

Terminal 1 Waterfront Development Urban Design Standards & Guidelines



NOVEMBER 29, 2018

Waterfront Development Urban Design Standards & Guidelines

Contents

1. Overall Site Development Vision	3
2. Definitions	4
3. Design Review	6
4. Design and Permitting	10
5. Community Outreach and Engagement	10
A. Standards:	10
B. Guidelines:.....	11
6. Sustainable Design Certification	11
A. Standards:	11
B. Guidelines:	12
7. Walkable Neighborhood	12
A. Standards:	12
B. Guidelines:	18
8. Parking and Transit	20
A. Standards:	20
B. Guidelines:	23
9. Low Impact Development	23
A. Standards:	23
B. Guidelines:	25
10. Water	26
A. Standards:	26
B. Guidelines:	27
11. Energy	28
A. Standards:	28
B. Guidelines:	28
12. Materials	29
A. Standards:	29
B. Guidelines:	29
13. Indoor Environmental Quality	30

Waterfront Development Urban Design Standards & Guidelines

A. Standards:	30
B. Guidelines:	30
14. Operations	31
A. Standards:	31
B. Guidelines:	31
15. Outdoor Art.....	32
A. Standards:	32
B. Guidelines:	32
16. Signage.....	33
A. Standards:	33
B. Guidelines:	34
APPENDIX 1.....	35
LEED SPECIFIC TERMS & REFERENCES.....	35
APPENDIX 2.....	39
PROJECT BOUNDARY	39
APPENDIX 3.....	40
PREFERRED NATIVE AND ADAPTIVE PLANT SPECIES LIST	40

Waterfront Development Urban Design Standards & Guidelines

1. Overall Site Development Vision

It is the intent of the Port of Vancouver (Declarant, POV) to implement the principles, goals and policies of the Vancouver City Center Vision Subarea Plan for mixed-used development with connections to the waterfront. The Port intends to accomplish this by creating a unique urban waterfront character with visible connections to the waterfront while connecting to adjacent properties and providing destinations for the community to enjoy. A contemporary “urban” composition should reflect an architectural character that enhances the urban waterfront, streetscape and pedestrian experience by emphasizing a variety of materials textures, forms, colors and transparencies. This urban composition will reinforce the Columbia West Renaissance District as an extension of the downtown. This includes varying building typologies, footprints and building massing and scale front the Columbia River to create a diversity of building forms and urban spaces adjacent to the shoreline.

The Waterfront District Pier and Terminal 1 Building ‘marketplace’ will be the principle public destinations within the waterfront. The Terminal 1 ‘marketplace’ is connected by a series of pedestrian passageways, alleyways and plazas with a mix of office, residential, and local and regionally-based retail uses throughout the District. Local crafts, food and specialty retail uses should anchor the Pier and Terminal 1 Building as a place for commerce, social interaction, special events, dining, entertainment, and community-based uses that encourage the citizens of Vancouver to visit and enjoy their waterfront.

The Terminal 1 Building / Pier will be surrounded by vertically integrated mixed uses, including retail and customer-oriented services at the ground-level and residential and/or office uses above ground-level functions. The combination of uses is designed to promote vitality and diversity of activity within the Waterfront District.

Many of the principles, goals and policies of the Vancouver City Center Vision Subarea Plan and local and regional codes align with the urban planning and sustainability goals promoted by the LEED (Leadership in Energy and Environmental Design) for Neighborhood Development (ND) rating system. It is the intent of the Port of Vancouver for the waterfront development to earn the Gold level of certification for the Master Plan under LEED ND version 4 Plan and is required by the Master Plan (Concept Development Plan, CDP) approved by the City of Vancouver (Ordinance M-4204) for the individual buildings to earn the Gold level of certification under LEED Building Design and Construction (BD&C) version 4 or equivalent independent rating system. Certifying the master plan under LEED ND will make more points available to the individual buildings’ certification and clarify some of the specific requirements for the buildings’ design and construction.

Success will require a coordinated effort by the Port and the developers of individual parcels. The Port of Vancouver Waterfront Development Standards (‘Standards’) incorporate requirements of the Master Plan, the City of Vancouver, other Authorities Having Jurisdiction (AHJ) and principles of sustainable design with a goal of achieving that success. Many of the Standards are required to meet certain LEED Prerequisites under the ND and/or BD&C rating systems, and to meet a minimum number of credits to earn certification. These are referenced in the Standards with an abbreviated name of the LEED rating system, category and credit name such as “ND SLL Walkable Streets”.

Waterfront Development Urban Design Standards & Guidelines

All improvements including, but not limited to, new building projects, additions to existing projects, and new or revised exterior art, wayfinding and signage shall be reviewed and approved through the Port of Vancouver Design Review Committee (DRC) process on a case-by-case basis. Improvements on city rights-of-way shall be coordinated with the City of Vancouver and the Declarant.

2. Definitions

Terms are used in this Exhibit J with the meaning described as follows. Defined terms are identified in this document with capitalization. See Appendix 1 for additional definitions of LEED specific terms.

- A. Applicant: the Party submitting the Owner's proposed Improvements to the DRC.
- B. As-Built Construction Documents: contractor-provided documents as a record of the Work as constructed.
- C. Circulation Network: all motorized, nonmotorized, and mixed-mode travel ways permanently accessible to the public, not including driveways, parking lots, highway access ramps, and rights-of-way exclusively dedicated to rail. It is measured in linear feet. (LEED definition)
- D. Complete Design Submittal: an Owner/Applicant Design submission including materials, information and fees adequate to evaluate and render a decision. DRC will provide guidance to Applicant however, Applicant/Owner shall request a decision based upon self-claimed complete status of submittal.
- E. COV: City of Vancouver, a municipal corporation of the State of Washington.
- F. Declarant: the Port of Vancouver USA, a Washington municipal corporation, its successors and assigns, who are designated as such in a written assignment executed by Declarant and recorded in the Official Records of Clark County, Washington.
- G. Design: plans and specifications for the proposed Improvements and any other materials, information and fees required by the Development Standards and/or DRC. Also, Design Submission.
- H. DRC: Design Review Committee for the Port of Vancouver established pursuant to the terms of Article 3.B.
- I. Functional Entry: a building opening designed to be used by pedestrians and open during regular business hours. It does not include any door exclusively designated as an emergency exit, or a garage door not designed as a pedestrian entrance. (LEED definition).
- J. Guideline: recommended measure not required to be implemented in all Improvements at the POV Waterfront Development.

Waterfront Development Urban Design Standards & Guidelines

- K. Improvement: means every exterior structure or other development of any kind, including, but not limited to, buildings, patios, decks, fences, walls (including retaining walls), parking lots, driveways, sidewalks, light poles, storage shelters, exterior art and signage, landscaping (including grass, plants, flowers, shrubs, bushes and trees), utilities, and other products of construction efforts (including exterior painting, alterations additions and reconstruction).
- L. Long-term Bicycle Storage: bicycle parking that is easily accessible to residents and employees and covered to protect bicycles from rain and snow.
- M. Maintenance: including but not limited to, keeping the exterior of all buildings in a clean and attractive condition (e.g., no algae on walls or roof, no chipped or faded paint on walls, and no broken windows); keeping all grasses, bushes, shrubs, trees and other landscaping adequately watered and in a healthy, disease free condition; and removing snow and ice from the sidewalks, driveways, drive aisles and parking areas.
- N. Material Deviation: means changes to the design that compromise compliance with Design Standards.
- O. Occupant: means a “sublessee” of the Owner.
- P. Owner: means the person or persons holding a lease. The party undertaking Improvements to a parcel within the bounds of the POV Waterfront Development and jurisdiction of the DRC.
- Q. POV: Port of Vancouver, Port, port
- R. POV Waterfront Development: the sites bounded by Access Way 5 to the west, Columbia Street to the east, Railroad berm to the north and Columbia river to the south and compose the parcels for development for which the Standards, herein, apply. Also, Waterfront Development. See Appendix 2.
- S. Port of Vancouver Waterfront Standards: this document, as it may be amended.
- T. Property: means the real property described on the Attachment 2 POV Waterfront Development parcels in aggregate or a specific parcel or lot within the limits of the development.
- U. Short-term Bicycle Parking: non-enclosed bicycle parking typically used by visitors for a period of two hours or less.
- V. Standard: requirement to be implemented in all Improvements at the POV Waterfront Development. Also, Design Standard, Development Standard.

Waterfront Development Urban Design Standards & Guidelines

3. Design Review

- A. Required.** The Design for all Improvements including new building projects, additions to existing projects, and new or revised exterior art, wayfinding and signage shall be reviewed and approved through the Port of Vancouver Design Review Committee (DRC) process on a case-by-case basis.
- B. Design Review Committee.** Declarant shall establish a Design Review Committee (DRC) consisting of at least three (3) members. Members of the DRC need not be Owners or Occupants and may consist of officers and employees of Declarant and professionals such as architects, engineers and planners. The members of the DRC shall be appointed, terminated and replaced by Declarant, with or without cause.
1. **Purpose.** The purpose of the DRC is to:
 - a. **Interpret.** The DRC will interpret and approve or disapprove Design for proposed Improvements on basis of compliance with the POV Development Standards to protect property values and to preserve overall architectural design, quality, harmony, compatibility and integrity within the Property, and
 - b. **Consider.** The DRC will approve or disapprove requests for variance to the POV Development Standards and evaluate non-conformance declarations.
 2. **DRC Organization.** The DRC shall act by simple majority vote and shall have the authority to delegate its duties and to retain the services of a professional engineer, architect, designer, inspector or other person to assist in the performance of its duties.
 3. **Fees.** The DRC shall have the right to charge an application fee to cover its expenses including, but not limited to, the cost of hiring professionals to review submittals and requests for consideration of variance to Standards.
 4. **Immunity of DRC Members.** No individual member of the DRC shall have any personal liability to any Owner, Occupant or any other person for the acts or omissions of the DRC if such acts or omissions were committed in good faith and without malice. Declarant shall defend any action brought against the DRC or any member thereof arising from acts or omissions of the DRC committed in good faith and without malice. However, in the event that an Owner or Occupant brings a suit or an action against the DRC, the losing party agrees to pay the prevailing party a reasonable attorneys' fee before or at trial or any appeal, together with all costs and expenses incurred in connection with such actions.
- C. Development Standards.**
1. **Standards** are outlined herein and the basis of Design Review by the DRC.
 2. **Changes.**
 - a. Declarant may amend, modify and revise the Development Standards at any time and from time to time without having to obtain the consent or approval of the Owners,

Waterfront Development Urban Design Standards & Guidelines

Lessees or Occupants; provided, however, that Declarant will provide each Owner, Lessee and Occupant with a copy of all amendments, modifications and revisions to the Development Standards by delivering them per the Notice provisions of the lease. No amendments, modifications or revisions to the Development Standards, however, will affect any prior DRC approval. Improvements completed under a prior DRC approval, or projects under DRC review whose application has been deemed fully complete by the DRC.

