Attachment A

Process for Completion of Shoreline Master Program (SMP) Update

Council Meeting 1: March 10, 2014

1. Endorse a Process for SMP Completion
2. Receive the Planning Commission Recommendation on SMP Conformance Amendments

Council Meeting 2: April 14, 2014

1. Describe the need for the SMP Update
2. Provide orientation to state SMP adoption requirements
3. Conduct high level review of the Planning Commission recommended SMP Update package

Council Meeting 3: April 28, 2014

1. Describe the roll of a Cumulative Impact Analysis in the demonstration of "No Net Loss"
2. Review the CIA prepared by Watershed Company
3. Introduce the Light Rail use and development regulations retained by Council (required for consistency with the Light Rail Transit Overlay adopted in February 2013)

Public Hearing on Planning Commission Recommended SMP: May 5, 2014

Council Meeting 4 - 6: May 12, May 27, June 9, 2014

1. Review policy topics and receive Council direction (3 topics/meeting – could increase or decrease depending on review progress)
2. Issues of importance identified by the Planning Commission
    a. Public Access and Parks Development
    b. Determination of Ordinary High Water Mark
    c. Nonconforming Residential Development
    d. Setbacks/Buffers
    e. Vegetation Retention
    f. Critical Areas (incl. fish habitat)
    g. Docks
    h. Shoreline Stabilization
    i. Floodplain (incl. Planning Commission Conformance Amendments)

Public Hearing on Final SMP Update Package: TBD based on progress made during Meetings 4-6

Council Meeting 7: TBD based on progress made during Meetings 4-6

1. Adopt final package by resolution
2. Direct staff to submit to Ecology (and formulate negotiation strategy as necessary)

Critical Areas (including Floodplains) – Supporting Information

STATE LAW AND GUIDELINES

Applicable Growth Management Regulations

Critical areas defined. Critical Areas are defined in the Growth Management Act at RCW 36.70A.030(5) as the following areas and ecosystems: (a) wetlands; (b) areas with a critical recharging effect on aquifers used for potable water; (c)fish and wildlife habitat conservation areas; (d) frequently flooded areas; and (e) geologically hazardous areas.

Regulations required to protect critical areas. RCW 36.70A.060(2) requires each County and City to adopt development regulations that protect critical areas that are required to be designated under RCW 36.70A.170.

Best available science required (RCW 36.70A.172).

RCW 36.70A.172
Critical areas — Designation and protection — Best available science to be used.

(1) In designating and protecting critical areas under this chapter, counties and cities shall include the best available science in developing policies and development regulations to protect the functions and values of critical areas. In addition, counties and cities shall give special consideration to conservation or protection measures necessary to preserve or enhance anadromous fisheries.

(2) If it determines that advice from scientific or other experts is necessary or will be of substantial assistance in reaching its decision, the growth management hearings board may retain scientific or other expert advice to assist in reviewing a petition under RCW 36.70A.290 that involves critical areas.

RCW 36.70A.480
Shorelines of the state.

(1) For shorelines of the state, the goals and policies of the shoreline management act as set forth in RCW 90.58.020 are added as one of the goals of this chapter as set forth in RCW 36.70A.020 without creating an order of priority among the fourteen goals. The goals and policies of a shoreline master program for a county or city approved under chapter 90.58 RCW shall be considered an element of the county or city's comprehensive plan. All other portions of the shoreline master program for a county or city adopted under chapter 90.58 RCW, including use regulations, shall be considered a part of the county or city's development regulations.

(2) The shoreline master program shall be adopted pursuant to the procedures of chapter 90.58 RCW rather than the goals, policies, and procedures set forth in this chapter for the adoption of a comprehensive plan or development regulations.

(3)(a) The policies, goals, and provisions of chapter 90.58 RCW and applicable guidelines shall be the sole basis for determining compliance of a shoreline master program with this chapter except as the shoreline master program is required to comply with the internal consistency provisions of RCW 36.70A.070, 36.70A.040(4), 35.63.125, and 35A.63.105.

(b) Except as otherwise provided in (c) of this subsection, development regulations adopted under this chapter to protect critical areas within shorelines of the state apply within shorelines of the state until the department of ecology approves one of the following: A comprehensive master program update, as defined in RCW 90.58.030; a segment of a master program relating to critical areas, as provided in RCW 90.58.090; or a new or amended master program approved by the department of ecology on or after March 1, 2002, as provided in RCW 90.58.080. The adoption or update of development regulations to protect critical areas under this chapter prior to department of ecology approval of a master program update as provided in this subsection is not a comprehensive or segment update to the master program.

(c)(i) Until the department of ecology approves a master program or segment of a master program as provided in (b) of this subsection, a use or structure legally located within shorelines of the state that was established or vested on or before the effective date of the local government's development regulations to protect critical areas may continue as a conforming use and may be redeveloped or modified if: (A) The redevelopment or modification is consistent with the local government's master program; and (B) the local government determines that the proposed redevelopment or modification will result in no net loss of shoreline ecological functions. The local government may waive this requirement if the redevelopment or modification is consistent with the master program and the local government's development regulations to protect critical areas.

(ii) For purposes of this subsection (3)(c), an agricultural activity that does not expand the area being used for the agricultural activity is not a redevelopment or modification. "Agricultural activity," as used in this subsection (3)(c), has the same meaning as defined in RCW 90.58.065.

(d) Upon department of ecology approval of a shoreline master program or critical area segment of a shoreline master program, critical areas within shorelines of the state are protected under chapter 90.58 RCW and are not subject to the procedural and substantive requirements of this chapter, except as provided in subsection (6) of this section. Nothing in chapter 321, Laws of 2003 or chapter 107, Laws of 2010 is intended to affect whether or to what extent agricultural activities, as defined in RCW 90.58.065, are subject to chapter 36.70A RCW.

(e) The provisions of RCW 36.70A.172 shall not apply to the adoption or subsequent amendment of a local government's shoreline master program and shall not be used to determine compliance of a local government's shoreline master program with

chapter 90.58 RCW and applicable guidelines. Nothing in this section, however, is intended to limit or change the quality of information to be applied in protecting critical areas within shorelines of the state, as required by chapter 90.58 RCW and applicable guidelines.

(4) Shoreline master programs shall provide a level of protection to critical areas located within shorelines of the state that assures no net loss of shoreline ecological functions necessary to sustain shoreline natural resources as defined by department of ecology guidelines adopted pursuant to RCW 90.58.060.

(5) Shorelines of the state shall not be considered critical areas under this chapter except to the extent that specific areas located within shorelines of the state qualify for critical area designation based on the definition of critical areas provided by RCW 36.70A.030(5) and have been designated as such by a local government pursuant to RCW 36.70A.060(2).

(6) If a local jurisdiction's master program does not include land necessary for buffers for critical areas that occur within shorelines of the state, as authorized by *RCW 90.58.030(2)(f), then the local jurisdiction shall continue to regulate those critical areas and their required buffers pursuant to RCW 36.70A.060(2).

Applicable Shoreline Management Act Provisions

RCW 90.58.090
Approval of master program or segments or amendments — Procedure — Departmental alternatives when shorelines of statewide significance — Later adoption of master program supersedes departmental program.

(4) The department shall approve the segment of a master program relating to critical areas as defined by RCW 36.70A.030(5) provided the master program segment is consistent with RCW 90.58.020 and applicable shoreline guidelines, and if the segment provides a level of protection of critical areas at least equal to that provided by the local government's critical areas ordinances adopted and thereafter amended pursuant to RCW 36.70A.060(2).

Shorelines are not critical areas. Shorelines of the state shall not be considered critical areas under this chapter except to the extent that specific areas located within shorelines of the state qualify for critical area designation based on the definition of critical areas provided by RCW 36.70A.030(5) and have been designated as such by a local government pursuant to RCW 36.70A.060(2).

RCW 90.58.100:

"*(2) The master programs shall include, when appropriate, the following:*
(h) An element that gives consideration to the statewide interest in the prevention and minimization of flood damages."

RCW 90.58.620
New or amended master programs — Authorized provisions.

(1) New or amended master programs approved by the department on or after September 1, 2011, may include provisions authorizing:

(a) Residential structures and appurtenant structures that were legally established and are used for a conforming use, but that do not meet standards for the following to be considered a conforming structure: Setbacks, buffers, or yards; area; bulk; height; or density; and

(b) Redevelopment, expansion, change with the class of occupancy, or replacement of the residential structure if it is consistent with the master program, including requirements for no net loss of shoreline ecological functions.

(2) For purposes of this section, "appurtenant structures" means garages, sheds, and other legally established structures. "Appurtenant structures" does not include bulkheads and other shoreline modifications or over-water structures.

(3) Nothing in this section: (a) Restricts the ability of a master program to limit redevelopment, expansion, or replacement of over-water structures located in hazardous areas, such as floodplains and geologically hazardous areas; or (b) affects the application of other federal, state, or local government requirements to residential structures.

Shoreline Master Program Update Guidelines

WAC 173-26-176 General policy goals of the act and guidelines for shorelines of the state.

(1) The guidelines are designed to assist local governments in developing, adopting, and amending master programs that are consistent with the policy and provisions of the act. Thus, the policy goals of the act are the policy goals of the guidelines. The policy goals of the act are derived from the policy statement of RCW 90.58.020 and the description of the elements to be included in master programs under RCW 90.58.100.

(2) The policy goals for the management of shorelines harbor potential for conflict. The act recognizes that the shorelines and the waters they encompass are "among the most valuable and fragile" of the state's natural resources. They are valuable for economically productive industrial and commercial uses, recreation, navigation, residential amenity, scientific research and education. They are fragile because they depend upon balanced physical, biological, and chemical systems that may be adversely altered by natural forces (earthquakes, volcanic eruptions, landslides, storms, droughts, floods) and human conduct (industrial, commercial, residential, recreation, navigational). Unbridled use of shorelines ultimately could destroy their utility and value. The prohibition of all use of shorelines also could eliminate their human utility and value. Thus, the policy goals of the act relate both to

utilization and protection of the extremely valuable and vulnerable shoreline resources of the state. The act calls for the accommodation of "all reasonable and appropriate uses" consistent with "protecting against adverse effects to the public health, the land and its vegetation and wildlife, and the waters of the state and their aquatic life" and consistent with "public rights of navigation." The act's policy of achieving both shoreline utilization and protection is reflected in the provision that "permitted uses in the shorelines of the state shall be designed and conducted in a manner to minimize, in so far as practical, any resultant damage to the ecology and environment of the shoreline area and the public's use of the water." RCW 90.58.020.

(3) The act's policy of protecting ecological functions, fostering reasonable utilization and maintaining the public right of navigation and corollary uses encompasses the following general policy goals for shorelines of the state. The statement of each policy goal is followed by the statutory language from which the policy goal is derived.

WAC 173-26-221

(2) ***Critical areas.***
(a) **Applicability.** Pursuant to the provisions of RCW 90.58.090(4) and 36.70A.480(3) as amended by chapter 107, Laws of 2010 (EHB 1653), shoreline master programs must provide for management of critical areas designated as such pursuant to RCW 36.70A.170 (1)(d) located within the shorelines of the state with policies and regulations that:
(i) Are consistent with the specific provisions of this subsection (2) critical areas and subsection (3) of this section flood hazard reduction, and these guidelines; and
(ii) Provide a level of protection to critical areas within the shoreline area that assures no net loss of shoreline ecological functions necessary to sustain shoreline natural resources.
The provisions of this section and subsection (3) of this section, flood hazard reduction, shall be applied to critical areas within the shorelines of the state. RCW 36.70A.030 defines critical areas as:
"*"Critical areas" include the following areas and ecosystems:*
(a) Wetlands; (b) areas with a critical recharging effect on aquifers used for potable waters; (c) fish and wildlife habitat conservation areas; (d) frequently flooded areas; and (e) geologically hazardous areas."
The provisions of WAC 365-190-080 through 365-190-130, to the extent standards for certain types of critical areas are not provided by this section and subsection (3) of this section flood hazard reduction, and to the extent consistent with these guidelines are also applicable to and provide further definition of critical area categories and management policies.
As provided in RCW 90.58.030 (2)(f)(ii) and 36.70A.480, as amended by chapter 321, Laws of 2003 (ESHB 1933), any city or county may also include in its master program land necessary for buffers for critical areas, as defined in chapter 36.70A RCW, that occur within shorelines of the state, provided that forest practices regulated under chapter 76.09 RCW, except conversions to nonforest land use, on lands subject to the provision of WAC 173-26-241 (3)(e) are not

subject to additional regulations. If a local government does not include land necessary for buffers for critical areas that occur within shorelines of the state, as authorized above, then the local jurisdiction shall continue to regulate those critical areas and required buffers pursuant to RCW 36.70A.060(2).

In addition to critical areas defined under chapter 36.70A RCW and critical saltwater and freshwater habitats as described in these guidelines, local governments should identify additional shoreline areas that warrant special protection necessary to achieve no net loss of ecological functions.

(b) **Principles.** Local master programs, when addressing critical areas, shall implement the following principles:

(i) Shoreline master programs shall adhere to the standards established in the following sections, unless it is demonstrated through scientific and technical information as provided in RCW 90.58.100(1) and as described in WAC 173-26-201 (2)(a) that an alternative approach provides better resource protection.

(ii) In addressing issues related to critical areas, use scientific and technical information, as described in WAC 173-26-201 (2)(a). The role of ecology in reviewing master program provisions for critical areas in shorelines of the state will be based on the Shoreline Management Act and these guidelines.

(iii) In protecting and restoring critical areas within shoreline jurisdiction, integrate the full spectrum of planning and regulatory measures, including the comprehensive plan, interlocal watershed plans, local development regulations, and state, tribal, and federal programs.

(iv) The planning objectives of shoreline management provisions for critical areas shall be the protection of existing ecological functions and ecosystem-wide processes and restoration of degraded ecological functions and ecosystem-wide processes. The regulatory provisions for critical areas shall protect existing ecological functions and ecosystem-wide processes.

(v) Promote human uses and values that are compatible with the other objectives of this section, such as public access and aesthetic values, provided that impacts to ecological functions are first avoided, and any unavoidable impacts are mitigated.

(c) **Standards.** When preparing master program provisions for critical areas, local governments should implement the following standards and use scientific and technical information, as provided for in WAC 173-26-201 (2)(a).

Provisions for frequently flooded areas are included in WAC 173-26-221(3).

(i) **Wetlands.**

(A) **Wetland use regulations.** Local governments should consult the department's technical guidance documents on wetlands.

Regulations shall address the following uses to achieve, at a minimum, no net loss of wetland area and functions, including lost time when the wetland does not perform the function:

• The removal, excavation, grading, or dredging of soil, sand, gravel, minerals, organic matter, or material of any kind;

• The dumping, discharging, or filling with any material, including discharges of storm water and domestic, commercial, or industrial wastewater;
• The draining, flooding, or disturbing of the water level, duration of inundation, or water table;
• The driving of pilings;
• The placing of obstructions;
• The construction, reconstruction, demolition, or expansion of any structure;
• Significant vegetation removal, provided that these activities are not part of a forest practice governed under chapter 76.09 RCW and its rules;
• Other uses or development that results in an ecological impact to the physical, chemical, or biological characteristics of wetlands; or
• Activities reducing the functions of buffers described in (c)(i)(D) of this subsection.

(B) **Wetland rating or categorization.** Wetlands shall be categorized based on the rarity, irreplaceability, or sensitivity to disturbance of a wetland and the functions the wetland provides. Local governments should either use the Washington state wetland rating system, Eastern or Western Washington version as appropriate, or they should develop their own, regionally specific, scientifically based method for categorizing wetlands. Wetlands should be categorized to reflect differences in wetland quality and function in order to tailor protection standards appropriately. A wetland categorization method is not a substitute for a function assessment method, where detailed information on wetland functions is needed.

