20.25E.080 SHORELINE MODIFICATIONS

A. Applicability.

This section contains requirements and standards that apply to all shoreline modifications in the Shoreline Overlay District. These requirements and standards are in addition to the procedures, permit requirements, and standards set forth in other sections of the Bellevue SMP.

B. Breakwaters, Jetties, and Groins.

1. Prohibited Development.
   a. Jetties and groins are prohibited within the Shoreline Overlay District and should be removed when the use for which they were constructed is discontinued or the purpose or function for which the jetty or groin was originally installed no longer exists.
   b. Solid landfill or rockery breakwaters are prohibited in the Shoreline Overlay District.
2. Breakwaters – Limitations. Breakwaters are allowed only when there is a demonstrated need to protect existing recreation or non-residential moorage uses from damage caused by natural wave action.
3. Breakwaters – Performance Standards. Breakwaters, when allowed, require a Shoreline Conditional Use permit (refer to LUC 20.25E.180), and the following performance standards shall be met.
   a. The applicant shall demonstrate that no technically feasible alternative exists (refer to LUC 20.25E.060.C).
   b. Breakwaters shall be designed by a qualified professional using minimally invasive techniques to protect shoreline ecological functions and shall not preclude fish passage or adversely affect sediment migration.
   c. As part of the application submittal, the qualified professional designing the breakwater must certify that the breakwater is the minimum necessary to accomplish its purpose.
   d. The applicant shall demonstrate that the design will not result in a net loss of shoreline ecological functions.
   e. Areas of new permanent disturbance and all areas of temporary disturbance shall be mitigated and/or restored pursuant to a mitigation and restoration plan meeting the requirements of LUC 20.25E.060.D (Mitigation Sequencing).

Comment [mnp1]: Bellevue specific approach recognizing limited application of these features. Meets requirements at WAC 173-26-231 (3) (d)

C. Clearing, Grading, and Fill in the Shoreline

Comment [mnp2]: Bellevue specific approach based on City codes and proposed policies

1. Clearing, Grading, and Fill – Limitations.

   a. All clearing, grading, excavating, and filling in the Shoreline Overlay District shall comply with the provisions of this paragraph C of this section, LUC 20.25H.180 (Areas of Special Flood Hazard), Chapters 24.06 (Storm and Surface Water Utility Code) and 23.76 (Clearing and Grading Code) BCC, and the City's engineering and clearing and grading development standards, now or as amended.

   b. Minimum Necessary. Clearing, grading, excavation, and filling is permitted only in association with an approved use or development and shall be the minimum necessary to support the approved use or development. Filling to create dry land is prohibited.

   c. Filling and excavation below the ordinary high water mark is allowed only for the following activities, and when the applicant demonstrates the project will result in not net loss of ecological functions using appropriate technical studies:

      i. Placement of beach or aquatic substrate when part of an approved ecological restoration activity;

      ii. Replenishing sand on public and private community beaches;

      iii. Alteration, maintenance, or repair of existing transportation facilities and utilities located within the Shoreline Overlay District, and no technically feasible alternative is available as set forth in LUC 25.25E.060.C.

      iv. Constructing facilities for public water-dependant uses or public access; provided that the excavation or filling is limited to the minimum required to accommodate the use or facility, and no technically feasible alternative is available as set forth in LUC 25.25E.060.C;

      v. Activities incidental to the repair of legally-established shoreline stabilization measures;

      vi. Approved flood control projects;

      vii. Components of an approved stream restoration project, including vegetation restoration; and

      viii. Activities that are part of a remedial action plan approved by the Department of Ecology pursuant to Model Toxics Control Act (MTCA), the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA), or otherwise authorized by the Washington State Department of Ecology, the United States Army Corps of Engineers, or other agency with jurisdiction.

2. Filling and Excavation – Additional Analysis Required. The applicant shall provide the following project analysis together with any submittal for a shoreline application that proposes filling or excavation activities.

   a. The overall value to the public resulting from the excavation or fill as opposed to the value of the shoreline in its existing state and evaluation of alternatives to fill that would achieve some, if not all, objectives of the proposal;

   b. The effects on shoreline ecological functions, including but not limited to, functions of the substrate of lakes and streams, effects on aquatic organisms, including the food web, effects on vegetation functions, effects on local currents, erosion, and deposition patterns, effects on surface and subsurface drainage, and the effects on floodwaters and the floodplain.

   c. If the filling or excavation will require shoreline stabilization to protect materials placed or removed and whether such stabilization meets the polices and standards of the shoreline master program;

   d. Whether the fill or excavation will alter the normal flow of floodwater, including the obstruction of flood control channels or swales; and

   e. Whether public or tribal rights to the use and enjoyment of the shoreline and its resources are impacted.