- b. The Waterfront Development is contemplated to be a multi-phased project that will be developed in stages over many years, and that changes in the plans for development will likely occur in the future based on changes in the marketplace and the economy. Each Owner waives the right to protest, challenge or otherwise object to changes made or proposed by Declarant in the Waterfront Development plan for the development or in uses, covenants, conditions and restrictions applicable to the property beyond the boundaries of that shown in Appendix 2, plat, binding site plan or survey for the phase which such Owner's lot is located, provided however, that such change does not manifestly and materially increase the Owner's financial obligations. Declarant will inform Owners of proposed Improvements within the Waterfront Development as submitted to the DRC. The DRC will take input from Owners under consideration.

D. Design Review Process.

1. **Approval.** DRC approval is required for all Improvements.
2. **Submission of Design for Review.** Before the initiation of construction of any Improvements on any Lot, the Owner or Occupant thereof shall first submit to the DRC a Complete Design including a set of plans and specifications for the proposed Improvements and any other materials, information and fees (collectively, the Design) required by the Development Standards and/or DRC. Depending upon the extent of the Improvements, submittals may be considered by the DRC with or without convening Applicant/Owner and DRC for conference. Multiple submittals and/or conferences are recommended to afford Applicant the opportunity to seek timely clarification, consideration, and input from the DRC.
3. **Initial Review Application.** For those Improvements that require a Pre-Application Conference with the City of Vancouver, or at the request of the DRC Applicant shall submit a Design to DRC and/or schedule a DRC conference held at least five (5) business days prior to a scheduled COV Pre-Application Conference date. Applicant will submit adequate drawings, specifications, 3-D images, anticipated project schedule, project team, and other information to define the project and its benefits. Applicant will identify Development Standards that will be met, those for which interpretation is requested, and those for which it intends to seek variance. At a scheduled conference, Applicant will present the information to DRC. Following presentation and/or submission of the Design, DRC will provide preliminary notes for benefit of the applicant issued in a brief written summary or checklist format within five (5) business days.

Waterfront Development Urban Design Standards & Guidelines

4. **Intermediate Review Application.** Applicant shall submit a Design to DRC and/or schedule a DRC conference held at least five (5) business days prior to a scheduled COV Design Review (per VMC 20.265), or Site Plan Review (Land Use), or at the request of the DRC. Applicant will submit materials and fees along with a written description of how the Design complies with each Standard. If variance to a Standard is requested, a written rationale documenting compliance with terms of a Variance is required. At a scheduled conference, Applicant will present the information. Following presentation and/or submission of the Design, DRC will provide a status assessment of compliance with Development Standards and terms of variances to be issued in a brief written summary or checklist format within ten (10) business days. The assessment will identify those items where approval appears supported, where there are contingencies to achieving approval, and where support is not yet adequate. Resolution of unresolved items is recommended prior to submission for a Complete Design Review.
5. **Complete Design Submittal and Design Review Application.** Applicant shall submit a Design to DRC and/or schedule a DRC conference including materials, information and fees adequate for DRC to evaluate and render a final decision but before application for COV Building Permit. Materials submitted must include supporting graphic and written description of how the Design complies with each Standard or rationale documenting compliance with terms of a Variance.
6. **Design Review Timeline.** Upon receipt by the DRC of a complete Design, the DRC has twenty (20) business days within which to review the Design provided, however, that if the Design is complex or involved, or approval of the Port Commission is required, such that twenty business (20) days is inadequate for the appropriate review and approval, the DRC shall have such additional time as is reasonable under the circumstances, in which case the DRC agrees to provide the Owner or Occupant with an appropriate deadline for reviewing its Design.
7. **Final Decision.** A Design Review application is approved when notice is given to Applicant in writing by the DRC or its designated representative. No verbal approvals are given. Approval shall not be unreasonably withheld. There are three potential outcomes: Approved, Approved with Contingency or Denied. If the DRC disapproves the Design in whole or in part, including variances, a new application and a new Design Review process is required. Once issued in writing, a final DRC decision of approval or denial is final. Appeals will not be considered.
8. **Terms of Approval.** The proposed Design will be approved if, in the sole discretion of the DRC:
 - a. it is of an architectural style and materials that are compatible with other structures on the Property and the Development Standards; and
 - b. it does not violate any restrictive covenant or encroach upon any easement or set back line; and
 - c. it does not result in the reduction in property value, use or enjoyment of any of the Property; and

Waterfront Development Urban Design Standards & Guidelines

- d. it meets the POV Development Standards; and
 - e. it demonstrates compliance with the conditions for variance to POV Development Standards.
9. **Variance.** During the Design Review process, the DRC has the right to approve any variance to the Development Standards, as requested by Applicant. The DRC may authorize, condition, or deny, in writing, variances from the Development Standards, but only when Applicant demonstrates both of the following conditions:
- a. **Unique Circumstances.** When unique circumstances dictate, such as unusual topography, natural obstructions, hardship or aesthetic or environmental considerations and
 - b. **Consistent.** When construction in accordance with the variance would be consistent with the purposes herein. DRC shall have sole discretion in granting variances, which shall be conclusive unless manifestly unreasonable.
10. **Approval Modification.** If the Design is modified after approval by the DRC, creating material deviations from the approved Design, then such modified Design must be re-submitted to the DRC for review and approval as provided herein including submission of additional materials, information and fees required by the Development Standards and/or DRC. The DRC will endeavor to issue a response as soon as possible and not later than 14 days on any modification from the approved design. If the DRC fails to issue written approval or rejection within 14 days, the DRC's approval shall be deemed granted without further action. It is the obligation of the Owner/Applicant to notify the DRC regarding determination of material deviations (vs. immaterial deviations) to the Design.
11. **Non-conforming Improvements.** It is the obligation of the Owner/Applicant to notify the DRC of material deviation from the approved Design in the completed Improvements. Regardless of how informed, the DRC will first evaluate the claim of non-conformance against the approved Design. Where non-conformance is substantiated, such non-conforming Improvements shall be deemed in violation of POV Waterfront Development Standards to the same extent as if erected without prior approval of the DRC. The DRC, Declarant or any Owner may maintain an action at law or in equity for the removal or correction of the non-conforming Improvements and, if successful, may recover from the Owner or Occupant in violation all costs, expenses and fees incurred in the prosecution thereof (including those under Article 3.b.3, reasonable attorneys' fees and costs at trial and on appeal).
12. **Failure to Decide.** If the DRC fails to issue its written approval or rejection within twenty (20) business days of its receipt of the Complete Design Submittal and Design Review Application required to complete an Owner's Design Review submission (or at the expiration of the extended deadline in the case of complex Designs and/or where Port Commission approval is required), then the DRC's approval shall be deemed to have been granted without further action.

Waterfront Development Urban Design Standards & Guidelines

13. **Termination of Approval.** The DRC's approval of proposed Improvements Design is valid for a period of thirty-six (36) months from the date of issuance, (or as extended upon request of DRC) during which time the Owner must commence construction of the approved Improvements and thereafter diligently proceed to completion; otherwise the approval is void.
14. **Records.** At completion of construction, submit final As-Built Construction Documents of the Approved Design to POV for the record.

4. Design and Permitting

- A. **Current Codes and Standards.** The following codes and regulations were in effect at the time these Standards were developed. Because codes and standards evolve over time, in the future codes may require implementation of measures beyond what is required by these Standards. Implementation of the most stringent Standard or Code is required.
 1. 2015 International Building Code with Washington State amendments
 2. 2015 International Residential Code with Washington State amendments
 3. 2015 International Mechanical Code with Washington State amendments
 4. 2015 Uniform Plumbing Code with Washington State amendments
 5. 2015 International Fire Code with Washington State amendments
 6. 2015 Washington State Energy Code
 7. National Electric Code with Washington Department of Labor and Industries amendments
 8. City of Vancouver Municipal Codes "VMC"
- B. **Approved Master Plan.**
 1. Waterfront Concept Development Plan "CDP"
 2. Vancouver City Center Vision Subarea Plan
 3. Shoreline Master Plan

5. Community Outreach and Engagement

A. Standards:

Declarant will take the lead role on coordinating items included in this section 5 (below), and Owner will participate at the request of Declarant.

Waterfront Development Urban Design Standards & Guidelines

1. Develop a regular communication vehicle aimed at community members to ensure that the permitting, design and construction process is transparent.
2. Promote an inclusive process that engages a wide range of stakeholders in the Waterfront District.
3. Add amenities that are attractive and valuable to a diverse community.
4. Include messaging or articles in the development's communication to inform and reinforce the opportunities available.
5. Identify areas or projects for intentional sustainability leadership. Develop public educational outreach program focusing on green building strategies and solutions to meet LEED v4 Innovation Credit: Green Building Education. This contributes to the LEED ND requirement for pursuing one Innovation Credit in the Innovation and Design Process category.
6. Incorporate best practices for all operations, management and administration at the Waterfront District.
7. Provide periodic construction updates to help inform interested community members on the status of the waterfront development.
8. Engage the local community in the creation of the Master Plan.
9. Facilitate an Integrative Design Process to meet LEED ND v4 Pilot Credit: Integrative Process. This contributes to the LEED ND requirement for pursuing one Innovation Credit in the Innovation and Design Process category.