(C) **Alterations to wetlands.** Master program provisions addressing alterations to wetlands shall be consistent with the policy of no net loss of wetland area and functions, wetland rating, scientific and technical information, and the mitigation priority sequence defined in WAC 173-26-201 (2)(e).

(D) **Buffers.** Master programs shall contain requirements for buffer zones around wetlands. Buffer requirements shall be adequate to ensure that wetland functions are protected and maintained in the long term. Requirements for buffer zone widths and management shall take into account the ecological functions of the wetland, the characteristics and setting of the buffer, the potential impacts associated with the adjacent land use, and other relevant factors.

(E) **Mitigation.** Master programs shall contain wetland mitigation requirements that are consistent with WAC 173-26-201 (2)(e) and which are based on the wetland rating.

(F) **Compensatory mitigation.** Compensatory mitigation shall be allowed only after mitigation sequencing is applied and higher priority means of mitigation are determined to be infeasible.

Requirements for compensatory mitigation must include provisions for:

(I) Mitigation replacement ratios or a similar method of addressing the following:
• The risk of failure of the compensatory mitigation action;

• The length of time it will take the compensatory mitigation action to adequately replace the impacted wetland functions and values;
• The gain or loss of the type, quality, and quantity of the ecological functions of the compensation wetland as compared with the impacted wetland.
(II) Establishment of performance standards for evaluating the success of compensatory mitigation actions;
(III) Establishment of long-term monitoring and reporting procedures to determine if performance standards are met; and
(IV) Establishment of long-term protection and management of compensatory mitigation sites.
Credits from a certified mitigation bank may be used to compensate for unavoidable impacts.
(ii) **Geologically hazardous areas.** Development in designated geologically hazardous areas shall be regulated in accordance with the following:
(A) Consult designation criteria for geologically hazardous areas, WAC 365-190-120.
(B) Do not allow new development or the creation of new lots that would cause foreseeable risk from geological conditions to people or improvements during the life of the development.
(C) Do not allow new development that would require structural shoreline stabilization over the life of the development. Exceptions may be made for the limited instances where stabilization is necessary to protect allowed uses where no alternative locations are available and no net loss of ecological functions will result. The stabilization measures shall conform to WAC 173-26-231.
(D) Where no alternatives, including relocation or reconstruction of existing structures, are found to be feasible, and less expensive than the proposed stabilization measure, stabilization structures or measures to protect existing primary residential structures may be allowed in strict conformance with WAC 173-26-231 requirements and then only if no net loss of ecological functions will result.
(iv) **Critical freshwater habitats.**
(A) **Applicability.** The following applies to master program provisions affecting critical freshwater habitats within shorelines of the state designated under chapter 36.70A RCW, including those portions of streams, rivers, wetlands, and lakes, their associated channel migration zones, and flood plains designated as such in the master program.
(B) **Principles.** Many ecological functions of lake, river and stream corridors depend both on continuity and connectivity along the length of the shoreline and on the conditions of the surrounding lands on either side of river channel and lake basin. Environmental degradation caused by development such as improper storm water sewer or industrial outfalls, unmanaged clearing and grading, or runoff from buildings and parking lots within the watershed, can degrade ecological functions in lakes and downstream. Likewise, gradual destruction or loss of riparian and associated upland native plant communities, alteration of runoff quality and quantity along the lake basin and stream corridor resulting from incremental flood plain and lake basin development can raise water temperatures and alter

hydrographic conditions, degrading ecological functions. This makes the corridor inhospitable for invertebrate and vertebrate aquatic, amphibian and terrestrial wildlife species and susceptible to catastrophic flooding, droughts, landslides and channel changes. These conditions also threaten human health, safety, and property. Long stretches of lake, river and stream shorelines have been significantly altered or degraded in this manner. Therefore, effective management of lake basins and river and stream corridors depends on:

(I) Planning for protection, and restoration where appropriate, throughout the lake basin and along the entire length of the corridor from river headwaters to the mouth; and

(II) Regulating uses and development within lake basins and stream channels, associated channel migration zones, wetlands, and the flood plains, to the extent such areas are in the shoreline jurisdictional area, as necessary to assure no net loss of ecological functions, including where applicable the associated hyporheic zone, results from new development.

As part of a comprehensive approach to management of critical freshwater habitat and other lake, river and stream values, local governments should integrate master program provisions, including those for shoreline stabilization, fill, vegetation conservation, water quality, flood hazard reduction, and specific uses, to protect human health and safety and to protect and restore lake and river corridor ecological functions and ecosystem-wide processes.

Applicable master programs shall contain provisions to protect hydrologic connections between water bodies, water courses, and associated wetlands. Restoration planning should include incentives and other means to restore water connections that have been impeded by previous development.

Master program provisions for lake basins and river and stream corridors should, where appropriate, be based on the information from comprehensive watershed management planning where available.

(C) **Standards.** Master programs shall implement the following standards within shoreline jurisdiction:

(I) Provide for the protection of ecological functions associated with critical freshwater habitat as necessary to assure no net loss of ecological functions.

(II) Integrate protection of critical freshwater, riparian and associated upland habitat, protection with flood hazard reduction and other lake, wetland, river and stream management provisions.

(III) Include provisions that facilitate authorization of appropriate restoration projects.

(IV) Provide for the implementation of the principles identified in (c)(iv)(B) of this subsection.

(3) ***Flood hazard reduction*.**

(a) **Applicability.** The following provisions apply to actions taken to reduce flood damage or hazard and to uses, development, and shoreline modifications that may increase flood hazards. Flood hazard reduction measures may consist of nonstructural measures, such as setbacks, land use controls, wetland restoration, dike removal, use relocation, biotechnical measures, and storm water management programs, and of structural measures, such as dikes,

levees, revetments, floodwalls, channel realignment, and elevation of structures consistent with the National Flood Insurance Program. Additional relevant critical area provisions are in WAC 173-26-221(2).

(b) **Principles.** Flooding of rivers, streams, and other shorelines is a natural process that is affected by factors and land uses occurring throughout the watershed. Past land use practices have disrupted hydrological processes and increased the rate and volume of runoff, thereby exacerbating flood hazards and reducing ecological functions. Flood hazard reduction measures are most effective when integrated into comprehensive strategies that recognize the natural hydrogeological and biological processes of water bodies. Over the long term, the most effective means of flood hazard reduction is to prevent or remove development in flood-prone areas, to manage storm water within the flood plain, and to maintain or restore river and stream system's natural hydrological and geomorphological processes. Structural flood hazard reduction measures, such as diking, even if effective in reducing inundation in a portion of the watershed, can intensify flooding elsewhere. Moreover, structural flood hazard reduction measures can damage ecological functions crucial to fish and wildlife species, bank stability, and water quality. Therefore, structural flood hazard reduction measures shall be avoided whenever possible. When necessary, they shall be accomplished in a manner that assures no net loss of ecological functions and ecosystem-wide processes.

The dynamic physical processes of rivers, including the movement of water, sediment and wood, cause the river channel in some areas to move laterally, or "migrate," over time. This is a natural process in response to gravity and topography and allows the river to release energy and distribute its sediment load. The area within which a river channel is likely to move over a period of time is referred to as the channel migration zone (CMZ) or the meander belt. Scientific examination as well as experience has demonstrated that interference with this natural process often has unintended consequences for human users of the river and its valley such as increased or changed flood, sedimentation and erosion patterns. It also has adverse effects on fish and wildlife through loss of critical habitat for river and riparian dependent species. Failing to recognize the process often leads to damage to, or loss of, structures and threats to life safety.

Applicable shoreline master programs should include provisions to limit development and shoreline modifications that would result in interference with the process of channel migration that may cause significant adverse impacts to property or public improvements and/or result in a net loss of ecological functions associated with the rivers and streams. (See also (c) of this subsection.)

The channel migration zone should be established to identify those areas with a high probability of being subject to channel movement based on the historic record, geologic character and evidence of past migration. It should also be recognized that past action is not a perfect predictor of the future and that human and natural changes may alter migration patterns. Consideration should be given to such changes that may have occurred and their effect on future migration patterns.

For management purposes, the extent of likely migration along a stream reach can be identified using evidence of active stream channel movement over the past one hundred years. Evidence of active movement can be provided from historic and current aerial photos and maps and may require field analysis of specific channel and valley bottom characteristics in some cases. A time frame of one hundred years was chosen because aerial photos, maps and field evidence can be used to evaluate movement in this time frame.

In some cases, river channels are prevented from normal or historic migration by human-made structures or other shoreline modifications. The definition of channel migration zone indicates that in defining the extent of a CMZ, local governments should take into account the river's characteristics and its surroundings. Unless otherwise demonstrated through scientific and technical information, the following characteristics should be considered when establishing the extent of the CMZ for management purposes:

• Within incorporated municipalities and urban growth areas, areas separated from the active river channel by legally existing artificial channel constraints that limit channel movement should not be considered within the channel migration zone.

• All areas separated from the active channel by a legally existing artificial structure(s) that is likely to restrain channel migration, including transportation facilities, built above or constructed to remain intact through the one hundred-year flood, should not be considered to be in the channel migration zone.

• In areas outside incorporated municipalities and urban growth areas, channel constraints and flood control structures built below the one hundred-year flood elevation do not necessarily restrict channel migration and should not be considered to limit the channel migration zone unless demonstrated otherwise using scientific and technical information.

Master programs shall implement the following principles:

(i) Where feasible, give preference to nonstructural flood hazard reduction measures over structural measures.

(ii) Base shoreline master program flood hazard reduction provisions on applicable watershed management plans, comprehensive flood hazard management plans, and other comprehensive planning efforts, provided those measures are consistent with the Shoreline Management Act and this chapter.

(iii) Consider integrating master program flood hazard reduction provisions with other regulations and programs, including (if applicable):

• Storm water management plans;

• Flood plain regulations, as provided for in chapter 86.16 RCW;

• Critical area ordinances and comprehensive plans, as provided in chapter 36.70A RCW; and

• The National Flood Insurance Program.

(iv) Assure that flood hazard protection measures do not result in a net loss of ecological functions associated with the rivers and streams.

(v) Plan for and facilitate returning river and stream corridors to more natural hydrological conditions. Recognize that seasonal flooding is an essential natural process.
(vi) When evaluating alternate flood control measures, consider the removal or relocation of structures in flood-prone areas.
(vii) Local governments are encouraged to plan for and facilitate removal of artificial restrictions to natural channel migration, restoration of off channel hydrological connections and return river processes to a more natural state where feasible and appropriate.
(c) **Standards.** Master programs shall implement the following standards within shoreline jurisdiction:
(i) Development in flood plains should not significantly or cumulatively increase flood hazard or be inconsistent with a comprehensive flood hazard management plan adopted pursuant to chapter 86.12 RCW, provided the plan has been adopted after 1994 and approved by the department. New development or new uses in shoreline jurisdiction, including the subdivision of land, should not be established when it would be reasonably foreseeable that the development or use would require structural flood hazard reduction measures within the channel migration zone or floodway. The following uses and activities may be appropriate and/or necessary within the channel migration zone or floodway:
• Actions that protect or restore the ecosystem-wide processes or ecological functions.
• Forest practices in compliance with the Washington State Forest Practices Act and its implementing rules.
• Existing and ongoing agricultural practices, provided that no new restrictions to channel movement occur.
• Mining when conducted in a manner consistent with the environment designation and with the provisions of WAC 173-26-241 (3)(h).
• Bridges, utility lines, and other public utility and transportation structures where no other feasible alternative exists or the alternative would result in unreasonable and disproportionate cost. Where such structures are allowed, mitigation shall address impacted functions and processes in the affected section of watershed or drift cell.
• Repair and maintenance of an existing legal use, provided that such actions do not cause significant ecological impacts or increase flood hazards to other uses.
• Development with a primary purpose of protecting or restoring ecological functions and ecosystem-wide processes.
• Modifications or additions to an existing nonagricultural legal use, provided that channel migration is not further limited and that the new development includes appropriate protection of ecological functions.
• Development in incorporated municipalities and designated urban growth areas, as defined in chapter 36.70A RCW, where existing structures prevent active channel movement and flooding.
• Measures to reduce shoreline erosion, provided that it is demonstrated that the erosion rate exceeds that which would normally occur in a natural condition, that the measure does not interfere with fluvial hydrological and geomorphological processes normally acting in natural conditions, and that the measure includes appropriate mitigation of impacts to ecological functions associated with the river or stream.

(ii) Allow new structural flood hazard reduction measures in shoreline jurisdiction only when it can be demonstrated by a scientific and engineering analysis that they are necessary to protect existing development, that nonstructural measures are not feasible, that impacts on ecological functions and priority species and habitats can be successfully mitigated so as to assure no net loss, and that appropriate vegetation conservation actions are undertaken consistent with WAC 173-26-221(5).
Structural flood hazard reduction measures shall be consistent with an adopted comprehensive flood hazard management plan approved by the department that evaluates cumulative impacts to the watershed system.
(iii) Place new structural flood hazard reduction measures landward of the associated wetlands, and designated vegetation conservation areas, except for actions that increase ecological functions, such as wetland restoration, or as noted below. Provided that such flood hazard reduction projects be authorized if it is determined that no other alternative to reduce flood hazard to existing development is feasible. The need for, and analysis of feasible alternatives to, structural improvements shall be documented through a geotechnical analysis.
(iv) Require that new structural public flood hazard reduction measures, such as dikes and levees, dedicate and improve public access pathways unless public access improvements would cause unavoidable health or safety hazards to the public, inherent and unavoidable security problems, unacceptable and unmitigable significant ecological impacts, unavoidable conflict with the proposed use, or a cost that is disproportionate and unreasonable to the total long-term cost of the development.
(v) Require that the removal of gravel for flood management purposes be consistent with an adopted flood hazard reduction plan and with this chapter and allowed only after a biological and geomorphological study shows that extraction has a long-term benefit to flood hazard reduction, does not result in a net loss of ecological functions, and is part of a comprehensive flood management solution.

WAC 173-26-241 Shoreline uses.

(j) **Residential development.** Single-family residences are the most common form of shoreline development and are identified as a priority use when developed in a manner consistent with control of pollution and prevention of damage to the natural environment. Without proper management, single-family residential use can cause significant damage to the shoreline area through cumulative impacts from shoreline armoring, storm water runoff, septic systems, introduction of pollutants, and vegetation modification and removal. Residential development also includes multifamily development and the creation of new residential lots through land division.

Master programs shall include policies and regulations that assure no net loss of shoreline ecological functions will result from residential development. Such provisions should include specific regulations for setbacks and buffer areas, density, shoreline armoring, vegetation conservation requirements, and, where applicable, on-site sewage system standards for all residential development and uses and applicable to divisions of land in shoreline jurisdiction.

Residential development, including appurtenant structures and uses, should be sufficiently set back from steep slopes and shorelines vulnerable to erosion so that structural improvements, including bluff walls and other stabilization structures, are not required to protect such structures and uses. (See RCW 90.58.100(6).)

New over-water residences, including floating homes, are not a preferred use and should be prohibited. It is recognized that certain existing communities of floating and/or over-water homes exist and should be reasonably accommodated to allow improvements associated with life safety matters and property rights to be addressed provided that any expansion of existing communities is the minimum necessary to assure consistency with constitutional and other legal limitations that protect private property.

New multiunit residential development, including the subdivision of land for more than four parcels, should provide community and/or public access in conformance to the local government's public access planning and this chapter.

Master programs shall include standards for the creation of new residential lots through land division that accomplish the following:

(i) Plats and subdivisions must be designed, configured and developed in a manner that assures that no net loss of ecological functions results from the plat or subdivision at full build-out of all lots.