3. Filling and Excavation – Performance Standards.

   a. Fill Material—Suitability. Fill material shall not be detrimental to water quality or existing habitat, or create any other significant adverse impacts to the environment. Fill shall be properly stabilized and maintained during and following construction to prevent erosion.

   b. Stockpiling. For development occurring outside the shoreline setback, dirt, rocks, and similar material shall not be stockpiled in the shoreline setback. For development occurring within the shoreline setback, stockpiling is allowed and shall be the minimum necessary to support the development and shall be located in an area that having the least impact to shoreline functions. If any stockpiling is required, best management practices shall be implemented to prevent discharge of sediments or pollutants into receiving waters. (Refer to Chapter 23.76 BCC (Clearing and Grading Code) and the City's clearing and grading development standards, now or as amended).

   c. Excess Material. All excess material resulting from clearing, grading, excavation, and filling activities shall be removed from the shoreline site and disposed of in a manner that prevents any of the excess material from entering surface or ground waters in accordance with Chapters 24.06 (Storm and Surface Water Utility Code) and 23.76 (Clear and Grade Code) BCC, and applicable engineering and development standards.

D. Dredging and Dredge Material Disposal

1. Prohibited Activities.

Comment [mnp3]: Bellevue specific approach based on LUC 20.25E and WAC 173-26-231

Comment [mnp4]: Bellevue specific approach based on LUC 20.25E and WAC 173-26-231

a. Dredging for the sole purpose of obtaining fill or construction material is prohibited.

b. Dredging materials disposal is prohibited in the aquatic environment.

2. Dredging – Limitations. Dredging is allowed only for the following activities, and when the applicant demonstrates the project will result in not net loss of ecological functions using appropriate technical studies:

   a. To maintain navigability; provided the dredging is limited to the extent of the previously approved dredging and/or existing authorized location, depth, and width;

   b. To maintain an existing agricultural activity that supports an existing agricultural use within City Parks;

   c. To remedy conditions endangering the public health, safety or welfare;

   d. To carry out a habitat improvement project; and

   e. Dredging performed pursuant to a remedial action plan approved under authority of the Model Toxics Control Act (MTCA), the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA), or pursuant to other authorization by the Washington State Department of Ecology, U.S. Army Corps of Engineers, or other agency with jurisdiction.

3. Dredging and Disposal - Performance Standards. Proposals for dredging must comply with each of the following performance standards:

   a. The proposal, including any necessary mitigation, will result in no net loss of shoreline ecological functions.

   b. Dredging shall be limited to the minimum necessary and appropriately balance navigational or other needs with impacts to shoreline ecological functions. The minimum necessary proposal shall be determined based on an analysis of technically feasible alternatives and consider both short-term and long-term impacts associated with the action, including mitigation measures.

   c. The dredging shall not cause long-term adverse impacts to water quality, aquatic habitat, or human health in adjacent areas.

   d. The lateral spread of re-suspended sediment created by a dredging operation shall be contained within previously approved limits.

   e. To prevent impairment of water quality any dredge spoil temporarily stored in an upland location must be set back an adequate distance from the water to prevent the discharge of pollutants to the receiving water, and the containment measure shall contain sufficient filtering to prevent discharge of sediments to the receiving water. Temporary disposal sites shall not be allowed except in areas designated by the City of Bellevue.

   f. A permanent dry land disposal site, or submerged disposal site outside of the City of Bellevue, has been approved.

g. Areas of new permanent disturbance and all areas of temporary disturbance shall be mitigated and/or restored pursuant to a mitigation or restoration plan meeting the requirements of LUC 20.25E.060.D (Mitigation Sequencing).

E. Non-Residential Moorage Facilities, Boat Ramps, and Launches.

1. Applicability. Non-residential moorage facilities, boat ramps and launches are allowed in the Shoreline Overlay District when in compliance with paragraph E of this section.
2. Definitions. The following definitions apply only to paragraph E of this section.
   a. Facility Segment. The walkway, moorage platform, finger-pier, or cover portion of a dock.
   b. Walkway. The portion of the dock that is connected to the shoreline at the landward end and provides access to the moorage platform.
3. General Requirements Applicable to all Non-residential Moorage Facilities, Boat Ramps and Launches.
   a. New skirting, covered moorage, including boatlift canopies, is prohibited.
   b. Minimum necessary. Maintenance and repair shall be the minimum necessary to restore the facility to its original design, function, and capacity.
   c. Construction Materials. Use environmentally neutral materials not materials treated with known toxic preservatives and approved by the Environmental Protection Agency for use in aquatic environments. Dock materials shall not be treated with pentachlorophenol, creosote, chromate copper arsenate (CCA) or comparably toxic compounds. If (ammoniacal copper zinc arsenate) (ACZA) materials are proposed, the applicant will meet all of the Best Management Practices, including a post-treatment procedure, as outlined in the amended Best Management Practices of the Western Wood Preservers. Preservative and surface treatments are limited to products approved for use in aquatic environments and must be applied according to label directions. Construction hardware that comes into contact with water either directly or through precipitation and that discharges either directly or indirectly into surface waters shall not be susceptible to dissolution by corrosion.
   d. Modification of Standards. A Special Shorelines Report may be used to modify the standards of this section E when the modification results in a net benefit to shoreline ecological functions. Refer to LUC 20.25E.160.E (Mitigation Sequencing).
4. New and Expanded Non-Residential Moorage Facilities, Boat Ramps and Launches.
   a. Permit Required. New and expanded non-residential moorage, boat ramps, and launches are permitted in the shoreline jurisdiction pursuant to the process in identified in LUC 20.25E.030 (Shoreline Use Charts).

