CITY OF KIRKLAND
PLANNING AND BUILDING DEPARTMENT
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MEMORANDUM

Date: **June 15, 2016**

To: **Planning Commission**

From: **Teresa Swan, Senior Planner**
Joan Lieberman-Brill, AICP, Senior Planner
Jeremy McMahan, Development Review Manager
Paul Stewart, AICP, Deputy Director

Subject: **Chapter 90 KZC Amendments (Critical Areas Ordinance/Wetlands, Streams, Fish and Wildlife Conservation Areas and Frequently Flooded Areas Regulations), File CAM15-01832, #2**

I. RECOMMENDATION

- Review the portion of the preliminary draft Chapter 90 KZC that has been prepared in response to Planning Commission direction and Houghton Community Council comments and provide comments to staff. The remaining portion of the preliminary draft Chapter 90 will be presented at the July 14, 2016 study session.

- Review and provide comments on staff's proposed minor changes tor several items discussed at the February-April study sessions, including exempted activities and permitted activities with standards, advance mitigation, a change to one of the non-conforming provisions and measures to reduce noise impacts.

- Review and provide comments on two new approaches to permit review; 1) for public agency and utility programmatic permits, and 2) for public agency and public agency and utility exceptions

II. BACKGROUND

Following a background briefing on January 28, 2016, on proposed amendments to Chapter 90, the Planning Commission held three study sessions on February 25, 2016, March 24, 2016, and April 28, 2016 discussing key issues and policy considerations, and taking public comments. The Planning Commission then gave staff direction that would be the basis for preparation of a draft Chapter 90. Attachment 1 is the preliminary draft chapter for review and discussion reflecting the Planning Commission's direction, except as noted below in Section IV in the memo.

On May 23, 2016, the Houghton Community Council held a study session to review the direction of the Planning Commission. The Houghton Community Council was generally

supportive of the Planning Commission direction. Their comments are noted below in Section IV in the memo.

On June 21, 2016, the City Council will hold a study session on the Chapter 90 amendments. Staff provided a memo summarizing the Planning Commission direction along with the comments from the Houghton Community Council.

III. PRELIMINARY DRAFT CHAPTER 90 KZC

Attachment 1 contains a portion of the preliminary draft chapter. The remaining portion will be presented at the July 14, 2016 study section.

The order of the sections may change as the staff considers the most logical and user friendly order. Staff will continue do minor edits to make the provisions more precise, remove redundancies in requirements and be internally consistent. Because this represents a complete re-write of Chapter 90, the draft is shown as a **clean copy** with no strike outs and underlines.

The preliminary draft plan reflects the proposed regulations in the staff memos and the direction of the Planning Commission as of the April 23, 2016 meeting, except for:

- Staff's proposed revisions to the list of **exempt activities** (see discussion below in Section IV.A of the memo)

- Staff's proposed revisions to the list of **permitted activities** subject to standards (see discussion below in Section IV.A of the memo).

- Staff is proposing two new review categories of activities that include **Public Agency and Public Utility Exceptions** (require a Process I permit) and **Public Programmatic Permits** (on-going city projects that would require either a Planning Official or Process I depending on the activity). These changes are discussed below in Section IV.A of the memo.

- Staff's proposed revision to allow **advance mitigation** to be available to all public agencies, rather than limited to use by Kirkland public projects, as determined by the City (see discussion below in Section IV.F of the memo)

- A comment from the **Houghton Community Council** about not requiring a locational analysis for additions in critical area buffers for non-conforming homes (see discussion below regarding nonconformances in Section IV.G). Staff has eliminated the analysis as a requirement for an addition.

Staff will take the Planning Commission's comments from the June 23, 2016 and July 14, 2016 study sessions and reflect them in the draft Chapter 90 along with staff's subsequent edits. This version will be reviewed by the Houghton Community Council on July 25, 2016.

Provided that the scope of the comments from the Planning Commission on the preliminary draft is not extensive, staff anticipates having a **joint hearing with the Houghton**

Community Council on the draft Chapter 90 on August 25, 2016. Staff will poll the Planning Commission and Houghton Community Council to confirm that we will have a quorum for that hearing date.

