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February 15, 2024

Sent via email
nfloyd@ci.olympia.wa.us

Nicole Floyd, AICP
Principal Planner
City of Olympia
601 – 4th Avenue E
Olympia, Washington 98501

**RE: West Bay Yards Mixed-Use Development
Project No. 21-2854
Partial Response to November 8, 2023 Third Round Review Comments
Shoreline Restoration Design Compliance**

Dear Ms. Floyd:

This firm represents West Bay Development Group, LLC, the Applicant for West Bay Yards (the “Project”).

On November 8, 2023, the City issued a third round of substantive review comments for the Project. The City’s comments include a request for additional information and analysis of the fill waterward of the Ordinary High Water Mark (“OHWM”) required for the planned voluntary shoreline restoration.¹ Because the extent of fill for the shoreline restoration impacts all remaining design elements of the Project, the Applicant is providing this response addressing fill waterward of the OHWM for City review prior to completing the remainder of the resubmittal.

A. Basis of Shoreline Restoration Design and City Review to Date

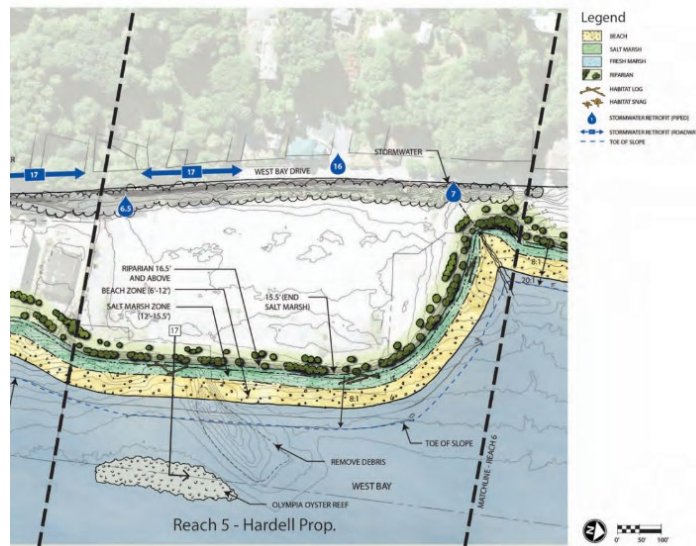
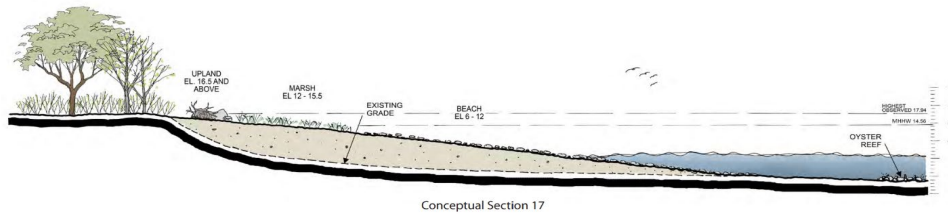
The terms and conditions of the March 31, 2021 Development Agreement between the City of Olympia (“City”) and West Bay Development Group LLC (“West Bay”) include a requirement for the Applicant to “complete shoreline restoration along the Property boundary consistent with the recommendations identified in the *City of Olympia West Bay Environmental Restoration Assessment Final Report* (Coast & Harbor Engineering, 2016) (the “2016 Report”) for “Reach 5 – Hardel Plywood” and the City of Olympia Shoreline Master Program. The Development Agreement incorporated the concept section for the beach restoration for Reach 5 from the 2016 Report as an illustrative exhibit.²

¹ November 8, 2023 City Third Round Review Comments, Comment 5.

² Development Agreement, Exhibit E.

The Applicant agreed to complete the shoreline restoration consistent with the 2016 Report at the City’s request to provide a demonstrated public benefit as consideration for receiving the Development Agreement. No shoreline mitigation was (or is) required for the Applicant’s upland mixed-use development because it complies with no net loss requirements of the City’s Shoreline Master Program (“SMP”).³

The 2016 Report provided “a science-based assessment of environmental restoration opportunities for the West Bay shoreline...”. With respect to private property, the 2016 Report methodology included establishing criteria to evaluate and prioritize restoration alternatives “that may be implemented as these parcels are redeveloped and that minimize loss of existing upland areas.”⁴ As a result, the concept restoration for Reach 5 – Hardel Plywood assumed “that the existing uplands are to remain intact” and called for the “creation of intertidal beach and marsh areas through substrate placement, riparian plantings along the backshore, and removal and restoration of intertidal structures areas.”⁵ The concept sketch for Reach 5 from the 2016 Report incorporated into the Development Agreement clearly shows retention of the uplands in conjunction with shoreline restoration, as depicted on the excerpts below:



³ West Bay Yards, Shoreline Consistency Narrative, February 2022 (Grette Associates, LLC) at 2; West Bay Yards: Mitigation Sequencing and No Net Loss Analysis, June 2021 (Grette Associates, LLC) at 6.
⁴ 2016 Report at 12, para. 2.5.2.
⁵ 2016 Report at 21, para 3.1.2.5 (emphasis added).

Notably, the City’s Shoreline Master Program both references and “encourages” the use of the habitat restoration approaches identified in the 2016 Report.⁶

The Applicant retained the same consultants who authorized the 2016 Report to design the shoreline restoration project consistent with its recommendations, as required by the Development Agreement. In the City’s second round of review comments, however – and despite incorporation of the design concept for “Reach 5 – Hardel Plywood” into the Development Agreement and the specific assumption underlying that concept design that “the existing uplands are to remain intact” – the City directed the Applicant to evaluate alternatives to the agreed upon 2016 Report design, including cutting back into the uplands to reduce fill waterward of the OHWM.⁷

In response to the City’s request, the Applicant’s consultant team analyzed three alternatives: Alternative 1 (No Action – without the Project entirely, or upland development without the voluntary shoreline restoration), Alternative 2 (Original Design – maintaining the existing uplands and completing the intertidal beach restoration consistent with the 2016 Report concept design), and Alternative 3 (Modified Design – excavating back into the uplands to reduce the amount of fill). This alternatives analysis was documented within a multi-disciplinary consultant report included with the Applicant’s third resubmittal in June 2023.⁸ The Design Report concluded that the Alternative 2 (Original Design) was most appropriate to achieve the restoration objectives (consistency with SMP shoreline restoration objectives, creation of intertidal habitat, restoration of riparian corridor). However, the alternatives analysis also considered design and construction factors, including site stability, avoiding the disturbance of contaminated sediments, and impacts to overall Project feasibility, which would result from the loss of otherwise developable upland property with Alternative 3.⁹

The City’s third round review comments regarding the Design Report alternatives analysis generally request that the Applicant: (1) clarify the intended purpose of proposed fill waterward of the OHWM; and (2) provide additional analysis establishing that the proposed fill is the “minimum necessary” to achieve intended restoration objective.¹⁰ This response addresses these specific comments.

B. Project Purpose, Regulatory Framework, and Legal Authority

To be clear, the purpose of the proposed fill waterward of the OHWM is for restoration; specifically, the Project proposes the placement of natural beach fill to support the development of marsh and riparian areas consistent with, and based upon, the restoration concepts and recommendations of the

⁶ See, e.g. Aquatic Environment Management Policies, Sec. 2.5(H) (“Soft shore stabilization methods or habitat restoration approaches should be encouraged when ecological functions can be improved, such as through restoration as envisioned in the West Bay Environmental Restoration Assessment Report for some reaches.”); Shoreline Ecological Protection and Mitigation Policies, Sec. 2.3(I) (“The City should encourage innovative mitigation strategies to provide for comprehensive and coordinated approaches to mitigating cumulative impacts and restoration rather than piecemeal mitigation. For example, the approach identified in the West Bay Environmental Restoration Report suggested restoration for specific reaches of shoreline.”); OMC 18.20.850 – Shoreline Restoration and Enhancement – Intent (“The 2016 West Bay Environmental Restoration Assessment provides conceptual restoration approaches for some shoreline reaches”).

⁷ July 15, 2022 City Second Round Review Comments, Comment 7.

⁸ West Bay Yards Shoreline Restoration Design (June 2023) (Moffatt & Nichol; Grette Associates, LLC; J.A. Brennan Associates PLLC; Sage Geotechnical) (the “Design Report”).

⁹ Design Report at 19-20.

¹⁰ November 8, 2023 City Third Round Review Comments, Comment 5.

2016 Report for Reach 5 – Hardel as required by the Development Agreement.¹¹ While there are other incidental benefits likely to result from the proposed fill placement that have been identified and discussed in the Design Report and other submittals, including, but not limited to, sea level rise resilience, capping of contaminated sediment, and slope stability, the purpose of the proposed fill is for restoration.

OMC 18.20.855 allows restoration and enhancement projects “on all shorelines,” subject to an approved restoration plan and compliance with certain general requirements. The Applicant has previously submitted detailed analysis of the proposed restoration Project’s compliance with these general requirements.¹²

Consistent with Ecology SMP Guidelines,¹³ OMC 18.20.837 authorizes fill waterward of the OHWM only for a narrow set of purposes, including “[e]cological restoration or enhancement such as beach nourishment, habitat creation, or mitigation when consistent with an approved restoration or mitigation plan.”¹⁴ OMC 18.20.837(B) further requires that “[f]ill shall be the minimum necessary for the intended use or activity.” Notably, this “minimum necessary” qualification for authorized fill projects waterward of the OHWM, while an element of the City’s SMP, is not found in Ecology SMP Guidelines (WAC 173-26) or the Shoreline Management Act (RCW 90.58). Further, our research has identified no reported Washington cases or Shorelines Hearings Board decisions imposing, interpreting, or applying a “minimum necessary” standard for fill waterward of the OHWM in conjunction with a voluntary habitat restoration project.