Comment [mnp5]: Bellevue specific approach based on existing code LUC 20.25E.080.N and Planning Commission direction provided on July 28, 2010. Incorporates public comment from property owners, builders and consultants.

Comment [mnp6]: Bellevue specific approach following Planning Commission direction from July 23, 2010, public comment, and modeled after existing code LUC 20.25E.080.N , Kirkland SMP, internal city review, guidance from Department of Ecology, DNR, USACE and staff review of marinas region wide. Meets WAC 173-26-231 requirements for water-dependent use or public access, minimum necessary, need, avoidance, minimization, and mitigation of impacts to ecological functions and critical resources.

b. Moorage facilities shall be located in an area where impacts to shoreline ecological functions can be avoided or mitigated to achieve the standard of no net loss of ecological function. To ensure no net loss of ecological functions occurs, the Director may require a compensatory mitigation plan pursuant to LUC 20.25E.060.D (Mitigation Sequencing), when impacts related to new or expanded moorage facilities are identified and not addressed by the performance standards set forth in paragraph E.4.d of this section.

c. New or Expanded Non-Residential Moorage Facilities - Design Criteria. Design and siting of new or expanded Non-residential moorage facilities shall address, at a minimum, the following criteria:

   i. Facilities should be designed to avoid dredging to establish new moorage, and the need for maintenance dredging consistent with LUC 20.25H.080.D

   ii. Facilities should be designed to avoid impacts to shoreline ecological functions through consideration of water depth, water circulation, sediment inputs and accumulation, and wave action.

   iii. Facilities should be located to avoid impacts to shoreline ecological functions through avoidance of submerged aquatic vegetation, shoreline associated wetlands, or habitat associated with species of local importance.

   iv. Facilities shall be designed to minimize overwater coverage and be the minimum size necessary to provide the desired moorage function when considering the beam and draft of the type of boat anticipated to be moored. Preference shall be given to designs that provide two berths per finger pier.

   v. The ability of the site upland from the ordinary high water mark to accommodate the necessary support facilities.

   vi. The use of mooring buoys to accommodate additional moorage.

   vii. Transient Moorage. Transient moorage is allowed within a new or expanded non-residential moorage facility.

   viii. Liveaboards. Liveaboards are allowed when distributed through the facility. Areas proposed for occupation by liveaboards should include properly planned and designed utility connections and storage facilities for each liveaboard slip.

   ix. Stacked Boat Storage. Facilities should incorporate, to the maximum extent feasible, upland stacked boat storage unless:

      (1) No suitable upland locations exist for such facilities;

      (2) The applicant demonstrates that water moorage would result in fewer impacts to shoreline ecological functions;

      (3) The applicant demonstrates that water moorage would enhance public use of the shoreline; or

(4) The proposal is part of a non-residential moorage facility development in the Recreational Boating shoreline environment where the objective is enhanced public access and the location of an upland stacked storage facility would conflict with the objective of public use of the shoreline.

x. Utilities and Services. Utility and service lines serving docks and piers should be located below the pier deck and out of the water.

d. New and Expanded Non-Residential Moorage Facilities – Performance Standards. The following use-specific performance standards apply in addition to the general performance standards in paragraph E.3 of this section.

i. Location of Facilities in Meydenbauer Bay. Non-residential moorage facilities shall not extend waterward beyond the point necessary to provide reasonable draft for the boats to be moored. In no event shall a non-residential moorage facility extend to a point that impedes public navigation.

Comment [mnp7]: Bellevue specific approach to preserve ease of navigation

ii. Existing covered non-residential moorage facilities in Meydenbauer Bay shall not expanded beyond their existing outer limits or the boundary described as:

Comment [mnp8]: Existing code requirement in LUC 20.25E.080.N.6 limiting extent of covered moorage in Meydenbauer Bay

All Azimuths being South; commencing at the E 1/4 Sec. corner of Sec. 31 T 25N, R 5E, W.M., whose "X" coordinate is 1,661,520.58 and whose "Y" coordinate is 225,661.29 of the Washington Coordinate System, North Zone, and running thence on an Az of 78°51′17″ a distance of 963.76 feet to a point whose coordinate is "X" 1,660,575.00, "Y" 225,475.00 of said coordinate system; thence on an Az of 37°26′00″ for a distance of 60 feet to a point being the true beginning of this description; thence on an Az of 316°19′15″ a distance of 495.14 feet; thence on an Az of 2°21′10″ a distance of 42.52 feet; thence on an Az of 312°06′17″ a distance of 415.00 feet; thence on an Az of 37°24′19″ a distance of 118.06 feet to an intersection with the northwesterly extension of the northwesterly line of Reserve "A" at the N. end of Ronda Street between Blocks 29 and 38, Plat of Moorlands, as recorded in Vol. 4 of Plats, Page 103, records of King County, Washington, said point of intersection being the terminus of this line description.

iii. Setbacks for Facilities. Moorage facilities constructed with an external dock perimeter where access to public waters is provided through a central point on the waterward end of the facility shall provide a minimum 10-foot setback from property line projections. Moorage facilities constructed with an open-sided design where access to moorage is taken directly from public waters shall provide a minimum of 50 feet of setback from property line projections.