(ii) Prevent the need for new shoreline stabilization or flood hazard reduction measures that would cause significant impacts to other properties or public improvements or a net loss of shoreline ecological functions.

(iii) Implement the provisions of WAC 173-26-211 and 173-26-221.

WAC 173-26-020 Definitions

(8) "Critical areas" as defined under chapter 36.70A RCW includes the following areas and ecosystems:

(a) Wetlands;

(b) Areas with a critical recharging effect on aquifers used for potable waters;

(c) Fish and wildlife habitat conservation areas;

(d) Frequently flooded areas; and

(e) Geologically hazardous areas.

(17) "Flood plain" is synonymous with one hundred-year flood plain and means that land area susceptible to inundation with a one percent chance of being equaled or exceeded in any given year. The limit of this area shall be based upon flood ordinance regulation maps or a reasonable method which meets the objectives of the act.

(18) "Floodway" means the area, as identified in a master program, that either:

(a) Has been established in federal emergency management agency flood insurance rate maps or floodway maps; or

(b) Consists of those portions of a river valley lying streamward from the outer limits of a watercourse upon which flood waters are carried during periods of flooding that occur with reasonable regularity, although not necessarily annually, said floodway being identified, under normal condition, by changes in surface soil conditions or changes in types or quality of

vegetative ground cover condition, topography, or other indicators of flooding that occurs with reasonable regularity, although not necessarily annually. Regardless of the method used to identify the floodway, the floodway shall not include those lands that can reasonably be expected to be protected from flood waters by flood control devices maintained by or maintained under license from the federal government, the state, or a political subdivision of the state.

RANGE OF OPTIONS CONSIDERED BY THE PLANNING COMMISSION

Critical Areas in shoreline jurisdiction regulated in CAO (Shorelines are a Critical Area) Current Regulation	Critical Areas in shoreline jurisdiction regulated in SMP (Shorelines are not a Critical Area)	* Critical Areas in shoreline jurisdiction regulated in SMP with changes to Floodplain Regulations (Shorelines not a critical area)
Lake and stream water bodies and shorelines designated in the Critical Areas Overlay (CAO) as critical areas and protected with buffers and structure setbacks totaling 50 feet. (Refer to Attachment C for supporting information regarding setbacks)	Lake and stream water bodies identified as Fish and Wildlife Habitat Conservation Areas in the Comprehensive Plan and protected in the SMP with 25-50 foot buffers and setbacks with additional flexibility to accommodate residential development and public access and recreation goals of the SMA.	Lake and stream water bodies identified as Fish and Wildlife Habitat Conservation Areas in the Comprehensive Plan and protected in the SMP and protected with 25-foot fixed shoreline setback and Tailored Shoreline Greenscape Requirement (Refer to Attachment D for Description of Greenscape Requirement).
Other regulated critical areas in shoreline jurisdiction include streams, wetlands, geologic hazard areas, habitat associated with species of local importance, areas of special flood hazard and these are regulated in the CAO.	Other regulated critical areas in shoreline jurisdiction include streams, wetlands, geologic hazard areas, habitat associated with species of local importance, areas of special flood hazard and these are regulated by CAO provisions incorporated by reference into the SMP.	Other regulated critical areas in shoreline jurisdiction include streams, wetlands, geologic hazard areas, habitat associated with species of local importance, areas of special flood hazard and these are regulated by CAO provisions incorporated by reference into the SMP. Reasonable use requirement of special flood hazard regulations not applicable in shoreline jurisdiction

Critical Areas in shoreline jurisdiction regulated in CAO (Shorelines are a Critical Area) Current Regulation	Critical Areas in shoreline jurisdiction regulated in SMP (Shorelines are not a Critical Area)	* Critical Areas in shoreline jurisdiction regulated in SMP with changes to Floodplain Regulations (Shorelines not a critical area)
Standard of protection per the Growth Management Act (RCW 36.70A.172) is best available science (BAS) and requirement to provide special consideration to conservation or protection measures necessary to preserve or enhance anadromous fisheries. CAO meets the requirement for providing a *Fish and Wildlife Conservation Area* by requiring a combination of no-touch buffers and structure setbacks totaling 50 feet on developed lots to protect habitat of threaten Puget Sound Chinook salmon and other species.	Standard of protection is *no net loss* of shoreline ecological functions per EHB 1653. Buffers provided per WAC 173-26-221(2)(a) to ensure no net loss fish and wildlife habitat as previously protected under RCW 36.70A.172 (Growth Management Act) and to provide special consideration to conservation or protection measures necessary to preserve or enhance anadromous fisheries.	Shoreline lake waterbodies not designated in the Shoreline Overlay as a critical area by Planning Commission per EHB 1653—"*shorelines of the state shall not be considered critical areas under this chapter <u>except</u> to the extent that specific areas located within shorelines of the state qualify for critical area designation based on the definition of critical areas provided by RCW 36.70A.030(5) and have been designated as such by a local government pursuant to RCW 36.70A.060(2).*"
Where shorelines are also wetlands (e.g.Phantom Lake), substantive and procedural shoreline regulations and Critical Areas regulations both apply, and the most restrictive standard controls (generally larger setbacks of the CAO – see LUC 20.25E.065.B.2.e).	On Phantom Lake (where shorelines are also designated as wetlands), shoreline development regulated through substantive CAO requirements, and only the procedural requirements of SMP apply for permitting purposes (strategy to remove regulatory layer)	Where shorelines are also wetlands (e.g.Phantom Lake), substantive and procedural shoreline regulations and Critical Areas regulations both apply, and the most restrictive standard controls (generally larger setbacks of the CAO – see LUC 20.25E.065.B.2.e).

Critical Areas in shoreline jurisdiction regulated in CAO (Shorelines are a Critical Area) Current Regulation	Critical Areas in shoreline jurisdiction regulated in SMP (Shorelines are not a Critical Area)	* Critical Areas in shoreline jurisdiction regulated in SMP with changes to Floodplain Regulations (Shorelines not a critical area)
Applicability: All properties with critical areas (including shoreline and stream waterbodies)	Applicability: All properties within shoreline jurisdiction with regulated critical areas including streams, wetlands, geologic hazard areas, habitat associated with species of local importance, areas of special flood hazard	Applicability: All properties within shoreline jurisdiction with regulated critical areas including streams, wetlands, geologic hazard areas, habitat associated with species of local importance, areas of special flood hazard. Reasonable use requirement of special flood hazard regulations removed from application within shoreline jurisdiction
When Required: When new development, reconstruction, replacement or expansion is proposed	When Required: When new development, reconstruction, replacement or expansion is proposed	When Required: When new development, reconstruction, replacement or expansion is proposed
Alternatives to Requirement: Prescriptive requirements provide clear “safe harbor.” With the exception of floodplains, departure from prescriptive requirements is permitted under some circumstances with science-based analysis (Critical Areas Report).	Alternatives to Requirement: Prescriptive requirements provide clear “safe harbor.” With the exception of floodplains, departure from prescriptive requirements is permitted under some circumstances with science-based analysis (Shoreline Special Report).	Alternatives to Requirement: Prescriptive requirements provide clear “safe harbor.” With the exception of floodplains, departure from prescriptive regulations permitted under some circumstances and with science-based analysis (Shoreline Special Report).

Critical Areas in shoreline jurisdiction regulated in CAO (Shorelines are a Critical Area) Current Regulation	Critical Areas in shoreline jurisdiction regulated in SMP (Shorelines are not a Critical Area)	* Critical Areas in shoreline jurisdiction regulated in SMP with changes to Floodplain Regulations (Shorelines not a critical area)
Areas of Special Flood Hazard (i.e. floodplain) - development may only occur in a limited number of circumstances. New residential development is only permitted through the Reasonable Use provisions when there is no feasible alternative to developing within the floodplain. Implements Comprehensive Plan Policy EN-40.	Areas of Special Flood Hazard (i.e. floodplain) - development may only occur in a limited number of circumstances. New residential development is only permitted through the Reasonable Use provisions when there is no feasible alternative to developing within the floodplain. Implements Comprehensive Plan Policy EN-40.	Areas of Special Flood Hazard (i.e. floodplain) – allows expansion of existing single-family homes and new single-family homes (including full replacement (i.e. teardowns) without demonstrating that Reasonable Use trigger has been met. Development is subject to performance standards and Critical Areas Land Use Permit when development is proposed within the floodplain.

*Option recommended by the Planning Commission in the 2013 SMP Update

CONCERNS RAISED BY STAKEHOLDERS DURING PLANNING COMMISSION REVIEW

The City's 2006 critical area regulations created a 25 foot critical area buffer with an overall 50 foot structure setback from shorelines including Lake Washington, Lake Sammamish, and Phantom Lake. At the same time, the City made no changes to the existing Shoreline Master Program and its 25 foot setback that regulated the same lake shorelines, thus creating conflicting regulations. The Legislature subsequently made it clear that Shoreline Management Act predominates over critical area regulations and that shorelines are not automatically critical areas. RCW 36.70A.480. *Washington Sensible Shoreline Association Background and Explanation Supporting Bellevue's Updated Shoreline Master Program December 2012*

"Pursuant to WAC 173-26-211(5)(c)(ii)(E) uses that adversely impact the ecological functions of critical saltwater and freshwater habitats should not be allowed except where necessary to achieve the objectives of RCW 90.58.020, and then only when their impacts are mitigated according to the sequence described in WAC 173-26-201(2)(e) as necessary to assure no net loss of ecological functions. The SMP needs to identify critical freshwater habitats." (*May 25, 2011 Letter from DOE assigned staffer Dave Radabaugh to Hal Ferris, Chair of the Planning Commission)*

"In addition to not finding Critical Areas Policies to satisfy consistency with SMP-Guideline requirements at WAC 173-26-221(2), Ecology would like to discuss with the City options related to narrowing the SMP's reference to only those sections of the City's Critical Areas Ordinance (20.25H) that are relevant to the SMP. The current SMP provides three formal references (20.25E.10.B.2-SMP Elements, 20.25E.10.C.1.b.ii-Scope, and 20.25E.060.G-Gen. Regulations) to the City's CAO (20.25H) in its entirety, which effectively makes the CAO a part of the SMP and could affect the City's ability to make administrative amendments to the CAO without requiring Ecology's approval as a shoreline amendment. Further, some of the CAO's administrative exceptions (such as "reasonable use"), may not be consistent with SMP-Guideline requirements." (*Department of Ecology comments on Draft SMP dated March 2013)*

CRITICAL FRESHWATER HABITATS WAC 173-26-221(2)(c)(iv) ***Non-Compliant:*** *Compliance with the referenced SMP-Guideline requirement has not been clearly provided in the draft SMP.*

Required Change: *The City can add a new provision to the SMP to satisfy this requirement, or clarify how (including a specific reference to applicable provision) the existing SMP satisfies this SMP-Guideline requirement. (Department of Ecology comments on Draft SMP dated March 2013)*

Comments Specific to Floodplains

Each of the three lakes has outlet control devices and systems that are designed to avoid flooding of the private properties on the lake shorelines. The Army Corps of Engineers controls and manages the outlet for Lake Washington. The Corps controls and King County manages the outlet for Lake Sammamish. The City controls and manages the outlet for Phantom Lake (under the easement granted to the City for that purpose). Each of these jurisdictions is directly responsible for any flood caused damage to shoreline properties due to the control and management of the outlet controls, and therefore each jurisdiction has a duty to avoid flooding. Therefore, floodways of these lakes are not part of

shoreline jurisdiction, and floodplain is defined in the SMA to mean the floodplain "contiguous" to the floodway, so without a floodway there is no floodplain. (*WSSA comments on Public Hearing Draft*).

A map of the shoreline was shown to the Commission with the 200-foot shoreline jurisdiction and floodplain areas color coded. It was noted that the floodplain line passes through a number of homes. The floodplain line is based on a 1954 high water mark that occurred prior to the construction of the Sammamish Slough, but nevertheless it continues to be what is used by the Corps of Engineers. Staff interprets the current critical areas rules as prohibiting any construction within the floodplain. The floodplain rules preempt the 25-foot and 50-foot rules the Commission put into the Shoreline Master Program and will prove to be very confusing for many. Prohibiting construction in the floodplain is inconsistent with what other cities are doing and with what FEMA allows, so the rule needs to be changed. Additionally, the proper flood elevation is 36.1, not 36.5 as previously interpreted. FEMA and other jurisdictions allow normal flood mitigation that requires the floor elevation of homes to be one foot above the flood line. Additionally, compensatory flood storage must be created, which means if a structure takes up an area the flood would normally take, an adjacent area must be dug out to compensate. The locks provide lake level control on Lake Washington so the issue does not come into play. *(Public Comment to Commission by Charlie Klinge on behalf of WSSA, October 9, 2013)*

Regarding 20.25E.010 C. 2. Setting lake levels. Note: setting the Shoreline jurisdiction to specific lake levels will not change FEMA floodplain designations. FEMA floodplain designations are federally determined, so will not be affected by local Shoreline Master Plan designations. *Environmental Services Commission; Planning Commission Transmittal Notebook; Attachment 7, September 2012.*

FLOOD HAZARD REDUCTION WAC 173-26-221(3) ***Non-Compliant:*** *Compliance with the referenced SMP-Guideline requirement has not been clearly provided in the draft SMP.*
Required Change: *The City can add a new provision to the SMP to satisfy this requirement, or clarify how (including a specific reference to applicable provision) the existing SMP satisfies this SMP-Guideline requirement.* (*Department of Ecology comments on Draft SMP dated March 2013)*

Changing the critical areas ordinance to conform to an unapproved proposal would not be in conformance with the regulations. There are some very good reasons for not allowing development in flood plains, including safety, preventing

property damage, and protecting water quality and other natural resources. Lake Sammamish has suffered high water levels in recent years and conditions are likely to get worse with warmer, wetter winter weather as well as the huge amount of new impervious surfaces draining water into the lake. People who build in designated flood plains will be hurt as a result. There should be no weakening of the flood plain regulations. *(Save Lake Sammamish, Planning Commission Minutes, December 11, 2013)*

CURRENT AND RECOMMENDED POLICIES AND REGULATIONS

Critical Areas in General

Current Policy Framework	Draft SMP Policy Framework
POLICY EN-11. Utilize prescriptive development regulations for critical areas based on the type of critical area, and the functions to be protected; and as an alternative to the prescriptive regulations, allow for a site specific or programmatic critical areas study to provide a science-based approach to development that will achieve an equal or better result for the critical area functions. **POLICY EN-12.** Recognize critical area function in preparing programs and land use regulations to protect critical areas and to mitigate the lost function due to unavoidable impacts. **POLICY EN-13.** Utilize science based mitigation for unavoidable adverse impacts to critical areas to protect overall critical areas function in the watershed. **POLICY EN-14.** Implement monitoring and adaptive management plans for critical areas mitigation projects to ensure that the intended functions are maintained or enhanced over time.	**Policies in the Shoreline Master Program Element of the Comprehensive Plan Supplement the policies in the Environmental Element and address circumstances unique to the shoreline.** **SH-30** Provide sufficient protection to critical areas located within shorelines of the state to ensure no net loss of ecological functions necessary to sustain shoreline natural resources **SH-31** Integrate the full spectrum of planning and regulatory measures, including the comprehensive plan, interlocal watershed plans, local development regulations, and state, tribal and federal programs to protect existing ecological functions and ecosystem-wide processes.