B. Guidelines:

1. Provide workforce and/or affordable housing that allows a diversity of incomes to live on the waterfront.

6. Sustainable Design Certification

A. Standards:

1. **Building Level Certification:** It is required for individual buildings to earn, at a minimum, the Gold level of certification under LEED Building Design and Construction (BD&C) version 4, LEED for Homes version 4, or equivalent independent rating system. Equivalent independent rating systems have been reviewed by independent, impartial, third-party certifying bodies that have been accredited by an IAF-accredited body to ISO/IEC Guide 65 or, when available, ISO/IEC 17065 in order to be considered.

Waterfront Development Urban Design Standards & Guidelines

B. Guidelines:

1. **Building Level Certification:** Incorporate additional sustainable building practices where feasible.

7. Walkable Neighborhood

A. Standards:

1. **Compact Development.**
 - a. Refer to the Concept Development Plan (CDP) for minimum density requirements.
Required for LEED ND v4 SLL Credit: Preferred Locations and NPD Prerequisite: Compact Developments.
2. **Building Setbacks, Massing & Heights, River Views**
 - a. A building's enclosed occupiable space shall not encroach into the right-of-way.
 - b. Building heights shall be determined based on consistency with City Standards.
 - c. For at least 40% of the block length, provide a minimum building-height-to-street-centerline ratio of 1:1.5 (i.e., a minimum of one-foot of building heights for every one-and-a-half feet of width from street centerline to building façade. Alleys may be omitted from the calculations. Required for LEED ND v4 NPD Prerequisite: Walkable Streets.
 - d. Building heights shall step down from Blocks A and C to the waterfront to provide views to the waterfront from these blocks. Use terraces as an active amenity for the building occupants and/or landscape vegetation.
 - e. Buildings shall be arranged and designed to maximize views and preserve views of the shoreline and Columbia River from the site by stepping down to the river from north to south and not exceeding a floor plate of 12,000 square feet for all floors higher than 90 feet on Blocks A and B and higher than 120 feet for Blocks C and D. Building heights are subject to approval by the City of Vancouver and review by the Federal Aviation Administration.
 - f. The project encourages the design of urban spaces and a diversity in architecture with varying building typologies and massing and scale along Columbia Way and the waterfront edge. This may be accomplished in many ways, including:
 - 1) Configuration of the building orientation and mass to be perpendicular to the river;
 - 2) Stepping the building façades from Blocks A and C, to Blocks B and D and down to the shoreline;

Waterfront Development Urban Design Standards & Guidelines

- 3) Incorporating interesting building materials and human-scale proportions and design elements at the street level and along the Columbia River Renaissance Trail and river edge;
 - 4) Development of a variety of building volumes to break down the visual appearance of taller structures and building mass; or,
 - 5) Expression of different uses within the building to break up potentially monolithic building forms.
- g. Required for LEED ND v4 NPD Credit: Walkable Streets. See Vancouver Municipal Code Section 20.630.020 Building Lines for additional setback requirements.
- 1) At least 50% of the total linear distance of mixed-use and nonresidential building façades facing the circulation network (streets and pedestrian ways) in the project shall be within 1 foot of a sidewalk or equivalent walking route, and
 - 2) At least 50% of the total linear distance of building façades facing the circulation network in the project is no more than 18 feet (5.5 meters) from the property line, and
 - 3) At least 80% of the total linear distance of building façades facing the circulation network in the project shall be no more than 25 feet from the property line.
3. **On-street Parking**
- a. Provide on-street parking for a minimum 75% of the block length. Space within the parking lane that is occupied by corner bulb-outs (within 24 feet of an intersection), transit stops, and motorcycle or bicycle parking may be counted as designated for parking in this calculation. Alleys, Cascade Street, Daniel's Way and Columbia Street may be exempted. Required for LEED ND v4 NPD Credit: Walkable Streets.
4. **Street Standards: Woonerf, Sidewalk Extent & Widths**
- a. The design and treatment of thoroughfares shall be consistent with the thoroughfare types defined by the City of Vancouver development standards and as illustrated in the CDP and the City Center Vision Subarea Plan as shown in Table 2 of the Appendix D of the CDP.
 - b. The street system shall be based on a grid pattern and pedestrian system similar to the existing City Center grid of 200-foot blocks. Based on site and environment constraints the City may approve a limited number of smaller or larger blocks. Where blocks are 300 feet or longer on a face, mid-block pedestrian connections shall be provided. Required for LEED ND v4 SLL Credit: Preferred Locations and LEED ND v4 NPD Credit: Compact Development.

Waterfront Development Urban Design Standards & Guidelines

- c. South of Columbia Way, Daniel's Way separates Block B and Block D. The corridor shall serve primarily as a pedestrian corridor and designed also to accommodate emergency vehicle access. This corridor shall be no less than 28 feet wide at its narrowest point to accommodate fire apparatus as required and open up wider closer to the Columbia River Renaissance Trail to accommodate adjacent active uses and outdoor seating along the corridor.
- d. The Columbia River Renaissance Trail shall be constructed across the project from Columbia Street to the easterly extension of the trail being constructed by the City on the adjacent Waterfront Park. The shared-use trail shall vary in width to accommodate connections to the City's Waterfront Park trail to the west and connections to Columbia Street to the east. The Renaissance Trail adjacent to Blocks B and D is envisioned to be wide, shared-use promenade with a minimum of width of 28 feet in width to accommodate fire apparatus access lanes where required.
- e. For Blocks A and C, an activated pedestrian alleyway shall separate the structures on each block. The pedestrian alleyway shall include a continuous vertical separation above grade and activated ground uses such as retail or residential entries. The width of the alleyway shall vary to add interest. At the narrow point, the alleyway shall be no less than 16 feet wide and shall accommodate ground level residential and retail uses.
- f. Each secondary thoroughfare should be designed to emphasize pedestrian access and gathering spaces oriented to a variety of ground level retail uses whenever feasible.
- g. The intersection of Daniel's Way and Columbia Way may be re-constructed to provide a strong visual crosswalk with a raised or tabled pedestrian crossing at the intersection.
- h. Daniel's Way between Blocks B and D will be designated as a pedestrian corridor—referred to as 'woonerf'—design, in which service and emergency vehicles and pedestrians share the same space. The 'woonerf' street design is characterized as a shared open corridor with no vertical curbs. Street trees, pavement materials, outdoor seasonal seating and public art enrich the corridor environment. The corridor accommodates pedestrian and bicycle circulation, and access to retail shops while establishing a safe comfortable experience for all users. Contributes to LEED ND v4 NPD Prerequisite and Credit: Walkable Streets.
- i. Sidewalks shall be provided on all streets consistent with the standards in VMC Section 20.630.080. (D)(3). Per NPD v4 ND Prerequisite 1 Walkable Streets: Continuous sidewalks are required on both sides of 90% of block lengths.
- j. Columbia Way and Columbia Street are designated as primary corridors. Daniel's Way, Access Way 5 and Cascade Street are secondary corridors. For primary streets, vertically separated sidewalks will be provided and shall be a minimum width of 12 - 15 feet based on city development standards. Access Way 5 and Cascade Street sidewalk widths will be

Waterfront Development Urban Design Standards & Guidelines

- a minimum of 8 feet in width. Contributes to LEED ND v4 NPD Prerequisite and Credit: Walkable Streets.
- k. As a pedestrian design feature, the design intent for Daniel's Way is to maintain a cross section that may not include a vertically separated sidewalk. For this corridor, the cross section would include a continuous flat surface (with allowance for surface drainage) with variable paving materials to delineate the emergency access lane as required.
 - l. The Columbia River Renaissance Trail shall be designed as a shared use pedestrian path for bicycles, pedestrians and other non-motorized modes of travel.
 - m. Enhanced pavement materials will be provided at intersections of Daniel's Way and the Columbia River Renaissance Trail.
 - n. Access to the Columbia River shoreline and the Columbia River Renaissance Trail will be provided from adjacent streets and public spaces from Access Way 5, Daniel's Way and Columbia Street. Required for LEED ND v4 NPD Credit: Access to Civic & Public Space.
 - o. Elements of the existing pier structure will remain (but may be repaired and/or replaced) and be open to the public and devoted to active and passive uses.
 - p. Pedestrian connections throughout the site shall be designed to encourage walk trips to Columbia and Esther Streets with access beyond the project to the downtown and Esther Short Park.
 - q. Any circulation network within the project must be available for general public use and not gated. Required for LEED ND v4 NPD Credit: Connected and Open Community.
 - r. Pedestrian scale poles, bollards, pathway lights, or architecturally integrated fixtures such as catenary supported fixtures or wall sconces may be used for lighting pathways.
5. **Ground floor activation and street frontage: Entries, Active uses, Glazing, Blank walls, shutters, curb cuts, dwelling unit finish floor**
- a. Columbia Way will be the primary thoroughfare through the Waterfront Development. The street-facing facades and ground level spaces will be evaluated for compliance with the LEED ND v4 NPD Prerequisite and Credit: Walkable Streets, LEED ND v4 NPD Credit: Reduced Parking Footprint, and LEED ND v4 NPD Credit: Tree-lined and Shaded Streetscapes.
 - b. Buildings constructed along Columbia Way, Columbia Street, Access Way 5 and Daniel's Way shall comply with the provisions of VMC 20.630.020 that describe building lines provisions for street frontages. The exception is for future building on Block B, whereas future building frontages may not meet the standard for Columbia Street due to the potential for a future I-5 bridge replacement project.

