City of Bellevue

MEMORANDUM

DATE: October 12, 2010

TO: Chair Ferris and Members of the Planning Commission

FROM: Shoreline Master Program Update Team
Carol Helland, Land Use Director 425-452-2724
Michael Paine, Environmental Planning Manager, 425-452-2739
Heidi Bedwell, Land Use Planner, 425-452-4862
David Pyle, Land Use Planner, 425-452-2973
Development Services Department

SUBJECT: Shoreline Master Program October 20, 2010 Planning Commission Study Session -revisit setbacks and landscape options associated with residential development

The study session on October 20th is a continued discussion on the topics of residential setbacks and landscape options. The Planning Commission previously did not have the information it needed to finalize their direction on a regulatory approach to these integrated topics because key components of the approach were not yet developed. In response to Planning Commission feedback, staff will be presenting the setback and vegetation components of the regulatory approach in an integrated manner. In addition, preliminary draft code language has been provided to facilitate Planning Commission discussion.

ACTION REQUESTED

Staff seeks Commission direction on a regulatory approach for residential shoreline setbacks, vegetation conservation, and landscaping in order to continue work on the revised draft.

SUMMARY OF PRIOR MEETINGS REGARDING SETBACKS AND VEGETATION

At the Commission's June 9th study session, staff introduced the background on the WAC Rules, working draft policies, and regulatory concepts related to residential setbacks. Also presented was the previously introduced principles for review of the Shoreline Master Program that describe how regulations should: (1) be Bellevue appropriate; (2) focus on neighborhood character, (3) balance regulatory interest with private property rights; (4) be predictable and user-friendly while preserving flexibility for those that want it; and, (5) take notice of citizen issues.

The Commission was presented with several regulatory options to meet the Rules established by the Department of Ecology for governing shoreline development. Described in detail were the City's current regulations, an Option A which included a menu option and an Option B with a prescriptive setback. The Commission discussed the options and expressed preference for an approach resembling Option A. Although a preference was identified, the Commission

acknowledged that the menu options which would allow the setback to be modified needed to be developed before final direction could be provided. In addition to the Option A preference, the Commission also requested staff to consider inclusion of the footprint exception provided under the current critical areas code and language regarding fee-in-lieu mitigation or transfer of development rights.

On September 22nd, vegetation conservation and landscaping was discussed. Because of the interrelationship between this topic and residential setbacks, preference for a regulatory framework was not reached by the Planning Commission. The purpose of the October 20 study session is to provide an integrated discussion of the residential setback, vegetation conservation, and landscaping topics to facilitate Planning Commission completion of this discussion. In response to Planning Commission feedback provided by some members, additional information is also provided on a prescriptive setback option for comparative purposes. Planning Commission preference for a regulatory framework on these topics is necessary at this time to meet timeline commitments for completion of the revised draft by year end. Minutes from the Planning Commission deliberations on June 9 and September 22 have been provided in Attachment 1 for ease of reference.

DETERMING SETBACK WIDTH

Setbacks are a mechanism to provide ecological protections, to allow for the use and enjoyment of property, and to meet the requirements of the Shoreline Management Act. This section describes a method by which the Commission could approach the policy question of establishing a minimum setback width that is sufficiently protective without over regulating. Four science-based criteria are introduced to aid in this discussion followed by a brief explanation of how the criteria could be used.

Key Policy Challenge: Establishing a Minimum Width

Regulatory setbacks associated with native vegetation provide the best means to ensure maintenance of the connection between land and shore and the habitat and water quality benefits that come with it. Shoreline setbacks serve a range of purposes, including, but not limited to:

- Protecting existing shoreline process and functions including shoreline habitat;
- Avoiding damage from flooding and erosion
- Preventing excess nutrients from flowing into surface water;
- Reducing inputs of organic compounds found in oil, herbicides, pesticides and fertilizer;
- Constraining inputs of trace metals and foreign chemicals of all kinds;
- Ensuring that new development is adequately sited to avoid and minimize need for new shoreline stabilization features.
- Preserving and enhancing views of the water.
- Preventing permanent preclusion of restoration of shoreline functions and habitat, with the overall goal of achieving new State requirements for no net loss.
- Maintaining existing character and the scenic quality of Bellevue's shorelines

There is significant scientific research pointing to the value of using setbacks, combined with vegetation, to present aquatic resources from the potential impacts of adjacent human use. Setbacks and buffers are the primary regulatory tool in use across the country to protect streams, wetlands, ponds, and lake shorelines. The size and the effective width of a setback are integral to its effectiveness at protecting a resource.

Setbacks that are too small may still place water quality or aquatic habitat at risk. They may also fail to fully guard against cumulative impacts of existing uses over the long-term. While wider is almost always better, setbacks that are wider than need be unnecessarily constrain property owners from fully utilizing a portion of their property and are economically inefficient. So the key policy challenge in employing setbacks as a regulatory tool is to choose an appropriate width that is neither so small as to endanger the resource nor so large as to unnecessarily constrain property owners.

Selecting Science-based Criteria

One approach to making a policy decision about setbacks is to test options against a number of science-based criteria. Such criteria generally involve the following elements[1]:

- Specific ecological functions targeted;
- Existing or potential resource value;
- Characteristics of site, reach, watershed, including existing vegetation;
- Intensity of abutting land use.

Using the science-based criteria, different setback widths can be tested for general effectiveness. For example, a smaller setback may be adequate if the aquatic area is in good condition, resource values are low (no threatened or endangered species for instance), site conditions ideal, a limited number of functions are targeted for protection, and the abutting land uses are low intensity. A larger setback would be better suited if the site abuts high-valued water resources, land uses are more intense, and where multiple functions are selected for protection.

What Ecological Functions Does a Setback Target?

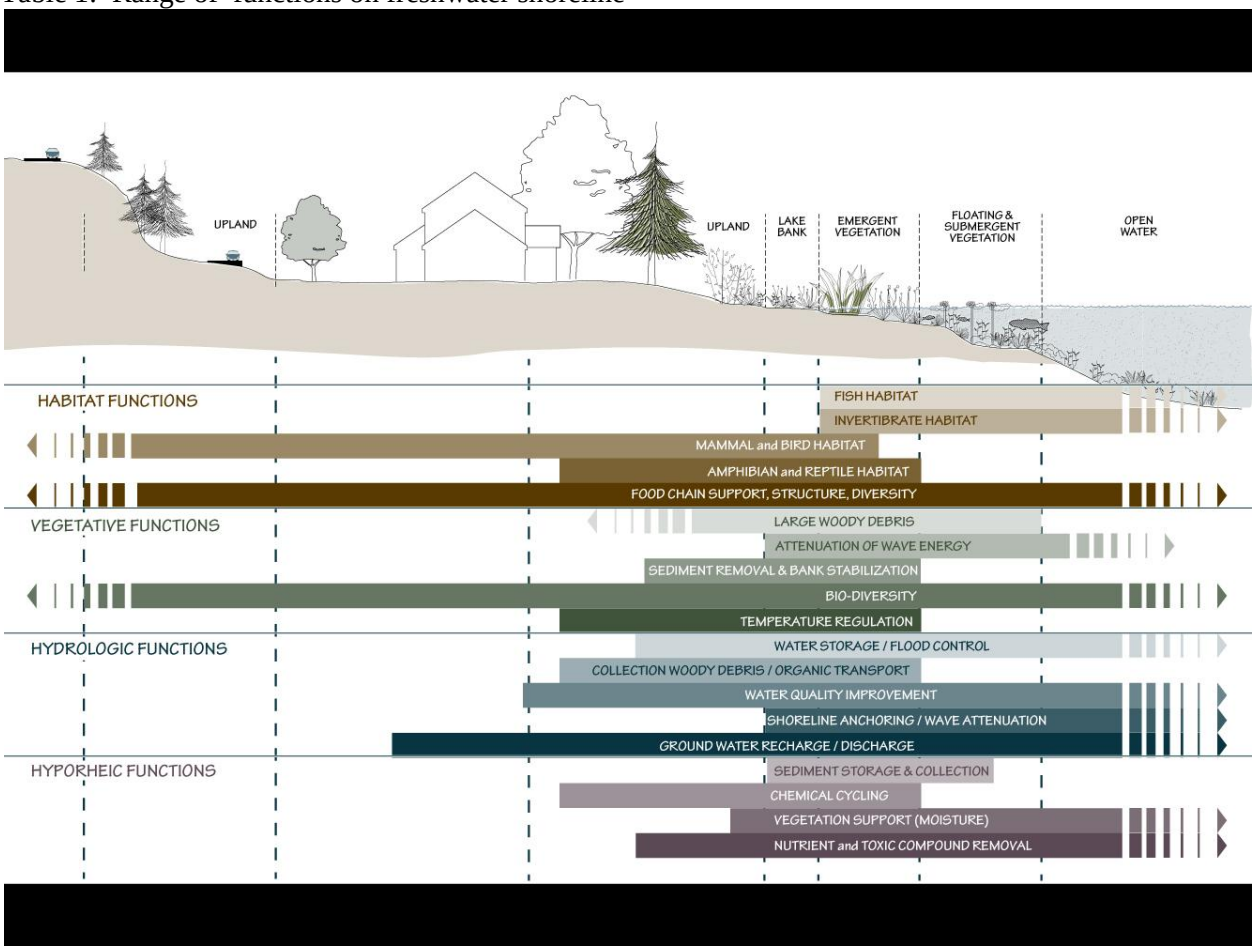
The Shoreline rules identify a large number of ecological functions for protection, and note that there should be no net loss of these functions from shoreline development. This large list of functions is visually depicted in Table 1 below, and is grouped into four broad functional categories: habitat, vegetative, hydrologic, and hyporheic.