Applying the plain language of OMC 18.20.837(B) to this Project in light of the requirements of the Development Agreement, the standard for City review should be whether or not the amount of proposed fill waterward of the OHWM is the “minimum necessary” to be consistent with the recommendations for Reach 5 – Hardel Plywood restoration identified in the 2016 Report (the “intended use”). However, to date, the City’s interpretation of the “minimum necessary” standard appears to assume – without any citation to authority – that the Applicant could be compelled to cut back into its upland property to complete the voluntary restoration to reduce (or minimize) the amount of required fill. The Applicant respectfully disagrees with this apparent assumption, for two reasons.

First, in the Development Agreement, the Applicant agreed to complete shoreline restoration consistent with the recommendations for Reach 5 – Hardel in the 2016 Report.¹⁵ There can be no dispute that the recommended restoration for Reach 5 – Hardel described and depicted in the 2016 Report includes maintaining the existing uplands while creating a fronting intertidal beach and marsh.¹⁶ The Applicant’s proposed restoration based on this design creates fronting intertidal beach and marsh while retaining the uplands.¹⁷ No term or condition in the Development Agreement remotely suggests, much less mandates, that the Applicant cut back into the developable uplands to complete the shoreline

¹¹ West Bay Yards, Shoreline Consistency Narrative, February 2022 (Grette Associates, LLC) at 14; Design Report at 8-9 (Purpose and Need); 2016 Report at 21 (describing the creation of a “fronting intertidal beach”).

¹² West Bay Yards, Shoreline Consistency Narrative, February 2022 (Grette Associates, LLC) at 15-18.

¹³ See WAC 173-26-231(c) (Fill).

¹⁴ OMC 18.20.837(A)(3).

¹⁵ Development Agreement at 2 (Section 1).

¹⁶ 2016 Report at 21 and App. A at 14, 27.

¹⁷ West Bay Yards, Shoreline Consistency Narrative, February 2022 (Grette Associates, LLC) at 14; Design Report at 8-9 (Purpose and Need); 2016 Report at 21 (describing the creation of a “fronting intertidal beach”).

restoration project. The Development Agreement is, in turn, an enforceable contract.¹⁸ While the Development Agreement also requires the Applicant to obtain necessary permits for the shoreline restoration project, it defies reason to think the Applicant should have had to assume that the restoration project the City requested and which was shown in the City's own 2016 Report – with retention of the uplands – could not in fact be legally permitted.

Second, the Applicant's proposed restoration is voluntary, as opposed to being required as mitigation under OMC 18.20.410 for the upland mixed-use development. As shown on the concept site plans attached at **Tab A**, Alternative 3 would push the top of the bank twelve feet back into the existing uplands, resulting in the corresponding loss of approximately 14,653 SF of private property. If the upland development triggered mitigation under the City's SMP, and the restoration project were proposed as a mitigation measure, then the City would have broad authority under OMC 18.20.240 to mandate the scope and extent of required mitigation, potentially including cutback into the upland. Here, however, the Applicant's proposed restoration project is entirely voluntary.

C. The Proposed Fill Meets the “Minimum Necessary” Standard

The Applicant's submittals over more than two and a half years of City review have detailed the purpose and need for the restoration project, the basis for restoration design, and established the restoration project's consistency with the 2016 Report recommendations. That analysis is not restated with this response, as it should already be more than adequate for the City to determine that the proposed fill is the “minimum necessary” to accomplish the restoration for Reach 5 – Hardel Plywood in the 2016 Report without cutback. Nonetheless, the Applicant wants to ensure the record is complete, and so will address the City's contention that there are “gaps in the data and alternatives analysis that show lesser fill that would appear nearly equal in terms of restorative effect.”¹⁹ In fact, even if it could be required, the Applicant's analysis shows that Alternative 3 (Modified Design) falls far short of the restorative effect of Alternative 2 (Original Design) by any subjective or objective measure.

The Applicant's consultant team began its analysis by creating concept site plans for Alternatives 2 and 3, attached at **Tab A**, as described in the Design Report. These site plans were then used to identify and calculate the total available riparian vegetation area and associated planting for each alternative. The corresponding calculations are attached at **Tab B**. The calculations demonstrate that Alternative 3, while it would have less fill waterward of the OHWM, would also result in a loss of 13,834 SF of riparian planting area along the approximately 1,100 linear-foot shoreline on the Property, or a total reduction of approximately 13.6% of restored riparian vegetation and planting as compared to Alternative 2, the Original Design. The Project's biologist, Grette Associates, reviewed the concept site plans for Alternatives 2 and 3 and concluded that the loss of the riparian planting area in Alternative 3 would degrade several important functions and result in diminished riparian function and reduced restoration value when compared to the Original Design. In addition, because of the loss of riparian functional value, the analysis concludes that Alternative 3 would “compromise the intended goal of the shoreline restoration project” in the 2016 Report. The analysis provides objective quantification of the loss of restoration value, which would result from Alternative 3 using the current NOAA Fisheries *Puget Sound*

¹⁸ *City of Union Gap v. Printing Press Props., L.L.C.*, 2 Wn. App. 2d 201, 224, 409 P.3d 239, review denied, 191 Wn.2d 1003 (2018).

¹⁹ November 8, 2023 City Third Round Review Comments, Comment 5.

Nearshore Habitat Conservation Calculator – v. 1.5b (Ehinger et al. 2023), reflecting current best available science. The complete Grette Associates analysis is attached at **Tab C**.

D. Conclusion

The Applicant has complied with its obligations under the Development Agreement by proposing a restoration project for West Bay Yards, which extensive multi-disciplinary expert analysis shows is based on, and fully consistent with, the restoration recommendations for Reach 5 – Hardel in the 2016 Report. In addition, the Applicant has invested considerable additional resources to analyze an alternative design cutting back into the existing slope (which it did not propose) to be responsive to City requests. The over \$2,117,926.31 that the Applicant has spent on Project design since the spring of 2020, demonstrates its commitment to converting the former Hardel Brownfield site into West Bay Yards – a generational, transformative project for downtown Olympia – while also honoring its commitment to the Squaxin Island Tribe to restore crucial habitat on the shoreline.

Despite this commitment, the Applicant cannot go forward with plan revisions and a fourth resubmittal if the City cannot recommend approval of the shoreline restoration design, which retains the existing uplands.

To that end, the Applicant respectfully requests that the City review this response and provide a determination within thirty days as to whether or not staff can recommend that the “minimum necessary” requirement of OMC 18.20.837(B) is met with Alternative 2 (Original Design) so that the Applicant can make timely and informed decisions regarding whether and how to proceed with the Project.

Sincerely,

DICKSON FROHLICH PHILLIPS BURGESS PLLC



Heather L. Burgess

HLB/dlg

cc: (via email)

Michael Young, Deputy City Attorney (myoung@ci.olympia.wa.us)

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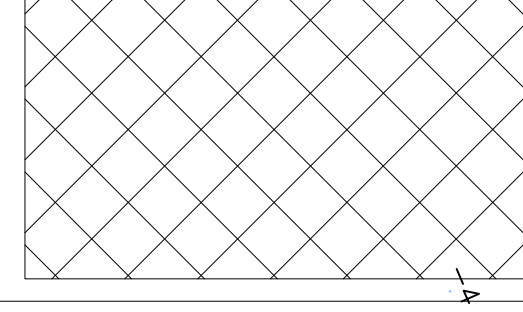
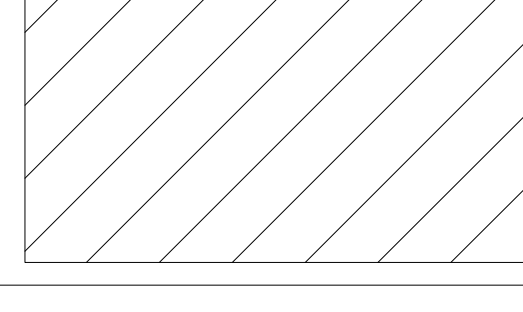
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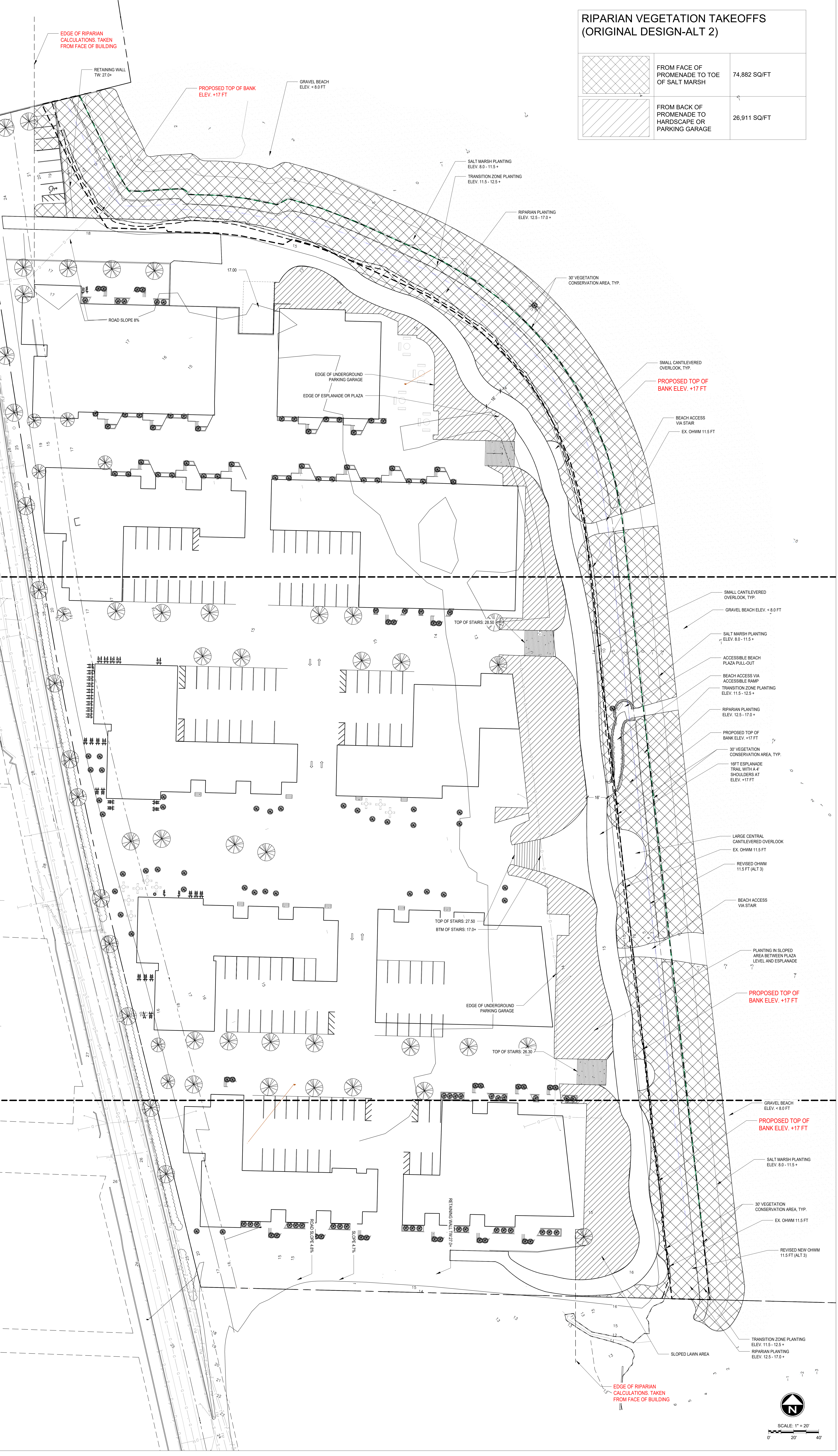
Attachments: **Tab A** – Concept Site Plans

