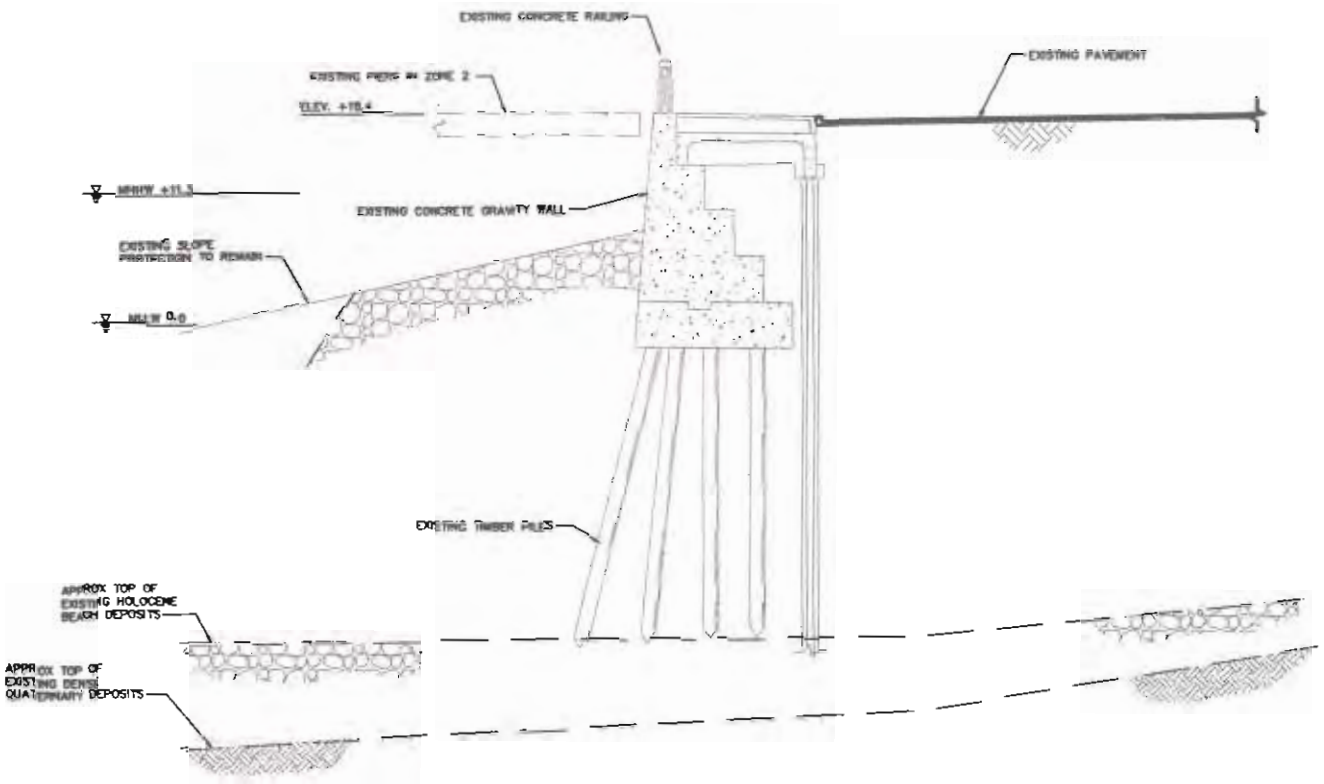

SECTION – EXISTING GRAVITY WALL

0 16
Scale in Feet

SOURCE: DRAWING PREPARED BY CAD FILES PROVIDED BY TETRA TECH, INC. DATED 1/2012.

CONSTRUCTION SEQUENCING - GRAVITY WALL

PURPOSE: REPLACING CRITICAL INFRASTRUCTURE; IMPROVING PUBLIC SAFETY; RESTORING NEARSHORE ECOSYSTEM FUNCTIONS AND PROCESSES

DATUM: MLLW = 0.0'
LATITUDE: 47°36'29.90"
LONGITUDE: -122°20'36.10"

NAME: ELLIOTT BAY SEAWALL PROJECT

SITE LOCATION ADDRESS:
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ADJACENT PROPERTY OWNERS:
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PROPOSED: SEAWALL REPAIR AND REPLACEMENT AND HABITAT ENHANCEMENTS