To evaluate if the standard of no net loss of ecological function has been met through the policies, regulations, and programs included in the SMP, the City is required to complete a cumulative impacts assessment that demonstrates the effectiveness of the shoreline master program when tested with development scenarios. The cumulative impact analysis is intended to prevent adoption of an SMP that includes incremental development on individual properties that when looked at in relationship to the shoreline as a whole would create significant impacts on the

[1] During the CAO update process, staff relied on the methodology outlined in the Chespeake Bay Riparian Handbook for Establishing and Maintaining Riparian Forest Buffers. 1998. for clarifying our thinking about setbacks and buffers

resource. A more detailed discussion of "no net loss" and the use of the cumulative impacts analysis is included in Appendix 2.

Table 1: Range of functions on freshwater shoreline



Although other functions listed above may be represented, the functions identified below are present to a greater or lesser degree on most residential shoreline properties in Bellevue depending on the intensity of development:

- bank stability,
- sediment removal/erosion control,
- pollutant removal
- aquatic habitat, and
- terrestrial habitat.

There are a limited number of studies regarding the width and effectiveness of lakeshore vegetated setbacks that the Planning Commission can use to quantify minimum buffer widths necessary to protect water quality and habitat functions. However, many studies done for wetlands and streams are relevant because lakes provide many of the same functions and the underlying biophysical processes that occur in shoreline areas are the same or similar to those that occur in wetlands and streams.

Table 2: Key functions protected by vegetated setbacks

Function	Key Factors	Range of Effective Buffer Widths (per May 2003[2])	Recommended Buffer Widths for Lakes (Vermont, WQD, 2008[3])	Comments
Bank stability	Root structure		15 feet	Vegetation Required
Sediment Removal/ Erosion Control	Soils, width, slope, flow path, vegetation type	16-860 ft	NA	Grass filter strips very effective especially with adequate infiltration and low slope angle sheet flow
Pollutant Removal	Soils, slope, flow path, vegetative structure, width	13-860 ft	100 ft	Mature forest vegetation
Aquatic Habitat	Vegetative structure, width	98-295 ft	25 ft	Mature native vegetation preferred: mimic natural ecosystems.
Terrestrial Habitat	Vegetative structure, width	328-820 ft	Up to 600 ft	Mature native vegetation preferred:

This information can help the Planning Commission select a setback width that protects the range desired functions given the Bellevue context.

Resource Value

Lakes Washington and Sammamish possess high resource value because they harbor a wide range of wildlife, including threatened and endangered species, as well as providing recreational and residential benefits. As a consequence, they are identified under state law as Shorelines of State Wide Significance (see WAC 173-26-251 for details.) In recognition of these greater resource values, the Shoreline Management Act calls for a higher level of effort in implementing its objectives on shorelines of statewide significance. The beneficial aspects of the resource, combined with the requirement to provide special consideration to the presence of threatened and endangered salmonids, support the use of larger setbacks to ensure the resource is adequately protected against the impacts of development over the long-term. If smaller setbacks are a community preference, then less flexibility elsewhere in the Master Program would likely be available in order to avoid unacceptable levels of cumulative impact.

Site Characteristics

Site factors are most important when evaluating setback performance in removing pollutants. Unfortunately these factors are complex and not immediately identifiable based on observation. For example, in many areas nitrogen loads are carried by subsurface flow, so focus on surface flows when assigning an appropriate buffer width may not be an effective means of addressing nitrogen transport. Site slope has a more observable impact on the effectiveness of a vegetated buffer to remove sediment, because the velocity of water flow across a steeply sloped site may

[2] May, C.W. 2003. Stream-Riparian Ecosystems in the Puget Sound Lowland Eco-Region
[3] Vermont Department of Environmental Conservation, Water Quality Division (WQD). February 2008. How Wide a Buffer.

offset the benefit provided by vegetation. Typically vegetated setbacks or filter strips must be increased in length for each small increase in slope.

In the same way, setback dimensions can be adjusted based on the design and maintenance of the vegetation placed there. Dense native vegetation grown in undisturbed soils is likely to provide a range of functions more effectively than poor quality non-native vegetation. Generally benefits are amplified by requiring native forest over other vegetation types.

Intensity of Adjacent Use

Where the intensity of the land use or potential impact of the site activity increases, the general rule is the width of the setback must increase proportionately. In the same vein, the size or importance of a vegetated setback increases as the potential yield of nutrients, chemicals, metals and other pollutants goes up.

Application

There are two commonly adopted approaches to making a policy determination about setback width using the science-based selection criteria. The first approach is to adopt the greatest width necessary to accommodate all desired functions. Such an approach likely provides the greatest level of protection and lowest risk. The second approach is to utilize average widths necessary to accommodate all desired functions. This approach is to determine a width that will generally encompass the majority of desired functions. The second approach is similar to that used to establish the buffers and setbacks for the 2006 Critical Areas update. Allowance for modification and flexibility using additional criteria was then provided based on unique site conditions so that opportunities to create tailored buffers were available.

REGULATORY SETBACK CONCEPTS COMPARISON

This section provides a comparative discussion of the Option A flexible menu and a prescriptive setback option. Option A preliminary draft language was prepared for Planning Commission consideration following the June 9 study session, and is included in Attachment 3. Although there was not time to prepare preliminary draft language for a prescriptive option following the September 22 meeting, the City of Redmond adopted language is provided in Attachment 4 as a example prescriptive approach for comparison purposes.

In an effort to give context to the options, a table is included identifying a range of regulatory approaches taken historically at the City of Bellevue and currently proposed or adopted by neighboring jurisdictions. The table can be found in Attachment 5. The range of approaches for recently updated SMP varies from jurisdiction to jurisdiction due to differences in quantity and quality of shoreline resource, community values, and opportunities for mitigation and restoration. This is one of the reasons behind the SMP adoption principle that focuses on the program being Bellevue appropriate. As described in the no net loss and cumulative impacts assessment discussion in Attachment 2, setback alternatives must be evaluated as a component part of the entire Shoreline Master Program.

Table 3: Two Regulatory Approaches Compared

	Option A	**Redmond**
SETBACK	Lake WA, Sammamish, Phantom Lake, & Mercer Slough/Kelsey Creek 50' Newport Shores Canals 25'	Lake Sammamish 35'
MINIMUM SETBACK	25'	20'
MENU OPTIONS	YES	NO
MITIGATION FOR REDUCING SETBACK	Prescriptive per menu option	20' setback area with native vegetation. Establishment of a tree canopy is encouraged.
SITE SPECIFIC STUDY	YES	NO
VEGETATION STANDARDS	Within 25' from OHWM- All significant trees and native vegetation within first 25 feet from OHWM. Removal permitted with mitigation. Outside 25' 30% of significant trees.	Trees within building setback must be maintained. Limited removal permitted but must replace at 2-6 trees per tree removed. Preserve 35% of existing significant trees on site.
OTHER	Existing primary structures can be rebuilt in footprint if located no closer than 25' from OHWM without triggering planting requirements.	New development or reconstruction involving greater than 50% of value of improvements is required to plant 50% of minimum 20' setback.

Planning Commission Refined Option A

The Option A preliminarily preferred by the Commission included the concept of a fixed setback (described as 50 feet) and the opportunity for development to move closer to the water through the incorporation of different mitigation menu options. Provided in Attachment 3 is preliminary draft code language for Commission consideration. This language incorporates an approach to setbacks, landscaping requirements and vegetation conservation for residential properties. Of significance is the treatment of legally established existing structures which do not comply with minimum 50 foot setback. The Commission endorsed an option which allows the reconstruction of these existing structures in an existing building footprint. This concept was incorporated into the preliminary draft code language. A fee in lieu or transfer of development rights approach has not been included in this preliminary draft code language because public comment has not been supportive of including these approaches. These options can still be included in the revised draft scheduled for year-end release if direction is provided for staff to do so.

Vegetation Conservation, Tree Preservation and Landscaping Standards

The 50' setback described above contains a vegetation conservation area. The vegetation conservation area is the first 25' landward of the ordinary high water mark. All significant trees and native vegetation is to be preserved in this area. However, allowed within the vegetation conservation area are new private non-structural recreation developments, including pervious hardscape surfaces, paths, and walkways, that do not occupy more than 40% of the shoreline vegetation conservation setback area. Existing vegetation and private non-structural recreation developments may be maintained and replaced in their current locations. Also allowed are existing legally established structures.

The regulatory concept also includes a landscaping standard which would be applicable to the following development scenarios:

- New development on a vacant lot complying with the 50' setback;
- Construction of a totally new home on a site where a home is currently located where the home exceeds the footprint of the original home;
- Expansion of an existing home laterally more than 500 square feet;
- Any expansion of an existing home when the expansion is proposed waterward of the homes existing façade; and
- Construction of an accessory structure greater than 200 square feet.

In all of these cases the amount of landscaping required to be planted would be a maximum of 60% of the required vegetation conservation area planted with native vegetation. The planting templates found in the City's critical areas handbook would meet this intent without requiring a property owner to hire a designer to provide them with an appropriate planting plan. Other improvements such as expanding an existing structure laterally no more than 500 square feet or building an accessory structure less than 200 square feet would be exempt from the landscaping requirement.