Tab B – Riparian Vegetation Area Calculations

Tab C – Grette Associates Analysis

RIPARIAN VEGETATION TAKEOFFS (ORIGINAL DESIGN-ALT 2)

	FROM FACE OF PROMENADE TO TOE OF SALT MARSH	74,882 SQ/FT
	FROM BACK OF PROMENADE TO HARDSCAPE OR PARKING GARAGE	26,911 SQ/FT



EDGE OF RIPARIAN CALCULATIONS. TAKEN FROM FACE OF BUILDING

RETAINING WALL TW: 27.0+

PROPOSED TOP OF BANK ELEV. +17 FT

GRAVEL BEACH ELEV. +8.0 FT

SALT MARSH PLANTING ELEV. 8.0 - 11.5+

TRANSITION ZONE PLANTING ELEV. 11.5 - 12.5+

RIPARIAN PLANTING ELEV. 12.5 - 17.0+

30' VEGETATION CONSERVATION AREA, TYP.

ROAD SLOPE 8%

EDGE OF UNDERGROUND PARKING GARAGE

EDGE OF ESPLANADE OR PLAZA

SMALL CANTILEVERED OVERLOOK, TYP.

PROPOSED TOP OF BANK ELEV. +17 FT

BEACH ACCESS VIA STAIR EX OHWM 11.5 FT

TOP OF STAIRS: 28.50

SMALL CANTILEVERED OVERLOOK, TYP.

GRAVEL BEACH ELEV. +8.0 FT

SALT MARSH PLANTING ELEV. 8.0 - 11.5+

ACCESSIBLE BEACH PLAZA FULL-OUT

BEACH ACCESS VIA ACCESSIBLE RAMP

TRANSITION ZONE PLANTING ELEV. 11.5 - 12.5+

RIPARIAN PLANTING ELEV. 12.5 - 17.0+

PROPOSED TOP OF BANK ELEV. +17 FT

30' VEGETATION CONSERVATION AREA, TYP.

18FT ESPLANADE TRAIL WITH 4' SHOULDERS AT ELEV. +17 FT

LARGE CENTRAL CANTILEVERED OVERLOOK EX OHWM 11.5 FT

REVISED OHWM 11.5 FT (ALT 3)

BEACH ACCESS VIA STAIR

PLANTING IN SLOPED AREA BETWEEN PLAZA LEVEL AND ESPLANADE

PROPOSED TOP OF BANK ELEV. +17 FT

TOP OF STAIRS: 27.50
BTM OF STAIRS: 17.0+

EDGE OF UNDERGROUND PARKING GARAGE

TOP OF STAIRS: 26.30

GRAVEL BEACH ELEV. +8.0 FT

PROPOSED TOP OF BANK ELEV. +17 FT

SALT MARSH PLANTING ELEV. 8.0 - 11.5+

30' VEGETATION CONSERVATION AREA, TYP.

EX OHWM 11.5 FT

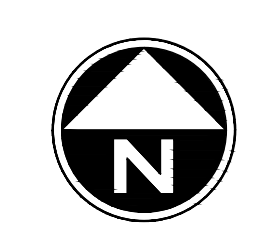
REVISED NEW OHWM 11.5 FT (ALT 3)

TRANSITION ZONE PLANTING ELEV. 11.5 - 12.5+

RIPARIAN PLANTING ELEV. 12.5 - 17.0+

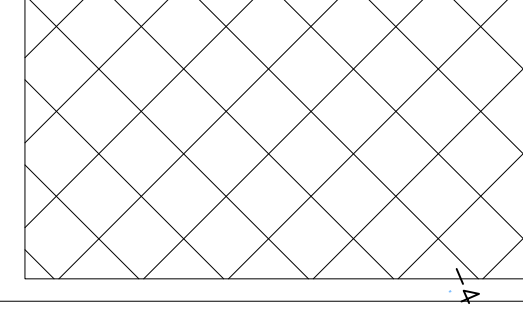
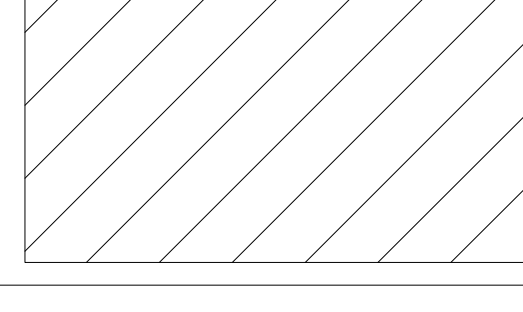
SLOPED LAWN AREA

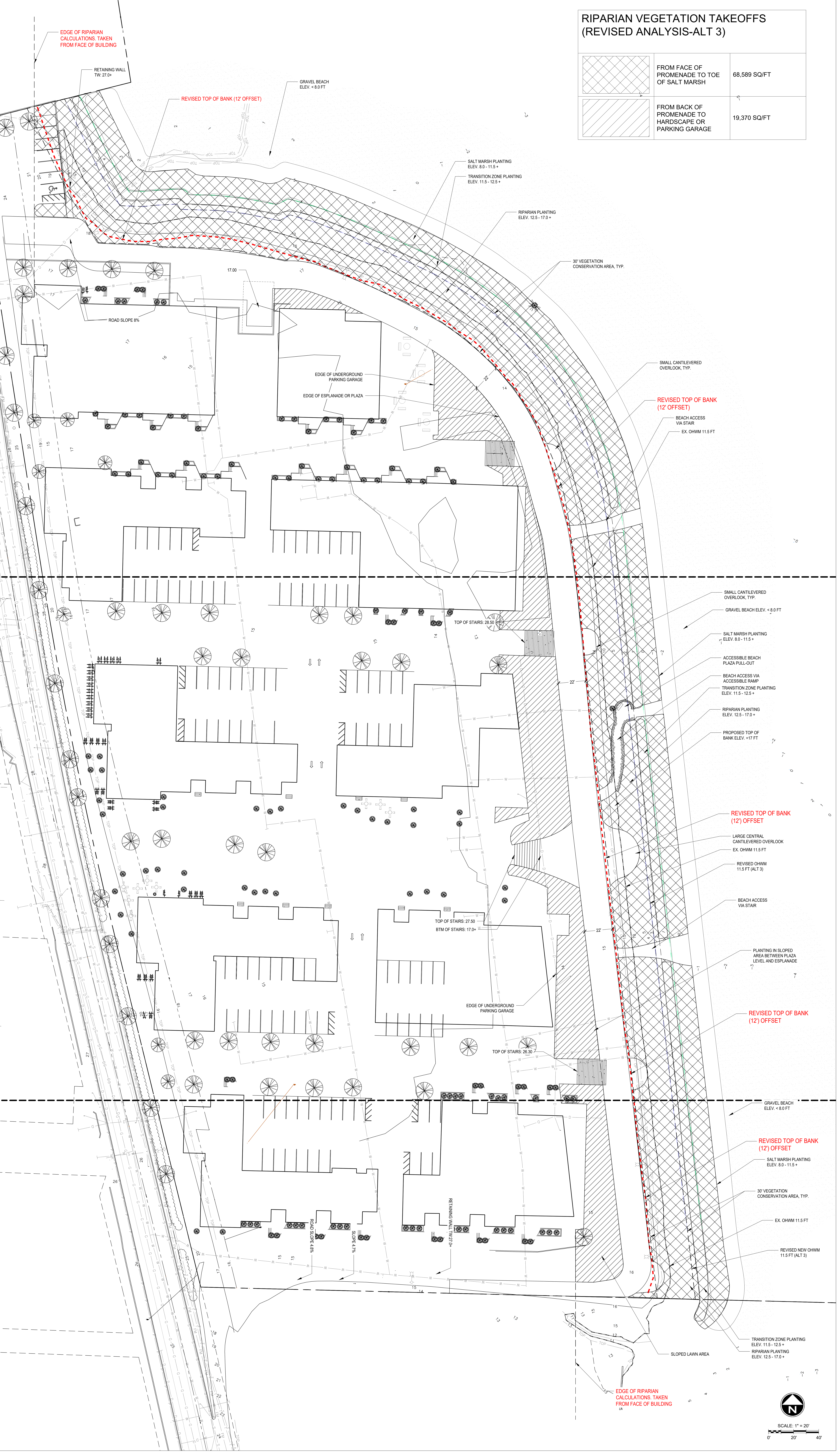
EDGE OF RIPARIAN CALCULATIONS. TAKEN FROM FACE OF BUILDING



SCALE: 1" = 20'
0' 20' 40'

RIPARIAN VEGETATION TAKEOFFS (REVISED ANALYSIS-ALT 3)

	FROM FACE OF PROMENADE TO TOE OF SALT MARSH	68,589 SQ/FT
	FROM BACK OF PROMENADE TO HARDSCAPE OR PARKING GARAGE	19,370 SQ/FT



REVISSED TOP OF BANK (12' OFFSET)

BEACH ACCESS VIA STAIR
EX OHWM 11.5 FT

SMALL CANTILEVERED OVERLOOK, TYP.