Comment [mnp9]: Bellevue specific approach

<Insert Graphic>

iv. Dock and Pier Access. Docks and piers shall be accessed from upland support areas through a ramp or gangway and walkway system with the first set of finger piers (ells) located at a depth of 9 feet or greater. Facilities for human-powered vessel launching and moorage may be located in depths of less than 9 feet.

v. The width and length of all structures shall be limited to what is reasonable for the intended use; provided that:

(1) Walkways shall not exceed 8 feet in width;

(2) Ells shall not exceed 4 feet in width; and

(3) Ramps and gangways shall not exceed 6 feet in width.

vi. Docks, ramps, piers, and walkways shall be grated or surfaced with light penetrable materials. To the extent feasible, structures shall be designed to minimize overwater coverage and avoid shading of aquatic vegetation.

vii. Impacts to shoreline ecological functions shall be minimized through avoidance of submerged aquatic vegetation, shoreline associated wetlands, and nesting and spawning areas.

viii. Impacts to adjoining residential uses shall be minimized through use of appropriate screening, and by locating high impact areas away from uses on adjacent properties.

ix. Docks shall be designed with piers and other structures placed to facilitate, rather than to obstruct, water circulation. Basins shall be designed to prevent stagnant water that tends to collect debris or cause shoaling or flushing problems.

x. Moorage facilities shall be designed to protect against wakes caused by vessel traffic without the need for a breakwater.

xi. Lighting and Safety. Design shall include adequate safety features and be designed to facilitate emergency response, including, but not limited to the following:

(1) Design and locate facility security gates and walkways maximizing emergency access to the water and minimizing blockage of the view from the shore. Walkway access locations should be in close proximity to facility loading and short term parking areas;

(2) Design and locate lighting to illuminate walkways during the evening hours. Walkway lighting should be flush mounted to the dock surface or screened to avoid spillover light emissions;

Comment [mnp10]: Bellevue specific approach meeting PC direction (July 28, 2010) and modeled on existing code LUC 20.25.E and Kirkland SMP

Comment [mnp11]: Meets Ecology mandated no net loss standard by minimizing impacts to ecological functions as required at WAC 173-26-231-(3) (b).

(3) Locate flotation devices in designated areas at regular intervals throughout the non-residential moorage facility to ensure the safety of facility users;

(4) Include adequate fire safety apparatus, including dock surface markings and reflectors at intervals and location specified by the City's Fire Department; and

(5) Mark the facility with reflectors or other measures to prevent unnecessarily hazardous conditions for water surface users during the day or night.

xii. Interference with Other Uses. Facilities shall not interfere with the public use and enjoyment of the water or create a hazard to navigation.

xiii. Public access shall be provided in accordance with LUC 20.25E.060.I (Public Access).

xiv. Facility Addressing—Waterward. Facilities shall include address signs that are visible from the water. All signage shall conform to the signage requirements contained in LUC 20.25E.060.J (Signage in the Shoreline).

xv. Aircraft Moorage. Aircraft moorage is allowed as part of a non-residential moorage facility and shall be the minimum size necessary to accommodate the use. All identified and related impacts to shoreline ecological functions shall be mitigated through implementation of a mitigation plan pursuant to LUC 20.25E.060.D (Mitigation Sequencing).

xvi. Waste Services. At the minimum, Facilities shall provide the following waste services:

(1) One marine pump-out facility for use by the general boating public. This facility must be clearly marked for public use; and

(2) Each moorage segment shall include a solid waste collection facility, including but not limited to, garbage, maintenance waste, recycling and garbage.

xvii. Facilities shall develop a maintenance, repair, and operations plan that demonstrates compliance with the requirements of this SMP and other applicable codes in accordance with standards established by the Director.

e. New and Expanded Motorized Boat Ramps and Launches - Decision Criteria. In determining whether to approve an application for a motorized boat launch, the City shall the following criteria:

i. Adequacy of public streets to serve the facility based on traffic generated from using the facility;

ii. Impacts on adjacent uses, including noise, light, and glare are minimized; and,

Comment [mnp12]: Bellevue specific approach meeting recommended regional water quality BMPs and modeled after Kirkland and Renton SMP

Comment [mnp13]: Bellevue specific approach incorporating Planning Commission direction.

iii. Ramp surfaces may be concrete, precast concrete, or other hard permanent substance. Loose materials, such as gravel or cinders, shall not be used.

f. Non-motorized Boat Ramps and Launches - Design Criteria. Design and siting of non-motorized boat ramps and launches shall address, at a minimum, the following criteria:

i. The preferred construction materials for ramps designed for non-motorized boats is gravel or other similar natural material; and

ii. Floats or platforms designed to launch non-motorized boats are allowed.

g. New and Expanded Boat Ramps and Launches – Performance Standards. The following use-specific performance standards apply in addition to the general performance standards in paragraph E.3 of this section.