Waterfront Development Urban Design Standards & Guidelines

- c. Buildings constructed along Columbia Way, Columbia Street, Access Way 5 and Daniel's Way shall comply with the provisions of VMC 20.630.040, Blank Walls. Required for LEED ND v4 NPD Credit and Prerequisite: Walkable Streets.
- d. Blank Walls of more than 20 feet in length are not permitted without prior approval. Approvals shall only be granted if they comply with LEED ND v4 NPD Credit: Walkable Streets.
- e. At least 75% of the width of any new or reconstructed ground level building wall facing a street should be devoted to pedestrian-oriented features or material variation, pedestrian entrances and/or windows affording views into retail, storefront, office or lobby space.
- f. At least 60% of the length of the street-level façade of any new or reconstructed buildings must include ground-floor retail, live-work spaces or ground-floor dwelling units. All businesses or community services on the ground floor should be accessible directly from a sidewalk along the circulation network or public spaces such as a square, park or plaza but not a parking lot. Contributes to LEED ND v4 NPD Credit: Walkable Streets, Item L.
- g. Where outdoor seating is anticipated, insure that a minimum sidewalk clearance width of 5'-0" or as determined by local code is maintained for pedestrian circulation.
- h. Locate loading docks and service areas, including trash collection facilities and utility transformers, internal to the building, including the truck parking. The single exception is the loading and service area of the proposed Terminal 1 Marketplace. Loading and service areas for the proposed Marketplace may be located outside but shall be designed and screened to minimize visual impacts along the Columbia River Renaissance Trail and waterfront edge.
- i. Buildings to be designed to have a minimum 60% ground level facade transparency between 2 feet and 8 feet above sidewalk grade. Required for LEED ND v4 NPD Credit: Walkable Streets.
- j. Any ground floor retail, service or trade windows facing the circulation network must be un-shuttered. Required for LEED ND v4 NPD Credit: Walkable Streets.
- k. Active ground floor uses should be provided at the following ratios: a minimum of 75% along Columbia Way, Daniel's Way, Columbia River Renaissance Trail, and Columbia Street; a minimum of 50% along Access Way 5.
- l. A continuous frontage of active ground level uses, such as; building lobbies and/or individual residential entrances, restaurant or pedestrian-oriented retail uses built to the sidewalk and property line shall include a minimum floor-to-floor height of 16 feet.

Waterfront Development Urban Design Standards & Guidelines

- m. Building entries shall have a Functional Entry onto the circulation network or other public space, such as a park or plaza, but not a parking lot. Whether opening to the circulation network or other public space, the functional entry must be connected to a sidewalk or equivalent provision for walking. If the public space is a square, park, or plaza, it must be at least 50 feet (15 meters) deep, measured at a point perpendicular to each entry. Required for LEED ND v4 NPD Prerequisite: Walkable Streets.
 - n. Functional building entries are required at an average of 75' or less per LEED ND v4 NPD Credit: Walkable Streets, Item D. Calculate as follows:
 - 1) Measure the block length in feet of the block perimeter.
 - 2) Divide the total block length by 75 feet and round up to the nearest whole number. This is the required number of functional entries.
 - 3) Locate this number of functional entries in the building.
 - o. If the project has ground-floor dwelling units, residential unit ground floor entrances shall include elements that provide transitional space between public and private domain such as landscape spaces, low walls, stoops, porches or recessed entry and the principal level of at least 50% of those units must have has a finished floor elevated at least 24 inches (60 centimeters) above the adjacent grade. Contributes to LEED ND v4 NPD Credit: Walkable Streets.
6. **Facades**
- a. Façade articulation should reinforce human scale by conveying occupancy types utilizing strategies as balconies, bay windows and operable windows for residential and hospitality uses, solar screening and rhythmic windows patterns and spacing for office, clear glass and signature entries for retail.
 - b. Address all building elevations in the architectural design with the same degree of detail, proportion, and materials.
 - c. For the following locations: north elevation of Columbia Way, and East and West elevations adjacent to Daniel's Way, building facades to be a minimum of 25 feet and a maximum of 45 feet in height and shall include a horizontal step back of a minimum of 10 feet above 45 feet.
 - d. The following are prohibited exterior building materials: plastic laminates, glossy or large expanses of acrylic or Plexiglas, pegboard, mirror, highly polished or plated metals (except as trim), mirrored glass, vinyl, fabric or paper wall coverings, plywood or particle board, sheet or modular vinyl, shingles, shakes, and rustic siding are prohibited.
 - e. As part of the overall building design for construction, each building will be required to place a moisture barrier between the ground and constructed building(s).

Waterfront Development Urban Design Standards & Guidelines

7. Street Trees

- a. The following standards are required for LEED ND v4 NPD Credit: Tree-lined and Shaded Streetscapes.
 - 1) City of Vancouver paving and curb standards and street tree planting details shall apply to all streets except for Daniel's Way. No vertical curb sidewalk separation is anticipated for Daniel's Way south of Columbia Way to the Columbia River Renaissance River Trail. Street trees, flush mounted tree grates and seating areas are anticipated for this section of Daniel's Way.
 - 2) Street trees shall be provided on all streets including Columbia Way, Columbia Street, Cascade Street, Access 5, but alleys are excluded.
 - 3) Spacing of street trees shall not exceed 50' except at driveways.
 - 4) From a registered landscape architect, obtain a determination that planting details are appropriate to growing healthy trees, taking into account tree species, root medium, and width and soil volume of planter strips or wells, and that the selected tree species are not considered invasive in the project context according to USDA or the state agricultural extension service.
 - 5) Street tree species and placement are subject to approval of the City's Urban Forester.

8. Shading & Rain Protection

- a. Provide shade from trees, awnings, or permanent structures over at least 45% of the total length of existing and planned sidewalks (alleys may be exempted). Trees must provide shade within 10 years of landscape installation. Use the estimated crown diameter to calculate the length of sidewalk shaded. Required for LEED ND v4 NPD Credit: Tree-lined and Shaded Streetscapes.
- b. Overhead weather protection to be provided along Columbia Way, Access Way 5 and Daniel's way streets with a minimum clear height of 10 feet and maximum clear height of 13 feet consistent with the provisions of VMC 20.630.030. See VMC 20.630.030 for depth requirements. This standard shall not apply to buildings on Block B along Columbia Street due to the potential for a future I-5 bridge replacement project or along Cascade Street. Required for LEED ND v4 NPD Credit: Tree-lined and Shaded Streetscapes.

B. Guidelines:

1. Building Setbacks, Massing & Heights, River Views

- a. Encourage public event space to include weekly, monthly, and/or a variety of special events.

Waterfront Development Urban Design Standards & Guidelines

- b. Outdoor furnishings (such as trash receptacles, planters, bicycle racks, bollards, clocks, drinking fountains) and accessory structures should be consistent in design and used to reinforce a District character. The District may adopt standards for furnishings at a later date.
 - c. Design well-proportioned and memorable buildings which take advantage of views to the Columbia River and Mt. Hood.
 - d. Take advantage of solar exposure and natural ventilation when possible. Maximize daylight for interior and exterior spaces while controlling solar heat gain.
 - e. Buildings should use thoughtfully designed architectural features to help frame and highlight terminating views along corridors.
2. **Street Standards: Woonerf, Sidewalk extent & widths**
- a. Each secondary thoroughfare should be designed to emphasize pedestrian access and gathering spaces oriented to a variety of ground level retail uses whenever feasible.
 - b. Provide other measures such as traffic bollards, roll curbs, flashing pedestrian crossings or other techniques as may be appropriate to ensure public safety.
 - c. Bollards should be provided at rolled-curb conditions or at wide accessible curb ramps where vehicular traffic is anticipated to be in conflict with pedestrian movements.
 - d. Use quality durable paving materials that provide interesting qualities of color and texture to distinguish different paths or functional uses in the right-of-way.
3. **Ground floor activation and street frontage: Entries, Active uses, Glazing, Blank walls, shutters, curb cuts, dwelling unit finish floor**
- a. Outdoor café seating and other activities are encouraged to define and activate the public space.
 - b. Vendor carts, food trucks or kiosks should be encouraged within public areas. Their design must be of high quality and complementary to the surrounding areas. Vendor cart and kiosk design, hours of operation, and associated storage facilities are subject to DRC review and approval.
 - c. While also a firetruck access way, Daniels Way is intended to open up views to the waterfront, and with POV approval, reinforce adjacent retail, provide space for flexible pop-up retail, public gatherings and an area for street furniture and outdoor dining.
 - d. Design primary entries to be identifiable and distinctive with clear lines of sight and lobbies visually connected to the street.
4. **Facades**

Waterfront Development Urban Design Standards & Guidelines

- a. Windows and doorways should provide functional transparency between the interior and exterior of the building and create enhanced pedestrian connections at the street level.
- b. Buildings exteriors should be constructed of durable and maintainable materials that are attractive. Materials that have texture, pattern or develop a patina overtime are encouraged.

8. Parking and Transit

A. Standards:

1. Urban Design

- a. Prioritize pathways to encourage pedestrian friendly connections to adjacent city areas. Ensure that walking paths are accessible to allow people of all abilities to participate.

2. Parking Counts

- a. Parking will be provided to meet the City of Vancouver standards for the CX zoning district and shall be consistent with the CDP.

3. Garages & Entries

- a. All permanent parking shall be accessory to and integrated into a building, that is a permitted use in the Waterfront Development. Stand-alone garages shall not be allowed. Required for LEED ND v4 NPD Credit: Reduced Parking Footprint.
- b. Interim surface parking may be developed as a part of the development. New interim surface parking lots shall meet city development standards as required. Existing surface parking lots will be allowed to be maintained until replaced by development of the lots.
- c. Access to structured parking on Blocks A, C and D shall be provided from Cascade Street and Access Way 5, respectively in lieu of Columbia Way. Access to structured parking on Block B is anticipated to be from Columbia Way consistent with the existing driveway access location or another location consistent with City of Vancouver standards or approved road modification.
- d. No more than 20% of the total length of the perimeter of each block may be faced directly by garage and service bay openings. Alleys may be omitted from the calculations. Required for LEED ND v4 NPD Prerequisite: Walkable Streets, Item D.
- e. At grade crossings with driveways shall account for no more than 10% of the total length of sidewalks along the edges of a building parcel. Required for LEED ND v4 NPD Credit: Walkable Streets, Item P.