GRAVEL BEACH ELEV. +8.0 FT

SALT MARSH PLANTING ELEV. 8.0 - 11.5 +

ACCESSIBLE BEACH PLAZA PULL-OUT

BEACH ACCESS VIA ACCESSIBLE RAMP

TRANSITION ZONE PLANTING ELEV. 11.5 - 12.5 +

RIPARIAN PLANTING ELEV. 12.5 - 17.0 +

PROPOSED TOP OF BANK ELEV. +17 FT

REVISSED TOP OF BANK (12' OFFSET)

LARGE CENTRAL CANTILEVERED OVERLOOK
EX OHWM 11.5 FT

REVISSED OHWM 11.5 FT (ALT 3)

BEACH ACCESS VIA STAIR

PLANTING IN SLOPED AREA BETWEEN PLAZA LEVEL AND ESPLANADE

REVISSED TOP OF BANK (12' OFFSET)

GRAVEL BEACH ELEV. +8.0 FT

REVISSED TOP OF BANK (12' OFFSET)

SALT MARSH PLANTING ELEV. 8.0 - 11.5 +

30' VEGETATION CONSERVATION AREA, TYP.

EX OHWM 11.5 FT

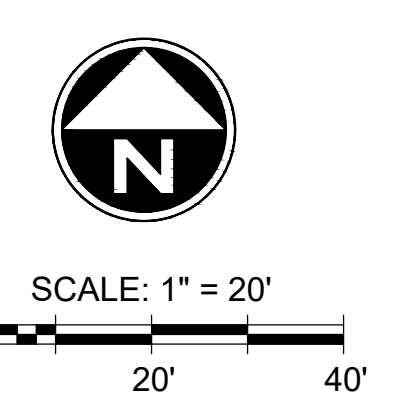
REVISSED NEW OHWM 11.5 FT (ALT 3)

TRANSITION ZONE PLANTING ELEV. 11.5 - 12.5 +

RIPARIAN PLANTING ELEV. 12.5 - 17.0 +

SLOPED LAWN AREA

EDGE OF RIPARIAN CALCULATIONS, TAKEN FROM FACE OF BUILDING



Tab B

Riparian Vegetation Area Calculations

Original Design -ALT 2

Riparian Planting SQ/FT Takeoffs

From Back of Promenade to hardscape or parking garage 26911

From Face of Promenade to Toe of Salt Marsh 74882

Total 101793

From Back of Promenade to hardscape or parking garage

SQ/FT of Vegetation Lost from Alt 2 to Alt 3 7541

% Riparian vegetation Lost from Alt 2 to Alt 3 28.0

From Face of Promenade to Toe of Salt Marsh

SQ/FT of Vegetation Lost from Alt 2 to Alt 3 6293

% Riparian vegetation Lost from Alt 2 to Alt 3 8.4

Total Changes Overall

SQ/FT of Vegetation Lost from Alt 2 to Alt 3 13834

% Riparian vegetation Lost from Alt 2 to Alt 3 13.6

Revised Analysis -ALT 3 (12' setback to Top of Bank)

From Back of Promenade to hardscape or parking garage	19370
From Face of Promenade to Toe of Salt Marsh	68589
Total	87959

Tab C

Grette Associates Analysis



TECHNICAL MEMORANDUM

Brandon Smith, PE
West Bay Development Group, LLC
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Sumner, WA 98390

February 13, 2024

Heather Burgess
Dickson Frohlich Phillips Burgess, PLLC
111 21st Avenue SW
Olympia, WA 98501

Re: Narrative Response to City of Olympia Comments – 3rd Round Review Comments
(11/8/2023)

1 INTRODUCTION

West Bay Development Group, LLC has submitted an application to the City of Olympia (City) to redevelop a parcel along West Bay Drive (Parcel Nos. 72600200100, 91013100000), on the shoreline of Budd Inlet. On November 8, 2023, the City issued a third round of comments on the proposal. The purpose of this letter is to provide a narrative response to a subset of the comments issued by the City related primarily to compliance with the City's Shoreline Master Program (SMP) requirements for shoreline restoration projects (Olympia Municipal Code [OMC] 18.20.855).

2 PURPOSE OF THE SHORELINE RESTORATION

The purpose of the shoreline modification for this project is to provide for restoration of shoreline ecological and physical functions. The shoreline restoration has been designed using the site-specific recommendations and design principals in the City's 2016 *West Bay Environmental Restoration Assessment – Final Report* (CHE 2016). This Best Available Science (BAS) guidance describes the general concepts that underpin the design of this shoreline restoration proposal: reconnection of riparian and intertidal habitats; placement of natural beach substrates at appropriate slopes and elevations; and, creation of salt marsh in the upper intertidal zone. These design elements, incorporated into the restoration proposal, will provide habitat functional lift to many species of concern in the Budd Inlet area and wider Puget Sound.

Overall, the placement of select beach fill material along the shoreward face of the rip-rap seawall at the West Bay site is intended to create a naturally-sloping beach profile that will achieve the goals of providing sea level rise resilience, wave energy dissipation, interconnection between the planted riparian corridor and the intertidal habitat, and provide habitat to organisms such as

epibenthic invertebrates and forage fish species that make up the foundation of the Puget Sound food web.

3 MINIMUM FILL NECESSARY

3.1 Removal of the Drift Sill

The intended function for the originally-proposed drift sill/groin was to provide stabilization of the beach material to resist the movement of the material to the south through wave action and currents. In lieu of the drift sill, to stabilize the shoreline beach fill material at the southern end of the restoration, the project will incorporate larger-sized beach fill material than in other areas of the site, in a limited zone. The material will be a mix of sand, larger gravel, and cobble sized material. This larger beach substrate will be used, in addition to large woody debris and high intertidal and riparian vegetation, to resist erosion and sediment movement to the south from wave action and currents. Using this beach material, along with saltmarsh vegetation, large woody debris and dense riparian vegetation, will avoid the use of larger armor stone such as in a drift sill. The gravel and cobble beach material will support soft shore design techniques such as the gentle beach slope and vegetation required for feasibility of restoration and minimizing the need for larger and more extensive fill material.

The fill material placed at the southern end of the restoration will respect the southern property boundary. It is anticipated that the larger beach fill material will be used in conjunction with large woody debris and upper shore zone riparian plantings to stabilize this transitional area. The use of these materials will avoid the use of hard armoring and will minimize the placement of stabilization fill in this area.

The placement of beach fill material to create a naturally-sloping beach profile is consistent with the conceptual restoration alternative outlined in the City's 2016 *West Bay Environmental Restoration Assessment – Final Report*. Coupled with the planting of saltmarsh and riparian vegetation along with large woody debris, this soft-armoring approach represents the minimum fill necessary to achieve a fully functioning shoreline restoration that best meets the goals of the City's SMP.

3.2 Minimum Fill Necessary for Restoration

The current proposal for restoration of the shoreline ecological functions along the West Bay Yards site has been designed to comply with the City's SMP along with the BAS regarding design of shoreline modifications. As stated above, the design of this restoration is pulled directly from the City's 2016 *West Bay Environmental Restoration Assessment – Final Report* (CHE 2016). This BAS document summarizes the restoration proposal chosen for this location.

There are various other examples of BAS justifying the particular design choices put forward as part of this proposal. The Washington Department of Fish and Wildlife's *Marine Shoreline Design Guidelines* (Johannessen et al. 2014) details several design techniques that incorporate elements which enhance the habitat function of the shoreline and are utilized in the current proposal, including beach nourishment, large wood, and to an extent, bulkhead removal. These techniques provide for the restoration of important shoreline ecosystem functions.

The proposed use of native vegetation (saltmarsh and riparian) reduces erosion by intercepting precipitation and preventing surface water runoff, creating a root network to decrease erodibility of surface soils, and improving soil cohesion throughout the rooting zone as the plantings become more mature. Additionally, riparian vegetation acts as a buffer for transitional species and benefit the nearshore habitats by providing shading, which is specifically crucial for forage fish spawning habitat (Brennan 2007). Reduction in riparian areas or lessened quality of these riparian functions would have impacts to multiple trophic levels (Brennan and Culverwell 2004, Shreffler et al. 1994). The proposed design utilizes the minimum amount of fill necessary to create an enhanced riparian corridor along the site, restoring these vital functions to the nearshore habitat on the site.