The length of the chapter reflects the numerous topics that are required to be addressed, but also the many lists of submittal requirements, components needed in reports and decisional criteria. This level of detail is needed to provide clear guidelines and expectations for city staff, decision makers, applicants and/or property owner, consultants and neighbors.

The table below lists each section as they appear in the draft chapter. A brief summary of what is included in each section is provided along with whether the section is new or revised. Sections in grey shading noted below will be provided at the Planning Commission meeting in July.

Summary of Preliminary Draft Chapter 90

Section	Summary of Topic Addressed
User Guide	• Existing Chapter 90 text retained with edits.
Purpose	• Existing Chapter 90 text retained with edits to reflect new requirements, including for Frequently Flooded Areas and Fish and Wildlife Habitat Conservation Areas section.
Applicability	• Existing Chapter 90 text retained with edits to reflect new requirements. • Adds paragraph to clarify that provisions in Chapter 90 may not be varied using provisions in other chapters. • Referred to required state and federal permits that are applicable to critical areas.
Critical Area Maps and Other Resources	• Existing Chapter 90 text retained with edits.
Regulated Activities	• New section. Lists general categories of activities and conditions that may be regulated under Chapter 90.
Process	• New section. Table with overall review process for different types of activities and uses. • See discussion in Section IV below.
Exemptions	• Replaces existing Chapter 90 section for exceptions. These are the exemptions that the Planning Commission has reviewed or requested or staff has added since the Planning Commission meeting in March. See discussion below in Section IV.
Permitted Activities Subject to Development Standards	• Replaces existing Chapter 90 section for exceptions. • These are permitted activities and uses that the Planning Commission has reviewed. See discussion below in Section IV addressing revisions to the list since the Planning Commission meeting in March.
Public Agency and Public Utilities Exceptions	• New section. • See discussion in Section IV below addressing new review category of activities since the Planning Commission meeting in March.
Public Agency and Public Utilities Programmatic Permits	• New section. • See discussion in Section IV below addressing new review category of activities since the Planning Commission meeting in March.

Section	Summary of Topic Addressed
Wetlands and Associated Buffer Standards	• Existing Chapter 90 section is completed revised. • Incudes Wetland Category and Rating, Critical Area Determination, Wetland Modification and related Buffer Impacts, Wetland Compensatory Mitigation, Waiver to Buffer Standard for Enhancement, and Restoration (reflects Ecology guidance). • Reflects staff memos and Planning Commission discussions and direction for the February – April meetings.
Stream and Associated Buffer Standards	• Existing Chapter 90 section is completed revised. • Includes Stream Classification, Critical Area Determination, Stream Modification and related Buffer Impacts, Daylighting of Stream, Reduction in Buffer Standards for Changing Course or Daylighting of Stream, Stream Channel Stabilization and Restoration, Culverts and Storm Water Outfalls on Private Property (reflects Ecology guidance). • Reflects staff memos and Planning Commission discussions and direction for February – April meetings.
Minor Lakes	• Existing Chapter 90 section is revised with minor edits. • Includes public and private moorage facilities and other park activities. • See discussion below in Section IV.I concerning revisions to the existing text in Chapter 90.
Fish and Wildlife Habitat Conservation Areas	• New section (reflect GMA). • Includes Location of Habitat Areas, Species and Habitat Criteria, Determination of Habitat Conservation Area, Modification to Habitat Conservation Areas, General Standards, Buffer Standards, Standards for Certain Priority Species, Critical Area Report, Mitigation, City Designation and Public Nomination Process • Reflects staff memos and Planning Commission discussions and direction for February meeting.
Frequently Flooded Areas	• Existing Chapter 90 section is revised with one minor edit (reflects Ecology guidance and Endangered Species Act requirements).
GENERAL STANDARDS	•
Buffer Averaging	• Replaces part of existing wetland buffer and stream sections (reflect Ecology guidance). • Reflects staff memos and Planning Commission discussions and direction for February – April meetings.
Buffer Modifications and Waivers	• New section. • Includes Buffer Modification (list of limited conditions when allowed for wetlands or streams buffers), including Divided Buffer Waiver. • Reflects staff memos and Planning Commission discussions and direction for February meeting.
Increase in Buffer Width Standard	• New section (reflect Ecology guidance). • Reflects staff memos and Planning Commission discussions and direction for February – April meetings.
Structure Setback from Buffer	• Existing Chapter 90 section is extensively revised by adding specific list of what improvements are permitted in the structure setback. • Reflects staff memos and Planning Commission discussions and direction for February meeting.
Vegetative Buffer Standards	• New section.