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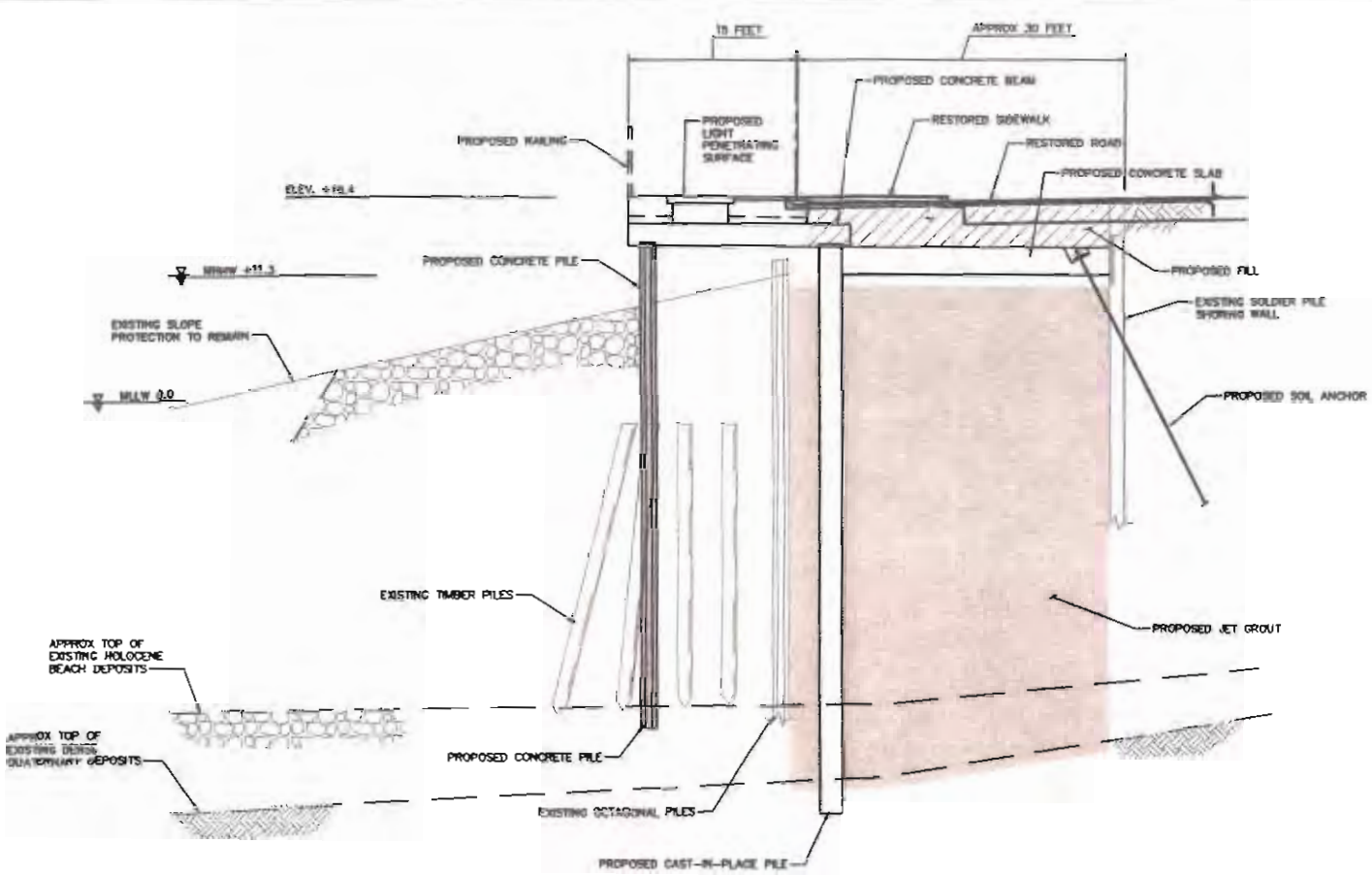

SECTION – REBUILT SEAWALL TYPICAL AT GRAVITY WALL

0 16
Scale in Feet

SOURCE: DRAWING PREPARED BY CAD FILES PROVIDED BY TETRA TECH, INC. DATED 1/2012.

CONSTRUCTION SEQUENCING - GRAVITY WALL

PURPOSE: REPLACING CRITICAL INFRASTRUCTURE; IMPROVING PUBLIC SAFETY; RESTORING NEARSHORE ECOSYSTEM FUNCTIONS AND PROCESSES

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