Chapter 18.20.855.I OMC requires “restoration and enhancement projects shall not extend waterward more than the minimum necessary to achieve the intended result...” As stated above in Section 2, the “intended result” of the proposed shoreline restoration is to create a naturally-sloping beach profile that will provide numerous beneficial physical and ecological functions at the site. Further limiting the amount of material placed waterward of the ordinary high water mark (OHWM) would diminish the functions provided by the shoreline restoration and would result in a compromised restoration project, contrary to both the intended result of the proposal and to the City’s 2016 *West Bay Environmental Restoration Assessment – Final Report*.

4 ALTERNATIVE SHORELINE DESIGN

“Alternative 3”, as described in the *West Bay Yards Shoreline Restoration Design Report* (Moffatt & Nichol 2023) presented to the City of Olympia, was considered as a way to reduce fill by cutting into the top of the slope, thereby relocating the OHWM landward. However, this would result in a narrower riparian corridor along the top of the shoreline, resulting in diminished riparian function when compared to the preferred design. A decrease in riparian width along the shoreline would degrade several important functions, including screening from human disturbances, stormwater runoff filtration, shading and thermal regulation, nutrient input to nearshore habitats, and habitat area for fauna (Brennan and Culverwell 2004). A reduction in riparian area and function also affects the nutrient cycles within the habitat. This has a direct adverse effect on local fauna, for example forage fish community structure and survival (Fresh 2011).

Overall, Alternative 3 would result in a reduction in the area of the riparian corridor of approximately 13,834 square feet. This equates to an average reduction in riparian width of approximately 12 feet along the entire shoreline, and a reduction of approximately 13.6% of the restored riparian zone by area. This significant reduction would result in diminished habitat function and reduced restoration value (Fresh et al. 2011). To quantify this reduction in riparian habitat function, the riparian zone area values were entered into NOAA Fisheries’ *Puget Sound Nearshore Habitat Conservation Calculator – v. 1.5b* (Ehinger et al. 2023). This calculator is used by NOAA Fisheries to calculate conservation credits or debits generated by proposed projects in Puget Sound.

As shown in Table 1, Alternative 3 would generate significantly less conservation credits for riparian habitat function (-244 credits) when compared with Alternative 2. Likewise, Alternative 3 would generate 2.8 less DSAYs¹ when compared to Alternative 2 (Table 1).

Table 1. Comparison of conservation credits and DSAYs generated by alternatives²

Alternative	Proposed Riparian Zone Area (SF)	Conservation Credits Generated	DSAYs Generated
Alternative 2	101,793	1,861	18.6
Alternative 3	87,959	1,617	16.2

This reduction in functional value of the riparian zone along the project site would compromise the intended goal of the shoreline restoration project, which is to provide the high-functioning shoreline habitat envisioned by the City's 2016 *West Bay Environmental Restoration Assessment – Final Report* (CHE 2016). Reducing the amount of fill placed waterward of the OHWM through the implementation of Alternative 3 would result in diminished riparian function and would not achieve the intended result of the proposed shoreline restoration project, in conflict with OMC 18.20.855(I).

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- Brennan, J.S. 2007. Marine Riparian Vegetation Communities of Puget Sound. Puget Sound Nearshore Partnership Report No. 2007-02. Published by Seattle District, U.S. Army Corps of Engineers, Seattle, Washington.
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- Coast & Harbor Engineering (CHE). 2016. City of Olympia West Bay Environmental Restoration Assessment. Prepared by Coast & Harbor Engineering, a Division of Hatch Mott MacDonald; in association with JA Brennan Associates, GeoEngineers, Davido Consulting Group, and Environmental Science Associates. February 26, 2016.
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¹ Discounted-service-acre-year (DSAY) is a unit of measure that represents the relative value of all ecosystem services provided by a habitat site over a specified number of years. DSAYs are typically used in the context of NOAA Fisheries' Natural Resource Damage Assessment program when assigning debits and credits for habitat loss and restoration.

² Generated using NOAA Fisheries' *Puget Sound Nearshore Habitat Conservation Calculator - v. 1.5b* (Enhiger et al. 2023)

Fresh K., M. Dethier, C. Simenstad, M. Logsdon, H. Shipman, C. Tanner, T. Leschine, T. Mumford, G. Gelfenbaum, R. Shuman, J. Newton. 2011. Implications of Observed Anthropogenic Changes to Nearshore Ecosystems in Puget Sound. Prepared for the Puget Sound Nearshore Ecosystem Restoration Project. Technical Report 2011-03.

Johannessen, J., A. MacLennan, A. Blue, J. Waggoner, S. Williams, W. Gerstel, R. Barnard, R. Carman, and H. Shipman, 2014. Marine Shoreline Design Guidelines. Washington Department of Fish and Wildlife, Olympia, Washington.

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March 25, 2024

Sent via email

nfloyd@ci.olympia.wa.us

Nicole Floyd, AICP
Principal Planner
City of Olympia
601 – 4th Avenue E
Olympia, Washington 98501

RE: West Bay Yards Mixed-Use Development
Project No. 21-2854

Dear Ms. Floyd:

This letter serves as a supplement to my February 15, 2024 letter to you, on behalf of West Bay Development Group, LLC (the “Applicant”), addressing the City’s third round of substantive review comments for the West Bay Yards project (the “Project”).

Specifically, the City has raised a concern that the placement of fill waterward of the existing Ordinary High Water Mark (“OHWM”) for the voluntary shoreline restoration agreed to under the Applicant’s Development Agreement may not be consistent with OMC 18.20.855(I), which states in part, “Restoration and enhancement projects . . . shall not result in the creation of additional upland area. For the reasons detailed below, interpreting OMC 18.20.855(I) to prohibit fill necessary to accomplish shoreline restoration is inconsistent with basic principles of statutory interpretation, the *City of Olympia West Bay Environmental Restoration Assessment Final Report* (Coast & Harbor Engineering, 2016) (the “2016 Report”), and best available science for shoreline restoration design.

A. A Proper Interpretation of OMC 18.20.855(I) Allows Creation of Upland Incidental to and Resulting From a Shoreline Restoration Project

When interpreting code provisions, the overarching goal is to give effect to legislative intent.¹ That intent is determined based on the text at issue as well as the relevant legislative enactment in its totality, which requires that provisions be harmonized by reading them in context with related provisions and the statute as a whole.² The law also requires that an interpretation not lead to absurd results and not make another portion of the statutory scheme superfluous.³ Every effort should be taken to avoid an interpretation that would cause two provisions to conflict.⁴

¹ *Quadrant Corp. v. State Growth Mgmt. Hearings Bd.*, 154 Wn.2d 224, 238, 110 P.3d 1132 (2005).

² *Id.* at 238-39.

³ *Icicle/Bunk, LLC v. Chelan County*, 28 Wn. App. 2d 522, 528, 537 P.3d 321 (2023).

⁴ *Id.*

In addition, the Shoreline Management Act (“SMA”) and Shoreline Master Program (“SMP”) regulations are explicitly “exempt from the rule of strict construction.” RCW 90.58.900; OMC 18.20.120. The SMA and SMP regulations are instead required to be “liberally construed to give full effect to the objectives and purposes for which [they were] enacted.” RCW 90.58.900; OMC 18.20.120. The requirement of liberal construction has been repeatedly applied by the courts.⁵ To properly apply a liberal construction, the statute should be read to “conform to the spirit as well as the letter of the act” and “any doubt as to the meaning of the statute should be resolved in favor of [the act’s purpose].”⁶

As you know, the provision at issue, OMC 18.20.855(I), states in part, “Restoration and enhancement projects . . . shall not result in the creation of additional upland area.” The Code’s only definition of “upland” (found in its general development code definitions, and not in the City’s SMP Regulations) is “[t]he area above and landward of the ordinary high water mark.” OMC 18.02.180(U). The question is whether this definition, when incorporated into OMC 18.20.855(I), prohibits the placement of fill waterward of the OHWM as part of the proposed voluntary shoreline restoration to avoid the creation of “upland area.”

The only interpretation of OMC 18.20.855(I) that appropriately accounts for the statutory text, context, and purpose is to prohibit “the creation of additional upland area” for development purposes but allow the incidental creation of uplands resulting from shoreline restoration.

To begin with, allowing creation of uplands incidental to shoreline restoration harmonizes OMC 18.20.855 with the Code’s provisions that expressly address fill. Those provisions, at OMC 18.20.833 (for shorelands⁷) and .837 (for waterward of the OHWM), allow fill waterward of the OHWM, with limitations. On shorelands, fill is permitted “in conjunction with approved shoreline use and development activities that are consistent with [the SMP],” OMC 18.20.833(A), as long as it is not “for the sole purpose of creating land area,” OMC 18.20.833(F). Restoration and enhancement are permitted activities. *See, e.g.*, OMC 18.20.850, .855. Waterward of the OHWM, fill is similarly permitted, but only for specified purposes, including “[e]cological restoration or enhancement.” OMC 18.20.837(A)(3).

Together, the SMP regulations’ fill-specific provisions expressly allow fill for restoration purposes, including above and below the OHWM, except if “the sole purpose” of that fill is “creating land area.” OMC 18.20.833(F). The necessary implication is that upland area may be created as an incidental effect of a permitted purpose, including restoration.