Waterfront Development Urban Design Standards & Guidelines

4. Parking Facility Design

- a. Design at-grade structured parking, with exception of garage entrances, such that they will not be visible to pedestrians along sidewalks, pathways, or other pedestrian connections.
- b. Screen structured parking and integrate into overall building design. Screening provides an opportunity to enhance building design through the use of art, green walls, and innovative materials.
- c. Structured parking located at or above grade on Blocks B and D shall be designed and located within the building such that active building space (usable square footage) is located between the structured parking and the shoreline. See VMC 20.630.080.D5 City Center Requirements of Columbia West Renaissance District for additional details.

5. Car Sharing and Car Pools

- a. Provide carpool or car-share parking spaces for at least 10% of the total off-street parking spaces or pursue a partnership with car-share services for equivalent spaces. Required for LEED ND v4 NPD Credit: Reduced Parking Footprint. This applies to staff or tenant off-street parking and does not apply to hotel guest parking spots.

6. Electric Vehicles

- a. Provide Level 2 EV charging stations for minimum 2% of the total off-street parking spaces. Required for LEED v4 BD&C LT Credit: Green Vehicles.

7. Bicycle Facilities

- a. Bicycle parking shall be provided consistent with the City of Vancouver Bicycle Parking Standards and Guidelines and LEED ND v4 SLL Credit: Bike Facilities, whichever is more stringent.
- b. Bicycle parking shall be provided for Long-term (residents and employees) and Short-term (customers and visitors) within each block and building.
- c. Short-term Bicycle Parking shall be provided in an accessible, safe, and visible location with appropriate lighting and located within 50' walking distance of a building entrance. At least 50% of the spaces shall include rain protection.
- d. Long-term Bicycle Storage/parking shall be provided in an accessible and safe location that is within 100' walking distance of any functional building entry. Signage shall be provided where the bicycle parking location is not evident from the public access to the building.
- e. Meet requirements of LEED ND v4 SLL Credit: Bike Facilities. Required bike spaces and shower counts by building type are as follows:

Waterfront Development Urban Design Standards & Guidelines

- 1) Hotel
 - a) Provide Short-term Bicycle Parking for at least 2.5% of peak visitors to retail, food & beverage, event spaces, but no fewer than four storage spaces per building.
 - b) Provide Long-term Bicycle Storage for at least 5% of all Full Time Equivalent (FTE) hotel staff, but no fewer than four storage spaces per building in addition to the short-term bicycle storage spaces.
 - c) Provide at least one on-site shower with changing facility for the first 100 staff and one additional shower for every 150 staff thereafter.
- 2) Retail
 - a) Provide Short-term Bicycle Parking at a rate of two spaces per 5,000 sf, but no fewer than two storage spaces per building.
 - b) Provide Long-term Bicycle Storage for at least 5% of all building Full Time Equivalent (FTE) building occupants, but no fewer than two storage spaces per building in addition to the short-term bicycle storage spaces.
 - c) Provide at least one on-site shower with changing facility for the first 100 FTE staff and one additional shower for every 150 staff thereafter.
- 3) Commercial
 - a) Provide Short-term Bicycle Parking for at least 2.5% of peak visitors, but no fewer than four storage spaces per building.
 - b) Provide Long-term Bicycle Storage for at least 5% of all building Full Time Equivalent (FTE) building occupants, but no fewer than four storage spaces per building in addition to the short-term bicycle storage spaces.
 - c) Provide at least one on-site shower with changing facility for the first 100 FTE staff and one additional shower for every 150 staff thereafter.
- 4) Multi-unit Residential
 - a) Provide Short-term Bicycle Parking for at least 2.5% of peak visitors, but no fewer than four storage spaces per building.
 - b) Provide Long-term Bicycle Storage for at least 30% of all regular building occupants (residents and staff), but no but no less than one storage space per residential unit in addition to the short-term bicycle storage spaces.
- 5) Mixed-use

Waterfront Development Urban Design Standards & Guidelines

- a) meet the storage requirements for the nonresidential and residential portions of the project, respectively.

B. Guidelines:

1. Garages & Entries

- a. Trash and service loading docks should be grouped with vehicle entrances where feasible.

2. Electric Vehicles

- a. Consider providing additional “Level 2 EV Ready” infrastructure beyond the 2% of parking spaces, with charging stations to be installed as the demand is proven. See LEED BD&C v4 LT Credit: Green Vehicles.
- b. Provide reduced single occupancy vehicle parking. See LEED BD&C v4 LT Credit: Reduced Parking Footprint and test what it would mean to project as designed.

3. Bicycle Facilities

- a. Bike parking provides an opportunity to engage public art. Creative bike parking solutions should balance form and function.

9. Low Impact Development

A. Standards:

1. Landscape / Habitat / Open Space

- a. Integrate ecological landscape elements in site designs.
- b. Provide a minimum of 10% of total gross area as open space (per COV). Open space landscape areas may consist of a combination of small park areas, shoreline overlook and seating area, pedestrian promenade, pier and civic space, community garden, rain gardens, street landscape areas. At least 10% of the gross square foot area of the site will be devoted to open space accessible to the general public. Required for LEED ND v4 SLL Credit: Restoration of Habitat or Wetlands and Water Bodies
- c. Using only native plantings, restore habitat area, with plantings approved by a biologist, equal to 10% of the development footprint of the entire site. Meet LEED ND v4 SLL Credit: Restoration of Habitat or Wetland & Water Bodies.
- d. Promote environmentally sensitive landscape pest and vegetation management by phasing out the use of the most potentially hazardous herbicides and insecticides to protect health and public safety. Meet LEED EB O&M v4 SS Credit: Site Management.

Waterfront Development Urban Design Standards & Guidelines

- e. Meet LEED ND v4 GIB Prerequisite: Construction Activity Pollution Prevention.
2. **Allowed Plantings**
- a. Use as a primary source the Preferred Native and Adaptive Plant Species List (see Appendix 3 – Preferred Native and Adaptive Species List) for all at-grade planting areas. No invasive species shall be allowed anywhere. Required for LEED ND v4 NPD Credit: Tree-lined and Shaded Streets.
 - b. Shoreline areas not devoted to the existing pier structure will be enhanced through the removal of non-native invasive species and replanted with appropriate native riparian species. Required for LEED ND v4 SLL Credit: Site Design for Habitat or Wetland & Water Body Conservation.
 - c. Remove invasive species and restore shoreline habitat per the Shoreline Master Program and LEED ND v4 SLL Credit: Restoration of Habitat or Wetland & Water Bodies. Ensure landscapes are designed, constructed and maintained in a manner that protects our region's natural resources and public health.
3. **Heat Island Reduction; Green Roofs, Roof Materials, Site Work / Paving / Shading**
- a. Required for LEED ND v4 GIB Credit: Heat Island Reduction:
 - 1) Incorporate low-impact development strategies to manage stormwater and reduce urban heat island effect. Install vegetated roofs for a minimum of 25% of roof area. All structures shall include a minimum 25% of the roof area as planted green roof and amenity space. Note: Roof garden space does not count toward 10% city-required open space.
 - 2) For an additional 50% of roof area, provide vegetated roofs and/or use roofing materials that have a 3-year aged Solar Reflectance Index (SRI) equal to or greater the following values:
 - a) Low Sloped Roof ($\leq 2:12$); 3-year aged SRI: 64
 - b) Steep Sloped Roof ($> 2:12$); 3-year aged SRI: 32
 - 3) If the three-year aged value information is not available, use materials that meet the initial SRI values below:
 - a) Low Sloped Roof ($\leq 2:12$); Initial SRI: 82
 - b) Steep Sloped Roof ($> 2:12$); Initial SRI: 39
4. **Light Pollution Reduction**
- a. Lighting for the Columbia River Renaissance Trail shall reflect but need not be identical to the lighting utilized by the City for the adjacent Vancouver Waterfront Park.

Waterfront Development Urban Design Standards & Guidelines

- b. Lighting poles along the waterfront to have a height between 10 - 15 feet and not impose upon views of the water from main corridors and destinations on the site. Lighting to be spaced at the maximum distance between fixtures to ensure the waterfront area is not over-lit.
 - c. All building mounted or façade lighting (in-grade, façade mounted, and entry lighting) should be carefully selected for scale, finish, appropriate light output, and consideration of light pollution reduction and to not create hazards for birds or other wildlife.
 - d. Lighting fixtures shall be designed to prevent upward illumination and be downcast and directional in compliance with LEED BD&C v4 SS Credit: Light Pollution Reduction credit and LEED ND v4 GIB Credit: Lighting Pollution Reduction.
 - e. Minimize unnecessary architectural lighting. Blue-rich white light should be minimized in exterior applications: no fixtures should exceed a CCT of 3,000 Kelvins. Meet LEED BD&C v4 SS Credit: Light Pollution Reduction credit.
 - f. No light to shine directly into the water to minimize disturbance to aquatic life.
 - g. Lighting levels to be carefully evaluated and kept dimmer near the river, consistent with Lighting Zones defined in LEED BD&C v4 SS Credit: Light Pollution Reduction credit to preserve of nighttime character of the river environment and reduce disturbance to flora and fauna.
5. **Bird Safe Design**
- a. Building materials shall not present a hazard to birds or other wildlife. Meet the requirements of LEED BD&C v4 Pilot Credit: Bird Collision Deterrence.

B. Guidelines:

1. **Landscape / Habitat/ Open Space**
- a. Planting design should be incorporated to complement overall project and incorporate Crime Prevention Through Environmental Design (CPTED) best practices.
 - b. Tree grates should be provided where high pedestrian activity and/or on-street parking is present; otherwise, under canopy planting is encouraged.
 - c. Seek opportunities to highlight ecological preservation and water conservation strategies.
 - d. In all public spaces, care should be taken to exclude plants that may be toxic or injurious.
 - e. Use relevant strategies in West Coast Ports Technical Committee's Sustainable Design and Construction Guidelines

Waterfront Development Urban Design Standards & Guidelines

2. Stormwater Management

- a. Manage development parcel rainwater holistically through low impact development strategies – rain gardens, permeable surfaces, runoff filtered through landscape.
- b. Meet LEED BD&C or LEED for Homes v4 SS Credit: Rainwater Management, managing the 85th percentile (or better) rainfall event through low impact development strategies to replicate natural site hydrology.