Comment [mnp14]: Bellevue specific approach modeled on Renton SMP

i. The proposed size of the boat ramp or launch shall be the minimum necessary to safely launch the intended craft;

ii. Removal of native upland vegetation shall be minimized to the greatest extent feasible;

iii. Water currents and normal wave action shall be suitable for launch activity;

iv. Adequate on-shore parking and maneuvering areas shall be provided based on projected demand. Provisions shall be made to prevent spillover outside designated parking areas. Parking, access, and circulation must be consistent with LUC 20.25E.060.H (Accessory Parking, Loading Space and Maintenance Access);

v. Boat launches shall be located so that they do not significantly impact fish and wildlife habitats and shall not occur in areas with native emergent vegetation;

vi. Boat launches shall be located to provide access to a sufficient water depth to allow use by boats without maintenance dredging;

vii. Ramps shall be designed to allow for ease of access to the water with minimal impact on the shoreline and water surface;

viii. Moorage associated with a boat launch or ramp shall meet the applicable performance standards for new or expanded non-residential moorage facilities in section F.4.d; and

ix. Mitigation is required for impacts related to the launch facility in accordance with LUC 20.25E.060.D (Mitigation Sequencing).

5. Repair and Maintenance Performance Standards Applicable to Non-Residential Moorage Facilities, Boat Ramps and Launches.

Comment [mnp15]: Bellevue specific approach based on residential moorage approach

a. Maintenance and repair as used in this section includes actions to repair a failed or degraded component of a facility with the intent of restoring the facility to its original design condition, function, and capacity. Expansion

or reconfiguration of facility components do not constitute repairs and are will be processed as a new or expanded non-residential moorage facility, boat ramp or launch.

b. Existing Non-Residential Moorage Facilities - Repair and Maintenance Performance Standards. Repairs of non-residential moorage facilities shall comply with the following:

i. Canopy or Facility Decking Repair. Replacement of more than 50 percent of the surface of any overwater segment of a non-residential moorage facility within a 5-year period requires the segment surface be replaced with light penetrable materials, such as grating or translucent surfaces. Accept that floating docks must use light-penetrable materials to the extent the existing Bellevue specific approach based on LUC 20.25E and WAC 173-26-231structure facilitates light transmission with the addition of the light-penetrating materials. Otherwise, floating docks may use materials similar to those used for original construction unless in conflict with other requirements of this section.

ii. Piling Repairs. Capping, collaring, or sleeving, of more than 50 percent of the piling of any overwater segment of a non-residential facility within a 5-year period requires the segment surface be replaced with light penetrable materials (grating or translucent surface).

iii. Facility Substructure Repair. Repair or replacement of more than 50 percent of the substructure (stringers, joists, or beams) of any overwater segment of a non-residential moorage facility within a 5-year period requires replacement with light penetrable materials (grating or translucent surface).

iv. Piling Repair. Replacement of more than 50 percent of the structural support piling of any overwater segment of a nonresidential moorage facility within a 5-year period requires compliance with new nonresidential moorage facility standards (requires redesign and reconfiguration).

v. To avoid major modification to a dock, up to two mooring piles per moorage slip may be added or removed as a minor repair to address a change in vessel type.

vi. Materials Used for Repairs. Repairs may be completed with materials similar to those used for original construction unless in conflict with paragraph E.3.c of this section.

vii. Alternative mitigation may be allowed in-lieu of use of light penetrable materials through the Special Shoreline Report Process, LUC 20.25E.160.E when the proposal with the requested alternative mitigation leads to an equivalent or better protection of shoreline

ecological functions than would result from the application of the standard requirements for light penetrating materials.

c. Existing Boat Ramps and Launches - Repair and Maintenance Performance Standards. Repair and maintenance of existing boat ramps and launches shall comply with the following:

i. Repair of existing facilities shall be constructed with materials required for new facilities as described in paragraph E.3.c of this section.

ii. No expansion of improved areas is permitted as repair.

iii. Removal existing vegetation shall be prohibited; and

iv. Dredging is allowed only in accordance with LUC 20.25E.080.D (Dredging and Dredge Material Disposal).

F. Shoreline Stabilization

1. Applicability. Shoreline stabilization measures designed to protect existing primary structures, public facilities, or public use structures from shoreline erosion are allowed in the shoreline at or above ordinary high water mark in compliance with paragraph F of this section. The requirements of paragraph F of this section may be modified through a Special Shoreline Report, pursuant to LUC 20.25E.160.E.

2. Definitions.

a. Public facilities or public use structures. As used in this section, "public facilities" is a general term that encompasses public infrastructure and facilities. "Public use structures" is a general term that refers to structures designed to facilitate public use of the shoreline.