Section	Summary of Topic Addressed
	• Includes Vegetative Standards, Process, When Vegetative Standard Applies, Vegetative Buffer Plan, Installation of Buffer and Maintenance. • Reflects staff memos and Planning Commission discussions and direction for February meeting.
Trees in Critical Areas	• Section from Chapter 95 (Tree Management) moved to Chapter 90 and revised. Reflects regulations from Chapter 83 (shoreline regulations) concerning tree removal and replacement.
Measures to Minimize Impacts to Critical Areas	• New section (reflects Ecology guidance). • Includes lights, noise, toxic runoff, use of pesticides, insecticides and fertilizers, storm water runoff, pets and human intrusions, dust and disruption of wildlife life corridor. • Reflects staff memos and Planning Commission discussions and direction for February meeting. • See Section IV.E discussion below on how staff addressed noise impact standards.
Critical Area Markers, Fencing and Signage	• Replaces part of existing wetland buffer and stream sections. • Reflect staff memos and Planning Commission discussions and direction for February meeting.
Critical Area Determination	• Replaces part of existing wetland buffer and stream sections.
Critical Area Report	• Replaces part of existing wetland buffer and stream sections. • Includes list of requirements for report.
Mitigation Requirements	• New section. • Includes Mitigation Sequencing, Approaches to Mitigation, Timing of Mitigation, Mitigation Plan, Mitigation and Restoration Standards, Monitoring and Maintenance (reflects Ecology guidance). • Reflect staff memos and Planning Commission discussions and direction for February – April meetings.
Monitoring and Maintenance	• Replaces part of existing wetland buffer and stream sections. • New is requirement of 10 year program for forested and shrub wetlands which other cities require. All other mitigation is 5 year program which is current requirement. • Includes list of requirements for program.
Restoration for Code Enforcement	• New section. • Addresses submittal requirements.
Financial Security for Performance, Monitoring and Maintenance	• New section. • Addresses submittal requirements reflecting current department policy. • Adds ability of City to extend security time when site is not maintained or to reduce security time when vegetative buffer is well maintained within first two years and no critical area modification is involved.
Maximum Development Potential	• Existing Chapter 90 section is revised to address issues. • Reflects staff memos and Planning Commission discussions and direction for February – April meetings.
Dimensional Design Standards	• New section. • Reflects staff memos and Planning Commission discussions and direction for February – April meetings.

Section	Summary of Topic Addressed
	• See discussion in Section II above concerning Houghton Community Council's comment about allowing reduction of front yard setback that may affect residential character. The section reflects the Planning Commission's direction.
Reasonable Use Exception	• Existing Chapter 90 section is revised to address issues, including public comment. • Reflects staff memos and Planning Commission discussions and direction for February – April meetings.
Non-Conformances	• New section. • Includes Maintenance and Repair of Nonconforming Structures, Expansion of Nonconforming Structures that Do Not Increase the Degree of Non-Conformance, Reconstruction of Existing Nonconforming Structures, and Expansion of Nonconforming Structures that Do Increase the Degree of Non-Conformance. • Reflects staff memos and Planning Commission discussions and direction for February – March meetings, except see discussion in Section II. Houghton Community Council's (HCC) commented not to require locational analysis when placing addition in critical area buffer to show why addition cannot be located elsewhere on the site. Staff recommends reflecting HCC comments by not requiring locational analysis.
Pesticides and Herbicides	• New section. • Reflects City and State requirements.
Structure Setbacks and Buffer Required for Prior Approval	• Existing Chapter 90 section is revised to reflect pending date of new chapter and minor edits. • Reflects staff memo for March meeting.
Dedication of Critical Area and Buffer	• Existing Chapter 90 section is revised with minor edits.
Liability	• No change to existing Chapter 90 section.
Appeals and Reconsiderations	• Existing Chapter 90 section is revised with minor edits. • Add reconsideration for Planning Official decision.
Lapse of Approval	• Minor edit to existing section.