3. Heat Island Reduction; Green Roofs, Roof Materials, Site Work / Paving / Shading

- a. Use of permeable paving materials is encouraged for specific uses, such as parking, access and loading areas, staging areas, emergency access.

4. Light Pollution Reduction

- a. Design a lighting system with the users in mind, which will draw people through space, to points of interest or unique architectural elements.
- b. Color changing or animated/dynamic lighting which detract from natural views are discouraged.
- c. Effective wayfinding is supported by lighting that reveals a simple, clear and uncluttered landscape and environment with visual cues accented by light to reinforce a path or hierarchy of information.
- d. Coordinate the need for lighting of public art and signage to have a positive impact in helping the user navigate the site.

10. Water

A. Standards:

1. Indoor Water Use Reduction

- a. Use at least 20% less indoor water than baseline, including fixtures and fittings, appliances and process water. Meet LEED ND v4 GIB Prerequisite: Indoor Water Use Reduction - 20%.

2. Outdoor Water Use Reduction

- a. Design and install landscapes that do not require a permanent irrigation system or design landscapes to require 50% less irrigation. Meet LEED ND v4 GIB Credit: Outdoor Water Use Reduction.

3. Water Metering

Waterfront Development Urban Design Standards & Guidelines

- a. Install meters to monitor water uses on each site. Meet LEED BD&C v4 WE Prerequisite: Building-Level Water Metering.
4. **Integrative Design Process**
 - a. Implement best practices in integrative design process to ensure high energy and water performance, to meet LEED v4 BD&C IP Credit: Integrative Process. This includes early schematic analysis of energy and water efficiency measures by the design team and consultants to evaluate strategies that may have the greatest life-cycle cost benefits. This contributes to the LEED ND requirement for pursuing one Pilot Credit in the Innovation and Design Process category and contributes to the individual building certification.

B. Guidelines:

1. **Indoor water use reduction**
 - a. Maximize greywater reuse on site – use shower and appliance drain water for toilet flushing where feasible and rainwater for irrigation.
 - b. Use 35-50% less indoor water than baseline, including fixtures and fittings, appliances and process water. Meet LEED BD&C v4 WE Credit: Indoor Water Use Reduction higher performance levels.
2. **Outdoor water use reduction**
 - a. Meet LEED BD&C v4 WE Credit: Outdoor Water Use Reduction – no potable water in landscape beyond plant establishment.
3. **Water Metering**
 - a. Consider setting up a system to bill tenants or residents for individual suite water use based on metering data.
 - b. Consider setting up graphic interface in lobby or other prominent common areas like elevators to display dynamic building water usage.
 - c. Install permanent water meters for at least two of the following uses: irrigation, indoor plumbing fixtures and fittings, domestic hot water, reclaimed water, boilers using 100,000 gal/year or more or other process water. Meet LEED BD&C v4 WE Prerequisite: Building-Level Water Metering and WE Credit: Water Metering.
4. **Evaluate alternative water sources** such as condensate, rainwater and greywater.

Waterfront Development Urban Design Standards & Guidelines

11. Energy

A. Standards:

1. Energy Performance Requirements

- a. Energy modeling is required for all projects. Use energy modeling during the design phase to prepare a Life Cycle Cost Analysis of energy savings measures. Meet LEED ND GIB v4 Prerequisite: Minimum Building Energy Performance and LEED BD&C v4 EA Prerequisite: Minimum Energy Performance.
- b. Improve energy performance for each building by, at a minimum, 20% energy cost savings over baseline energy model designed to ASHRAE 90.1 -2010 standard. Meet LEED ND v4 Credit: Optimize Building Energy Performance (20% improvement). Commercial interiors project may alternatively elect to use the Prescriptive measures of LEED BD&C v4 EA Prerequisite: Minimum Energy Performance.

2. Building Systems and Envelope Commissioning

- a. Commissioning – all buildings shall meet the requirements of LEED BD&C v4 EA Prerequisite: Fundamental Commissioning and Verification.

3. Energy Metering

- a. Meet LEED BD&C v4 EA Prerequisite: Building-level Energy Metering.

4. Renewable Energy Generation

- a. All new buildings shall be “solar ready”, including structural support, location and infrastructure space within the building, to implement solar PV or thermal energy systems.
- b. Buildings over 5000 sf shall incorporate renewable energy generation on site. Note: this requirement can be waived if site shadow analysis reveals that the solar panel will be significantly impacted by overshadowing by the bridge, trees or other buildings. Analysis of risk to birds shall be performed if wind generators are to be installed.

B. Guidelines:

1. Energy Performance Requirements

- a. Offset non-renewable energy use by purchasing green power. Purchase Renewable Energy Credits (RECs), green power or carbon offsets for a minimum of 50% of annual electricity usage.

2. Building Systems and Envelope Commissioning

Waterfront Development Urban Design Standards & Guidelines

- a. Continuous commissioning – periodic re-commissioning is highly encouraged to ensure that buildings continue to operate with full efficiency and that all opportunities for increased efficiency are considered and can be implemented effectively.
3. **Energy Metering**
 - a. For residential developments, meet LEED BD&C v4 EA Credit: Advanced Energy Metering.
 - b. For commercial developments, meet LEED BD&C v4 EA Credit: Advanced Energy Metering. This ensures that both building managers and tenants can track energy and use the information to monitor and improve energy performance.
4. **Renewable Energy Generation**
 - a. Incorporate photovoltaics as a visible sign of commitment to renewable energy futures.

12. Materials

A. Standards:

1. Storage, Collection and Monitoring of Recyclables
 - a. Meet LEED BD&C v4 MR Prerequisite: Storage and Collection of Recyclables within building.
 - b. Provide at least one exterior public receptacle for trash and recycling per block. Include recycling containers either adjacent to or integrated into the design of the other receptacles to comply with LEED ND v4 GIB Solid Waste Management credit.
2. **Construction Waste Management & Diversion**
 - a. Construction – Meet LEED v4 BD&C MR Prerequisite: Construction and Demolition Waste Diversion Planning. Divert 50% including three waste streams from landfill. Required for LEED ND v4 GIB Credit: Solid Waste Management.

B. Guidelines:

1. **Construction Waste Management & Diversion**
 - a. During construction, landfill only as a last resort after reuse, recycling and composting options have been investigated.
 - b. Construction - Meet LEED BD&C v4 MR Credit Construction and Demolition Waste Management. Divert 75% including four waste streams from landfill.
2. **Materials Selection**

Waterfront Development Urban Design Standards & Guidelines

- a. Meet LEED BD&C v4 MR Credits: Building Product Disclosure and Optimization - Sourcing of Raw Materials, and Building Product Disclosure and Optimization - Environmental Product Declarations.
 - b. Use of reclaimed materials and materials with recycled content is encouraged.
 - c. Seek out local and regional products and those with less transportation impact to the site.
 - d. Prefabricate wherever possible to reduce waste and increase precision.
 - e. Material transparency and product ingredient disclosure are highly encouraged as best practices.
3. **Operational Waste.**
 - a. Track and seek to minimize ongoing operational waste. Set regular reduction targets (% of waste stream) and publicize goals so tenants and occupants can participate.

13. Indoor Environmental Quality

A. Standards:

1. **Ventilation**
 - a. For commercial buildings meet ASHRAE Standard 62.1 - 2010 Indoor Air Quality for ventilation or the current version of the Washington Mechanical Code, whichever is more stringent. For residential buildings, meet ASHRAE 62.2-2010 or the current version of the Washington Mechanical Code, whichever is more stringent. Required for LEED BD&C v4 IEQ Prerequisite: Minimum Indoor Air Quality.
2. **Low-emitting Materials**
 - a. Meet LEED BD&C v4 EQ Credit: Low-emitting materials for at least two categories (1-point level). Categories include interior paints and coatings, adhesives and sealants, flooring, composite wood, insulation and furniture.
3. **IAQ Management During Construction**
 - a. Meet LEED NC v4 EQ Credit: Construction IAQ Management Plan.

B. Guidelines:

1. **Space Design**
 - a. Meet ASHRAE Standard 55-2010 for Thermal Comfort, either Standard or Adaptive comfort.

Waterfront Development Urban Design Standards & Guidelines

- b. Promote natural daylighting as a design strategy

14. Operations

A. Standards:

1. **Report:** Developers/contractors shall track and report to POV the percentage (by volume) of design and construction contracts that are filled by Portland Metro area companies.
2. **Encourage** local growth by reaching out to make sure local companies are included in contract opportunities as well as seeking out local small business or startup tenants.
3. **Green Exterior Site Management:** landscape, streets, building exterior maintenance
 - a. Develop and implement shoreline management plan to protect habitat over time to comply with LEED ND v4 SLL Credit: Long-Term Conservation of Habitat or Wetlands & Water Bodies.
 - b. Develop and implement sustainable landscape management strategies to meet LEED EB O&M v4 SS Credit: Site Management to address long-term maintenance and operations for optimum ecological health.
4. **Energy, Water and Materials, Management, Reporting and Tracking**
 - a. Develop and implement a water and energy management policy and plan for each project through building management. Meet LEED EB O&M v4 EA Energy Efficiency Best Management Practices. This contributes to the LEED ND requirement for pursuing one Innovation Credit in the Innovation and Design Process category.
 - b. Select sustainable strategies to highlight by making them visible to public or occupants, where possible. Collaboration between Declarant and Owners to share information, including signage, with the public on sustainable development strategies in order for the Declarant to prepare a Green Building Education program to meet a LEED v4 Innovation Credit: Green Building Education.