Tree preservation standards for the remainder of the site outside the vegetation conservation area (outside the area 25' above the OHWM) are consistent with City-wide requirements for tree preservation. In addition to preserving the significant trees within the vegetation conservation area, the standards would require a minimum of 30% of the tree diameter inches on the remainder of the site to be retained. Because trees and native vegetation contribute to a healthy ecosystem, the standards for their preservation are critical in demonstrating protection of ecological functions in the City's SMP.

Primary Structure Setback

The regulatory Option A includes a shoreline setback of 50' the second 25'of which is referred to as the primary structure setback. This setback is measured from the edge of the vegetation conservation area landward 25'.

In general, new structures would need to adhere to the 50'setback. However, new accessory structures 200 square feet or smaller, ornamental landscaping, and private recreational developments would be allowed outright in the primary structure setback area. New primary

structures, expansion of existing structures and accessory structures greater than 200 square feet in size would have two options to reduce the setback and move structures closer. Reduction of the primary structure setback is permitted through either a series of mitigation menu options or by using a site specific study option (aka Critical Areas Report).

The purpose of the menu option is to provide for a predictable list of improvements or modifications that correspond to benefits in ecological function and in turn allow increased site development flexibility. The 50 foot setback provides a level of protection for a range of existing functions. Prescriptive reductions would be available to property owners based on the list of menu options. If more site development flexibility is necessary, opportunities can be evaluated through a site specific study akin to the current critical areas report process.

The Commission asked staff to detail the menu options and identify the desired outcomes associated with these actions. A table depicting the outcomes arrayed with a series of menu options is found in Attachment 6.

Prescriptive Option Comparison (Redmond SMP)

In contrast to Option A described above, the City of Redmond adopted a prescriptive approach to setbacks and vegetation conservation along their Lake Sammamish shoreline. The hallmarks of the Redmond SMP relating to setbacks and vegetation conservation are described in Table 3 above, and the Redmond regulations relating to setbacks and vegetation conservation are included as Attachment 4. What is important to note are the differences between the Shoreline jurisdiction area of Bellevue as it is compared with the City of Redmond.

Redmond Shoreline Residential Development Conditions

The City of Redmond is characterized by a total of 11.4 miles (60,192 linear feet) of shoreline. Of this, the majority is stream or wetland frontage, not lake frontage. Redmond has a limited number of single family residential lots along a proportionally short 7,097 foot segment of Lake Sammamish shoreline. South of Idylwood Park to the Bellevue city limit, there are 91 single family waterfront residential lots, two of which are undeveloped. Of these 91 lots, Redmond reports the closest structure to the lake at 0 feet; the furthest structure is approximately 300 feet from the lake. The average, estimated distance of houses to the lake is 75 feet. Twelve of the 89 structures are 20 feet or closer to the lake's ordinary high water mark, meaning that 13% of the homes along this section of Lake Sammamish are within 20 feet of the OHWM. The length of shoreline represented by these lots is eight percent of the total length of shoreline zoned single family residential on the west side of the lake. Single family development occupies a small portion of the Redmond shoreline.

Bellevue Shoreline Residential Development Conditions

Different from the Redmond shoreline, Bellevue is characterized by a total of 19.7 miles (104,027 linear feet) of shoreline area. Of this total area 15.96 miles (84,286 linear feet) are lakefront shoreline (not including Mercer Slough and Kelsey Creek) and includes 1,225 single family residential waterfront properties, of which 36 are considered undeveloped. Of the 1,189 developed lots, 107 or 9% of the primary structures are within 20 feet of the OHWM. The

portion of the west shore of Lake Sammamish shoreline that is not under Redmond's jurisdiction is within the Bellevue city limits. Single family development is the primary use along the Bellevue shoreline.

ACTION REQUESTED AND NEXT STEPS

Staff seeks Commission direction on a regulatory approach for residential shoreline setbacks, vegetation conservation, and landscaping in order to continue work on the revised draft scheduled for release at year end.

Table 4. Proposed Planning Commission Schedule

November 3	Non-Conforming Development
November 17	Bundle remaining issues
December 8	Bundle remaining issues (continued)
December (mid-to-late)	Release revised draft
January 2011	Open House Introduce revised draft
February 2011	Public Hearing (date to be set by Planning Commission)

ONGOING PUBLIC OUTREACH

Since the Commission's study session meeting on September 28th, staff attended a meeting of the Newport Shores Community Association. Information on the overall project schedule, points of public engagement, regulatory approaches for the residential canal area, and an introduction of some marina standards was provided to the community. The communities' board will be meeting and providing the staff or Commission with feedback related to marina uses and operation. Additionally, staff offered to be available for follow up questions or meetings. To date, no other community groups have requested meetings with staff.

ATTACHMENTS

1. Planning Commission Meeting Notes – Setback Discussion
2. No Net Loss and Cumulative Impacts Assessment - Summary
3. Preliminary Draft Code Language
4. Redmond Shoreline Setback Code
5. Range of Regulatory Approaches
6. Table of Menu Options

ATTACHMENT 1

The following is a summary of the feedback provided to Development Services Department staff from the Planning Commission shoreline setback discussion[1]:

1) June 9, 2010 Planning Commission Meeting Summary - Setback Discussion

Commissioner Ferris stated that he had read the report on how the shorelines were inventoried and classified. He noted that the report includes only a few categories, all of which were evaluated on a somewhat judgmental basis in terms of the contribution of each to the overall ecology. He suggested that a formula could be developed based on the five or six things that contribute to the ecological function of lakes. The formula could, for example, include a weight for each item. An inventory for a specific property could then generate a point total based on the weighted criteria and be used in determining how a proposed development will impact the ecological functions. Such an approach could allow property owners to develop while at the same time allowing the city to achieve improvements to the overall ecological functions over time.

Mr. Paine said that is exactly the approach staff will be proposing; he said he already has a draft table drawn up with the various functions listed. The options menu will be based on that table. He said the most important thing in determining the quality of functions on shorelines in built-up areas is whether or not there is a bulkhead in place. The study done by Mr. Evans makes clear to everyone that bulkheads not located directly on the shoreline have large associated areas that could be planted, thus creating a beneficial habitat and a place for the interchange to occur. Staff did not consider that in looking at site-by-site and reach-by-reach functions.

Asking a question asked by Commissioner Himebaugh, Mr. Paine clarified that the focus is on the concept of no net loss of ecologic functions. Commissioner Himebaugh allowed that inventory indicates the shorelines in Bellevue are largely built up and suggested that staff should highlight non-regulatory options for shoreline restoration in addition to the regulatory options. He said non-regulatory options should avoid putting property owners in the position of having to meet an ecological bar that may in fact be impossible to measure on a site-specific basis. Mr. Paine said one function of the city's restoration planning effort is to address the cumulative impacts that do not get mitigated on site, either because they are not measured precisely enough or because of the temporal issues. The city is supposed to have a plan that identifies potential mitigation sites to offset the loss that is inevitable with development over time. However, while the city is obligated to have a plan in hand, it is not obligated to fund the plan. The city could institute a fee in-lieu approach under which property owners could buy into a potential mitigation project at some other location. Alternatively, the city could purchase properties from willing sellers on which to allow mitigation or restoration, thereby offsetting the impacts of hundreds of shoreline lots, but that option would be very costly.

[1] Taken from draft meeting minutes.

Commissioner Turner suggested that before the city takes steps to direct property owners how to mitigate something on their properties, there should be a better understanding of what the ecological functions are for the properties in question and the system overall. Mr. Paine's response was that that would be very tall task and could potentially stop the city from regulating anything. Commissioner Turner said the fact remains that the regulations will impact property owners along the lake while the owners of properties throughout the ecosystem will not be impacted. A balance needs to be sought. Mr. Paine pointed out that the same could be said for property owners living on steep slopes or near streams, all of whom are already being called on to work for the public benefit in protecting those areas. Commissioner Turner said he would prefer to see incentives and non-regulatory approaches identified as the best way to go.

Commissioner Mathews asked if the current approach of drawing setback lines around existing structures to avoid the issue of nonconformance could be incorporated into either Option A or Option B. Mr. Paine said Option B would establish a bright line under which structures are either conforming or they are not. Under Option A, all structures would be conforming until the 25-foot limit is reached. Expansions would be allowed, but only in line with the options menu.

Commissioner Ferris agreed that conducting a full study of the ecology of the entire system would not be practical, and would be outside the bounds of what the city is trying to achieve with the Shoreline Management Program update. However, within the limits of the scope of the task at hand, drawing a line between specific ecological improvements and incentives would be a good idea. He said he generally favored Option A but needed far more details before developing a recommendation for what the setback width should be. Additionally, the prime focus for improving ecological functions should be on where the streams flow into the lakes and areas where the greatest impact could be realized, and the fee in-lieu approach would fit perfectly into that scenario. The concept is already in use in the form of transfer of development rights.

Commissioner Hamlin concurred with the choice of Option A and with the notion of focusing improvements in areas where they will have the greatest impact. With regard to the width of the setback, he said he had no argument against what was proposed by staff.

Commissioner Mathews added his support for Option A as well. He commented that while the degree to which any mitigation on any particular property may be small, the incremental impact of improvements along the entire shoreline can be huge over time.

Commissioner Turner said Option A would be the better choice. He concurred with Commissioner Ferris in wanting to see a matrix developed. He stressed the need to have a strong rationale on which to base both regulations and incentives. Some effort should be put into addressing the specific concerns that have been raised by the public.