IV. FOLLOW-UP FROM THE PLANNING COMMISSION AND HOUGHTON COMMUNITY COUNCIL MEETINGS

The following section addresses staff recommended changes since the Planning Commission's meeting in April, and the Houghton Community Council's comments and concerns expressed at their May 23 meeting.

A. Exempt and Permitted Uses and Activities and New Public Agency Review Categories

Since the Planning Commission meeting in March, staff has done further research and recommends a three tier approach to regulated activities as noted below and has added two types of permitted activities and exemptions. Both Ecology BAS and The Watershed Company (TWC) support the three tier review approach.

The Houghton Community Council was also supportive of this approach:

- The first tier addresses **activities and uses allowed outright** as long as they meet the listed criteria and best management practices. These will be called **exemptions**. While they are subject to restoration of any soil or vegetation disturbance as a result of the activity, they are not subject to mitigation sequencing or compensatory mitigation. The only exception is for emergency work that must be mitigated after the fact to compensate for lost functions and values.

- The second tier consists of activities and uses that may be **permitted with standards** is subject to administrative approval by the **Planning Official**. These will be called **Permitted Activities Subject to Development Standards.** In some cases these activities will be **Public Programmatic Permits** (new subcategory). The latter permits are for ongoing and repeated public agency and utility maintenance activities that would be subject to administrative approval by the Planning Official.

- The new third tier consists of activities and uses that may be permitted is subject to **Planning Director Process I approval**. These are solely for Public Utilities and Public Agency initiated activities that go beyond those thresholds established for Permitted Activities Subject to Development Standards. These will be called **Public Agency and Public Utility Exceptions** (new category). Some of the activities for a public exception may include **Public Programmatic Permits** discussed above.

The three approaches are reflected in the preliminary draft Chapter 90 (see Attachment 1).

Staff Recommendation: *Use a three-tier approach so that regulations can be fine-tuned to address the differences in impact of each category of activities and uses, and public versus private projects.*

1. Exempted Uses and Activities

A. Background.

The Planning Commission was generally in agreement with the staff recommendations for uses and activities exempted from critical area permit, with the exception of a request to clarify that yard maintenance and the addition of heat pumps in previously disturbed areas should be exempt.

Staff has added the following activities and improvements to the exemption list per the direction of the Planning Commission. These exemptions are reflected in the preliminary draft Chapter 90 in Attachment 1:

1) Routine **landscape maintenance** of legally established lawns and gardens; including mowing, pruning, weeding, and planting; provided that such activities do not expand the area of permanent disturbance.

2) Addition of **HVAC equipment**, provided that: there is no feasible alternative location available; it does not expand the area of permanent disturbance; it is as far as possible from the critical area; that such equipment does not exceed nine (9) square feet; and it incorporates noise reduction techniques.

Since the March meeting, staff has also added voluntary public or private restoration of a critical area or buffer through removal of non-native invasive plant species and revegetation subject to a plan submitted to the Planning Official, as an exempt activity. This exemption is reflected in the preliminary draft Chapter 90 in Attachment 1.

Finally, staff has also modified the Public Utilities Exemption. This exemption has been revised to exclude new or replacement of a hazardous liquid pipeline that increases pipeline capacity and those electric facilities over 55 KV (transmission lines) and substations. Chapter 90 was previously silent on these two activities, since the Olympic Pipeline was not in City of Kirkland jurisdiction before the Juanita, Finn Hill and Kingsgate annexation, and the Energize Eastside PSE Transmission Line had not been considered until after the last update. These revisions are also reflected in the preliminary draft Chapter 90 in Attachment 1.