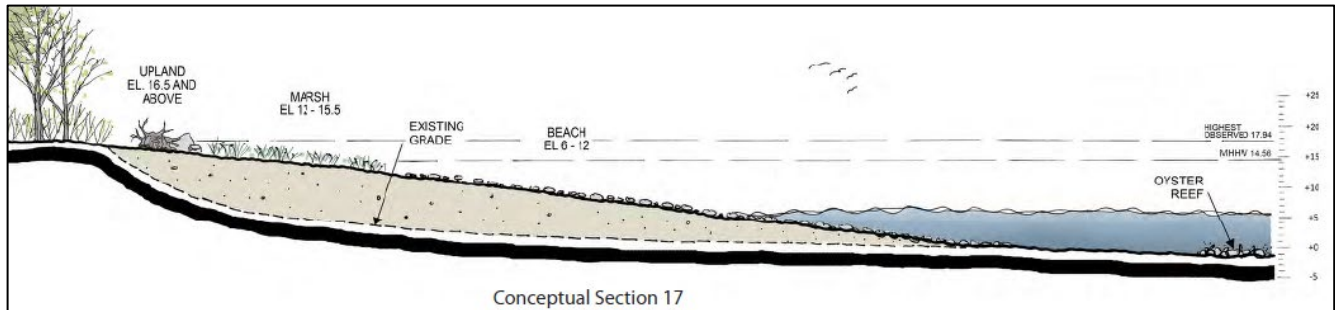
The SMP regulations’ restoration provisions specifically anticipate and authorize fill activity associated with shoreline restoration. For instance, OMC 18.20.855 states that “[r]estoration and enhancement shall be allowed on all shorelines,” where “shorelines” include both water areas of the state and associated shorelands. RCW 90.58.030(2)(e), .030(2)(f). Shoreline restoration therefore anticipates restoring areas both upland and waterward of the OHWM. Because nothing in the Code prohibits fill that is consistent with “best available science and management practices,” OMC 18.20.855(E), the Code does not prohibit restoration-oriented fill waterward of the OHWM that incidentally creates uplands.

⁵ *See, e.g., Buechel v. State Dep’t of Ecology*, 125 Wn.2d 196, 203, 884 P.2d 910 (1994); *Herman v. Shorelines Hearings Bd.*, 149 Wn. App. 444, 459, 204 P.3d 928 (2009).

⁶ *Gaines v. Dep’t of Lab. & Indus.*, 1 Wn. App. 547, 552, 463 P.2d 269 (1969).

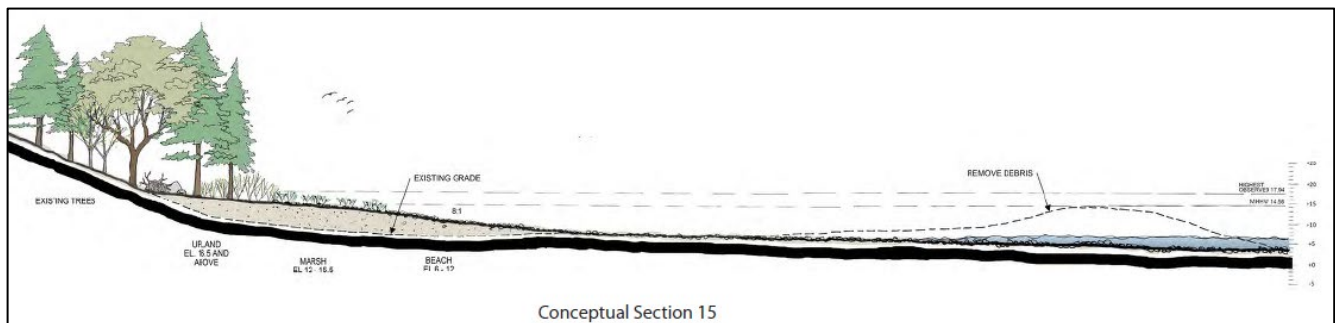
⁷ Shorelands are “those lands extending landward for two hundred feet in all directions as measured on a horizontal plane from the ordinary high water mark.” RCW 90.58.030(2)(d).

In addition, the City recognized that incidental creation of uplands would result when it prepared the 2016 Report, which the Code expressly endorses as establishing “conceptual restoration approaches.” OMC 18.20.850. Several of those conceptual approaches anticipate fill waterward of the OHWM and depict resulting incidental creation of upland elements of the shoreline restoration. For instance, see Conceptual Section 17, located in “Reach 5,” in which the Project is located:



Conceptual Section 17. Source: 2016 Report

Conceptual Section 15, located in “Reach 3” just south of the Project site, also endorses the use of fill across the OHWM with resulting incidental creation of uplands:



Conceptual Section 15. Source: 2016 Report

Both of these City-endorsed restoration projects, as well as others included in the 2016 Report, plainly depict creation of “upland area” that is incidental to permitted restoration. Because the Project’s proposed restoration is based on the 2016 Report, that restoration is by definition consistent with the Code, OMC 18.20.850.

Importantly, the 2016 Report’s recommendations are not accidental – and indeed reflect best practices in restoring ecological processes along the Project’s waterfront. As articulated in the technical memorandum prepared by the Project’s consulting experts, enclosed at **Attachment A**, creating a “naturally functioning beach for shoreline restoration includes creation of both backshore/berm as well as foreshore.” Introducing a backshore – which is located upland pursuant to the City’s definition, as it is landward of the existing OHWM – is necessary not only to protect infrastructure from tidal and wave action, but also to provide space for marine riparian zone with naturally occurring accumulation of drift logs and vegetation and account for rising sea levels. Allowing fill to be placed waterward of the OHWM as part of a restoration project is therefore consistent with well-planned enhancement of ecological function.

Moreover, the incidental creation of uplands, which would result from the Project's voluntary restoration is categorically different from the type of fill impact the 2016 Report identifies that had historically occurred in the area. The 2016 Report notes the following at page six:

- “Dredging deepened channel between 1893 and 1894 and again between 1909 and 1911 resulting in creation of 29 city blocks using two million cubic yards of spoils on the Port Peninsula to the east of West Bay”;
- “The bluff and shoreline along West Bay was modified by regrading and fill placed at base of West Bay bluff to create land for sawmills in the late 1800's through the mid-1900's”; and
- “West Bay fill placed from 1870s – 1970s created approximately 40 acres of new uplands.”

(Emphasis added). Interpreting OMC 18.20.855(I) to prohibit the incidental creation of uplands resulting from shoreline restoration effectively treats the historic sweeping creation of acres of buildable land through fill and the incidental creation of uplands resulting from shoreline restoration as substantively the same. The Code does not support that conclusion.

B. Interpreting OMC 18.20.855(I) to Prohibit Incidental Creation of Uplands Resulting From Shoreline Restoration Creates Unnecessary Conflict within the Code, with the 2016 Report, and with City Environmental Policy

The City's reading of OMC 18.20.855(I) is incorrect because it is inconsistent with controlling legal principles and the purpose of both the SMA and SMP regulations.

As an initial matter, interpreting OMC 18.20.855(I) to prohibit incidental creation of uplands resulting from shoreline restoration creates an unnecessary conflict between the Code's fill and restoration provisions. If fill can be placed on the shoreland as long as the “sole purpose” is not for “creating land area,” OMC 18.20.833(F), and if fill can be placed waterward of the OHWM for “[e]cological restoration or enhancement,” OMC 18.20.837, it makes no sense for OMC 18.20.855 to be read to prohibit fill waterward of the OHWM resulting in the incidental creation of uplands in connection with a restoration project.

The City's interpretation of OMC 18.20.855(I) also creates unnecessary conflict with best practices, called out both in the 2016 Report (which is itself endorsed at OMC 18.20.850) and Department of Ecology (“Ecology”) recommendations. To begin with, the 2016 Report expressly endorses restoration projects that, as a result of fill used to restore the intertidal and transitional zone, include the incidental creation of uplands. Those projects are prohibited outright if OMC 18.20.855(I) blindly prohibits any fill resulting in waterward movement of the OHWM. Similarly, Ecology's Shoreline Master Program Handbook highlights that restoration planning should account for sea level rise, including by allowing for larger areas of inland restoration to accommodate inundation and shifting of the shoreline. The City's interpretation cuts directly against those recommendations, by prohibiting fill that shifts the OHWM waterward – creating uplands – as an incidental impact of restoration.

Finally, interpreting OMC 18.20.855(I) to prohibit the proposed restoration fails to account for the SMP regulations' requirement that it be “liberally construed” to give effect to the SMP's purpose. OMC 18.20.120. That purpose is, among other things, to promote . . . reasonable regulations for

development and use of Olympia’s shorelines,” and “restor[e] shorelines that have been impaired or degraded.”⁸ Allowing a voluntary restoration project, which is consistent with the City’s own proposals for restoration of West Bay, is far more consistent with the SMP and the policies listed at footnote 6 of my February 15, 2024 letter than prohibiting fill location in an arbitrary manner (i.e., not founded in a science-based concern regarding the efficacy of the restoration). To the extent there is doubt in how OMC 18.20.855 should be interpreted, that doubt should be resolved in favor of allowing restoration to occur.⁹

C. Conclusion

In short, interpreting OMC 18.20.855(I) to prohibit the incidental creation of uplands resulting from a voluntary shoreline restoration project is a myopic and strict reading of the Code that unnecessarily creates internal conflict and fails to carry out the purpose of the relevant statutory scheme. A proper interpretation should allow a waterward shift in the OHWM and creation of uplands incidental to a shoreline restoration and enhancement project, where, as with this Project, the newly created uplands provide essential elements of an ecologically functioning beach and there is no increase in developable upland area.

The Applicant requests that the City review this supplemental response together with our letter of February 15, 2024 and respond by April 10, 2024 as to whether staff will recommend approval of the voluntary shoreline restoration element of the Project as proposed.

Sincerely,

DICKSON FROHLICH PHILLIPS BURGESS PLLC



Heather L. Burgess

HLB/dlg

cc: (via email)

Michael Young, Deputy City Attorney (myoung@ci.olympia.wa.us)

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Jay Burney, City Manager (jburney@ci.olympia.wa.us)

Client

Attachment A – Technical Memorandum dated March 25, 2024

⁸ Shoreline Master Program (Jun. 29, 2021) at 6.