Current Policy Framework	Draft SMP Policy Framework
POLICY EN-15. Integrate site-specific development standards with urban watershed scale approaches to managing and protecting the functions of critical areas. **POLICY EN-16.** Facilitate the transfer of development potential away from critical areas and the clustering of development on the least sensitive portion of a site. **POLICY EN-17.** Establish land use regulations that limit the amount of impervious surface area in new development and redevelopment city-wide. **POLICY EN-23.** Explore opportunities for public acquisition and management of key critical areas of valuable natural and aesthetic resources, and fish and wildlife habitat sensitive to urbanization through a variety of land acquisition tools such as conservation easements and fee-simple purchase. **POLICY EN-24.** Prioritize efforts to preserve or enhance fish and wildlife habitat through regulations and public investments in critical areas with largely intact functions and in degraded areas where there is a significant potential for restoring functions. **POLICY EN-25**. Provide for limited building footprint expansion options for existing single-family structures in the Protection Zone only in a manner that does not degrade critical area functions. **POLICY EN-26.** Require mitigation proportional to any adverse environmental impacts from development or redevelopment in the Protection Zone.	

Current Policy Framework	Draft SMP Policy Framework
POLICY EN-41. Preserve and maintain fish and wildlife habitat conservation areas and wetlands in a natural state and restore similar areas that have become degraded. **POLICY EN-59.** Manage aquatic habitats, including shoreline and riparian (streamside) habitats, to preserve and enhance their natural functions of providing fish and wildlife habitat and protecting water quality. **POLICY EN-61.** Give special consideration to conservation or protection measures necessary to preserve or enhance anadromous salmonids, recognizing that requirements will vary depending on the aquatic resources involved, including differing stream classification, and that additional efforts may be identified in the regional salmon recovery planning process. **POLICY EN-67.** Preserve a proportion of the significant trees throughout the city in order to sustain fish and wildlife habitat.	

Floodplain-Related Policy Framework

Current Policy Framework	Draft SMP Policy Framework
Comprehensive Plan Discussion: Flooding is caused by excess surface water runoff and is exacerbated when eroded soil from cleared land or unstable slopes reduces the waterway's natural capacity to carry runoff water. Construction and development activity within the floodplain reduces the floodway capacity and creates additional runoff. Flooding results, creating property damage, public safety hazards, and destroying aquatic and riparian habitat. Some land uses that create minimal impervious surfaces such as open space, recreation, agriculture, and uses of similar intensity may not cause flooding problems when located within the floodplain but may contribute to water quality problems. In recognition of this situation, the Federal Flood Insurance Program was created to guarantee protection for lands in flood hazard areas if eligibility requirements are met. The standard set by this program is the preservation of the 100 year floodplain. The 100-year floodplain is the area of land flooded by a storm which has a 1 percent probability of occurring in any year. Numerous small floodplains exist in areas of Bellevue, such as along Coal Creek west of I-405; Kelsey Creek through the Lake Hills Greenbelt, Glendale Golf Course, and Kelsey Creek Park; Valley Creek near Highland Park; Richards Valley; and the shoreline of Lake Sammamish. Under the Federal Flood Insurance Program some floodplain development is allowed such as streets, parking lots, buildings on pilings, some filling of the floodplain, and channelization of streams. These practices have resulted in public hazards due to flooded streets, parking lots, and buildings located in the floodplain; increases in stream velocities causing erosion, scouring and sedimentation; property damage and the destruction of aquatic and riparian habitat. Predicted changes to the floodplain and its ramifications as a result of floodplain development are	**FLOOD HAZARD REDUCTION** For the purposes of the Bellevue SMP, Flood Hazard areas in shoreline jurisdiction are regulated in accordance with the provisions of the Bellevue Critical Areas Regulations (Part 20.25H LUC *Critical Areas Overlay District*).

Current Policy Framework	Draft SMP Policy Framework
imperfect and there may be substantial public risk in approving such developments. The public cost of correcting problems resulting from these uses is demonstrated in the city's Comprehensive Drainage Plan and Capital Investment Program. Some land uses such as open space, recreation, agriculture, or horticulture may not cause problems to such a high degree. Management plans for these activities should incorporate best management practices to protect critical areas functions and values. Given Bellevue's numerous storms and floodplains, the city regulates land uses and land alteration activities to minimize this potential for flooding and to protect water quality. **POLICY EN-32.** Retain existing open surface water systems in a natural state and restore conditions that have become degraded. **EN-38.** Restore and protect the biological health and diversity of the Lake Washington and Lake Sammamish watersheds in Bellevue's jurisdiction. **POLICY EN-40.** Preserve and maintain the 100-year floodplain in a natural and undeveloped state, and restore conditions that have become degraded. **POLICY EN-59.** Manage aquatic habitats, including shoreline and riparian (streamside) habitats, to preserve and enhance their natural functions of providing fish and wildlife habitat and protecting water quality. **POLICY EN-72.** Develop programs and regulations acknowledging that designated critical areas such as wetlands, shorelines, riparian corridors, floodplains, and steep slopes provide multiple functions including fish and wildlife habitat.	

Current Regulatory Approach	Draft SMP Regulatory Approach
Shoreline Critical Areas Defined - LUC 20.25E.030.D.	Status of Critical Areas – LUC 20.25E.060.G.
Shoreline Buffers Designated – LUC 20.25H.035 and 20.25H.115	Shorelines are not Critical Areas in and of themselves – Conformance Amendments deleted references to Shoreline Critical Areas
Shoreline Setbacks Designated – LUC 20.25H.035	Shoreline Setbacks – 20.25E.050.A Dimensional Requirements
Shoreline Buffer Modifications – LUC 20.25H.1.a.2	Shoreline Setbacks Residential – 20.25E.065.C
Critical Areas General – LUC 20.25H	

Floodplains

Current Regulatory Approach	Draft SMP Regulatory Approach
Areas of Special Flood Hazard (ie floodplain) is a critical area and development may only occur in a limited number of circumstances. New residential development is only permitted through the Reasonable Use provisions when there is no feasible	**20.25H.055(B) Uses and development allowed within critical areas – Performance standards.** **B. Uses and Development Allowed within Critical Areas.** **Notes:**

alternative to developing within the floodplain. Floodplain requirements apply consistently city-wide to property located inside and outside of shoreline jurisdiction.	9. ~~Authorized only pursuant to a reasonable use exception, LUC 20.25H.190~~.In areas of special flood hazard located within shoreline jurisdiction, expansion of existing single-family homes and new single-family homes (including full replacement (i.e. teardowns) are allowed in the area of special flood hazard when developed in accordance with the Residential Shoreline Regulations, LUC 20.20E.065 (including the Shoreline Greenscape Conservation Standards and Requirements, LUC 20.25E.065.F), and also in accordance with the performance standards required by LUC 20.25H.180.C and D.1. A Critical Area Land Use Permit will be required. 13. Authorized only in areas of special flood hazard located within shoreline jurisdiction and only when developed in accordance with LUC 20.25E.080.F. 14. Authorized only in areas of special flood hazard located within shoreline jurisdiction and only when developed in the aquatic environment in accordance with LUC 20.25E.065. 15. In areas of special flood hazard located within shoreline jurisdiction performance standards required by this section will be applied through the applicable permit required by Part 20.25E. LUC and do not require a Critical Areas Land Use Permit. 16. Authorized only in areas of special flood hazard located within shoreline jurisdiction and only when developed in accordance with LUC 20.25H. 17. In areas of special flood hazard located within shoreline jurisdiction, existing landscape maintenance and all modifications to landscaping and landscape features shall comply with the Shoreline Greenscape Conservation Standards and Requirements, LUC 20.25E.065.F, rather than this section.

MOORAGE - SUPPORTING INFORMATION

STATE LAW AND GUIDELINES

Applicable Shoreline Management Act Provisions

RCW 90.58.270 Nonapplication to certain structures, docks, developments, etc., placed in navigable waters — Nonapplication to certain rights of action, authority — Floating homes must be classified as a conforming preferred use.

(1) Nothing in this section shall constitute authority for requiring or ordering the removal of any structures, improvements, docks, fills, or developments placed in navigable waters prior to December 4, 1969, and the consent and authorization of the state of Washington to the impairment of public rights of navigation, and corollary rights incidental thereto, caused by the retention and maintenance of said structures, improvements, docks, fills or developments are hereby granted: PROVIDED, That the consent herein given shall not relate to any structures, improvements, docks, fills, or developments placed on tidelands, shorelands, or beds underlying said waters which are in trespass or in violation of state statutes.

(2) Nothing in this section shall be construed as altering or abridging any private right of action, other than a private right which is based upon the impairment of public rights consented to in subsection (1) of this section.

(3) Nothing in this section shall be construed as altering or abridging the authority of the state or local governments to suppress or abate nuisances or to abate pollution.

(4) Subsection (1) of this section shall apply to any case pending in the courts of this state on June 1, 1971 relating to the removal of structures, improvements, docks, fills, or developments based on the impairment of public navigational rights.

. . . .

Shoreline Master Program Update Guidelines
WAC 173-26-231 Shoreline Modifications

(1) Applicability. Local governments are encouraged to prepare master program provisions that distinguish between shoreline modifications and shoreline uses. Shoreline modifications are generally related to construction of a physical element such as a dike, breakwater, dredged basin, or fill, but they can include other actions such as clearing, grading, application of chemicals, or significant vegetation removal. Shoreline modifications usually are undertaken in support of or in preparation for a shoreline use; for example, fill (shoreline modification) required for a cargo terminal (industrial use) or dredging (shoreline modification) to allow for a marina (boating facility use). The provisions in this section apply to all shoreline modifications within shoreline jurisdiction.

(2) General principles applicable to all shoreline modifications. Master programs shall implement the following principles:

(a) Allow structural shoreline modifications only where they are demonstrated to be necessary to support or protect an allowed primary structure or a legally existing shoreline use that is in danger of loss or substantial damage or are necessary for reconfiguration of the shoreline for mitigation or enhancement purposes.

(b) Reduce the adverse effects of shoreline modifications and, as much as possible, limit shoreline modifications in number and extent.

(c) Allow only shoreline modifications that are appropriate to the specific type of shoreline and environmental conditions for which they are proposed.

(d) Assure that shoreline modifications individually and cumulatively do not result in a net loss of ecological functions. This is to be achieved by giving preference to those types of shoreline modifications that have a lesser impact on ecological functions and requiring mitigation of identified impacts resulting from shoreline modifications.

(e) Where applicable, base provisions on scientific and technical information and a comprehensive analysis of drift cells for marine waters or reach conditions for river and stream systems. Contact the department for available drift cell characterizations.

(f) Plan for the enhancement of impaired ecological functions where feasible and appropriate while accommodating permitted uses. As shoreline modifications occur, incorporate all feasible measures to protect ecological shoreline functions and ecosystem-wide processes.

(g) Avoid and reduce significant ecological impacts according to the mitigation sequence in WAC 173-26-201 (2)(e).

. . . .

(3) Provisions for specific shoreline modifications

(b) Piers and Docks. New piers and docks shall be allowed only for water-dependent uses or public access. As used here, a dock associated with a single-family residence is a water-dependent use provided that it is designed and intended as a facility for access to watercraft and otherwise complies with the provisions of this section. Pier and dock construction shall be restricted to the minimum size necessary to meet the needs of the proposed water-dependent use. Water-related and water-enjoyment uses may be allowed as part of mixed-use development on over-water structures where they are clearly auxiliary to and in support of water-dependent uses, provided the minimum size requirement needed to meet the water-dependent use is not violated.

New pier or dock construction, excluding docks accessory to single-family residences, should be permitted only when the applicant has demonstrated that a specific need exists to support the intended water-dependent uses. If a port district or other public or commercial entity involving water-dependent uses has performed a needs analysis or comprehensive master plan projecting the future needs for pier or dock space, and if the plan or analysis is approved by the local government and consistent with these guidelines, it may serve as the necessary justification for pier design, size, and construction. The intent of this provision is to allow ports and other entities the flexibility necessary to provide for existing and future water-dependent uses.

Where new piers or docks are allowed, master programs should contain provisions to require new residential development of two or more dwellings to provide joint use or community dock facilities, when feasible, rather than allow individual docks for each residence.

Piers and docks, including those accessory to single-family residences, shall be designed and constructed to avoid or, if that is not possible, to minimize and mitigate the impacts to ecological functions, critical areas resources such as eelgrass beds and fish habitats and processes such as currents and littoral drift. See WAC 173-26-221 (2)(c)(iii) and (iv). Master programs should require that structures be made of materials that have been approved by applicable state agencies.

RANGE OF OPTIONS CONSIDERED BY THE PLANNING COMMISSION

Performance Standards for Residential Moorage (Current Code)	Performance Standards for Residential Moorage (Flexible Design Option)	Performance Standards for Residential Moorage (Alternative allowed based on WDFW and USACE Approval)*
New or Expanded Moorage: Uniform standards based on United States Army Corps of Engineers (USACE) Regional General Permit 3 and 2004 Final Biological Evaluation	**New or Expanded or Reconfigured Moorage:** Lake specific standards designed to meet USACE requirements but with maximum flexibility	**New or Reconfigured Moorage**: Lake specific standards designed to meet no net loss requirements (WAC 176-26-231(3) (b))
Length – 150 ft Side setback – 12 ft from dock	Length – 150 ft Side Setback- 10 ft from dock or structures attached to docks such as boatlifts	Length – 150 ft (100 ft on Phantom Lake) Side Setback- 10 ft from dock or structures attached to docks such as boatlifts
Maximum area – 480 sf for overall structure	Maximum area- None prescribed for overall structure. (Platform limited to 350 sf for Lake Washington and 250 sf for Lake Samm)	Maximum area – 480 sf (250 sf on Phantom Lake and 100 sf on Newport Canals)
Walkway width 4 ft. Grating throughout All floats and ells must be at least 30 ft. waterward of the OHWM.	Walkway width 4 ft. Grating throughout Can be widened to 6 ft. with deduction from platform.	Walkway width 4 ft. for first 30 ft. waterward of OHWM; otherwise 6 ft. (Phantom Lk limited to 4 ft. width)
Ell maximum: 6 ft by 26 ft	Ell included in platform calculation of allowable square footage	All floats and ells must be at least 30 ft. waterward of the OHWM or in at least 9 ft. water depth.
Piling: 4-inch steel piling 18 ft waterward of the OHWM. Other pilings 12 inches in diameter.	Pile size- minimum necessary. Pile spacing-maximum feasible. Only one set allowed within 30 ft from OHWM.	No piling standard
Mitigation: 10 feet native planting across lot frontage immediately landward OHWM	Mitigation sequencing required.	No mitigation sequencing required

Performance Standards for Residential Moorage (Current Code)	Performance Standards for Residential Moorage (Flexible Design Option)	Performance Standards for Residential Moorage (Alternative allowed based on WDFW and USACE Approval)*
Dock height -- no minimum height above OHWM	Dock height -- no minimum height above OHWM	Dock height -- no minimum height above OHWM
New Boat Houses prohibited;	New Boathouses prohibited; existing boathouses legally nonconforming	New boathouses prohibited. Existing boathouse subject to nonconforming regulations
Boat lift: One ground-based or floating lift allowed	Boat lift: limited to 2 per dock.	Boat lift: combined boat and watercraft lifts is limited to 4 per dock
Canopy: One translucent canopy allowed	Canopy: One per dock and must use translucent materials.	Canopy: One fabric watercraft canopy per single use dock. Canopy fabric shall be light-transmitting, unless alternative materials are approved by State or Federal Agencies
Dock expansions or reconfigurations must meet new dock standards.	Dock expansions or reconfigurations must meet new dock standards. Replaced, expanded, or reconfigured docks may retain existing moorage platform size.	Dock expansions or reconfigurations must meet new dock standards
Repair and Maintenance: Minor repairs -- allowed outright Thresholds for partial compliance with standards: (A) Replace more than 50% of the decking and the above-water decking substructure within the first 30 feet waterward or OHWM, whichever is less; or (B) Replace more than 50 percent of the decking and decking substructure of the entire	**Repair and Maintenance:** May be repaired or replaced subject to following limitations and standards: i. Replacement (as repair) of up to and including 50 percent of existing dock piling; and ii. Repair of up to 100 percent of existing piling in the same location; and iii. Repair or replacement (as repair) of the dock substructure, stringers, or joists; and	**Repair and Maintenance:** Existing legally-established residential docks may be repaired or replaced in the existing configuration up to 100 percent of the structure.