Instead of being an exempt activity, a proposal to expand capacity of the existing hazardous liquid pipeline would be considered using the proposed Public Agency or Public Utility Exception process, subject to more stringent decisional criteria, and requiring approval by the Planning Director. A proposal for new or replacement electric transmission facilities over 55 KV would be considered using the Permitted Activity Subject to Development Standards process, requiring approval by the Planning Official.

B. Staff Recommendation: *Staff recommends this revised list of exempt activities.*

2. Permitted Uses and Activities Subject to Standards

A. Background.

The second tier of uses and activities are **Permitted Uses Subject to Standards**. These uses and activities are subject to Planning Official review and approval to evaluate if they meet the requirements of mitigation sequencing. These activities are subject to restoration and/or mitigation requirements to replace lost functions and values. Some activities are limited to critical area buffers while others may also be allowed in the critical area. The Planning Official may require a critical area report to obtain information necessary to make an informed decision.

At the March meeting, Planning Commission was in agreement with the list of permitted uses subject to standards. Since then, staff did more research and continued to consider what activities and uses should be regulated under this

category. A **revised list** is provided below. The list has been incorporated in the preliminary draft Chapter 90 (see Attachment 1).

Those activities that are new since March are:

- Allowing the widening of existing public streets into outer 25% of the critical area buffer
- Allowing stream rehabilitation such as removing debris, fish barriers, sediment or vegetation.

REVISED LIST SINCE MARCH MEETING

Permitted Activities Subject to Development Standards	
Use/Activity:	**Standards:**
Private passive recreation structures: non-motorized trials, Stream crossings Benches	Located in outer 25% of buffer, except at stream or lake access. No more than 3' wide, pervious Stream crossings not allowed in Type F streams If located in fish habitat conservation areas must implement approved habitat management plan requirements.
Stream rehabilitation: **Removal of debris, fish barriers, sediment and vegetation**	Hand removal If located in fish habitat conservation areas must implement approved habitat management plan requirements.
Government facility or Public Utility	
1. Parks: Non-motorized pubic Park trails Stream crossings Benches Wildlife-viewing structures	Located in outer 25% of buffer, except at stream or lake access and stream crossings. Stream crossings not allowed in Type F streams No more than 5' wide, pervious If located in fish and wildlife habitat conservation areas must implement approved habitat management plan requirements.

Permitted Activities Subject to Development Standards	
2. Public Streets: Widening of existing public streets	Located in outer 25% of buffer If located in fish or wildlife habitat conservation areas must implement approved habitat management plan requirements. located to minimize removal of significant trees
3. Public Utilities: **a. New Sewer and Water Lines**	Located in buffer as far as possible from critical area edge to allow for gravity flow No degradation to functions or values If located in fish or wildlife habitat conservation areas must implement approved habitat management plan requirements.
b. Drilling for utilities under critical area	Prohibited in Category I wetlands Entrance/exit portals completely outside of buffer. No interruption of groundwater or surface water to wetland.
c. Surface water management Runoff treatment or flow control best management practices	Allowed in buffer only if no grading or maintenance required Vegetation compatible with buffer vegetation standards If located in fish or wildlife habitat conservation areas must implement approved habitat management plan requirements.
Stormwater outfalls	Allowed in buffer only if discharge outside buffer infeasible, or If slopes are greater than 15% adjoining the buffer, and geotechnical report demonstrates that discharge outside

Permitted Activities Subject to Development Standards	
	buffer will cause slope instability or excessive erosion. No degradation to functions or values If located in fish or wildlife habitat conservation areas must implement approved habitat management plan requirements.
d. Other public utilities (water, telephone, cable television, gas, and electric power, including replacement and new electric facilities exceeding 55 KV)	Located in the outer 25% of the buffer area If located in fish or wildlife habitat conservation areas must implement approved habitat management plan requirements. Located to minimize removal of significant trees Hazardous liquid pipelines not allowed No degradation to functions or values
e. Cross Kirkland Corridor and Eastside Rail Corridors Construction of new public nonmotorized trails	No expansion of existing permanent disturbance area Pervious or other low-impact materials If located in fish or wildlife habitat conservation areas must implement approved habitat management plan requirements.
Construction of new public nonmotorized trails connecting to either corridor	No more than 5' wide Pervious If located in fish or wildlife habitat conservation areas must implement approved habitat management plan requirements.
Minor replacement or modification of existing facilities by a public utility in either corridor	No expansion of existing permanent disturbance area

Permitted Activities Subject to Development Standards	
	If located in fish or wildlife habitat conservation areas must implement approved habitat management plan requirements.