Commissioner Himebaugh said he was not prepared to recommend either Option A or Option B because he had not previously seen the map book. He said the limited information in the staff memo allowed him to gain a basic idea of where the nonconformities would exist. He suggested that Option A would be preferable to Option B. He said he had some concerns with the issue of transferable rights and agreed that a matrix is needed to connect the dots between the impacts on ecological functions and the use of property. The footprint rule should be kept on the table as a part of Option A.

Ms. Bedwell asked Commissioner Himebaugh to clarify if he would support the line around a footprint for structures closer than 25 feet from the ordinary high water mark. He answered that he would.

Chair Sheffels noted the general consensus of the Commission in favor of going with Option A, the notion of a transfer of rights as an incentive, and retaining the footprint approach.

2) <u>September 22, 2010 Planning Commission Meeting Summary - Setback Discussion</u>

Turning to the issue of vegetation conservation, Commissioner Hamlin said he was not yet convinced that 50 feet is the right setback. He added that the vegetation conservation requirements seem a bit restrictive. Mr. Paine noted that the previous discussion with the Commission about vegetation conservation included the notion of a 25-foot vegetation conservation area in the context of a 50-foot setback. The concept is to provide for vegetation on or near the shoreline, and staff will draft language in accord with the direction provided by the Commission.

Commissioner Turner noted that the 50-foot setback was presented to the Commission as part of a package. The Commission never explicitly came out in favor of a setback of that depth. Staff was given general direction to work up language for the draft, but the Commission did not come to any conclusion about what the setback should be. He said the concept of preserving vegetation on or near the shoreline is sound, but when it comes to determining no net loss there needs to be more clarity with regard to measuring no net loss and what is supposed to be accomplished. Mr. Paine stressed that the draft language was in response to a set of regulations handed down by the Department of Ecology. He said if he had his way he would stay with the existing program with the buffer that is in place; it is much easier to administer. The Commission has not been inclined to pick a buffer but has directed staff to proceed with a setback. Vegetation conservation will have to be part of the package, but it will be up to the Commission to determine how it should be structured.

Chair Ferris said he would like to have the opportunity to review the options previously presented to the Commission. He said at the time the Commission leaned toward the 50-foot setback because it was thought that would allow for the greatest amount of flexibility, but the Commission may not have understood all of the ramifications.

Commissioner Mathews agreed it would be helpful to have the options presented again before reaching a conclusion.

ATTACHMENT 2

CUMULATIVE IMPACTS – A MEASUREMENT OF NO NET LOSS

1) No Net Loss – What is it?

State law dictates that in updating their Shoreline Master Programs local jurisdictions "shall evaluate and consider cumulative impacts of reasonably foreseeable future development on shoreline ecological functions…. and shall contain policies, programs, and regulations that address adverse cumulative impacts and fairly allocate the burden of addressing cumulative impacts among development opportunities." WAC 173-26-186 (8)(d). The no net loss standard is essentially designed to halt the introduction of new impacts to shoreline ecological functions resulting from new development. Both protection and restoration are needed to achieve no net loss.

To comply with this requirement, the City is responsible for developing a Shoreline Master Program that includes policies, regulations, and programs that work comprehensively to address impacts from existing and future development and to improve the condition of degraded resources and functions as compared to a baseline condition[1]. To set a baseline of condition, a shoreline inventory analysis that characterizes shoreline functions and ecosystem-wide processes is completed and the relative condition of each reach of the City's shoreline is determined. The City of Bellevue completed this work in the document entitled *City of Bellevue Shoreline Analysis Report*. This document has been previously provided to the Commission and is also available at the following link: http://www.bellevuewa.gov/pdf/Development%20Services/Final_Draft_Shoreline_Analysis_Report_January_16_2009.pdf.

Following this inventory, the City is required to use the information presented in the characterization to develop a series of shoreline environments that set use priorities for each reach of shoreline that correspond with the relative level of ecological function identified in the inventory document. This work was completed and introduced to the Planning Commission on February 25, 2009. The February 25, 2009 agenda memo is available at the following link: http://www.bellevuewa.gov/pdf/Planning%20Commission/PacketPlanningCommissionAgenda2-25-09b.pdf .

Following the establishment of environments (like a zoning overlay) and a forecast of uses (use charts) that correspond to the shoreline environments, the City identifies and develops shoreline regulations that are intended to limit adverse cumulative impacts to shoreline resources and maintain a baseline condition as identified in the shoreline inventory – an effective no net loss of ecological function that is achieved through avoiding, limiting, and mitigating current and future impacts. This is the regulatory structure that was introduced to the Planning Commission in the Working Draft dated May 12, 2010, and is also available at the following link: http://www.bellevuewa.gov/pdf/Development%20Services/Draft_SMP.pdf .

To evaluate if the standard of no net loss of ecological function has been met through the policies, regulations, and programs included in the SMP, the City is required to complete a

[1] Washington State Department of Ecology SMP Handbook Chapter 4

cumulative impacts assessment that demonstrates the effectiveness of the shoreline master program when tested with development scenarios. The Cumulative Impacts Assessment is included as part of the Shoreline Master Program that is forwarded to the State Department of Ecology for review.

Upon completion by the City, the State Department of Ecology reviews the Shoreline Master Program; evaluates the policies, regulations, and programs; and determines if the program, when considered comprehensively, effectively limits impacts associated with development on the City's shorelines to a level that is consistent with the standard of no net loss of ecological function. This is demonstrated through the completion of a cumulative impacts assessment.

2) No Net Loss – How is it measured?

The Shoreline Management Act does not intend to stop or retroactively remove development. Rather, the act targets promotion of appropriate development in appropriate locations in an effort to preserve the natural functions of the shoreline. If residually degrading development inappropriate to the shoreline has been established, impacts must be recognized. The Shoreline Master Program is the mechanism by which impacts from development, past, present, and future, are addressed. The Cumulative Impacts Assessment is an analysis of the entire Shoreline Master Program that is intended to contemplate how:

1) Existing development affects the shoreline and relevant natural processes.
2) Future development and use of the shoreline will impact the shoreline and relevant natural processes.
3) Any proposed regulatory or programmatic programs may cause beneficial effects by avoiding, minimizing, and mitigating for impacts to the shoreline and relevant natural processes.

The Washington Administrative Code and the State Department of Ecology provide guidance in the completion of a cumulative impacts assessment. A series of indicators are identified in the Washington State Department of Ecology SMP Handbook. These indicators are used to gauge how specific development actions might impair processes and degrade ecological functions. The cumulative impacts assessment also considers the scale of the impact in relationship to the whole shoreline and what mitigation or restoration efforts may be included in the SMP. The objective of the SMP is to allow uses and direct development to locations and designs that cumulatively do not result in a net loss of ecological functions from the baseline conditions identified in the inventory document.

A cumulative impacts assessment can be compared to a budget spreadsheet with a fixed bottom line. In this comparison the bottom line is similar to the inventory that was completed on the onset of the Shoreline Master Program update in that the inventory sets the baseline condition that is targeted in the SMP. Also similar to a budget, the cumulative impacts assessment looks at various indicators that are similar to budget line items and may impact the shoreline to differing degrees depending on the ultimate package of rules proposed. For example, an SMP may be relatively flexible with dock standards to respond to community interest where recreational

boating is a significant community interest. In this case the docks standards would be designed to offer flexibility to accommodate the community interest, although other indicators would need to be further restricted to compensate for the impact associated with the flexibility. In this sense if the level of impact associated with one line item is increased, a different line item may need to be decreased in an effort to maintain the bottom line. Put simply, the most important factor in judging no net loss of ecological function is the cumulative impacts assessment that is the result of application of an SMP in total. Under this concept no component of the SMP is independent, and the cumulative effect of all policies, regulations, and programs should be considered when considering different options for each element of the SMP.

ATTACHMENT 3

I. Shoreline Setback.

a. Purpose. This section establishes what structures and improvements may be located in the shoreline setback established for each shoreline environment.

b. Measurement of Shoreline Setback. The shoreline setback shall be measured landward from the ordinary high water mark on the horizontal plane and to a point that results in the greatest dimension from the ordinary high water mark.

c. Existing Development. Where a primary structure legally established on a site on or before **[insert date of ordinance adoption]**, encroaches into the structure setback established in subsection e below, the structure setback shall be modified to exclude the footprint of the existing primary structure. Expansion of any existing structure into the shoreline structure setback shall be allowed only pursuant to the setback reduction provisions in LUC 20.XX.XXX.

d. Shoreline Setback Dimensions. The following setbacks are the required shoreline setbacks for each shoreline environment. Disturbance of the shoreline setback is prohibited; except as necessary to maintain existing, legally-established appurtenances, and as allowed in other parts of this section.

i. Shoreline Residential. The overall shoreline setback for the Shoreline Residential environment shall be 50 feet and is divided into two setbacks, the Vegetation Conservation setback and the Primary Structure Setback. Each setback is 25 feet and is measured consecutively from the ordinary high water mark, beginning with the Vegetation Conservation setback, followed by the Primary Structure.