B. Guidelines:

1. **Emphasize**, in public space, the history of the city, site, and port throughout the design and its concept.
2. **Set** and hold accountable project performance targets.
3. **Develop** operational policies & plans to maintain desired performance per LEED EB O&M.
4. **Green Exterior Site Management:** landscape, streets, building exterior maintenance, energy, water and materials management reporting and tracking:

Waterfront Development Urban Design Standards & Guidelines

- a. Explore piloting a container takeback/token system to engage regular customers in a waste reduction program (food trucks). www.goboxpdx.com.
 - b. Consider designating a zone for food trucks that support local restaurant incubation or entrepreneurs.
 - c. Encourage vendors, restaurateurs to grow & purchase local food.
5. **Develop** a waste reduction program for materials used within the buildings. Utilize a targeted approach so that participants can specifically acknowledge their progress towards goals.

15. Outdoor Art

A. Standards:

1. **Integrate:** Art pieces to be properly integrated with both the architecture and landscape of the waterfront, presenting a coherent composition and culturally enriching context for the Port's properties.
2. **Maintenance:** Ongoing maintenance to be assured with acceptance of each piece. DRC will accept only those special features that merit a permanent place on the Port property and for which maintenance costs can be provided.
3. **Location** of art pieces relative to buildings, lighting, trees and other features to be carefully considered in terms of scale, color and texture. Materials to be suitable for the weather exposure in each location.
4. **Water Features:** Make each water feature distinctive in its appearance and sustainable in its operation.
5. **Relocation:** Ensure that any monument (art piece, bench, tree etc.) is located with the proviso that it may be relocated at some time in the future.
6. **Prohibited:** Art containing unwarranted content including statements, words or pictures of an obscene or offensive character, as determined by the DRC, is prohibited.

B. Guidelines:

1. **Strengthen** the site experience with diverse scales and concepts.
2. **Collaborate:** Consider opportunities at significant sites in the development. Design teams are encouraged to collaborate with artist(s) in fundamental way to incorporate art ideations and concepts in to the design.
3. **Activate** the site through short-term exhibits by artists-in-residence, local artists, or open call.

Waterfront Development Urban Design Standards & Guidelines

4. **Performance Art:** Make provisions to support performance art on the waterfront with Port facilities that may be indoors or outdoors.
5. **Integrate:** Encourage integration of art pieces with buildings to be consistent with the architecture.
6. **Public Art** is strongly encouraged as an integral component of the public and private realm throughout the Waterfront District.

16. Signage

A. Standards:

1. **Comply:** All signs shall comply with the provisions of VMC 20.960 Signs for number, location and size restrictions.
2. **Prohibited:**
 - a. Free standing, sidewalk signs and monument signs intended to advertise uses within the development are prohibited.
 - b. Signs containing unwarranted content, including statements, words or pictures of an obscene character, as determined by the DRC, are prohibited
3. **Animated** and other new technology signs may be permitted through DRC review and approval but will be subject to limitations on location, brightness, size and degree of animation.
4. **Size:** Signage to be functionally sufficient while not dominating the urban character of the place.
5. **Construction:** Contractor's temporary signs shall not exceed 32 square feet, or as reviewed and approved by the DRC, and shall be removed within 7 days of contract completion.
6. **Combine Signage and Lighting** to be artful, creative, add visual interest to the public domain and complementary to the architecture.
7. **Signage Lighting and Illuminated Signage** shall comply with all applicable safety regulations and conform with the protocols of the International Dark-Sky Association.
8. **Kiosk, Wayfinding and Interpretive Signage** intended to promote a comprehensive Waterfront Development Wayfinding Program shall be allowed and shall comply with Master Development Signage Program.
9. **Shoreline Master Program:** Permanent and temporary signage on the Terminal 1 Marketplace Building and within the shoreline jurisdictions shall comply with signage provisions of the Shoreline Master Program and must be reviewed and approved by the DRC.

Waterfront Development Urban Design Standards & Guidelines

10. **MSP:** A comprehensive Waterfront Development Wayfinding Program will be developed, as well as the Master Development Signage Program (MSP) for individual buildings as part of the Site Plan review process.
11. **Building MSP:** Individual buildings that accommodate multiple businesses and require signage for each business shall produce a MSP that defines the size, number, and locations of signs.
12. **Approval:** The design of signs shall be reviewed and approved by the DRC as a part of the MSP and DRC building design review process to ensure the signage is integrated into the architecture and overall development. All other signage shall be prohibited unless reviewed and approved by the DRC.
13. **Quality:** Permanent signs shall be constructed of high quality, durable materials and follow the design aesthetic as outlined by the Waterfront Development Wayfinding Program

B. Guidelines:

1. Relate the scale and style of signage to its immediate environment and to the character of the street or building on which it is located.
2. Signage should not obscure public art or architectural features nor impede access to such features or building openings.
3. Create on-site signage for information on progress of the development.

END

Waterfront Development Urban Design Standards & Guidelines

APPENDIX 1

LEED SPECIFIC TERMS & REFERENCES

LEED Rating Systems and their credit categories:

Neighborhood Development (ND) credit categories:

- Smart Location and Linkage (SLL)
- Neighborhood pattern & Design (NPD)
- Green Infrastructure & Buildings (GIB)
- Innovation (IN)
- Regional Priority (RP)

Building Design & Construction (BD&C)

- Integrative process (IP)
- Location & Transportation (LT)
- Sustainable Sites (SS)
- Water Efficiency (WE)
- Energy & Atmosphere (EA)
- Materials & Resources (MR)
- Indoor Environmental Quality (EQ)
- Innovation (IN)
- Regional Priority (RP)

Prerequisites All prerequisites in a rating system must be met. These do not contribute any points toward the project's credit score that determines the level of the LEED award: Certified, Silver, Gold, or Platinum.

Credits earn points toward the targeted certification level. Generally, project teams may select which credits to pursue for their individual building; in some cases a particular credit in the Building Design and Construction rating system (BD&C) may be required by the Port of Vancouver to meet the LEED ND certification that the Port is pursuing for the master plan as a whole.

Selected LEED terms used in documenting compliance with LEED Requirements:

(for a complete listing, consult the LEED v4 Glossary at <https://www.usgbc.org/glossary>)

Waterfront Development Urban Design Standards & Guidelines

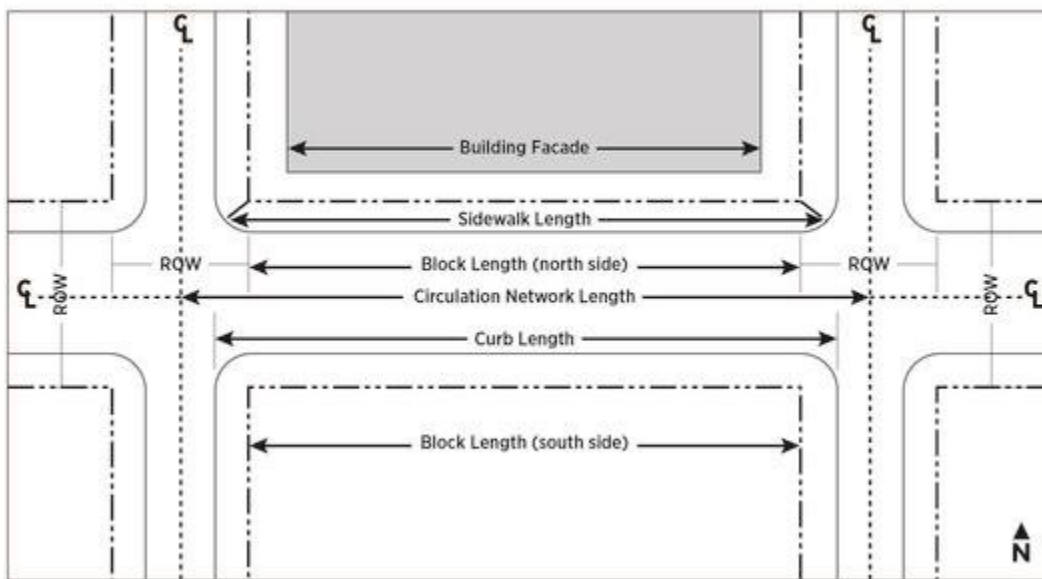
CIRCULATION NETWORK AND BLOCK FRONTAGES

Circulation network and block length are defined as follows:

circulation network all motorized, nonmotorized, and mixed-mode travel ways permanently accessible to the public, not including driveways, parking lots, highway access ramps, and rights-of-way exclusively dedicated to rail. It is measured in linear feet.

block length the distance along a block face; specifically, the distance from an intersecting right-of-way edge along a block face, when that face is adjacent to a qualifying circulation network segment, to the next ROW edge intersecting that block face, except for intersecting alley ROWs. The dividing line between the right-of-way and block frontage is the property line, regardless of sidewalk location.

The applicability of these terms to a typical streetscape is shown in Figure A.2.1.
Figure A2.1.



OCCUPANCY

In some instances, occupants must be counted for calculations. Definitions of occupant types are general guidelines that may be modified or superseded in a particular credit when appropriate (such changes are noted in each credit's reference guide section). Most credits group users into two categories, regular building occupants and visitors.

Regular Building Occupants Regular building occupants are habitual users of a LEED project. All of the following are considered regular building occupants:

Employees include part-time and full-time employees, and totals are calculated using full-time equivalency (FTE).

Waterfront Development Urban Design Standards & Guidelines

A typical project can count FTE employees by adding full-time employees and part-time employees, adjusted for their hours of work (Equation 10).

For buildings with more unusual occupancy patterns, calculate the FTE building occupants based on a standard eight-hour occupancy period (Equation 11).

EQUATION 11.	
FTE employees	$= \frac{\Sigma \text{ all employee hours}}{8}$

Staff is synonymous with employees for the purpose of LEED calculations.

Volunteers who regularly use a building are synonymous with employees for the purpose of LEED calculations.

Residents of a project are considered regular building occupants. This includes residents of a dormitory. If actual resident count is not known, use a default equal to the number of bedrooms in the dwelling unit plus one, multiplied by the number of such dwelling units.