Performance Standards for Residential Moorage (Current Code)	Performance Standards for Residential Moorage (Flexible Design Option)	Performance Standards for Residential Moorage (Alternative allowed based on WDFW and USACE Approval)*
moorage; or (C) Combination of either subsection (A) or (B) above with a proposal to replace more than two but less than 50 percent of the existing piles. ii. Improvements Required. Choose one of the following. (A) Reduce the width of the portion of the facility within the first 30 feet waterward of the ordinary high water mark, or of any access ramp to no more than four feet wide; or (B) Fully grate the affected portion of the facility; or (C) Remove the skirting from the entire facility, or (D) Remove existing piles from the first 18 feet; or (E) Enhance the shoreline critical area buffer to meet the shoreline plantings requirements for new piers Replacement of more than 50 percent of the structural piles is considered new moorage and must comply with new moorage standards.	iv. Repair or replacement (as repair) of the dock surface. Dock Repair and Replacement Standards: Piling may be repaired by cutting, splicing, or capping the existing piling. Any removal or replacement of a piling is not defined as repair, and is considered replacement that shall comply with the standards Grating required when the total area of the dock surface being repaired or replaced equals or exceeds 20 square feet. Materials used for dock repairs shall meet requirements. Reconfiguration and Replacement of Existing Residential Docks. Existing, legally-established residential docks may be reconfigured or replaced when in compliance with paragraphs I.3 and I.4 of this section. Proposals for repair or replacement that exceed the limits above must comply with new moorage standards.	
<u>When required</u>: When new development, reconstruction, replacement greater than 50% or expansion is proposed	<u>When required</u>: When new development, reconstruction, replacement or expansion is proposed	<u>When required</u>: When new development, reconstruction, replacement or expansion is proposed

Performance Standards for Residential Moorage (Current Code)	Performance Standards for Residential Moorage (Flexible Design Option)	Performance Standards for Residential Moorage (Alternative allowed based on WDFW and USACE Approval)*

Alternatives to Performance Standards
• Yes—with critical areas report
	Alternatives to Performance Standards
	• Yes—with special shoreline report when:
	  ○ No net loss demonstrated
	  ○ Mitigation provided and monitored
		Alternatives to Performance Standards
		• Yes—Shoreline Variance for length
		• Yes— Per approval by WDFW and USACE of alternative design and mitigation (Assumption no net loss met although these agencies operate under difference statutory standards

*Option recommended by the Planning Commission in the SMP Update

CONCERNS RAISED BY STAKEHOLDERS DURING PLANNING COMMISSION REVIEW

Residential recreational docks on these lakes support recreational boating and water-use activities enjoyed by the shoreline property owners and by many other Bellevue citizens that are their friends and relatives. The Shoreline Management Act was enacted to manage development on the shorelines, but was also designed to protect use of these lakes for recreational boating. Recreational docks are a key component to ensure a thriving recreational boating and water-use experience for Bellevue citizens—an activity that also creates substantial economic activity through supporting businesses.

For these reasons, shoreline property owners need to be able to construct and maintain safe docks that assure safe and adequate recreational moorage and access. The proposed standards are designed to ensure safe access and safe moorage. Loading and unloading a boat with family and gear requires an adequate staging area. Families with small children may not be comfortable using a ramp access of a mere three feet. The agencies are focused on protecting the nearshore habitat by use of 30 foot ramps, but ramps of that length are not appropriate where the lake drops off steeply. Importantly, the State Department of Fish and Wildlife and the United States Army Corps of Engineers already strictly regulate construction of new docks as well as maintenance, repair, and modifications to existing docks. These agencies

are specifically charged with preserving and protecting fish and fish habitat through permitting requirements that apply to almost all work on docks even certain maintenance and repair activities. In addition, the Army Corps is specifically charged with ensuring safe navigation. The City does have a regulatory role according to the Shoreline Management Act, but the City is not required to duplicate the extensive oversight by State Fish and Wildlife and the Army Corps of Engineers.

In particular, these agencies allow substantial flexibility in the size and shape of docks as long as the agencies are convinced that impacts on fish are mitigated. City attempts to create unique mitigation requirements are inappropriate and unnecessary. These agencies have the expertise, the budget, and the legal mandate to protect fish. And, these agencies are in fact comprehensively implementing that mandate. Thus, any City requirements beyond the basic standards below will create unnecessary duplication, will result in City decisions based on less knowledge and expertise, and will cause conflicts with the standards and mitigation requirements imposed by the agencies. *(WSSA - The Sensible Shorelines Plan—An alternative to Bellevue's Shoreline Master Program, March 2011)*

The SMP-Guidelines address Pier and Docks (serving less than 4-residences) as a "Shoreline Modification" pursuant to the requirements of WAC 173-26-231 (3) (b). The City's draft SMP only address "non-residential moorage facilities" (20.25E.080.E.) as a Shoreline Modification and provide "Residential Moorage (Overwater Structures)" as "Residential Use" standards (20.25E.065.H), which are inconsistent with applicable SMP-Guideline requirements. Further, the City's draft (Residential Moorage) standards do not address the minimum SMP-Guideline standards required for Pier and Docks. Finally, provision 20.25E.065.H.5 (Repair and Replacement) allows for in-kind replacement of existing Residential Docks (using new approved materials) despite consistency or inconsistency with new dock standards related to orientation of the overwater structure. This provision is anticipated to hinder the City's ability to see cumulative reduction in overwater area when an old (large dock) is replaced in a new (conforming) orientation. Further, the proposed SMP allows for construction of new Residential Docks, which has the potential to increase (cumulative) overwater coverage and is anticipated to result in a net loss of shoreline ecologic function – inconsistent with SMP-Guideline requirements.

The City will need to amend the draft SMP to maintain consistency with applicable SMP-Guideline requirements including: Appropriate reference to "Residential Moorage" (Pier and Dock) development as "Shoreline Modifications", add basic provisions consistent with SMP-Guideline requirements (i.e., allowed only for water-dependent uses, minimum size

necessary…etc.). SMP provisions will also need to demonstrate NNL, factoring in the effect of allowing both in-kind replacement and new docks.

Note: Authority provided through the “Special Shoreline Report” (20.25E.160.E) is not consistent with SMP-Guideline requirements, as the report appears to provide a undefined amount of “flexibility” to setback, moorage, and stabilization standards in the SMP, without requiring a shoreline Variance.Non-Compliant: (Ecology 3/2013) A SMP-standard intended to satisfy this SMP-Guideline requirement could not be found. Required Change: The City can either add a new provision to the SMP to satisfy this requirement, or clarify how (including a specific reference to applicable provision) the existing SMP satisfies this SMP-Guideline requirement.

The referenced SMP provisions do not provide general standards enforcing mitigation sequencing (i.e., avoid, minimize and then mitigate). Further, the City’s broad allowance for in-kind replacement of existing Pier and Dock structures, therefore not requiring consistency with the new dock standards in 20.25E.065.H.4 would appear to not be consistent with the SMP-Guidelines and NNL requirements.
Required Change: Similar to comments provided above, The City will need to amend the draft SMP to maintain consistency with applicable SMP-Guideline requirements.

Further, within 20.25E.065.H.4, the footnotes or requirement listed under the column “Alternative Standard or Limitation When Allowed” should be changed from “State and Federal Approval (4)” to “Shoreline Variance (3)” within the rows titled: “Maximum Dock Size – sq.” and “Maximum Walkway width”, otherwise the standards look sufficient. These requirements are dimensional standards that according to the SMP-Guidelines need to allow the minimum size necessary and also could affect the cumulative impacts within the City, for which any relief from these standards need to be considered through a Shoreline Variance. (*Department of Ecology comments 3/2013)*

CURRENT AND RECOMMENDED POLICIES AND REGULATIONS

Current Policy Framework	Draft SMP Policy Framework
Regulations The existing regulations were designed to meet critical area best available science, the City's own environmental policies below, and the ESA conservation measures represented by the U.S. Army Corp of Engineers, 2004. *Final Biological Evaluation for Construction of New or Expansion of Existing Residential Overwater Structures and Driving of Mooring Piles.* The performance standards included in these regulations maintain the baseline conditions related to littoral productivity, the shoreline environment, and potential salmonid predator habitat through structure design criteria, riparian planting requirements, and removal of existing structures. The standards follow those outlined in the U.S. Army Corp of Engineers *Final Biological Evaluation for Construction of New or Expansion of Existing Residential Overwater Structures and Driving of Mooring Piles (2004),* and are intended to decrease shading of nearshore habitats and maintain littoral productivity, increase habitat complexity and production of aquatic and terrestrial macroinvertebrates, and decrease potential habitat for salmonid predators. These measures are anticipated to discourage potential predator use by minimizing or avoiding the creation of the type of habitat that appears to be preferred by predators (that is, by restricting shading, minimizing pilings, and restricting structure size). Moorage built to these standards is not expected to harm or otherwise result in take of chinook salmon. *(U.S. Army Corp of Engineers, 2004. Final Biological Evaluation for Construction of New or Expansion of Existing Residential Overwater Structures and Driving of Mooring Piles.)*	The Planning Commission recommendation simplifies the regulatory framework applicable to residential moorage by deferring to state and federal agencies with permit authority and focusing local permit review on issues of local importance. The simplified regulations pare down the USACE standards to four key performance measures essential to preserving neighborhood character and ensuring no net loss of ecological functions. To add further flexibility, the Commission recommendation authorizes modification of the standards outlined above provided the U.S. Army Corps of Engineers and the Washington Department of Fish and Wildlife, acting under their respective federal and state authorities, approve. On balance, these amended performance standards address key components of existing standards while reducing their complexity and providing more flexibility for residential property owners.

Current Policy Framework	Draft SMP Policy Framework
POLICY SH-2. Discourage short-term economic gain or convenience in development when potential, long-term adverse effects on the shoreline are possible.	**SH-16.** Avoid, minimize, or mitigate adverse impacts to ecological functions, including water quality and wildlife habitat, associated with the shoreline development by providing regulations, best management practices, and incentives sufficient to ensure no net loss of ecological functions.
POLICY SH-9. Preserve the natural amenities and resources of the shorelines in the context of existing and planned residential, recreational, and commercial land uses**.**	**SH-90.** Allow piers, docks, and floats only for residential or water-dependent uses such as access to pleasure craft, emergency vessels, recreation, commercial uses, and public access.
POLICY SH-12. Designate and preserve environmentally sensitive areas. If necessary, control access and use for the protection of these areas.	**SH-91.** Limit new over-water structures to the minimum necessary to support the structure's intended use in order to minimize aesthetic impacts.
POLICY SH-16. Discourage structures using materials which have significant physical or chemical effects on water quality, vegetation, fish, and wildlife in or near the water.	**SH-92.** Allow for maintenance, repair, reconfiguration, and replacement of legally-established and functional piers and docks.
POLICY SH-50. Lake Washington and Lake Sammamish: Discourage construction of multiple or expanded piers except where public access is needed**.**	**SH-93.** Design and construct new or expanded piers and their components, such as boatlifts and associated fabric canopies, to prevent or minimize impacts on nearshore ecological functions, including aquatic vegetation and fish and wildlife habitat.
POLICY SH-51. Lake Washington and Lake Sammamish: Consider the use of buoys and floating docks for moorage as a preferred alternative to the construction of piers.	**SH-94.** Permit new pier or dock construction, excluding docks accessory to single-family residences, only when the applicant has demonstrated an identified need exists to support the intended water-dependent use.
POLICY SH-52. Island Shoreline Areas: Limit piers in the Mercer Slough to minimal construction for ease of pedestrian and small nonmotorized craft access.	**SH-95.** Prohibit new or expanded enclosed or walled overwater structures such as boathouses and residences.
POLICY EN-24. Prioritize efforts to preserve or enhance fish and wildlife habitat through regulations and public investments in critical areas with largely intact functions and in degraded areas where there is a significant potential for restoring functions.	**SH-96.** Provide context specific dimensional standards for docks and piers on Phantom Lake and in the Shoreline Residential Canal District that respond to the individual characteristics of these areas with respect to size, depth, and recreational moorage requirements.

Current Policy Framework	Draft SMP Policy Framework
POLICY EN-38. Restore and protect the biological health and diversity of the Lake Washington and Lake Sammamish watersheds in Bellevue's jurisdiction.	**SH-97.** Restrict new docks and piers in Mercer Slough to those that provide public access and launching of human-powered watercraft.
POLICY EN-41. Preserve and maintain fish and wildlife habitat conservation areas and wetlands in a natural state and restore similar areas that have become degraded..	**SH-98.** Allow for maintenance, repair and restoration of City of Bellevue identified historic, public overwater structures.
POLICY EN-59. Manage aquatic habitats, including shoreline and riparian (streamside) habitats, to preserve and enhance their natural functions of providing fish and wildlife habitat and protecting water quality.	
POLICY EN-61. Give special consideration to conservation or protection measures necessary to preserve or enhance anadromous salmonids, recognizing that requirements will vary depending on the aquatic resources involved, including differing stream classification, and that additional efforts may be identified in the regional salmon recovery planning process.	
POLICY EN-64. Preserve and enhance native vegetation in the Protection Zone and integrate suitable native plants in urban landscape development	
POLICY EN-72. Develop programs and regulations acknowledging that designated critical areas such as wetlands, shorelines, riparian corridors, floodplains, and steep slopes provide multiple functions including fish and wildlife habitat.	