ii. Purpose of the Vegetation Conservation setback. The purpose of the Vegetation Conservation setback is protect and restore ecological functions and eco-system wide processes performed by shoreline vegetation. Removing vegetation impacts the ability of vegetated areas to protect or perform ecological functions. Conserving vegetation provides additional benefits, such as protecting human safety and property, reducing the need for shoreline stabilization, improve visual and aesthetic qualities of the shoreline, protect plant and animal species and their habitat, and to enhance shoreline uses. The Vegetation Conservation setback allows limited uses while assuring no net loss of shoreline ecological functions.

iii. Purpose of the Primary Structure Setback. To allow the ongoing use and maintenance, and expansion, consistent with LUC 20.28.XXX.4.b, of legally-established primary structures.

iv. Shoreline Setback Performance Standards:

1. Vegetation Conservation Setback. The first 25 feet of the shoreline setback landward of the ordinary high water mark shall

be designated as a vegetation conservation area setback. Modification of the vegetation conservation setback is allowed as specified in section 4.a below. Uses legally established on or before [insert date of ordinance adoption] may continue, until other provisions of this chapter are required; then the property must conform to the standards set forth below. Landscape maintenance may continue pursuant to LUC 20.XX.XXX. II.e. **[Below].**

2. Primary Structure Setback. The area between 25 feet and 50 feet landward of the ordinary high water mark shall be designated as primary structure setback area. Modification of the primary structure setback is allowed as specified in section 4.b below.
3. Expansion of Existing Primary Structure into the primary structure setback.
    a. To expand an existing primary structure into the primary structure setback, the applicant shall first demonstrate that expansion is not feasible outside of the shoreline setback, based on site constraints, such as topography or location of critical areas. Site constraints cannot result from the actions of the applicant or prior property owners.
    b. Expansions within the primary structure setback in a parallel direction from at or behind the existing building line, up to 500 square feet in size over the lifetime of the structure, are permitted without compliance with the setback reduction or landscaping standards of this section.
4. Setback Reductions.
    a. The overall 50 foot shoreline setback in the Shoreline Residential environment may be reduced to a minimum of 25 feet when setback reduction impacts are mitigated using a combination of the mitigation options provided in the table below to achieve an equal or greater protection of lake ecological functions. The following standards shall apply to any reduced setback:
        i. The maximum allowed setback reduction that may be approved through this provision is to the 25-foot vegetation conservation setback. Any further reduction below the minimum 25-foot vegetation conservation setback shall require approval of a shoreline variance application.
        ii. Setback reductions shall be granted only if the applicant demonstrates that expansion rearward or lateral outside of the required general shoreline

setback is not feasible due to the intended function of the expansion.

iii. Before issuance of a certificate of occupancy or final inspection, the applicant shall provide a final as-built plan of any completed improvements authorized or required under this subsection.

iv. Applicants who obtain approval to reduce the setback, must record the final approved setback and corresponding conditions, including maintenance of the conditions throughout the life of the development, unless otherwise approved by the City, in a form acceptable to the City Attorney, and recorded with the with the King County Division of Records and Elections or its successor agency.

b. Setbacks may be reduced by the amounts identified in Table 20.XX.XXX:

Table 20.XX.XXX - Setback Reduction Menu Options

	MENU OPTION	**RELATIVE SETBACK REDUCTION**
1.	Presence of non-structural or soft structural shoreline stabilization measures located at, below, or within 5 feet landward of the lake's ordinary high water mark along at least 75 percent of the linear lake frontage of the subject property. This can include the removal of an existing hard structural shoreline stabilization measure and conversion to a non-structural or soft structure stabilization measure. This option cannot be used in conjunction with Option 2 below.	HIGH
2.	Presence of non-structural or soft structural shoreline stabilization measures located at, below, or within 5 feet landward of the lake's ordinary high water mark along at least 15 linear feet of the lake frontage of the subject property. This may include the removal of an existing hard structural shoreline stabilization measure and conversion to a non-structural or soft structure stabilization measure. This option cannot be used in conjunction with Option 1 above;	MEDIUM
3.	Opening of previously piped on-site watercourse to allow improvement to habitat function for fish for a minimum of 25 feet in length. Opened watercourses must be provided with a native planted buffer at least 5 feet wide on both side of the stream. A qualified professional must design opened watercourses.	MEDIUM
4.	Soft structural shoreline stabilization measures are installed waterward of the ordinary high water mark. They may include the use of gravels, cobbles, boulders, and logs, as well as vegetation.	MEDIUM

	The material shall be of a size and placed to remain stable and accommodate alteration from wind- and boat-driven waves and shall be graded to a maximum slope of 1 vertical (v): 4 horizontal (h).	
5.	Installation of pervious material for all pollution generating surfaces such as driveways, parking or private roads that allows water to pass through at rates similar to pre-developed conditions.	MEDIUM
6.	Preserving or restoring at least 20 percent of the total lot area outside of the reduced setback and any critical areas and their associated buffers as native vegetation.	MEDIUM
7.	Hard structural shoreline stabilization measures are setback from the ordinary high water mark between 2 ft. to 4 ft based on feasibility and existing conditions and/are sloped at a maximum 3 vertical (v): 1 horizontal (h) angle to provide dissipation of wave energy and increase the quality or quantity of nearshore shallowwater habitat.	LOW
8.	Increasing the width the vegetation conservation setback to by 5 feet.	LOW
9.	Limiting total site impervious coverage to at least 10% less than maximum allowed	LOW

5. Improvements Allowed. The following improvements are allowed within the required 50-foot shoreline setback without a setback reduction:
    a. Improvements allowed within the 25-foot Vegetation Conservation Setback:
        i. In the Vegetation Conservation setback, up to 40% of the setback is available for existing or new non-structural recreation developments, such as pervious hardscape, paths, and walkways. The remaining 60% of the setback is reserved for native landscape, the purpose of which is to protect the functions and provide the benefits described in LUC 20.XX.XXX.1.d.2.
        ii. Private non-structural recreation developments, including pervious hardscape surfaces, paths, and walkways that do not occupy more than 40% of the shoreline vegetation conservation setback may be located in the shoreline vegetation conservation area setback; provided they are constructed and maintained in a manner that minimizes adverse impacts to shoreline ecological functions, and subject to compliance with a landscaping standard

that requires an equivalent area no smaller than 100 square feet of the vegetation conservation area be planted with native vegetation to offset the impact of the recreational development. The improvement shall be constructed using pervious materials or methods.

iii. Landscaping that is primarily characterized by native species.

b. Improvements allowed within the required 25-foot Primary Structure Setback:

i. Accessory structures smaller than 200 square feet, ornamental landscaping, and private recreational developments are allowed in this area without requiring compliance with a landscape standard and in compliance with general residential use dimensional standards including setbacks, lot coverage, and impervious surface limitations.

ii. Accessory structures larger than 200 square feet may be accommodated through a reduction in setback as allowed under section I.3.i.e above.

iii. Minor Building Elements. Bay windows, greenhouse windows, eaves, cornices, awnings, and canopies may extend up to 18 inches into the shoreline primary structure setback, subject to the following limitations:

1. Eaves on bay windows may extend an additional 18 inches beyond the bay window.
2. Chimneys that are designed to cantilever or otherwise overhang are permitted.
3. The total horizontal dimension of these elements that extend into the shoreline setback, excluding eaves and cornices, shall not exceed 25 percent of the length of the facade of the structure.

v. Shoreline Residential Canal. The overall shoreline setback for the Shoreline Residential Canal Environment shall be 25 feet and shall be administered as follows:

1. Vegetation Conservation Area. Twenty percent of the shoreline setback landward of the canal shall be designated as a vegetation conservation area.

2. All significant trees within the shoreline setback shall be retained.
3. Accessory structures are not allowed within the 25-foot shoreline setback in the Shoreline Residential Canal Environment.
4. Improvements allowed within the required 25-foot shoreline setback:
    a. Private non-structural recreation developments, including pervious hardscape surfaces, paths, and walkways.
    b. Structural elements considered essential and associated with canal bulkheads.
    c. Landscaping that is primarily characterized by native species.
    d. Minor Building Elements. Bay windows, greenhouse windows, eaves, cornices, awnings, and canopies may extend up to 18 inches into the shoreline primary structure setback, subject to the following limitations:
        1. Eaves on bay windows may extend an additional 18 inches beyond the bay window.
        2. Chimneys that are designed to cantilever or otherwise overhang are permitted.
        3. The total horizontal dimension of these elements that extend into the shoreline setback, excluding eaves and cornices, shall not exceed 25 percent of the length of the facade of the structure

e. Critical Areas. If critical areas are located on the site, the requirements for the associated critical area buffer and buffer setback may impose a larger setback requirement. In the event of conflict, the provision providing the greatest protection to critical areas, their buffers, and setbacks shall apply.