⁹ *Gaines*, 1 Wn. App. at 552.



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TECHNICAL MEMORANDUM

To: Nicole Floyd, AICP | Principal Planner (City of Olympia)

From: Shane Phillips, PE | Coastal/Waterfront Engineer; Youns Nouri, PE | Coastal Engineer (Moffatt & Nichol) in collaboration with Scott Maharry | Principal Scientist (Grette and Associates) and Jim Brennan | Principal Landscape Architect (J.A. Brennan)

Date: March 25, 2024

Subject: West Bay Yards

M&N Job No.: 201839

1 Introduction

The West Bay Yards (WBY) is proposing a redevelopment project at the former industrial Hardel Plywood facility located at 1210 West Bay Drive, Olympia, Washington. WBY will develop a waterfront community that consists of a mix of uses including 478 residential units, approximately 6,800 square feet of retail and approximately 10,600 square feet of restaurant area, and 828 parking stalls. Additionally, the project proposes to restore the existing ecologically degraded shoreline and to enhance public access to the shoreline by providing direct access points in addition to an elevated public plaza and a waterfront trail.

The proposed shoreline restoration action is based on the conceptual restoration alternative developed in the City of Olympia's 2016 West Bay Environmental Restoration Assessment – Final Report (CHE, 2016). The proposed shoreline enhancement/restoration actions include creating intertidal beach, saltmarsh areas, riparian plantings, installation of large woody debris, removal of debris and concrete structures, and creation of an esplanade waterfront trail with public access.

WBY has submitted the project proposal with an application for a Shoreline Substantial Development Permit to the City of Olympia (City). The City has completed two rounds of review and WBY has addressed most of their comments/questions. We understand that one remaining comment from the City pertains to the waterfront element of the project (shoreline restoration and enhanced public access) as follows:

Address efforts to avoid creation of upland areas following provision in OMC 18.20.855(i), specifically the underlined section:

"1. Restoration and enhancement projects shall not extend water-ward more than the minimum necessary to achieve the intended result and shall not result in the creation of additional upland area."

The purpose of this memorandum is to respond to the City's abovementioned comment. The multi-disciplinary project team addressing the comment is comprised of Moffatt & Nichol (M&N) for coastal and waterfront engineering and design, Grette Associates for aquatic habitat/biology, J.A. Brennan for landscape architecture design, and Landau Associates Inc. for geotechnical engineering design (herein referred to as the "Project Team").

The Project Team reviewed the following technical resources to evaluate the design with respect to the City's comment: U.S. Army Corps of Engineers 2008 Coastal Engineering Manual, "The Geomorphology

of Puget Sound Beaches” 2006 document by Finlayson and the Washington Department of Fish, Wildlife (WDFW) 2014 Marine Shoreline Design Guidelines and the Washington Department of Ecology (ECY). SMP Handbook, Appendix A. Addressing Sea Level Rise in Shoreline Master Programs.

2 Coastal Zone Definitions

The U.S. Army Corps of Engineers (USACE) provides the following definitions for the coastal zone in the Coastal Engineering Manual (USACE 2008) and depicts the typical beach profile as Figure 2-1 below.

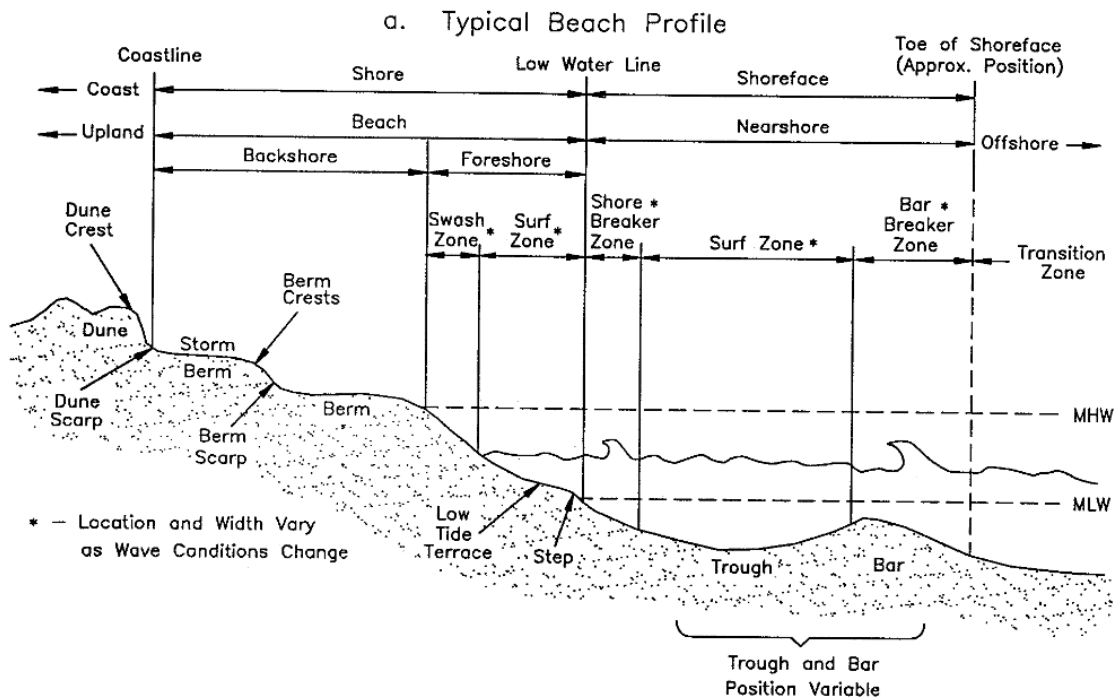
Backshore: That part of the beach that is usually dry, being reached only by the highest tides, and by extension, a narrow strip of relatively flat coast bordering the sea¹.

Berm (or Beach Berm): nearly horizontal portion of the beach or backshore formed by the deposit of material by wave action. Some beaches have no berms, others have one or several.

Foreshore (or beach face): That part of shore which lies between high and low water mark at ordinary tide.

Upland: Land above mean high water mark and subject to private ownership, as distinguished from tidelands, ownership of which is prima facie in the state but also subject to divestment under state statutes.

Marine Riparian²: The transitional zone between the uplands and aquatic environments adjacent to marine waters, where marine riparian vegetation is often located.



¹ Alternatively, backshore has been defined as follows by the Washington Department of Fish and Wildlife (WDFW) in the Marine Shoreline Design Guidelines (WDFW 2014): “The upper zone of a beach beyond the reach of normal waves and tides, landward of the beachface. The backshore is subject to periodic flooding by storms and extreme tides, and is often the site of dunes and back-barrier wetlands. Width is measured cross-shore from the waterward extent of the backshore to the waterward extent of upland vegetation or anthropogenic modifications. Backshore areas tend to be highly modified or nonexistent on developed properties.”

² Definition of “Marine Riparian” is provided by the Marine Shoreline Design Guidelines (Johannessen et al 2014).



Figure 2-1 Typical Beach Profile (Coastal Engineering Manual 2008)

3 Beaches of Puget Sound

Beaches of the Puget Sound typically have a ‘dynamic’ berm in the backshore area up to several feet higher than mean higher water. The berm is the zone of concentrated wave action and adequate berm width is critical to protection of upland infrastructure, as depicted in Figure 3-1 and Figure 3-2, see (Finlayson 2006) for further details.

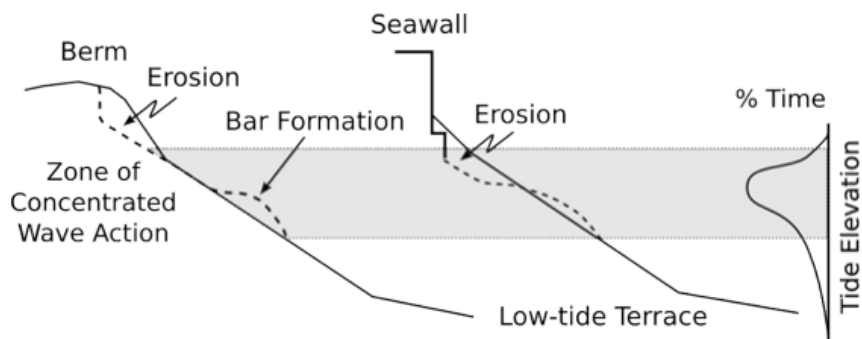


Figure 3-1: Beach profile response on macro-tidal, low-energy beaches. Model shown for both natural and modified beaches as observed at Cama Beach, Camano Island (Finlayson 2008).



Figure 3-2: Example of high tide windstorm causing significant beach and backshore change at Rosario Resort in San Juan County (Johannessen and MacLennan 2007)



4 Nearshore Restoration Design Background

Creation of a naturally functioning beach for shoreline restoration includes creation of both backshore/berm as well as foreshore. Project site characteristics that contribute to design of a naturally functioning beach include wave energy and available backshore in addition to project length, cumulative risk, alignment, and shoretype.

Adequate berm width in the backshore area not only protects the upland infrastructure against coastal hazards but also provides the space for the riparian zone with drift logs, dune grass and other salt-tolerant herbaceous vegetation present. Additionally, adequate berm width allows adaptability to Sea Level Rise (SLR).

The WDFW Marine Shoreline Design Guidelines (Johannessen et al 2014) provides guidelines for the range of backshore width required to support a naturally functioning beach based on project site's wave energy, see Table 4-1. Following these guidelines, WBY project is in a 'High' wave energy environment where for a medium scenario, a backshore width (measured landward from MHHW) of 25+ ft and 35+ is applicable for medium and high cases, respectively.

Table 4-1 Backshore width categories in feet (measured from MHHW landward) to assist with selection of appropriate design alternatives for the site conditions from WDFW Marine Shoreline Design Guidelines (Johannessen et al 2014).