Current Regulatory Approach	Draft SMP Regulatory Approach
Scope and Purpose 20.25H.005 Scope 20.25H.010 Purpose 20.25H.020 Submittal Requirements	
Designation of Critical Areas 20.25H.025 Designation of critical areas 20.25H.030 Identification of critical area 20.25H.035 Critical area buffers and structure setbacks 20.25H.040 Standards for modifying non-critical area setbacks 20.25H.045 Development density/intensity	
Shorelines 20.25H.115 Designation of critical area buffers and setbacks 20.25H.118 Mitigation and Monitoring – Additional provisions 20.25H.119 Critical areas report – Additional provisions	
General Mitigation and Restoration Requirements 20.25H.210 Applicability 20.25H.215 Mitigation Sequencing 20.25H.220 Mitigation and restoration plan requirements 20.25H.225 Innovative mitigation	
Critical Areas Report 20.25H.230 Critical areas report – Purpose 20.25H.235 Critical Areas report – Review process 20.25H.240 Critical Areas report – Limitation 20.25H.245 Incorporation of Best Available Science	

Current Regulatory Approach	Draft SMP Regulatory Approach
Part 20.25E Shoreline Overlay District **20.25E.080 Shoreline Performance Standards** **20.25E.080.N. Moorage Regulations** 1. New or Expanded Residential Moorage a. When Allowed b. Development Standards – see range of options table above for detailed requirements 2. Repair and Replacement of Existing Residential Moorage a. Certain Repairs Requiring Partial Compliance i. Proposals requiring partial compliance (A) Proposals to replace more than 50% of the decking and the above-water decking substructure within the first 30 feet waterward or OHWM, whichever is less; or (B) Proposals to replace more than 50 percent of the decking and decking substructure of the entire moorage; or (C) Proposals involving the combination of either subsection N.2.a.i.(A) or (B) of this section with a proposal to replace more than two but less than 50 percent of the existing piles. ii. Improvements Required. If the proposal requires need for partial compliance, the applicant may choose one of the following improvements. (A) Reduce the width of the portion of the facility within the first 30 feet waterward of the ordinary high water mark, or of any access ramp to no more than four feet wide; or (B) Fully grate the affected portion of the facility; or (C) Remove the skirting from the entire facility, or (D) Remove existing piles from the first 18 feet; or (E) Enhance the shoreline critical area buffer to meet the shoreline plantings requirements of subsection N.1.b.vi.(3) iii. Proposals involving replacement of more than 50 percent of the structural piles shall require full compliance of	**Part 20.25E Shoreline Overlay District** **20.25E.065. H. Residential Moorage (Overwater Structures).** 1. Applicability. Moorage facilities are allowed in the Shoreline Overlay District when in compliance with paragraph H of this section. 2. Definitions. The following definitions apply to paragraph H of this section in addition to the definitions contained in LUC 20.25E.280 and Chapter 20.50 LUC (as set forth in the Land Use Code on [INSERT DATE of ordinance adoption]) which is incorporated by this reference into the SMP 3. General Requirements Applicable to all Residential Docks. The following standards apply to all development and repairs related to residential docks. a. Dock Materials. Environmentally neutral materials approved by the Environmental Protection Agency for use in aquatic environments shall be used. No materials treated with known toxic preservatives is allowed. Dock materials shall not be treated with pentachlorophenol, creosote, chromate copper arsenate (CCA) or comparably toxic compounds. 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 that causes discharges either directly or indirectly into surface waters shall not be susceptible to dissolution by corrosion. b. Dock Lighting. Dock lighting for the purpose of illuminating the dock surface for safety is allowed when the illuminating fixtures are limited to the minimum height necessary above the dock surface, or screened to provide the intended function of walkway illumination, without allowing light emissions to spill outside of the dock surface. c. Accidental Destruction - Timing of Construction. Pursuant to paragraph I.4.e of this section, legally-established structures destroyed by fire, explosion, or other

Current Regulatory Approach	Draft SMP Regulatory Approach
replacement moorage piles with the development standards of subsection N.1.b.v above. iv. Proposals involving replacement of more than 50 percent of the structural piles of the moorage facility shall be considered new moorage and shall comply with the provisions of N.1 above. b. Other Repairs. Proposals to repair existing legally established moorage facilities where the nature of the repair is not described in subsection N.2.a shall be considered minor repairs and are permitted, consistent with any applicable standards of the Land Use Code, International Building Code, as adopted and subsequently amended by the City of Bellevue, and any other applicable codes or regulations. 5. Boatlift. Installation, repair, maintenance, replacement or retention of one ground based or floating watercraft lift without a canopy, per adjacent upland property and the placement of no more than two cubic yards of fill to anchor the lift is permitted. a. The fill must be clean. b. The fill must consist of rock or pre-cast concrete blocks. c. The fill must only be used to anchor the watercraft lift. d. The minimum amount of ill must be utilized to anchor the watercraft lift. 6. Covered Moorage. Installation of a translucent canopy on a new or existing watercraft lift is allowed in accordance with this subsection. a. Number and location – Residential i. In fresh waters, the canopy and structure should be located waterward of the nine-foot depth elevation as established by OHWM ii. The lowest edge of the canopy must be at least eight feet above the plane of OHWM,	unforeseen disaster beyond the control of the owner may be reconstructed in the same configuration; provided, that complete applications for all required permits are submitted within 2 years from the date of destruction. Materials used for reconstruction shall comply with the requirements set forth in paragraph 3.a of this section. Areas of temporary construction disturbance resulting from the reconstruction shall be restored to pre-construction conditions. 4. General Requirements Applicable to New or Reconfigured Residential Docks. a. Each application for a new or reconfigured residential dock shall comply with these requirements (See Range of Options table above for detailed requirements) 5. Repair and Replacement of Existing Residential Docks. Existing legally-established residential docks may be repaired or replaced in the existing configuration, provided that the materials used for dock repairs shall meet the requirements established in paragraph 20.25E.065.H.3.a. 6. Boat and Watercraft Lifts. To reduce disturbance of the lake substrate, attached boatlifts and watercraft lifts are preferred over freestanding lifts. Lifts are limited in the number allowed and location: a. Number. The number of combined boat and watercraft lifts is limited to four per dock. b. Location. The landward stanchion of any boat or watercraft lift shall be located more than 30 feet waterward of OHWM or within 30 feet waterward of OHWM if located in at least 9 feet of water depth when measured from the OHWM unless otherwise approved by State or Federal Agencies pursuant to LUC Chart 20.25E.065.H.4 Note 4. c. Number of Lift Canopies Allowed. One fabric watercraft or boat lift canopy is allowed per single use dock. Two fabric watercraft or boat lift canopies are allowed per joint use dock. Canopy fabric shall be light-

Current Regulatory Approach	Draft SMP Regulatory Approach
iii. Only one canopy can be installed per single or joint use residential overwater structure. iv. The watercraft lift with the canopy must be oriented with the length in the north-south direction to maximum extent possible.	transmitting, unless alternative materials are approved by State or Federal Agencies pursuant to LUC Chart 20.25E.065.H.4 Note 4.

STABILIZATION - SUPPORTING INFORMATION

STATE LAW AND GUIDELINES

Applicable Shoreline Management Act Provisions
RCW 90.58.100

. . . .

(6) Each master program shall contain standards governing the protection of single-family residences and appurtenant structures against damage or loss due to shoreline erosion. The standards shall govern the issuance of substantial development permits for shoreline protection, including structural methods such as construction of bulkheads, and nonstructural methods of protection. The standards shall provide for methods which achieve effective and timely protection against loss or damage to single-family residences and appurtenant structures due to shoreline erosion. The standards shall provide a preference for permit issuance for measures to protect single-family residences occupied prior to January 1, 1992, where the proposed measure is designed to minimize harm to the shoreline natural environment.

Shoreline Master Program Update Guidelines
WAC 173-26-231 Shoreline Modifications

(1) Applicability. Local governments are encouraged to prepare master program provisions that distinguish between shoreline modifications and shoreline uses. Shoreline modifications are generally related to construction of a physical element such as a dike, breakwater, dredged basin, or fill, but they can include other actions such as clearing, grading, application of chemicals, or significant vegetation removal. Shoreline modifications usually are undertaken in support of or in preparation for a shoreline use; for example, fill (shoreline modification) required for a cargo terminal (industrial use) or dredging (shoreline modification) to allow for a marina (boating facility use). The provisions in this section apply to all shoreline modifications within shoreline jurisdiction.

(2) General principles applicable to all shoreline modifications. Master programs shall implement the following principles:

(a) Allow structural shoreline modifications only where they are demonstrated to be necessary to support or protect an allowed primary structure or a legally existing shoreline use that is in danger of loss or substantial damage or are necessary for reconfiguration of the shoreline for mitigation or enhancement purposes.
(b) Reduce the adverse effects of shoreline modifications and, as much as possible, limit shoreline modifications in number and extent.
(c) Allow only shoreline modifications that are appropriate to the specific type of shoreline and environmental conditions for which they are proposed.
(d) Assure that shoreline modifications individually and cumulatively do not result in a net loss of ecological functions. This is to be achieved by giving preference to those types of shoreline modifications that have a lesser impact on ecological functions and requiring mitigation of identified impacts resulting from shoreline modifications.
(e) Where applicable, base provisions on scientific and technical information and a comprehensive analysis of drift cells for marine waters or reach conditions for river and stream systems. Contact the department for available drift cell characterizations.
(f) Plan for the enhancement of impaired ecological functions where feasible and appropriate while accommodating permitted uses. As shoreline modifications occur, incorporate all feasible measures to protect ecological shoreline functions and ecosystem-wide processes.
(g) Avoid and reduce significant ecological impacts according to the mitigation sequence in WAC 173-26-201 (2)(e).

WAC 173-26-231 Shoreline Modifications (3)(a) Shoreline Stabilization

a) Shoreline stabilization.
(i) Applicability. Shoreline stabilization includes actions taken to address erosion impacts to property and dwellings, businesses, or structures caused by natural processes, such as current, flood, tides, wind, or wave action. These actions include structural and nonstructural methods.
Nonstructural methods include building setbacks, relocation of the structure to be protected, groundwater management, planning and regulatory measures to avoid the need for structural stabilization.

(ii) Principles. Shorelines are by nature unstable, although in varying degrees. Erosion and accretion are natural processes that provide ecological functions and thereby contribute to sustaining the natural resource and ecology of the shoreline. Human use of the shoreline has typically led to hardening of the shoreline for various reasons including reduction of erosion or providing useful space at the shore or providing access to docks and piers. The impacts of hardening any one property may be minimal but cumulatively the impact of this shoreline modification is significant. Shoreline hardening typically results in adverse impacts to shoreline ecological functions such as:

• Beach starvation. Sediment supply to nearby beaches is cut off, leading to "starvation" of the beaches for the gravel, sand, and other fine-grained materials that typically constitute a beach.

• Habitat degradation. Vegetation that shades the upper beach or bank is eliminated, thus degrading the value of the shoreline for many ecological functions, including spawning habitat for salmonids and forage fish.

• Sediment impoundment. As a result of shoreline hardening, the sources of sediment on beaches (eroding "feeder" bluffs) are progressively lost and longshore transport is diminished. This leads to lowering of down-drift beaches, the narrowing of the high tide beach, and the coarsening of beach sediment. As beaches become more coarse, less prey for juvenile fish is produced. Sediment starvation may lead to accelerated erosion in down-drift areas.

• Exacerbation of erosion. The hard face of shoreline armoring, particularly concrete bulkheads, reflects wave energy back onto the beach, exacerbating erosion.

• Groundwater impacts. Erosion control structures often raise the water table on the landward side, which leads to higher pore pressures in the beach itself. In some cases, this may lead to accelerated erosion of sand-sized material from the beach.

• Hydraulic impacts. Shoreline armoring generally increases the reflectivity of the shoreline and redirects wave energy back onto the beach. This leads to scouring and lowering of the beach, to coarsening of the beach, and to ultimate failure of the structure.

• Loss of shoreline vegetation. Vegetation provides important "softer" erosion control functions. Vegetation is also critical in maintaining ecological functions.

• Loss of large woody debris. Changed hydraulic regimes and the loss of the high tide beach, along with the prevention of natural erosion of vegetated shorelines, lead to the loss of beached organic material. This material can increase biological diversity, can serve as a stabilizing influence on natural shorelines, and is habitat for many aquatic-based organisms, which are, in turn, important prey for larger organisms.

• Restriction of channel movement and creation of side channels. Hardened shorelines along rivers slow the movement of channels, which, in turn, prevents the input of larger woody debris, gravels for spawning, and the creation of side channels important for juvenile salmon rearing, and can result in increased floods and scour.

Additionally, hard structures, especially vertical walls, often create conditions that lead to failure of the structure. In time, the substrate of the beach coarsens and scours down to bedrock or a hard clay. The footings of bulkheads are exposed, leading to undermining and failure. This process is exacerbated when the original cause of the erosion and "need" for the bulkhead was from upland water drainage problems. Failed bulkheads and walls adversely impact beach aesthetics, may be a safety or navigational hazard, and may adversely impact shoreline ecological functions.

"Hard" structural stabilization measures refer to those with solid, hard surfaces, such as concrete bulkheads, while "soft" structural measures rely on less rigid materials, such as biotechnical vegetation measures or beach enhancement. There is a range of measures varying from soft to hard that include:

• Vegetation enhancement;
• Upland drainage control;
• Biotechnical measures;
• Beach enhancement;
• Anchor trees;
• Gravel placement;
• Rock revetments;
• Gabions;
• Concrete groins;
• Retaining walls and bluff walls;
• Bulkheads; and
• Seawalls.

Generally, the harder the construction measure, the greater the impact on shoreline processes, including sediment transport, geomorphology, and biological functions.

Structural shoreline stabilization often results in vegetation removal and damage to near-shore habitat and shoreline corridors. Therefore, master program shoreline stabilization provisions shall also be consistent with WAC 173-26-221(5), vegetation conservation, and where applicable, WAC 173-26-221(2), critical areas. In order to implement RCW 90.58.100(6) and avoid or mitigate adverse impacts to shoreline ecological functions where shoreline alterations are

necessary to protect single-family residences and principal appurtenant structures in danger from active shoreline erosion, master programs should include standards setting forth the circumstances under which alteration of the shoreline is permitted, and for the design and type of protective measures and devices.

(iii) Standards. In order to avoid the individual and cumulative net loss of ecological functions attributable to shoreline stabilization, master programs shall implement the above principles and apply the following standards:
(A) New development should be located and designed to avoid the need for future shoreline stabilization to the extent feasible. Subdivision of land must be regulated to assure that the lots created will not require shoreline stabilization in order for reasonable development to occur using geotechnical analysis of the site and shoreline characteristics. New development on steep slopes or bluffs shall be set back sufficiently to ensure that shoreline stabilization is unlikely to be necessary during the life of the structure, as demonstrated by a geotechnical analysis. New development that would require shoreline stabilization which causes significant impacts to adjacent or down-current properties and shoreline areas should not be allowed.
(B) New structural stabilization measures shall not be allowed except when necessity is demonstrated in the following manner:

(I) To protect existing primary structures:
• New or enlarged structural shoreline stabilization measures for an existing primary structure, including residences, should not be allowed unless there is conclusive evidence, documented by a geotechnical analysis, that the structure is in danger from shoreline erosion caused by tidal action, currents, or waves. Normal sloughing, erosion of steep bluffs, or shoreline erosion itself, without a scientific or geotechnical analysis, is not demonstration of need. The geotechnical analysis should evaluate on-site drainage issues and address drainage problems away from the shoreline edge before considering structural shoreline stabilization.
• The erosion control structure will not result in a net loss of shoreline ecological functions.

(II) In support of new nonwater-dependent development, including single-family residences, when all of the conditions below apply:
• The erosion is not being caused by upland conditions, such as the loss of vegetation and drainage.

• Nonstructural measures, such as placing the development further from the shoreline, planting vegetation, or installing on-site drainage improvements, are not feasible or not sufficient.
• The need to protect primary structures from damage due to erosion is demonstrated through a geotechnical report. The damage must be caused by natural processes, such as tidal action, currents, and waves.
• The erosion control structure will not result in a net loss of shoreline ecological functions.

(III) In support of water-dependent development when all of the conditions below apply:
• The erosion is not being caused by upland conditions, such as the loss of vegetation and drainage.
• Nonstructural measures, planting vegetation, or installing on-site drainage improvements, are not feasible or not sufficient.
• The need to protect primary structures from damage due to erosion is demonstrated through a geotechnical report.
• The erosion control structure will not result in a net loss of shoreline ecological functions.

(IV) To protect projects for the restoration of ecological functions or hazardous substance remediation projects pursuant to chapter 70.105D RCW when all of the conditions below apply:
• Nonstructural measures, planting vegetation, or installing on-site drainage improvements, are not feasible or not sufficient.
• The erosion control structure will not result in a net loss of shoreline ecological functions.
(C) An existing shoreline stabilization structure may be replaced with a similar structure if there is a demonstrated need to protect principal uses or structures from erosion caused by currents, tidal action, or waves.
• The replacement structure should be designed, located, sized, and constructed to assure no net loss of ecological functions.
• Replacement walls or bulkheads shall not encroach waterward of the ordinary high-water mark or existing structure unless the residence was occupied prior to January 1, 1992, and there are overriding safety or environmental concerns. In such cases, the replacement structure shall abut the existing shoreline stabilization structure.
• Where a net loss of ecological functions associated with critical saltwater habitats would occur by leaving the existing structure, remove it as part of the replacement measure.
• Soft shoreline stabilization measures that provide restoration of shoreline ecological functions may be permitted waterward of the ordinary high-water mark.