II. Vegetation Conservation

a. Purpose. Retention of significant trees and native vegetation as required by this section is necessary to maintain and protect property values, to enhance the visual appearance of the City, to preserve the natural wooded character of the Pacific Northwest, to promote utilization of natural systems, to reduce the impacts of development on the storm drainage system and water resources, and to provide a better transition between the various land uses permitted in the City.
b. Tree Retention and Native Vegetation Standards in the Shoreline Vegetation Conservation Setback. Within the shoreline vegetation conservation setback, all native vegetation as defined in the City's Critical Areas Handbook and existing

significant trees shall be retained, provided that the trees are determined to be healthy and provided the trees can be safely retained consistent with the proposed development activity.

c. Replanting Requirements in the Shoreline Vegetation Conservation Setback. All significant trees removed within the shoreline jurisdiction shall be replaced at a ratio of 3:1 with a minimum 5 gallon or 2 inch caliper for replacement.
d. Tree Retention within the Shoreline Jurisdiction. In areas other than the vegetation conservation setback, but within the shoreline jurisdiction, the applicant must retain at least 30 percent of the existing diameter inches of the significant trees.
e. Existing Landscape Maintenance- Routine maintenance of existing legally established landscaping and landscape features developed prior to August 1, 2006, in the shoreline setback may be continued in accordance with this section. For purposes of this section, "routine maintenance" includes mowing, pruning, weeding, planting annuals, perennials, fruits and vegetables, and other activities associated with maintaining a legally established ornamental or garden landscape and landscape features. Also, for purposes of this subsection, "landscape features" refers to fences, trellises, rockeries and retaining walls, pathways, arbors, patios, play areas and other similar improvements. To be considered routine maintenance, activities shall have been consistently carried out so that the ornamental species predominate over native or invasive species. Use of fertilizers, insecticides and pesticides is prohibited.
f. Hazard Trees. The removal of trees that are hazardous, posing a threat to public safety, or posing an imminent risk of damage to an existing structure, public or private road or sidewalk, or other permanent improvement, is allowed; provided, that:
    i. The applicant submits a report on a form provided by the Director from a certified arborist, registered landscape architect, or professional forester that documents the hazard and provides a replanting schedule for the replacement trees;
    ii. Tree cutting shall be limited to pruning and crown thinning, unless otherwise justified by a qualified professional. Where pruning or crown thinning is not sufficient to address the hazard, trees should be converted to wildlife snags and completely removed only where no other option removes the identified hazard;
    iii. All vegetation cut (tree stems, branches, etc.) shall be left within the shoreline vegetation conservation area or, if present, critical area or buffer, unless removal is warranted due to the potential for creating a fire hazard or for disease or pest transmittal to other healthy vegetation;
    iv. The landowner shall replace any trees that are removed pursuant to a restoration plan meeting the requirements of LUC 20.25H.210 **[update reference to appropriate shoreline critical area provision]**;

v. If a tree to be removed provides critical habitat, such as an eagle perch, a qualified wildlife biologist shall be consulted to determine timing and methods for removal that will minimize impacts; and

vi. Hazard trees determined to pose an imminent threat or danger to public health or safety, to public or private property, or of serious environmental degradation may be removed or pruned by the landowner on whose property the tree is located prior to receiving the permits required under this part; provided, that the landowner makes reasonable efforts to notify the City, and within 14 days following such action, the landowner shall submit a restoration plan that demonstrates compliance with the provisions of this part.

g. Select Vegetation Pruning. Pruning of existing trees and vegetation within the shoreline vegetation conservation area with hand labor and hand-operated equipment in accordance with this subsection The pruning allowed by this subsection shall be performed in accordance with guidelines established by the Director for each of the following pruning techniques: canopy reduction; canopy cleaning; canopy thinning; canopy raising or lifting; structural pruning; and canopy restoration.

In no event may a tree or vegetation which is an active nest site for a species of local importance be pruned pursuant to this subsection.

III. Landscape development within the Vegetation Conservation shoreline setback–

a. Purpose. This section establishes the requirements for landscape development within the shoreline Vegetation Conservation setback.

b. Landscaping. The following development activities shall require compliance with the landscape standards established in this section within the shoreline vegetation conservation setback:

i. New primary structure on an undeveloped site within shoreline jurisdiction; or

ii. Reconstructed primary structure whose lot coverage is greater than the existing structure; or

iii. Expansion of an existing home laterally more than 500 square feet; or

iv. Any expansion of an existing home when the expansion is proposed waterward of the homes existing façade; or

v. Construction of an accessory structure greater than 200 square feet within the primary structure? setback.

c. Landscaping Requirement

i. When required, an applicant shall plant landscaping in the amount of 60% of the area of the required shoreline vegetation conservation setback.

ii. Use of Existing Vegetation. The City shall accept existing native trees, shrubs, and groundcover as meeting the requirements of this subsection, including vegetation previously installed as part of a prior development activity,; provided that the existing vegetation provides a landscape strip at least as effective in protecting shoreline ecological functions as the required vegetation. The City may require the applicant to plant trees, shrubs, and groundcover according to the requirements of this subsection to supplement the existing vegetation in order to provide a buffer at least as effective as the required buffer.

iii. Plant materials must be native and selected from the City of Bellevue Critical Areas Handbook, or other native or shoreline appropriate species approved by the Director.

ATTACHMENT 4

Attachment 4
October 20, 2010 Planning Commission Meeting Agenda Memo
Redmond Shoreline Setback Code Citations

The following is are sections of the Redmond Shoreline Master Program that govern setbacks and vegetation conservation:

20D.150.60-020 Lake Sammamish Setback.
Lake Sammamish has no buffer (as noted in 20D.150.60-010 above) but rather has a building setback. The waterfront-building setback for new development and redevelopment (tear downs) along Lake Sammamish shall be a minimum of 35 feet. The building setback can be reduced to 20 feet if the setback area is revegetated with primarily native vegetation. Establishment of a tree canopy is encouraged. No constructed structures other than those required for waterfront access/docks are allowed within the 20-foot setback. New development adhering to the 35-foot setback and/or reconstruction that involves greater than 50% the value of existing improvements shall be required to plant 50% of the area in the minimum 20 foot building setback with native vegetation.

20D.150.60-030 Buffer and Setback Measurements
Shoreline buffers and waterfront-building setbacks are measured from the ordinary high water mark.

20D.150.70-070 Water-Oriented Accessory Structures.
Accessory structures that are water-oriented and accessory to a shoreline or water-dependent use shall meet the following standards.
(1) Water-oriented accessory structures are not subject to the waterfront building setbacks or side yard setbacks of the underlying zone (see RCDG 20C.30.25), unless otherwise noted below.
(2) Boathouses and similar water-oriented structures may extend no further waterward than the ordinary high water line. Such structures shall meet the minimum side yard setback required in the underlying zone, unless they are a joint use facility that serves more than one adjoining waterfront lot.
(3) Water-oriented accessory structures shall not exceed ten feet in height and 250 square feet in area. However, multiuse structures that include storage and changing rooms may be a maximum of 500 square feet. The area of such covered structures shall be included in the maximum lot coverage and impervious surface limits of the zone in which they are located.
(4) Uncovered boat lifts and similar equipment or structures used for watercraft may be located waterward of the ordinary high water mark to the waterward limit of the associated pier or dock. Such structures associated with docks shall have a height limit of four feet above ordinary high water. Such structures associated with piers shall have a height limit of four feet above the deck of the pier. Where a boatlift is used in lieu of a pier, it may extend waterward of the ordinary high water mark, provided it does not exceed four feet above the OHWM in height and meets the side yard setback of the underlying zoning district. Covered boat lifts shall not exceed 96 inches in height as measured from the ordinary high water mark.
(5) Joint Use Accessory Structures. Water-oriented accessory structures that serve more than one adjoining waterfront lot may be constructed with a zero side setback

from the common boundary, provided that the owners of such property enter into a reciprocal use agreement recorded with the King County Auditor.

20D.150.90-010 Prohibited Clearing and Grading.
The following clearing and grading activities are prohibited within the shoreline jurisdiction:
(1) Clearing or grading within shoreline buffers, except as part of a buffer restoration or mitigation plan and except as otherwise permitted under 20D.150.60-010(2) through (5).
(2) Clearing or grading within Lake Sammamish waterfront building setbacks, except for the purpose of habitat restoration and enhancement or natural beach enhancement or protection, or the installation of residential docks, shoreline protective structures, or public access, where allowed.

20D.150.90-060 Design and Construction Standards in Shorelines.
Any clearing, grading, landfill or excavation within the shoreline jurisdiction shall meet the additional construction standards specified in this section. Shoreline buffers are defined in 20D.150.60, Shoreline Buffers and Setbacks. Waterfront building setbacks are defined in 20D.150.60-020, Lake Sammamish Setback. The shoreline jurisdiction is defined in 20D.150.20, Shoreline Jurisdiction.
(1) Landfills and excavations shall not cause significant direct or indirect damage to shoreline vegetation, water quality, stream flow, fish habitat, aquatic life or wildlife. Landfills and excavations shall achieve no net lot of shoreline ecological functions.
(2) Landfills and excavations shall not significantly reduce the aesthetic and visual qualities of the shoreline, nor significantly reduce public access to the shoreline or significantly interfere with shoreline recreational uses.
(3) The extent of the landfill shall be the minimum amount and extent necessary to accomplish the purpose for the fill under subsection 20D.150.90-030 of this section.
(4) Landfilling shall not create unstable land conditions, cause subsidence, cause land to rise, or otherwise jeopardize public safety and property.
(5) Fill material shall consist of clean materials, free of toxins or other wastes that may degrade water quality or shoreline habitat.
(6) All proposals for landfills within the floodplain shall provide confirmation that an equal water storage capacity is maintained and that no significant direct or indirect damage to the watercourse, water quality, stream flow or aquatic life will occur, and compliance with the development standards for flood hazard areas as outlined in RCDG 20D.140.40-030.
(7) Any clearing or grading within a shoreline buffer shall also meet the requirements for stream buffers and wetland buffers in the City's critical areas regulations, RCDG 20D.140.30-020, Wetland Buffers and 20D.140.20-020, Stream Buffers, including 20D.150.60-010, Shoreline Buffers.
(8) All landfilling in the floodplain is also subject to the requirements of RCDG 20D.140.40-030, Flood Hazard Areas – Development Standards.
(9) Natural Beach Enhancement and Protection.