Backshore width (ft)	Wave Energy Category		
	Low	Moderate	High and Very High
Low (ft)	<5	5-15	15+
Medium (ft)	5-10	15-25	25+
High (ft)	10-15	25-35	35+

5 Proposed Restoration Design Basis for West Bay Yards (WBY)

Constructing a nearshore beach restoration without creating a non-developable backshore and beach berm feature would reduce functionality, increase risks for performance and require a greater level of maintenance.

The proposed restoration design for WBY includes placement of fill to restore the existing ecologically degraded shoreline and to enhance public access to the shoreline. The proposed restoration does not create new/additional upland areas. However, the proposed restoration includes creation of backshore/berm and foreshore, see Figure 5-1 and Figure 5-2. The proposed design, at the preliminary level, creates an average backshore width of approximately 33 to 36.



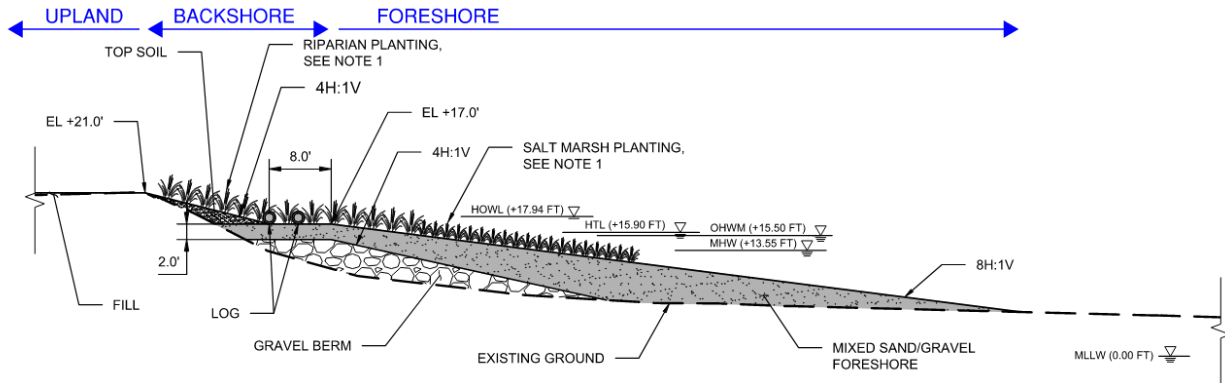


Figure 5-1 Proposed conceptual design cross section for WBY creating backshore/berm and foreshore.

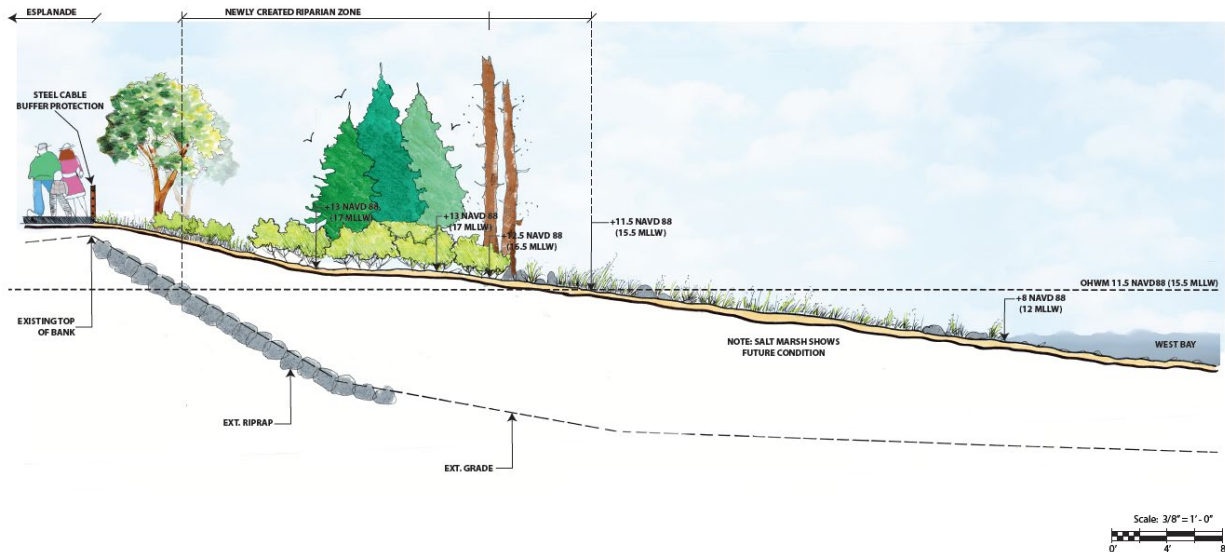


Figure 5-2 Proposed conceptual design cross section for WBY creating marine riparian zone

The following critical elements were incorporated for development of the proposed beach design for WBY.

- Naturally Functioning Beach. The combination of adequate backshore and foreshore are needed to create a naturally functioning beach from both physical and biological processes perspective.
- Wave Exposure. The beach berm/ backshore is critical to dissipating wave runup energy. The project site is classified by the Federal Emergency Management Administration (FEMA) as a VE zone (coastal areas subject to storm surge and wave heights greater than 3 ft), see Figure 5-2 . The proposed beach berm is a required feature to dissipate storm wave energy. The backshore/berm will be subject to seasonal storm changes. If the backshore/ berm is not constructed, erosion of the fronting beach and loss of habitat value can be expected. The width of beach berm is sized to provide a buffer for wave energy dissipation and allow for a functional riparian zone. It is also critical for that beach berm to be composed of a sufficient width of granular material to dissipate wave uprush. The granular beach fill is an important feature for the beach function.



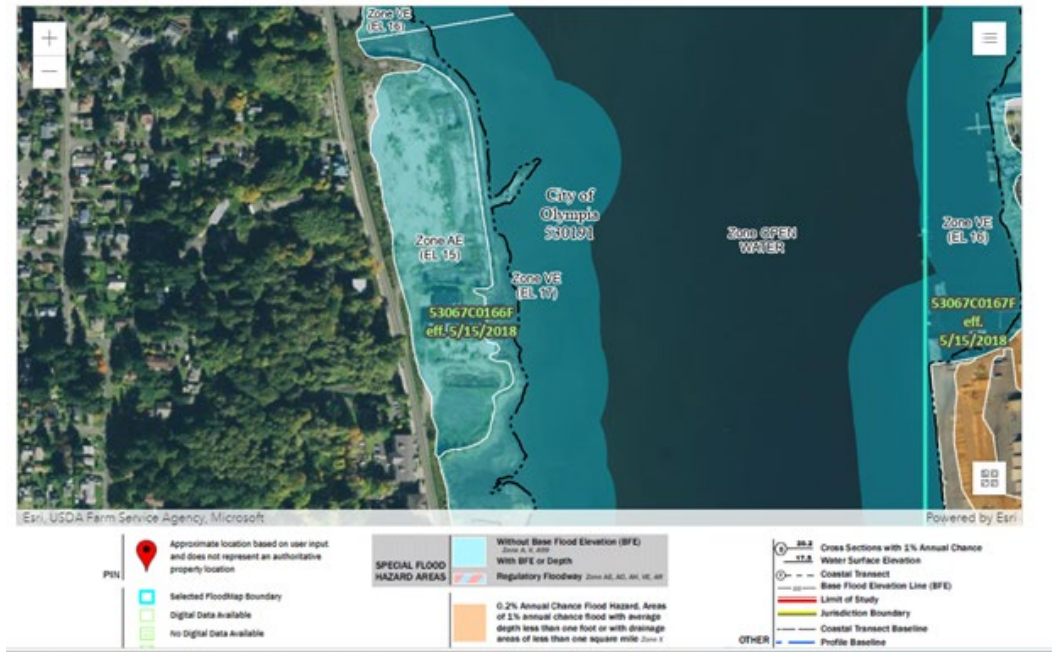


Figure 5-3 VE Flood Zone at Project site. Source: FEMA Flood Maps.

- Resilience against Sea Level Rise. The Washington State Department of Ecology (Ecology) has addressed the role of inland areas in resilience against sea level rise in Appendix A to the Shoreline Master Program (SMP) Handbook as follows:

“... sea level rise predictions should be factored into restoration planning, perhaps including larger inland areas in restoration or habitat protection efforts to accommodate increasing inundation and to allow the shoreline to shift farther inland.”

As outlined in the City of Olympia Sea Level Response Plan, a moderate level scenario of SLR is estimated to be 18 to 24 inches. Higher water levels will result in faster rates of erosion on beaches and coastal bluffs (Shipman, 2009). Accommodating shoreline translation because of SLR can enable salt marshes, sand dunes and beaches to transgress (move landwards while maintaining their overall form). This concept is commonly referred to as “managed retreat” or “managed realignment” (WDFW, 2014). The proposed backshore berm is needed to provide the adaptation and resiliency for sea level rise or “managed realignment” as referred to by WDFW.

6 Summary and Conclusions

The proposed shoreline restoration design by WBY in our opinion does not create new or additional upland areas and does conform to the provisions of the City’s SMP Section 2.32.F. because:

1. Creation of adequate backshore/berm conforms to provisions of the City’s SMP Section 2.32.C and Section 3.63, OMC 18.20.837, and the guidelines of Ecology’s SMP Handbook Appendix A.; and
2. The proposed restoration design creates the minimum necessary backshore/berm and this backshore/berm is a critical functional element of the beach restoration that provides the following functions:
 - A) the protection of upland infrastructure;



- B) providing space for the marine riparian zone; and
- C) building adaptability against sea level rise.

7 References

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<https://wdfw.wa.gov/sites/default/files/publications/01583/wdfw01583.pdf>