• For purposes of this section standards on shoreline stabilization measures, "replacement" means the construction of a new structure to perform a shoreline stabilization function of an existing structure which can no longer adequately serve its purpose. Additions to or increases in size of existing shoreline stabilization measures shall be considered new structures.
(D) Geotechnical reports pursuant to this section that address the need to prevent potential damage to a primary structure shall address the necessity for shoreline stabilization by estimating time frames and rates of erosion and report on the urgency associated with the specific situation. As a general matter, hard armoring solutions should not be authorized except when a report confirms that there is a significant possibility that such a structure will be damaged within three years as a result of shoreline erosion in the absence of such hard armoring measures, or where waiting until the need is that immediate, would foreclose the opportunity to use measures that avoid impacts on ecological functions. Thus, where the geotechnical report confirms a need to prevent potential damage to a primary structure, but the need is not as immediate as the three years,that report may still be used to justify more immediate authorization to protect against erosion using soft measures.

(E) When any structural shoreline stabilization measures are demonstrated to be necessary, pursuant to above provisions.
• Limit the size of stabilization measures to the minimum necessary. Use measures designed to assure no net loss of shoreline ecological functions. Soft approaches shall be used unless demonstrated not to be sufficient to protect primary structures, dwellings, and businesses.
• Ensure that publicly financed or subsidized shoreline erosion control measures do not restrict appropriate public access to the shoreline except where such access is determined to be infeasible because of incompatible uses, safety, security, or harm to ecological functions. See public access provisions; WAC 173-26-221(4). Where feasible, incorporate ecological restoration and public access improvements into the project.
• Mitigate new erosion control measures, including replacement structures, on feeder bluffs or other actions that affect beach sediment-producing areas to avoid and, if that is not possible, to minimize adverse impacts to sediment conveyance systems. Where sediment conveyance systems cross jurisdictional boundaries, local governments should coordinate shoreline management efforts. If beach erosion is threatening existing development, local governments should adopt master program provisions for a beach management district or other institutional mechanism to provide comprehensive mitigation for the adverse impacts of erosion control measures.

RANGE OF OPTIONS CONSIDERED BY THE PLANNING COMMISSION

Performance Standards for Stabilization (Current Code)	Performance Standards for Stabilization (Increased Guidance with Replacement Thresholds)	Performance Standards for Stabilization (Increased Guidance with Replacement of Existing Allowed)*
New or Enlarged Stabilization Measures: **When Allowed**: New or enlarged shoreline stabilization measures allowed only to protect existing primary structures, public facility or public use structures, and allowed land area. Allowed only where avoidance measures are not technically feasible. **Type.** Soft shoreline stabilization measures shall be used, unless the applicant demonstrates that soft shoreline stabilization measures are not technically feasible. Only after a determination that soft shoreline stabilization measures are not technically feasible shall hard shoreline stabilization measures be permitted. **Location.** Shoreline stabilization measures shall be located at or behind the ordinary high water mark (OHWM). Soft shoreline stabilization measures may also be located waterward of the (OHWM).	**New or Enlarged Stabilization Measures** **When Allowed:** New or enlarged shoreline stabilization measures allowed only to protect existing primary structures, public facilities, or public use structures. Allowed only where avoidance measures are not technically feasible. **Type**: Soft shoreline stabilization measures shall be used, unless the applicant demonstrates 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 shoreline stabilization measures be permitted. **Location.** Shoreline stabilization measures shall be located at or behind the OHWM. Stabilization measures are prohibited waterward of the OHWM, except that soft shoreline stabilization measures may be located waterward of the OHWM when they incorporate approved aquatic habitat improvement elements.	**New or Enlarged Stabilization Measures** **When Allowed**: New or enlarged shoreline stabilization measures allowed to protect existing primary structures, public facilities, or public use structures only. Allowed only where avoidance measures are not technically feasible. **Type:** Soft shoreline stabilization measures shall be used, unless the applicant demonstrates 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 shoreline stabilization measures be permitted. **Location**. When allowed, new shoreline stabilization measures shall be located at or behind the OHWM. Stabilization measures are prohibited waterward of the OHWM, except that soft shoreline stabilization measures may be located waterward of the OHWM when they incorporate approved aquatic habitat improvement elements.

Performance Standards for Stabilization (Current Code)	Performance Standards for Stabilization (Increased Guidance with Replacement Thresholds)	Performance Standards for Stabilization (Increased Guidance with Replacement of Existing Allowed)*
Height limit. The height of any new or expanded hard shoreline stabilization measure shall not exceed 30 inches from average grade of actual or existing topography or, if at the ordinary high water mark, the ordinary high water mark; except that bulkhead heights may be increased if approved by the Director if the following criteria are satisfied: i. Increased height does not negatively impact abutting properties; and ii. Increased height is necessary to protect the existing primary structure or allowed land area because of: (1) Slopes of 40 percent or greater at and immediately landward of the ordinary high water mark. In such instances, increased height shall be limited to the minimum height necessary to protect the existing primary structure and allowed land area, or (2) Extraordinary wave action as demonstrated in a report prepared by a qualified professional. In such instances, increased height shall be limited to the minimum height necessary to protect the existing primary structure and allowed land area or 45 inches, whichever is less.	**Height Limit.** 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.	**Height Limit.** 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.

Performance Standards for Stabilization (Current Code)	Performance Standards for Stabilization (Increased Guidance with Replacement Thresholds)	Performance Standards for Stabilization (Increased Guidance with Replacement of Existing Allowed)*
Minor Repair. Minor repair is permitted.	**Minor Repair**. Minor repair is permitted provided damage is not so significant as to cause loss of structural integrity sufficient to jeopardize its erosion protection function. 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.	**Minor Repair.** Existing legally-established shoreline stabilization measures may be repaired. Repair is defined as any action designed 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.
Major Repair or Replacement. Major repair or replacement is treated as a new shoreline stabilization measure.	**Major Repair or Replacement.** Major repair shall be treated as a new shoreline stabilization measure, subject to the provisions of paragraphs FG.2 through FG.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 repair is allowed when the proposed repair meets the following performance standards**:** i. Major repair is allowed only to existing legally-established shoreline stabilization measures; ii. Major repair is allowed provided repair conforms to paragraph FG.4.b of this section, and the preference hierarchies for either new soft or hard stabilization measures set forth in paragraphs FG.4.c. and FG.4.d. of this section.	**Major Repair and Replacement**. All legally-established shoreline stabilization measures on Lake Washington and Lake Sammamish are presumed necessary to protect existing shoreline structures and property and may be replaced with a comparable structure when the proposal meets following applicable requirements. Replacement means the construction of a new structure to perform a shoreline stabilization function of an existing structure that can no longer adequately serve its purpose a. Comparable Size. Replacements shall not expand the lateral extent, add to the height or increase the width of an existing stabilization measure unless otherwise permitted by the terms of this paragraph. b. Comparable Location. (i) Replacement vertical walls or bulkheads shall not encroach waterward of

Performance Standards for Stabilization (Current Code)	Performance Standards for Stabilization (Increased Guidance with Replacement Thresholds)	Performance Standards for Stabilization (Increased Guidance with Replacement of Existing Allowed)*
	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 FG.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 FG.4.d.i. of this section. iv. Existing legally-established hard stabilization measures in the Shoreline Residential Canal designation may be repaired or replaced in their existing configuration.	the ordinary high water mark or existing structure unless the residence was occupied prior to January 1, 1992, and there are overriding safety or environmental concerns. In such cases, the replacement structure shall abut the existing shoreline stabilization structure. ii. Where an angled riprap rock revetment is selected as the replacement for a vertical wall or bulkhead, the structure may be constructed as far waterward as necessary to ensure the ordinary high water mark is no further landward than previously existed on the wall or bulkhead being replaced. c. Comparable Design. i. Existing vertical shoreline stabilization measures may not be replaced with a similar structure unless the Director concludes that there is no practical alternative based on a report by a qualified professional. Except that existing legally-established hard stabilization measures located in the Shoreline Residential Canal environment may be repaired or replaced in their vertical concrete configuration, and the applicant shall not be required to demonstrate that there is no practical alternative. ii. An angled riprap rock revetment with 1:1 slope or less is an appropriate replacement structure for existing vertical or

Performance Standards for Stabilization (Current Code)	Performance Standards for Stabilization (Increased Guidance with Replacement Thresholds)	Performance Standards for Stabilization (Increased Guidance with Replacement of Existing Allowed)*
		near vertical walls or bulkheads when designed by a qualified professional. Appropriate sand, gravel, or other beach material may be placed as necessary to backfill that portion of the revetment constructed below ordinary high water. iii. Stairs or other reasonable access to the water are allowed as part of any replacement structure described above provided that they shall not extend further waterward than the replacement structure. iv. Nothing in this requirement prevents vertical concrete shoreline stabilization measures from being replaced with a soft or hard shoreline stabilization measures as described at 20.25E.080.4.c and d. d. Limitation on Comparability. Replacement structures meeting the requirements of this paragraph are permitted so long as the materials, size, location and design of the stabilization measure assures no net loss of shoreline ecological functions.
Mitigation and Restoration. Mitigation and restoration plan meeting the requirements of LUC 20.25H.210.	**Mitigation and Restoration.** Mitigation and restoration plan meeting the requirements of LUC 20.25E.060.D (Mitigation Sequencing).	**Mitigation and Restoration.** Mitigation and restoration plan meeting the requirements of LUC 20.25E.060.D (Mitigation Sequencing)
When required: When new development, reconstruction, replacement or expansion is proposed	When required: When new development, reconstruction, replacement or expansion is proposed	When required: When new development, reconstruction, replacement or expansion is proposed

Performance Standards for Stabilization (Current Code)	Performance Standards for Stabilization (Increased Guidance with Replacement Thresholds)	Performance Standards for Stabilization (Increased Guidance with Replacement of Existing Allowed)*

Alternatives to Performance Standards
• Yes—with critical area report
	Alternatives to Performance Standards
	• Yes—with special shoreline report when:
	  ○ No net loss critical area demonstrated
	  ○ Mitigation provided and monitored
		Alternatives to Performance Standards
		• Yes—Shoreline Variance

*Option recommended by the Planning Commission in the SMP Update

CONCERNS RAISED BY STAKEHOLDERS DURING PLANNING COMMISSION REVIEW

Shoreline stabilization measures on these lakes are necessary for the preservation of homes and appurtenances due to overriding safety and environmental concerns. Property owners can be encouraged to replace existing hard shoreline stabilization measures with non-vertical bulkheads or soft shoreline stabilization measures or avoidance measures. However, the persistent wave action on these lakes causes a demonstrated need to use hard shoreline stabilization measures to sufficiently protect structures and developments located on the uplands/shorelands, and therefore property owners must be allowed to protect their property with hard shoreline measures.

The only scientific concern identified regarding bulkheads on Lakes Washington and Sammamish is potential wave reflection damage caused by vertical bulkheads depending on the location in relation to the water level, thus restrictions on vertical bulkheads are the only justified restriction.

Additionally, extraordinarily high, artificially created water levels on both Lake Sammamish and Phantom Lake are damaging property which increasingly necessitates protection of these properties with shoreline stabilization features. The

City should take proactive steps to eliminate the artificial lake levels; otherwise the rules must allow property owners on both lakes to protect their properties from water caused damage.
On some properties, removal of a vertical wall bulkhead will cause substantial damage to the property and shoreline creating overriding safety and environmental concerns, so repair by a fronting wall is the necessary and appropriate method of repair (e.g. Meydenbauer Bay).

It must also be noted that the SMA Guidelines allow local government's substantial discretion to adopt master programs reflecting local circumstances.
POLICY:

Existing bulkheads and other shoreline stabilization features for single family properties can be repaired or replaced without requiring categorization as major versus minor repair.

KEY STANDARDS:

1. Replacement: means the construction of a new structure to perform shoreline stabilization function of an existing bulkhead which can no longer adequately serve its purpose.
2. Comparable Standard: The replacement structure should be comparable to the existing and not constitute an addition or increase, however, a replacement structure need not be exactly the same as the existing structure and can be constructed of different materials or methods, including design features, location, and/or sizing modifications that will not result in a net loss of shoreline ecological functions.
3. Repaired bulkhead or replacement structures should be in the same location and not expanded, subject to the follow qualifications:

- An exception is replacement of a vertical wall with a sloping rock revetment, which shall be considered an allowed replacement structure.
- Where the existing bulkhead is waterward of ordinary high water, replacement structures located landward of the existing structure shall be considered an allowed replacement structure.
- An exception or clarification is that if a vertical or near vertical wall that is being repaired by construction of a vertical wall fronting the existing wall, then the new wall shall be constructed no further waterward of the existing bulkhead than is necessary for construction of new footings. WAC 173-27-040(2)(c). As an alternative, a rock revetment may be constructed fronting the existing vertical wall.

4. Property owners may be encouraged, but not required, to replace vertical bulkheads with sloping rock revetments, which shall be considered acceptable replacement structures.

5. Property owners may be encouraged, but not required, to replace bulkheads with soft shoreline stabilization measures, which shall be considered acceptable replacement structures.

6. Repair or replacement of existing shoreline stabilization consistent with the above rules shall not require a shoreline substantial development permit or any other comparable permit or review process.

7. Walls or other features that are not at or near, and parallel to, ordinary high water shall not be regulated as shoreline stabilization measures or bulkheads.

The key point here is that repair or replacement of existing shoreline stabilization features will not result in net loss of shoreline ecological functions because a comparable bulkhead will not change existing conditions. *(WSSA The Sensible Shorelines Plan—An alternative to Bellevue's Shoreline Master Program, March 2011)*

New structural stabilization measures are not allowed except when necessity is demonstrated. Specific requirements for how to demonstrate need are established for:
(I) existing primary structures;
(II) new non-water-dependent development including single family residences;
(III) water-dependent development; and
(IV) ecological restoration/toxic clean-up remediation projects. WAC 173-26-231(3)(a)(iii)(B)
Required Change: Amend referenced shoreline stabilization provisions for consistency with applicable SMP-Guideline requirements.

Technically Feasible Criteria. Non-Compliant: (Ecology 3/2013) See comment above related to inconsistency with "Technically Feasible" criteria provided in the draft SMP.
Required Change: Same recommendation as above, Amend referenced shoreline stabilization provisions for consistency with applicable SMP-Guideline requirements.

Replacement of Existing Stabilization Structures. Non-Compliant: (Ecology 3/2013) The referenced provisions are not consistent with applicable SMP-Guideline requirements, as the draft SMP does not require a "demonstration of need" for protection of principle uses or structures from erosion, and do not prioritize consideration of softer shoreline stabilization solutions consistent with the SMP-Guidelines.

Required Change: Amend the SMP for consistency with applicable SMP-Guideline requirements, including criteria to establish a “demonstrated need” for replacement of an existing bulkhead and consideration of softer stabilization options.

Geotechnical reports prepared to demonstrate need include estimates of rate of erosion and urgency (damage within 3 years) and evaluate alternative solutions. Non-Compliant: (Ecology 5/25/2011) see comment (page 6-7, Item G. 4. & 6.) from Ecology Environmental Planner (Dave Radabaugh) related minimum shoreline stabilization standards. Required Change: Amend the SMP to require a geotechnical analysis to demonstrate the need for shoreline stabilization, consistent with applicable requirements from the SMP-Guidelines.