(a) Materials used in landfills for natural beach enhancement and protection shall be equivalent in form, size and function to beach material that naturally occurs at the site or other comparable natural beach site.

(b) Beach enhancement and protection shall incorporate planting of native emergent and upland vegetation, where such vegetation would naturally occur and where planting would promote beach stabilization.

(c) Natural beach enhancement and protection shall not:

(i) Detrimentally interrupt littoral drift, or redirect waves, current or sediment to other sites.

(ii) Extend waterward more than the minimum amount necessary to achieve a reasonable level of beach stabilization.

(iii) Result in steep contours that trap drifting sediments, impede pedestrian access, or that result in unstable slopes.

(10) Protection and Replacement of Vegetation.

(a) Within waterfront building setbacks, areas disturbed by clearing, grading or excavation for shoreline protective structures, docks and other improvements allowed within waterfront building setback (see RCDG 20C.30.25-080(5), Waterfront Building Setbacks) shall be revegetated to ensure no net loss of shoreline ecological functions.

(b) Vegetation Restoration. Vegetation remaining after project construction, including areas disturbed by clearing, grading or excavation within shoreline buffers shall be restored to its native condition, equal alternative or an improved condition, pursuant to RCDG 20D.140.30-040, Wetlands Performance/Design Standards and RCDG 20D.140.20-060, Riparian Stream Corridor Performance Standards.

(c) Any removal of trees within the shoreline jurisdiction shall also meet the requirements of RCDG 20D.150.110, Tree Protection, Landscaping and Screening within Shorelines.

20D.150.110 Tree Protection, Landscaping and Screening Within Shorelines.
20D.150.110-010 Tree Protection

In addition to RCDG 20D.80, Landscaping and Tree Protection, all development within the shoreline jurisdiction shall comply with the additional tree protection, landscaping and screening requirements of this section. Where there is a conflict between regulations, the more restrictive regulation shall apply.

(1) Tree Protection Requirements. To maintain the ecological functions that trees provide to the shoreline environment, including air quality, wildlife habitat, temperature and glare attenuation, and aquifer recharge, significant trees shall be retained as follows:

(a) Consistent with 20D.180.20-070, Tree Protection Standards, a minimum of 35% of the existing significant trees shall be preserved on site.

(b) Within the waterfront building setback, significant trees shall be retained, except where the tree is dead, diseased, dying or hazardous.

(c) Within the shoreline buffer, trees shall be removed only where allowed under RCDG 20D.140.10-160, Buffer Areas, and 20D.140.20-020, Stream Buffers.

(d) Within the shoreline jurisdiction, significant trees shall not be removed or topped for the purpose of creating views. Nondestructive thinning of lateral branches to enhance views is allowed.

(2) Tree Replacement. Significant trees that are removed, or significant trees designated for protection that are irreparably damaged or destroyed shall be replaced. Replacement trees shall be planted as follows:

(a) Each existing significant tree shall be replaced with two new trees.

(b) For each additional three inches d.b.h. above six inches d.b.h., one additional replacement tree shall be planted, up to six trees.

(c) Where on-site tree replacement is not feasible, the Administrator may allow up to 60% of the required replacement trees to be planted off-site, pursuant to RCDG 20D.80.20.080, Tree Replacement. Replacement trees shall be planted within or adjacent to the shoreline jurisdiction. Trees planted in proposedlandscaping of the site perimeter, vehicle use areas, shoreline buffers and other areas of the site may be counted as replacement trees.

(d) See RCDG 20D.80.20-080(5) for size, species and condition of replacement trees.

(3) Trees planted within shoreline public open space areas and public trail corridors shall be maintained only under the supervision of Redmond Parks Department.

20D.150.170 Vegetation Management

20D.150.170-010 Purpose

The purpose of this chapter is to protect shorelines, sensitive areas, fish and wildlife habitat, and other natural areas from potentially adverse management activities, and to implement the goals and policies for the protection of the natural environment contained in RCDG Title 20B, Goals, Policies and Plans.

20D.150.170-020 Vegetation Management Within Shorelines

(1) Preservation of Shoreline Vegetation. Trees and other vegetation within the shoreline shall be preserved consistent with 20D.150.110, Tree Protection, Landscaping and Screening Within Shorelines, 20D.150.60- 010, Shoreline Buffers, and 20D.150.60-020, Lake Sammamish Setback.

(2) Clearing and grading within the shoreline is regulated by RCDG 20D.150.90, Clearing, Grading, Landfill and Excavation Within Shorelines.

(3) Aquatic Vegetation Removal Prohibited.

(a) Removal of aquatic vegetation within the Aquatic, Natural or Urban Conservancy Shoreline Environments is prohibited, except where authorized under an approved habitat enhancement plan, adopted basin plan, or authorized aquatic weed management program; and where native plant communities and habitats are threatened or an existing water-dependent use is threatened by the presence of aquatic weeds.

(b) The removal of native aquatic plants is prohibited, except where an existing water-dependent use is threatened; or where the overabundance of the native plant threatens fish and wildlife habitat.

(c) The use of herbicides to control aquatic vegetation is prohibited, except where:

(i) no reasonable alterative exists;

(ii) the use of herbicides has been approved through a comprehensive vegetation management and monitoring plan; and where

(iii) authorized by the City or other agency through the environmental review process pursuant to WAC 197-11, the State Environmental Policy Act.

(d) Where aquatic vegetation removal becomes necessary, it shall be the minimum area and duration necessary to accomplish the stated objectives of the removal program, and shall minimize negative impacts on wildlife, fish and shoreline habitat.

(e) Aquatic vegetation management programs shall include preventive measures and monitoring recommendations.

(f) Aquatic vegetation removal activities within the shoreline jurisdiction shall comply with the requirements of the responsible agencies (i.e. Washington State Departments of Agriculture, Fish and Wildlife, or Ecology, or the Federal Environmental Protection Agency.)

(4) Vegetation Removal Restricted.

(a) Normal pruning and trimming of landscape plants within the shoreline jurisdiction are exempt from the requirements of this subsection.

(b) Vegetation removal within shoreline buffers and waterfront building setbacks shall be allowed only for the purposes of maintaining established landscaping, maintaining public safety, maintaining an allowed shoreline use or improvement, or to enhance fish or wildlife habitat; provided that:

(i) removal shall not be by mechanical means unless no feasible alternative exists;

(ii) the extent of removal is the minimum necessary to achieve the above purposes;

(iii) native plants are not removed for the purpose of establishing non-native plants; and

(iv) the timing and duration of such removal is demonstrated to not have long-term adverse impacts on wildlife or fish.

(5) Application of Herbicides, Pesticides and Fertilizers.

(a) The application of pesticides, herbicides or fertilizers within shoreline buffers or waterfront building setbacks is discouraged and shall be the minimum necessary for the long-term maintenance or restoration of fish or wildlife habitat, restoration or maintenance of native plants, or maintenance of existing landscaping.

(b) Herbicides and other agricultural and landscape chemicals shall be applied in a manner that minimizes their transmittal to adjacent water bodies. The direct runoff of chemical-laden waters into adjacent water bodies is prohibited. Aerial spraying of herbicides, pesticides and fertilizers within 500 feet of the o.h.w.m. of the adjacent water body is prohibited.

(c) Within 20 feet of the shoreline buffer or waterfront building setback, broad spectrum herbicides shall be used only for spot application with wicking or small spray equipment on noxious weeds.

(d) The use of time-release fertilizers and herbicides shall be preferred over liquid or concentrate application on turf within the shoreline jurisdiction.

(e) The use of pesticides, herbicides or fertilizers within the shoreline jurisdiction shall comply with regulations of responsible agencies (i.e. Washington State

Departments of Agriculture, Fish and Wildlife, or Ecology, or the Federal Environmental Protection Agency.)

(f) Sports fields, parks, golf courses and other outdoor recreational uses that require maintenance of extensive areas of turf shall provide a chemical management plan or integrated turf management program designed to ensure that existing water quality of adjacent water bodies and aquifers is maintained. The chemical management plan or integrated turf management program shall incorporate facilities and management methods sufficient to maintain water quality, including stormwater treatment facilities adequate to remove a minimum of 50% of excess phosphorous and nitrogen, and up to 25% additional shoreline and shoreline tributary buffers where necessary to protect water quality.

(6) Landscape Maintenance Required.

(a) All landscaped areas within the shoreline jurisdiction, shoreline buffers and shoreline setbacks shall be managed and maintained to prevent the excessive growth of noxious weeds as required by Redmond Municipal Code Chapter 6.12.030.

(b) Areas disturbed by removal of noxious or invasive plants shall be replanted in a timely manner with native vegetation.

(7) Where large quantities of plants are removed by vegetation control activities, plant debris shall be collected and disposed of in an appropriate upland location outside of shoreline buffers and waterfront building setbacks.