B. Staff Recommendation: *Staff recommends this revised list of permitted uses and activities.*

3. Public Programmatic Permits (new)

A. Background.

A new topic not previously presented to the Planning Commission is the concept of **programmatic permits for ongoing and repeated public agency and utility maintenance activities**. The City's Department of Public Works has raised this issue and recommended it be incorporated into Chapter 90. King County currently allows them, and staff is proposing their use in Kirkland. A single programmatic permit covering a repetitive maintenance program would alleviate the need to obtain separate permit approval for activities that have the same or similar identifiable impacts each time the activity is repeated at all the sites covered by the programmatic permit. An example of a candidate activity is ongoing culvert cleanouts in critical areas. The same impacts, restoration and or mitigation, and the same best management practices would apply, regardless of the site or the year, so it makes sense to consider allowing a programmatic permit to be used in these situations.

These activities would fall under either the second tier approach for permitted activities with standards (Planning Official review) or the third tier approach for public agency and public utility exceptions (Process I) depending on the activity.

The programmatic activities for ongoing projects have been incorporated into the preliminary draft Chapter 90 (see Attachment 1).

The Houghton Community Council was supportive of this concept.

B. Staff Recommendation: *Staff recommends programmatic permits for ongoing and repeated public agency and utility maintenance activities reviewed either administratively by the Planning Official or by the Planning Director using a Process I depending on the activity.*

4. Public Agency and Public Utility Exceptions (new)

A. Background.

After future research and consideration since the Planning Commission meeting in March, staff concluded that a third tier of uses should be established called **Public Agency and Public Utility Exceptions**. This is a mechanism that would allow a development proposal by a public agency or public utility to apply for a permit that otherwise is not allowed in a critical area or critical area buffer as a permitted activity with standards. It will be reviewed as a Process I permit pursuant to KZC Chapter 145. The Planning Director will review and approve these activities subject to mitigation sequencing and restoration and/or mitigation requirements to replace lost functions and values. Approval criteria include analysis of whether strict application of the critical areas regulations would restrict or prohibit the public services provided by the utility or public agency.

Possible examples may be a public street expansion, a new sidewalk, or a new utility pole that extends further into the critical area buffer than the permitted outer 25% encroachment allowed with Permitted Activities with Development Standards.

Other jurisdictions have taken a similar three-tier approach in their codes.

As a comparison, a private development proposal that is not allowed under the permitted use and activity provisions could apply for a wetland or stream modification reviewed through a Process I permit pursuant to KZC Chapter 145. The public agency and public utility exceptions and the wetland and stream modifications require the same public review process, but have different criteria for approval.

The Public Agency and Public Utility Exceptions have been incorporated into the preliminary draft Chapter 90 (see Attachment 1).

The Houghton Community Council was supportive of this mechanism.

B. Staff Recommendation: *Staff recommends Public Agency and Public Utility Exceptions reviewed by the Planning Director through a Process I permit pursuant to KZC Chapter 145 for activities that do not meet the threshold of permitted activities or ongoing and repeated public maintenance activities.*

B. Wetland Buffers Standards:

1. Background

At the briefing to the Houghton Community Council, the Council raised concerns about impact of wetland buffers on the rest of the City (although the Houghton neighborhood has very few wetlands). They requested this concern be transmitted to the Planning Commission.

2. Staff Recommendation: *Keep this in mind*

C. Buffer Standard for Seasonal Stream with No Fish

1. Background

   The Houghton Community Council expressed concern about the proposed 50 foot wide buffer for seasonal streams with no fish when some other cities have a narrower buffer width for that type of stream.