Shoreline stabilization structures are limited to the minimum size necessary. WAC 173-26-231(3)(a)(iii)(E). Non-Compliant: (Ecology 3/2013) Same comment as previously provided by Ecology in a letter dated 5/25/ 2011. TBD: (Ecology 9/2013) As provided in our previous comments, provision 20.25E.80.F.3. (Technically Feasible), does not appear consistent with applicable SMP-Guideline (Shoreline Stabilization) “Principles” (WAC 173-26-231(3)(a)(ii) or “Standards” (subsection iii) as the draft SMP creates arbitrary criteria that includes consideration of the “cost of avoidance of impacts” instead of applying mitigation sequencing and shoreline modification principles intended to focus on avoidance (then minimization) opportunities in design and application of the shoreline development. (*Department of Ecology comments 3/2013)*

CURRENT AND RECOMMENDED POLICIES AND REGULATIONS

Current Policy Framework	Draft SMP Policy Framework
Regulations The existing regulations were designed to meet critical area best available science and the City's own environmental policies below. In drafting a critical areas approach to shoreline stabilization, staff sought guidance from Environmental Policies (see below) designed to protect fish and wildlife habitat and native vegetation. The policies below assume fish and wildlife habitat exists in listed critical areas including streams, wetlands, steep slopes, and in those areas providing habitat for species of local importance. Generally the emphasis of many of these policies is protective evidenced by directive words like "retain, restore, protect, regulate, and prohibit." In addition, there are policies that point to need for special consideration for fish and wildlife habitat if there is a primary association with an endangered, threatened, or sensitive species or species of local interest. Since such fish and wildlife habitat exists on Bellevue's shorelines—both shorelines provide habitat for threatened Puget Sound Chinook—several policies explicitly support protecting shoreline ecological functions so as to sustain the fish and wildlife habitat found there. Staff also sought to comply with the SMP Guidelines WAC 176-26-231(3)(a) Policies EN-59 through EN-76 are mainly concerned with preserving fish and wildlife habitat and designating fish and wildlife habitat conservation areas. The current code fully implement Policy EN-61, which calls for giving special consideration to measures that preserve or enhance anadromous salmonids based on a variety of site specific factors and the outcome of regional recovery planning. This is accomplished by: (1) the adoption of the State Water Typing system,	The Planning Commission recommendation simplifies the regulatory framework applicable to residential moorage by deferring to state and federal agencies with permit authority and focusing local permit review on issues of local importance. The simplified regulations pare down the USACE standards to four key performance measures essential to preserving neighborhood character and ensuring no net loss of ecological functions. To add further flexibility, the Commission recommendation authorizes modification of the standards outlined above provided the U.S. Army Corps of Engineers and the Washington Department of Fish and Wildlife, acting under their respective federal and state authorities, approve. On balance, these amended performance standards address key components of existing standards while reducing their complexity and providing more flexibility for residential property owners.

Current Policy Framework	Draft SMP Policy Framework
which because of its focus on fish and fish habitat, results in greater levels of protection than currently provided in the LUC; (2) new dock and stabilization standards that reduce the impact of docks on the littoral zone and migrating juvenile salmon; and (3) the requirement for cluster development techniques on sites abutting salmon streams and other critical areas. Similarly, the proposed amendments include specific regulations mandating the targeted management for special status species called for in Policy EN-75 and the creation of a process called for in Policy EN-76 to "identify species and habitats of local importance.	
POLICY SH-2. Discourage short-term economic gain or convenience in development when potential, long-term adverse effects on the shoreline are possible.	**SH-16.** Avoid, minimize, or mitigate adverse impacts to ecological functions, including water quality and wildlife habitat, associated with the shoreline development by providing regulations, best management practices, and incentives sufficient to ensure no net loss of ecological functions.
POLICY SH-9. Preserve the natural amenities and resources of the shorelines in the context of existing and planned residential, recreational, and commercial land uses**.**	**Policy SH-79.** Allow shoreline modifications only when in support of a new permitted, or existing legally established, structure or use. Ensure new residential development is sufficiently removed from shorelines vulnerable to erosion so as not to require new structural shoreline stabilization or structural flood protection during the life of the development or use.
POLICY SH-12. Designate and preserve environmentally sensitive areas. If necessary, control access and use for the protection of these areas.	**SH-80 .** Design and construct shoreline modifications to emulate natural processes so as to support shoreline functions to the greatest extent feasible.
POLICY SH-16. Discourage structures using materials which have significant physical or chemical effects on water quality, vegetation, fish, and wildlife in or near the water.	**SH-81 .** Where permitted, design and construct shoreline modifications to avoid, minimize, or mitigate adverse impacts of their installation and long-term operation so as to ensure no net loss of shoreline ecological processes and functions.

Current Policy Framework	Draft SMP Policy Framework
POLICY SH-47. Limit bulkheads upland of the ordinary highway mark except in the case of an approved landfill.	**SH-104.** Prohibit new or expanded shoreline stabilization except in support of a legally-established primary structure or use where an analysis of shoreline characteristics dictates the necessity for stabilization.
POLICY SH-48. Encourage the use of vegetation, cobbles, and gravels for stabilizing the water's edge from erosion over the use of bulkheads. Where bulkheads are used, their design should reduce the transmission of wave energy to other properties.	**SH-105.** Give priority to non-structural measures that avoid the need for stabilization, but where stabilization is deemed necessary, give preference to soft shoreline stabilization and allow new hard stabilization only when other stabilization options are demonstrated to be insufficient or infeasible.
	SH-106. Ensure that lots created by new subdivision and short subdivision be developed so as to ensure that shoreline stabilization will not be necessary for reasonable development to occur.
POLICY EN-24. Prioritize efforts to preserve or enhance fish and wildlife habitat through regulations and public investments in critical areas with largely intact functions and in degraded areas where there is a significant potential for restoring functions.	**SH-107.** Utilize performance standards to guide the maintenance and replacement of existing shoreline stabilization so as to ensure replacement structures are designed, located, sized and constructed to ensure no net loss of ecological functions.
POLICY EN-38. Restore and protect the biological health and diversity of the Lake Washington and Lake Sammamish watersheds in Bellevue's jurisdiction.	**SH-108** Allow for flexibility in the application of general dimensional standards so as to increase the property owner's ability to implement non-structural stabilization measures.
POLICY EN-41. Preserve and maintain fish and wildlife habitat conservation areas and wetlands in a natural state and restore similar areas that have become degraded.	
POLICY EN-59. Manage aquatic habitats, including shoreline and riparian (streamside) habitats, to preserve and enhance their natural functions of providing fish and wildlife habitat and protecting water quality.	
POLICY EN-61. Give special consideration to conservation or protection measures necessary to preserve or enhance anadromous	

Current Policy Framework	Draft SMP Policy Framework
salmonids, recognizing that requirements will vary depending on the aquatic resources involved, including differing stream classification, and that additional efforts may be identified in the regional salmon recovery planning process.	
POLICY EN-64. Preserve and enhance native vegetation in the Protection Zone and integrate suitable native plants in urban landscape development	
POLICY EN-72. Develop programs and regulations acknowledging that designated critical areas such as wetlands, shorelines, riparian corridors, floodplains, and steep slopes provide multiple functions including fish and wildlife habitat.	

Current Regulatory Approach	Draft SMP Regulatory Approach
Scope and Purpose 20.25H.005 Scope 20.25H.010 Purpose 20.25H.020 Submittal Requirements	
Designation of Critical Areas 20.25H.025 Designation of critical areas 20.25H.030 Identification of critical area 20.25H.035 Critical area buffers and structure setbacks 20.25H.040 Standards for modifying non-critical area setbacks 20.25H.045 Development density/intensity	
Shorelines 20.25H.115 Designation of critical area buffers and setbacks 20.25H.118 Mitigation and Monitoring – Additional provisions 20.25H.119 Critical areas report – Additional provisions	

Current Regulatory Approach	Draft SMP Regulatory Approach
General Mitigation and Restoration Requirements 20.25H.210 Applicability 20.25H.215 Mitigation Sequencing 20.25H.220 Mitigation and restoration plan requirements 20.25H.225 Innovative mitigation	
Critical Areas Report 20.25H.230 Critical areas report – Purpose 20.25H.235 Critical Areas report – Review process 20.25H.240 Critical Areas report – Limitation 20.25H.245 Incorporation of Best Available Science	
Part 20.25E Shoreline Overlay District **20.25E.080 Shoreline Performance Standards** **20.25E.080.E. Shoreline Stabilization, Including Existing Bulkheads** Shoreline stabilization is allowed in the shoreline critical area and shoreline critical area buffer in compliance with this subsection E. The requirements of this subsection E may be modified through a critical areas report, LUC 20.25H.230 1. Definitions. a. Hard Shoreline Stabilization Measures. As used in this part, "hard shoreline stabilization measures" include: rock revetments, gabions, concrete groins, retaining walls, bulkheads and similar measures which present a vertical or nearly vertical interface with the water. b. Soft Shoreline Stabilization Measures. As used in this part, "soft shoreline stabilization measures" include: biotechnical measures, beach enhancement, anchor trees, gravel placement, stepped back rockeries, shoreline plantings and similar measures that use natural materials engineered to provide shoreline stabilization while mimicking or preserving the functions and values of the shoreline critical area.	**Part 20.25E. Shoreline Overlay District** **20.25E.080 Shoreline Modifications** **20.25E.080.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 only 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. 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.

Current Regulatory Approach	Draft SMP Regulatory Approach
c. Shoreline Stabilization Measures. As used in this part, "shoreline stabilization measures" refers collectively to both hard and soft shoreline stabilization measures. d. Avoidance Measures. As used in this part, "avoidance measures" refer to 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" include vegetation enhancement, upland drainage control, and protective walls or embankments placed outside of the shoreline critical area and critical area buffer. e. Technically Feasible. The determination of whether a technique 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 topography and the location of the primary structure in relation to the ordinary high water mark; ii. The location of existing infrastructure necessary to support the proposed measure or technique; iii. The level of risk to the primary structure, public facility or public use structure or land area presented by shoreline erosion and ability of the proposed measure to mitigate that risk; iv. Whether the cost of avoiding disturbance of the shoreline critical area or shoreline critical area buffer 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.	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 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. 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. 3. Technically Feasible . The provisions of LUC 20.25E.060.C (Technical Feasibility – General Requirements) do not apply when determining if a new 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

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f. Allowed Land Area. As used in this part, “allowed land area” is the land area located within 25 feet of the existing primary structure landward of the ordinary high water mark, or for public and city parks, that land area used for an active recreational use or developed with recreation facilities, including trails, picnic areas, and playfields. g. Minor Repair. As used in this part, “minor repair” refers to modifications or improvements to an existing shoreline stabilization measure that are designed to ensure the continued function of the stabilization measure by preventing failure of any part of the stabilization measure. A repair that is proposed after a significant portion of the stabilization measure has collapsed, eroded away or otherwise demonstrated a loss of structural integrity is not a minor repair. 1. Definitions. a. When Allowed. New or enlarged shoreline stabilization measures shall be allowed only to protect existing primary structures, public facility or public use structures, and allowed land area. 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 that soft shoreline stabilization measures are not technically feasible. An applicant asserting that soft stabilization measures are not technically feasible shall provide the information relating to each of the factors set forth in subsection E.1.e of this section for a determination of technical feasibility by the director. Only after a determination that soft shoreline stabilization measures are not technically feasible shall hard shoreline stabilization measures be permitted.	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 shoreline stabilization measures be permitted. Provided, that developed sites

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c. Location. Shoreline stabilization measures shall be located at or behind the ordinary high water mark. Soft shoreline stabilization measures may also be located waterward of the ordinary high water mark. d. Height limit. The height of any new or expanded hard shoreline stabilization measure shall not exceed 30 inches from average grade of actual or existing topography or, if at the ordinary high water mark, the ordinary high water mark; except that bulkhead heights may be increased if approved by the Director if the following criteria are satisfied: i. Increased height does not negatively impact abutting properties; and ii. Increased height is necessary to protect the existing primary structure or allowed land area because of: (1) Slopes of 40 percent or greater at and immediately landward of the ordinary high water mark. In such instances, increased height shall be limited to the minimum height necessary to protect the existing primary structure and allowed land area, or (2) Extraordinary wave action as demonstrated in a report prepared by a qualified professional. In such instances, increased height shall be limited to the minimum height necessary to protect the existing primary structure and allowed land area or 45 inches, whichever is less. e. Mitigation and Restoration. Areas of new permanent disturbance and all areas of temporary disturbance within the shoreline critical area and shoreline critical area buffer shall be mitigated and/or restored pursuant to a mitigation and restoration plan meeting the requirements of LUC 20.25H.210. 3. Repair and Replacement of Existing Shoreline Stabilization.	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. c. Options for Soft Stabilization . 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. 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

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This section allows repair and replacement of existing legally established shoreline stabilization measures. a. Minor Repair. Minor repair is permitted. Areas of temporary disturbance within the shoreline critical area or shoreline critical area buffer are restored pursuant to a restoration plan meeting the requirements of LUC 20.25H.210. b. Major Repair or Replacement. Major repair or replacement shall be treated as a new shoreline stabilization measure, subject to the provisions of subsection E.2 above. 4. Bulkheads shall be designed to minimize the transmission of wave energy to other properties. 5. Critical Area Buffer Modification. Where an applicant replaces a legally established existing hard shoreline stabilization measure with a soft shoreline stabilization measure or an avoidance measure, the critical area buffer and 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.	nourishment, live staking, and other vegetative enhancement. 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. f. Mitigation and Restoration. Areas of new permanent disturbance and all areas of temporary disturbance associated with

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	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). g. 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. h. Expansion of Shoreline Jurisdiction from Shift in the Ordinary High Water Mark . If implementing a shoreline stabilization measure allowed 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: 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. Existing legally-established shoreline stabilization measures may be repaired.

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	Repair is defined as any action designed 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. 6. Replacement of Existing Shoreline Stabilization. All legally-established shoreline stabilization measures on Lake Washington and Lake Sammamish are presumed necessary to protect existing shoreline structures and property and may be replaced with a comparable structure when the proposal meets following applicable requirements. Replacement means the construction of a new structure to perform a shoreline stabilization function of an existing structure that can no longer adequately serve its purpose a. Comparable Size. Replacements shall not expand the lateral extent, add to the height or increase the width of an existing stabilization measure unless otherwise permitted by the terms of this paragraph. Refer to LUC 20.25E.080.F.4 for requirements applicable to enlarged shoreline stabilization measures. b. Comparable Location. (i) Replacement vertical walls or bulkheads shall not encroach waterward of the ordinary high water mark or existing structure unless the residence was occupied prior to January 1, 1992, and there are overriding safety or environmental concerns. In such cases, the replacement structure shall abut the existing shoreline stabilization structure. ii. Where an angled riprap rock revetment is selected as the replacement for a vertical wall or bulkhead, the structure may be constructed as far waterward as necessary to ensure the ordinary high water mark is no further landward than previously existed on the wall or bulkhead being replaced. c. Comparable Design. i. Existing vertical shoreline stabilization measures may not be replaced with a similar structure unless the Director concludes that there is no practical alternative based on a report by a qualified professional. Except that existing legally-established hard

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	stabilization measures located in the Shoreline Residential Canal environment may be repaired or replaced in their vertical concrete configuration, and the applicant shall not be required to demonstrate that there is no practical alternative. ii. An angled riprap rock revetment with 1:1 slope or less is an appropriate replacement structure for existing vertical or near vertical walls or bulkheads when designed by a qualified professional. Appropriate sand, gravel, or other beach material may be placed as necessary to backfill that portion of the revetment constructed below ordinary high water. iii. Stairs or other reasonable access to the water are allowed as part of any replacement structure described above provided that they shall not extend further waterward than the replacement structure. iv. Nothing in this requirement prevents vertical concrete shoreline stabilization measures from being replaced with a soft or hard shoreline stabilization measures as described at 20.25E.080.4.c and d. d. Limitation on Comparability. Replacement structures meeting the requirements of this paragraph are permitted so long as the materials, size, location and design of the stabilization measure assures no net loss of shoreline ecological functions. 7. Removal of Existing Shoreline Stabilization . Shoreline stabilization measures may be voluntarily removed in support of shoreline mitigation or restoration 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

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	of appropriate best management practices to minimize impacts to water quality, appropriate timing restrictions, and stabilization of exposed soils following construction.