ATTACHMENT 5

Attachment 5
October 20, 2010 Planning Commission Meeting Agenda Memo
Range of Regulatory Approaches

	1974 Code	Existing Code	Option A	Option B	WSSA Option	Kirkland	Redmond	Sammamish	Renton
BUFFER/SETBACK	25' structure setback	All water bodies Developed site- 25' buffer/25' setback Undeveloped site- 50' buffer/0 setback	Lake WA, Sammamish, Phantom Lake, & Mercer Slough/Kelsey Creek 50' Newport Shores Canals 25'	Phantom Lake & Mercer Slough/Kelsey Creek 50' Lake WA and Sammamish 35' Newport Shores Canals 25'	All water bodies 25'	**Residential-L** 30% of the average parcel depth, except in no case is the shoreline setback permitted to be less than 30 feet or required to be greater than 60 feet **Residential-M/H** The greater of: a. 25' or b.15% of the average parcel depth	Lake Sammamish 35'	Lake Sammamish 45'/5'	Lake WA 25-60
MINIMUM SETBACK	25'	n/a	25'	25'	25'	25'	20'		25'
MENU OPTIONS	NO	NO	YES	NO	NO	YES	NO	YES	YES
VEGETATION STANDARDS	Required plan for preserving vegetation. No additional tree preservation requirement.	Preserve all vegetation w/in buffer and within all critical areas and their setbacks. General Tree preservation-20**%** of significant trees	Preserve significant trees and native vegetation within vegetation conservation setback. Preserve 30% of significant on remainder of site	Not detailed.	No vegetation conservation, management or restoration in/out of setback	Trees w/in setback must be preserved. Replacement for trees removed at 2-6 ratio. Plant native vegetation in 75% of the nearshore area- (10-15 feet in width) **Nonconforming Shoreline Setback Vegetation:** Must be brought into conformance when the cost of which exceeds 50 percent of the replacement cost of all structures on the subject property.	Trees within building setback must be maintained. 20' setback area with native vegetation. Establishment of a tree canopy is encouraged. General tree preservation standard-35% of the existing significant trees shall be preserved on site.	Vegetation enhancement area 75% of 15 foot-wide portion of the shoreline setback immediately landward of the OHWM is Unspecified tree preservation on Lake Sammamish.	Retain native vegetation w/in vegetation conservation buffer (10-25')

ATTACHMENT 6

Attachment 6
October 20, 2010 Planning Commission Meeting Agenda Memo
Menu Options Table

	MENU OPTION	OBJECTIVES	FUNCTIONS	RELATIVE ECOLOGICAL CONTRIBUTION	RELATIVE SETBACK REDUCTION
1.	Presence of non-structural or soft structural shoreline stabilization measures located at, below, or within 5 feet landward of the lake's OHWM along at least 75 percent of the linear lake frontage of the subject property. This can include the removal of an existing hard structural shoreline stabilization measure and conversion to a non-structural or soft structure stabilization measure. This option cannot be used in conjunction with Option 2 below.	Link upland and aquatic resources Provide space for wildlife	Habitat: • Fish habitat • Invertebrate habitat • Mammal and bird habitat • Amphibian and reptile habitat • Food chain support, structure, diversity	HIGH	HIGH
			Vegetative: • Large woody debris • Attenuation of wave energy • Sediment removal and bank stabilization • Bio-diversity	HIGH	
			Hydrologic: • Water storage/flood control • Collection woody debris/ organic transport • Shoreline anchoring/wave attenuation • Groundwater recharge/discharge	MEDIUM	
			Hyporheic: • Sediment storage & collection • Chemical cycling • Vegetation support (Moisture) • Nutrient and toxic compound removal	MEDIUM	
2.	Presence of non-structural or soft structural shoreline stabilization measures located at, below, or within 5 feet landward of the lake's OHWM along at least 15 linear feet of the lake frontage of the subject property. This may include the removal of an existing hard structural shoreline stabilization measure and conversion to a non-structural or soft structure stabilization measure. This option cannot be used in conjunction with Option 1 above;	Link upland and aquatic resources Provide space for wildlife	Habitat: • Fish habitat • Invertebrate habitat • Mammal and bird habitat • Amphibian and reptile habitat • Food chain support, structure, diversity	MEDIUM	MEDIUM
			Vegetative: • Large woody debris • Attenuation of wave energy • Sediment removal and bank stabilization • Bio-diversity	MEDIUM	
			Hydrologic: • Water storage/flood control • Collection woody debris/ organic transport • Shoreline anchoring/wave attenuation • Groundwater recharge/discharge	LOW	
			Hyporheic: • Sediment storage & collection • Chemical cycling • Vegetation support (Moisture) • Nutrient and toxic compound removal	LOW	
3.	Opening of previously piped on-site watercourse to allow improvement to habitat function for fish for a minimum of 25 feet in length. Opened watercourses must be provided with a native planted buffer at least 5 feet wide on both side of the stream. A qualified professional must design opened watercourses.	Link upland and aquatic resources Provide space for wildlife Pollutant removal and improved water quality	Habitat: • Fish habitat • Invertebrate habitat • Mammal and bird habitat • Amphibian and reptile habitat • Food chain support, structure, diversity	HIGH	MEDIUM
			Vegetative: • Large woody debris • Attenuation of wave energy • Sediment removal and bank stabilization • Bio-diversity • Temperature regulation	MEDIUM	
			Hydrologic: • Water storage/flood control • Collection woody debris/ organic transport • Water quality improvement • Shoreline anchoring/wave attenuation • Groundwater recharge/discharge	MEDIUM	
			Hyporheic: • Sediment storage & collection • Chemical cycling • Vegetation support (Moisture) • Nutrient and toxic compound removal	LOW	
4.	Soft structural shoreline stabilization measures are installed waterward of the OHWM. They may include the use of gravels, cobbles, boulders, and logs, as well as vegetation. The material shall be of a size and placed to remain stable and accommodate alteration from wind- and boat-driven waves and shall be graded to a maximum slope of 1 vertical (v): 4 horizontal (h).	Link upland and aquatic resources Provide space for wildlife	Habitat: • Fish habitat • Invertebrate habitat • Amphibian and reptile habitat • Food chain support, structure, diversity	MEDIUM	MEDIUM
			Vegetative: • Large woody debris • Attenuation of wave energy • Bank stabilization • Bio-diversity	MEDIUM	
			Hydrologic: • Collection woody debris/ organic transport • Shoreline anchoring/wave attenuation	MEDIUM	
			Hyporheic:	N/A	

	MENU OPTION	OBJECTIVES	FUNCTIONS	RELATIVE ECOLOGICAL CONTRIBUTION	RELATIVE SETBACK REDUCTION
5.	Installation of pervious material for all pollution generating surfaces such as driveways, parking or private roads that allows water to pass through at rates similar to pre-developed conditions.	Pollutant removal and improved water quality	Habitat: • Fish habitat • Invertebrate habitat • Mammal and bird habitat • Amphibian and reptile habitat • Food chain support, structure, diversity	LOW	MEDIUM
			Hydrologic: • Water storage/flood control • organic transport • Water quality improvement • Groundwater recharge/discharge	HIGH	
			Vegetative:	N/A	
			Hyporheic: • Sediment storage & collection • Chemical cycling • Vegetation support (Moisture) • Nutrient and toxic compound removal	LOW	
6.	Preserving or restoring at least 20 percent of the total lot area outside of the reduced setback and any critical areas and their associated buffers as native vegetation.	Provide space for wildlife Pollutant removal and improved water quality	Habitat: • Fish habitat • Invertebrate habitat • Mammal and bird habitat • Amphibian and reptile habitat • Food chain support, structure, diversity	MEDIUM	MEDIUM
			Vegetative: • Large woody debris • Attenuation of wave energy • Sediment removal and bank stabilization • Bio-diversity	MEDIUM	
			Hydrologic: • Water storage/flood control • Collection woody debris/ organic transport • Water quality improvement • Groundwater recharge/discharge	MEDIUM	
			Hyporheic:	N/A	
7.	Hard structural shoreline stabilization measures are setback from the OHWM between 2 ft. to 4 ft based on feasibility and existing conditions and/are sloped at a maximum 3 vertical (v): 1 horizontal (h) angle to provide dissipation of wave energy and increase the quality or quantity of nearshore shallowwater habitat.	Provide space for wildlife	Habitat: • Fish habitat • Amphibian and reptile habitat	MEDIUM	LOW
			Vegetative:	N/A	
			Hydrologic: • Shoreline anchoring/wave attenuation	MEDIUM	
			Hyporheic:	N/A	
8.	Increasing the width the vegetation conservation setback to by 5 feet.	Provide space for wildlife Pollutant removal and improved water quality	Habitat: • Fish habitat • Invertebrate habitat • Mammal and bird habitat • Amphibian and reptile habitat • Food chain support, structure, diversity	LOW	LOW
			Vegetative: • Large woody debris • Sediment removal and bank stabilization • Bio-diversity	MEDIUM	
			Hydrologic: • Water storage/flood control • Collection woody debris/ organic transport • Water quality improvement • Shoreline anchoring/wave attenuation • Groundwater recharge/discharge	LOW	
			Hyporheic: • Sediment storage & collection • Chemical cycling • Vegetation support (Moisture) • Nutrient and toxic compound removal	LOW	
			Hyporheic:	N/A	
9.	Limiting total site impervious coverage to at least 10% less than maximum allowed	Provide space for wildlife Pollutant removal and improved water quality	Habitat: • Fish habitat • Invertebrate habitat • Mammal and bird habitat • Amphibian and reptile habitat • Food chain support, structure, diversity	LOW	LOW
			Vegetative: • Large woody debris • Bio-diversity	LOW	
			Hydrologic: • Water storage/flood control • Collection woody debris/ organic transport • Water quality improvement • Groundwater recharge/discharge	MEDIUM	
			Hyporehic	N/A	