Comment [mnp16]: Modeled after definition in LUC 20.25H.055 (Critical Areas Overlay District)

b. Shoreline Stabilization. Nonstructural and structural measures designed to protect existing primary structures, public facilities, or public use structures from the effects of natural shoreline processes, such as wave action, flooding, or erosion. Shoreline stabilization may include vegetation, bioengineered measures combining vegetation with slope modification, angled riprap, revetments, and conventional vertical bulkheads.

Comment [mnp17]: Bellevue specific approach modeled after existing definition at LUC 20.25E.080.E.

c. Soft Shoreline Stabilization. Soft shoreline stabilization combines a range of bioengineered actions, beach enhancement, anchor trees, large rocks, gravel placement, shoreline plantings, and similar measures that use natural materials engineered to provide shoreline stabilization while preserving or mimicking important shoreline ecological functions. Depending on site conditions, a blending of hard and soft methods that includes durable

Comment [mnp18]: Bellevue specific approach modeled after existing definition at LUC 20.25E.080.E and City of Seattle Green Shorelines

components in combination with softer methods and vegetative plantings may be necessary to provide the needed level of stabilization while providing an enhanced shoreline habitat.

d. Hard Shoreline Stabilization. Hard shoreline stabilization employs rigid structures that armor the shoreline from the effects of water-caused erosion. Such structures typically include rip-rap revetments, gabions, concrete retaining walls, and similar measures that function to prevent wave-caused by a variety of methods ranging from rock revetments sloped at 3:1 or less to near-vertical rockeries and vertical rigid structures constructed of artificial materials like concrete.

Comment [mnp19]: Bellevue Specific Approach based on existing definition at LUC 20.25E.080.E and Chapter 173-26-231 WAC

e. Avoidance Measures. Techniques used to minimize or prevent shoreline erosion that do not involve modification of the shoreline at the interface of land and water. Avoidance measures are applied through a site design approach, and include vegetation enhancement, upland drainage control, and protective walls or embankments placed outside of the shoreline setback or area of special flood hazard.

f. Minor Repair. As used in paragraph F of this section, minor repair refers to maintenance to an existing shoreline stabilization measure designed to restore the stabilization measure to its original condition and configuration and to ensure its continued function by preventing failure of any part. Minor repair may include actions that extend the useful life of the stabilization measure such as planting vegetation, replacing rocks and logs, placement or repair of wall tiebacks, re-setting or replacement of rip-rap rock courses, or limited replacement of wall panels. A repair that involves the cumulative reconstruction or replacement of more than 50 percent of the linear length of the stabilization measure over a three-year period is deemed a major repair.

Comment [mnp20]: Bellevue specific approach modeled after Kirkland SMP and existing LUC 20.25E.080.E

g. Major Repair. As used in this part, major repair refers to a repair needed to restore a portion of an existing stabilization measure that has collapsed, eroded away, or otherwise demonstrated a loss of structural integrity sufficient to jeopardize its erosion protection function, or in which cumulative reconstruction or replacement involves more than 50 percent of the linear length of the stabilization measured over a three-year period. Major repair shall be treated as a new shoreline stabilization measure, subject to the provisions of paragraphs F.2, F.3, and F.4 of this section. Activities considered when determining the linear length affected by the repair include, but are not limited to, the replacement or re-setting of the bottom rock course,

Comment [mnp21]: Bellevue specific approach modeled after Kirkland SMP and existing LUC 20.25E.080.E

toe, or footing, the replacement or re-setting of the top or middle course of rocks, or the replacement of concrete wall panels or other significant repairs.

3. Technically Feasible. The provisions of LUC 20.25E.060.C (Technical Feasibility – General Requirements) do not apply when determining if a shoreline stabilization method is technically feasible, instead the provisions of paragraph F.3 of this section apply.
   a. The determination of whether a particular avoidance or stabilization measure is "technically feasible" shall be made by the Director as part of the decision on the underlying permit after consideration of a report prepared by a qualified professional addressing the following factors:
      i. Site conditions, including slope, beach configuration, nearshore depth, potential for flooding, and proximity of primary structure to ordinary high water mark;
      ii. Consideration of wind direction, velocity and frequency, fetch, probable wave height, and frequency;
      iii. The level of risk to the primary structure, public facility or public use structure presented by the rate of erosion over a three year period and the ability of the proposed measure to mitigate that risk;
      iv. Whether the cost of avoiding disturbance of shoreline processes and functions is disproportionate as compared to the environmental impact of proposed disturbance, including any continued impacts on functions and values over time; and
      v. The ability of both permanent and temporary disturbance to be mitigated.

   b. Shoreline stabilization measures found to be technically feasible shall comply with the standards set forth in paragraph F.4 of this section.