Hotel guests are typically considered regular building occupants, with some credit-specific exceptions. Calculate the number of overnight hotel guests based on the number and size of units in the project. Assume 1.5 occupants per guest room and multiply the resulting total by 60% (average hotel occupancy). Alternatively, the number of hotel guest occupants may be derived from actual or historical occupancy.

Visitors (also “transients”) intermittently use a LEED project. All of the following are considered visitors:

Retail customers are considered visitors. In water-related credits, retail customers are considered separately from other kinds of visitors and should not be included in the total average daily visitors.

Outpatients visit a hospital, clinic, or associated health care facility for diagnosis or treatment that lasts 23 hours or less.

Peak outpatients are the highest number of outpatients at a given point in a typical 24-hour period.

Volunteers who periodically use a building (e.g., once per week) are considered visitors.

Higher-education students are considered visitors to most buildings, except when they are residents of a dorm, in which case they are residents.

In calculations, occupant types are typically counted in two ways:

Daily averages take into account all the occupants of a given type for a typical 24-hour day of operation.

Peak totals are measured at the moment in a typical 24-hour period when the highest number of a given occupant type is present.

Waterfront Development Urban Design Standards & Guidelines

Whenever possible, use actual or predicted occupancies. If occupancy cannot be accurately predicted, use one of the following resources to estimate occupancy:

1. Default occupant density from ASHRAE 62.1–2010, Table 6-1
2. Default occupant density from CEN Standard EN 15251, Table B.2
3. Appendix 2 Default Occupancy Counts
4. Results from applicable studies.

If numbers vary seasonally, use occupancy numbers that are a representative daily average over the entire operating season of the building.

If occupancy patterns are atypical (shift overlap, significant seasonal variation), explain such patterns when submitting documentation for certification.

The following LEED ND credits reference occupancy:

- SLL Credit Bicycle Facilities
- NPD Credit Transportation Demand Management
- NPD Credit Local Food Production
- GIB Prerequisite and Credit Indoor Water Use Reduction
- GIB Credit Solid Waste Management

Integrative Design Process is a process to maximize early opportunities for integrated, cost-effective, values-driven approach to green design, construction and certification strategies, emphasizing social and community needs as a fundamental evaluative criterion for neighborhood design, construction and operational strategies as set forth in the LEED for Neighborhood Development version 4 Pilot Credit Integrative Process.

Waterfront Development Urban Design Standards & Guidelines

APPENDIX 2

PROJECT BOUNDARY

The Port of Vancouver Waterfront Development Standards apply to the property as shown below.



Waterfront Development Urban Design Standards & Guidelines

APPENDIX 3

PREFERRED NATIVE AND ADAPTIVE PLANT SPECIES LIST

Bank and Riverfront Planting Zones

The intent of the bank and riverfront planting areas are to create habitat, maintain river views, and to encourage sustainability through the use of native and adaptive plant species that require limited water and supplements for survival.

The ecological condition at the edge of the Columbia River has been degraded over time. Establishing ecological health at the river's edge within this urban corridor will rely on a balance between establishing diverse habitat opportunities, while maintaining visual and physical access to the river.

Based on known habitat types for region and the Columbia River, the following planting recommendations may be considered based on bank positions. The diagram "Landscape Uses" shows the planting zones, including low bank, upper bank and upland planting zones.

Street Trees

These trees apply to the street frontages, excluding all bioswale areas.

Erosion Control

This category applies to work in all habitat types, wherever there is earthwork or soil disturbance.

Lawn

Lawn is not considered habitat type. It should only be specified for active uses where habitat re-naturalization is not needed.

Low Bank

This category applies to habitat areas on the lower portions of the re-naturalized bank zones. These are areas that will receive regular inundation.

Upper Bank

This category applies to habitat areas on the mid to upper portions of the re-naturalized bank zones. These planting zones occur above the Low Bank zone to the top of bank.

Upland Plantings

This category applies to planted areas above the top of bank. This area encourages the use of both native and adaptive plant species to achieve a welcoming urban landscape zone that balances habitat opportunities with the uses of visitors and residents in the area.

Bioswales

In the urban upland zones, the project will include infiltration and flow-through bioswales to help improve water quality in the district. Plantings in these areas should be clean and contemporary but must withstand period of drought as well as inundation.

Waterfront Development Urban Design Standards & Guidelines

Street Trees

Scientific Name	Common Name
<i>Columbia Way</i>	
Acer rubrum 'Redpointe'	RedPointe Maple
<i>Daniels Way</i>	
Nyssa Sylvatica	Black Tupelo
<i>East-West Connections</i>	
Ulmus propinqua 'JFS-Bieberich'	Emerald Sunshine Elm

Erosion Control

Scientific Name	Common Name
Bromus carinatus	California Brome
Elymus glaucus	Blue Wild Rye
Festuca rubra 'communtata'	Chewings Red Fescue
Gilia capitata	Common Gilia
Hordeum brachyantherum	Meadow Barley
Lotus purshiana	Spanish Clover

Turf Grass (Lawn)

Scientific Name	Common Name
Festuca diruscula	Hard Fescue
Festuca rubra 'communtata'	Chewings Red Fescue

Low Bank

Scientific Name	Common Name
<i>Trees</i>	
Fraxinus latifolia	Oregon Ash
Salix lasiandra (lucida var. lasiandra)	Pacific Willow

Shrubs

Cornus sericea	Red Osier Dogwood
Physocarpus capitatus	Pacific Ninebark
Rosa pisocarpa	Swamp Rose
Salix piperi (hookeriana)	Hooker's Willow
Salix sitchensis	Sitka Willow
Viburnum edule	Viburnum

Herbaceous

Aster subspicatus (douglasii)	Douglas Aster
Carex obnupta	Slough Sedge
Carex ssp..	Other Sedges
Deschampsia cespitosa	Tufted Hairgrass
Eleocharis ssp	Spikerushes

Waterfront Development Urban Design Standards & Guidelines

Glyceria ssp	Mannagrass
Hordeum brachyantherum	Meadow Barley
Juncus ensifolius	Dagger-Leaf Rush
Leersia oryzoides	Rice Cutgrass
Lycopus americanus	Bugleweed
Mimulus guttatus	Yellow Monkey-flower
Paspalum distichum	Knotgrass
Sagittaria latifolia	Wapato
Scirpus ssp	Bulrushes
Solidago gigantea	Giant Goldenrod
Solidago (Euthamia) occidentalis	Grass-leaved Goldenrod
Veronica americana	American Brooklime

Upper Bank

Scientific Name	Common Name
-----------------	-------------

Trees

Acer circinatum	Vine Maple
Alnus rubra	Red Alder
Crataegus douglasii	Black Hawthorn
Malus fusca	Western Crabapple
Prunus emarginata	Bitter Cherry
Rhamnus purshiana	Cascara

Shrubs

Cornus sericea	Red Osier Dogwood
Mahonia nervosa	Low Oregon Grape
Rosa pisocarpa	Swamp Rose
Rubus spectabilis	Salmonberry
Salix lasiandra	Pacific Willow
Salix sitchensis	Sitka Willow
Spirea douglasii	Douglas Spirea
Symphoricarpos albus	Common Snowberry
Viburnum edule	Viburnum

Herbaceous

Adiantum pedatum	Maidenhair Fern
Deschampsia cespitosa	Tufted Hairgrass
Hordeum brachyantherum	Meadow Barley
Juncus ensifolius	Dagger-Leaf Rush
Polystichum munitum	Sword Fern
Scirpus microcarpus	Small-Fruited Bulrush
Viola glabella	Yellow Wood Violet
Viola sempervirens	Trailing Yellow Violet

Waterfront Development Urban Design Standards & Guidelines

Upland

Scientific Name

Common Name

Trees

Acer circinatum	Vine Maple
Acer japonicum sp.	Japanese Maple
Acer macrophyllum	Bigleaf Maple
Acer truncatum x A. platnoides ---'Warrenrod'	Pacific Sunset Maple
Arbutus menziesii	Pacific Madrone
Calocedrus decurrens	California Incense Cedar
Cedrus deodara	Deodar Cedar
Cornus 'June Snow'	June Snow Dogwood Eddie's White Wonder
Cornus 'Eddies White Wonder'	Dogwood
Fagus sylvatica	European Beech
Fraxinus pennsylvatica 'Cimmzamm'	Cimmaron Ash
Lagerstroemia sp.	Crape Myrtle sp.
Nyssa sylvatica	Black Tupelo
Styrax japonicas	Japanese Snowbell
Zelkova serrata	Japanese Zelkova

Shrubs

Deschampsia cespitosa	Tufted Hairgrass
Eleocharis ssp	Spikerushes
Glyceria ssp	Mannagrass
Hordeum brachyantherum	Meadow Barley
Juncus ensifolius	Dagger-Leaf Rush
Leersia oryzoides	Rice Cutgrass
Lilium occidentale	Western Lily
Mahonia aquifolium 'compacta'	Compact Oregon Grape
Mahonia nervosa	Low Oregon Grape
Philadelphus lewisii selections	Selections of Mock Orange
Potentilla spp	Cinquefoil
Ribes Sanguineum	Flowering Currant selections
Salvia greggii	Autumn Sage
Symphoricarpos ssp	Cultivated Snowberry
Symphoricarpos mollis	Trailing Snowberry

Herbaceous/Groundcovers

Fragaria Chiloensis	Beach Strawberry
Helictotrichon Sempervirens	Blue Oat Grass
Hemerocallis spp	Daylily

Waterfront Development Urban Design Standards & Guidelines

Heuchera sanguinea	Coral Bells
Juniperus conferta	Shore Juniper
Juniperis horizontalis	Creeping Juniper
Lavendula spp	Lavender
Miscanthus Sinensis 'Adagio'	Eulalia
Pennisetum Alopecuroides	Fountain Grass
Salvia chamaedryoides	Blue Chichuahuan
Salvia spathacea	Hummingbird Sage