4. New or Enlarged Shoreline Stabilization Measures.
   a. When Allowed. New or enlarged shoreline stabilization measures shall be permitted only to protect existing primary structures, public facilities, or public use structures. Shoreline stabilization measures shall be allowed only where avoidance measures are not technically feasible.

   b. Type of Shoreline Stabilization Measure Used. Where a new or enlarged shoreline stabilization measure is allowed, soft shoreline stabilization measures shall be used, unless the applicant demonstrates, in accordance with paragraph F.3 of this section, that soft shoreline stabilization measures are not technically feasible. Only after the Director determines that soft shoreline stabilization measures are not technically feasible, will hard

Comment [mnp22]: Based on existing LUC 20.25E.080.E. Meets requirements of WAC 173-26-231

Comment [mnp23]: Bellevue specific approach modeled after existing LUC 20.25E.080.E and Kirkland SMP; meets the requirements of WAC173-26-231

shoreline stabilization measures be permitted. Provided, that developed sites with less than 10 feet between the primary structure and the ordinary high water mark are assumed to require some form of hard stabilization and applicants are not required to demonstrate technical feasibility. This provision does not apply to legally-established stabilization measures in the Shoreline Residential Canal environment. (See paragraph F.5.b.iv for repair options applicable in the Shoreline Residential Canal environment.)

c. Options for Soft Stabilization. Plate XX [insert chart from Green Shorelines material] provides guidance on the range of shoreline stabilization measures that may be considered, based on the unique characteristics of the subject property and shoreline. Options for soft stabilization should be based on the practicality and viability of the measure when considering near shore and yard slope, average wave energy and direction, frequency of large erosion-causing events, and shall employ the following hierarchy of preference:

    i. Soft stabilization constructed of natural materials utilizing bioengineering techniques including slope contouring, beach nourishment, protective coconut fiber berms, fascines, live staking, and other vegetative stabilization to hold soil and gravel in place.
    ii. Soft stabilization as described in paragraph F.4.c.i of this section integrated with large boulders, large logs and other coarse woody debris, and partial use of rigid structures where required to protect existing rigid structures on abutting properties.
    iii. Soft stabilization as described in paragraph F.4.c.ii of this section and incorporating limited use of rigid structures constructed of rock or artificial materials and located as an additional safety measure as far as technically feasible from ordinary high water mark while still ensuring the long-term safety and stability of the primary structure.

Comment [mnp24]: Bellevue specific approach following PC direction and public comment modeled after City of Seattle Green Shorelines, Renton SMP, and existing LUC 20.25E.080

d. Options for Hard Stabilization. New or enlarged hard stabilization measures require a demonstration that avoidance or soft stabilization measures are not technically feasible as described in paragraph F.3 of this section. Hard stabilization shall employ the following hierarchy of preference:

    i. Hard stabilization constructed of quarry rock, rip-rap or similar materials at a slope gradient not to exceed 3:1 and utilizing bioengineering techniques including slope contouring, beach nourishment, live staking, and other vegetative enhancement.

Comment [mnp25]: Bellevue specific approach following PC direction and public comment . Modeled after Renton SMP and existing LUC 20.25E.080

ii. Hard stabilization as described in paragraph i of this section, but where slope gradient and distance to the primary structure is such that a 3:1 slope cannot reasonably be achieved and where vegetative enhancement is confined to live staking and vegetative enhancement below ordinary high water or at the top of the wall. Such hard stabilization shall not exceed a slope gradient of 2:1.

iii. Hard stabilization utilizing rigid, near-vertical structures at a slope gradient not to exceed 1.5:1 constructed of quarry rock or artificial materials and utilized on developed sites where the distance between the primary structure and ordinary high water mark is 10 feet or less. Near-vertical stabilization shall be the minimum height necessary, and shall not exceed 48 inches in height as measured from the bottom of the footing.

e. Location. When allowed, new shoreline stabilization measures shall be located at or behind the ordinary high water mark. Where a documented area of special flood hazard exists, stabilization measures shall be located at the upland edge of the area of special flood hazard, except that soft stabilization measures conforming to paragraph F.4.c of this section may be located in the area of special flood hazard. Where allowed, hard stabilization measures conforming to paragraph F.4.d.iii of this section may be located in the area of special flood hazard provided that their impact on the flood storage capacity of the floodplain is minimal. Stabilization measures are prohibited waterward of the ordinary high water mark, except that soft shoreline stabilization measures may be located waterward of the ordinary high water mark when they incorporate approved aquatic habitat improvement elements. In no event may a shoreline stabilization measure modify the lake bottom waterward of the ordinary high water mark, except for the purpose of gravel or beach augmentation, placement of anchored large woody debris, or other specified habitat enhancements.

Comment [mnp26]: Bellevue Specific Approach based on PC direction (July 28, 2010) and public comment and existing LUC 20.25E.080, City of Seattle Green Shorelines , and Kirkland and Renton SMP

f. New Hard Stabilization Prohibited with Use of Setback Reduction Menu. Where an applicant removes hard stabilization and replaces it with soft stabilization in compliance with the Options 1 and 2 of LUC Chart 20.25E.065.E.3.b.iii (Setback Reduction Menu Options) with the intention of moving closer to the Ordinary High Water Mark, future use of hard stabilization is prohibited.

Comment [mnp27]: Bellevue specific approach based on PC guidance for provision of an "option" menu (June 9, 2010)

g. Mitigation and Restoration. Areas of new permanent disturbance and all areas of temporary disturbance associated with major repair or new shoreline stabilization measures shall be mitigated and/or restored pursuant to a

mitigation and restoration plan meeting the requirements of LUC 20.25E.060.D (Mitigation Sequencing).

h. Retention of Setback with New Soft Stabilization. Where an applicant replaces a legally-established existing hard shoreline stabilization measure with a soft shoreline stabilization measure or an avoidance measure, any applicable structure setback shall continue to be measured from the ordinary high water mark that existed with the hard shoreline stabilization measure. Such ordinary high water mark shall be located by a survey prior to removal of the hard shoreline stabilization measure. The applicant shall record a survey or other instrument clearly delineating the ordinary high water mark location as it existed prior to the removal of the hard shoreline stabilization measure with the King County Division of Records and Elections, or its successor agency.

Comment [mnp28]: Modeled after existing LUC 20.25E.080.E.5

i. Expansion of Shoreline Jurisdiction from Shift in the Ordinary High Water Mark. If implementing a shoreline stabilization measure required by the Bellevue SMP and intended to improve ecological functions results in shifting the ordinary high water mark landward of the pre-implementation location, and results in an expansion of the shoreline jurisdiction onto any property other than the subject property, then:

Comment [mnp29]: Bellevue specific approach modeled after Kirkland SMP in response to PC direction received on July 28, 2010) and public concern.

i. The City shall notify the affected property owner in writing; and
ii. The City may propose to grant relief from the applicable shoreline regulations resulting in expansion of the shoreline jurisdiction. The proposal to grant relief must be submitted to the Department of Ecology with the required shoreline permit under the procedures established at LUC 20.25E.160 and 20.25E.180. If approved, notice of the relief granted, in a form approved by the City Attorney, shall be recorded on title with the King County Division of Records and Elections, or its successor agency.

5. Repair of Existing Shoreline Stabilization. This section applies to repair of existing legally-established shoreline stabilization measures.

a. Minor Repair. Minor repair to existing shoreline stabilization measures shall meet the following performance standards:

Comment [mnp30]: Bellevue specific approach modeled after LUC 20.25E.080 and Kirkland SMP

i. Minor repair is allowed only to existing legally-established stabilization measures;

ii. Minor repair is allowed to restore a stabilization measure to its original condition and configuration provided that damage and destruction is not so significant as to cause loss of structural integrity sufficient to jeopardize its erosion protection function. No significant expansion or alteration outside of the original design is allowed, except that minor changes designed to reduce impact on ecological functions are permitted; and,

iii. Minor repair may not result in the cumulative reconstruction or replacement of more than 50 percent of the linear length of the stabilization measure during a three-year period.

b. Major Repair. Major repair shall be treated as a new shoreline stabilization measure, subject to the provisions of paragraphs F.2 through F.4 above, except that legally-established shoreline stabilization measures are presumed necessary to protect existing shoreline uses and may be repaired or replaced without having to demonstrate avoidance is not technically feasible. Major repairs to existing shoreline stabilization measures shall be allowed when the proposed repair meets the following performance standards:

Comment [mnp31]: Bellevue specific approach modeled after existing LUC 20.25E.080 and Kirkland SMP

i. Major repair is allowed only to existing legally-established shoreline stabilization measures;

ii. Major repair is allowed provided repair conforms to paragraph F.4.b of this section, and the preference hierarchies for either new soft or hard stabilization measures set forth in paragraphs F.4.c. and F.4.d. of this section;

iii. Major repair of existing stabilization measures with soft stabilization measures is allowed in the area of major flood hazard subject to the preference hierarchy set forth in paragraph F.4.c of this section. Major repair of existing stabilization measures with hard stabilization measures must be located outside of the area of special flood hazard unless impacts are minimized by using option set forth in paragraph F.4.d.i. of this section or where the distance between the primary structure and ordinary high water mark is 10 feet or less; and,

iv. Existing legally-established hard stabilization measures in the Shoreline Residential Canal designation may be repaired or replaced in their existing configuration.

6. Removal of Existing Shoreline Stabilization. Shoreline stabilization measures may be voluntarily removed in support of shoreline mitigation or restoration, or an approved project to reduce setback requirements when the proposal meets the following applicable requirements:

    a. The area impacted by removal is restored or replanted pursuant to an approved mitigation plan (refer to LUC 20.25E.060.D), designed, located, sized and constructed to ensure no net loss of ecological function;
    b. The impact on adjacent properties is minimized and existing stabilization structures are protected;
    c. The applicant records an agreement recognizing that the installation of future hard stabilization is prohibited; and,
    d. Short-term construction impacts are minimized through the use of appropriate best management practices to minimize impacts to water quality, appropriate timing restrictions, and stabilization of exposed soils following construction.

Comment [mnp32]: Bellevue specific approach aimed at voluntary stewardship efforts.