   Staff's response at the meeting: Seasonal and perennial streams (also 50' width buffer) should have the same buffer width requirement. Also, many jurisdictions require the same 50 feet buffer as being proposed. Overall the proposed buffer widths for the three stream types are comparable with other local jurisdictions.

2. Staff Recommendation: *Retain the 50 foot wide buffer for seasonal streams with no fish (Type NS streams)*

D. Front Yard Setback Reduction

1. Background

   The Houghton Community Council expressed concern about the proposal to allow reduction in the front yard setback from 20' to 10' for any site to provide flexibility in site design, and how it may impact arterials and collector streets.

   Staff response at the meeting: A reduction in the front yard setback from 20' to 10' is currently allowed for reasonable use exceptions and will help offset site constraint of critical areas. The front yard reduction would be limited to situations where the garage is on the side or back of the house or a parking pad is located perpendicular to the garage. A parking pad of 18.5 feet in length is required which is usually in the front driveway of the house.

2. Staff Recommendation: *Retain the allowance for a front yard reduction.*

E. Measures to Minimize Impacts to Critical Areas

1. Background.

   The Planning Commission was concerned about Ecology's guidance for measures to minimize impacts to critical areas for **noise**. The Ecology's model ordinance reads:

   > Locate outdoor activity that generates noise away from wetland.
   > If warranted, enhance existing buffer with native vegetation plantings adjacent to noise source.

   Staff has looked at some other local regulations and spoken with Ecology on the intent of the noise impact measure. The intent is not to infringe on homeowners' use of their yard facing the critical area, but to address noise through site design and vegetative buffers. Staff proposes the following provision:

> Activities that generate noise, such as parking lots, drive thru facilities, generators, HVAC units, and aspects of commercial uses that generate loud continuous noise shall be located away from critical areas and buffers to the maximum extent possible, or noise shall be minimized through use of design, insulation techniques or additional native vegetation.

The Houghton Community Council did not comment on this issue.

2. **Staff** Recommendation: *Staff recommends the provision above that describes in more details what noise activities impact critical areas and how to mitigate them. These provisions are in the preliminary draft Chapter 90.*

F. Advance Mitigation

1. Background.

At the April meeting, staff had recommended and the Commission concurred, that for now, only the City should be allowed to do Advanced Mitigation for both wetlands and the buffers and not private individuals or other non-city public agencies until the approach and management requirements are better understood.

Since the April Planning Commission meeting and the May Houghton Community Council meeting, staff has received feedback from both the Public Works and Parks Departments requesting flexibility to allow other public agencies to participate in advance mitigation projects on City owned property that would benefit the City. An example is when the City would benefit from an outside agency stepping in and proposing a mitigation project. The outside agency would benefit by securing property within the watershed, which would include Kirkland, to meet required compensatory mitigation for its own critical area alteration projects off-site.

Staff's proposed provision would allow the City to make a policy decision on whether to allow other entities to complete off-site mitigation under appropriate circumstances and conditions. The goal would be to not give away the City's own mitigation options, and in an attempt to accomplish that, not preclude the opportunity of getting important projects or work done be other entities, when such projects or work would not be done by the City, even as a mitigation strategy.

While the Houghton Community Council has not considered whether to expand the use of this provision to non-City public agencies, they were supportive of the concept of advance mitigation.

2. Staff Recommendation: *Staff recommends giving the City discretion as to whether to allow an outside agency to do mitigation on city property to meet its compensatory mitigation for impacts it does to a critical area outside of Kirkland, but within the Kirkland's watershed.*

G. Nonconforming Structures

1. Background.

   At their May 23 meeting, the Houghton Community Council supported overall non-conformance provisions that provide flexibility but raised the following concerns:

   a. Requirement for Locational Analysis: The Houghton Community Council expressed concern about requiring location analysis for a proposed addition to a non-conforming house that would be located in a critical area buffer. Locating an addition for a new room or enlarged room has limitations given the floor plan of the house, utilities and other improvements. They requested that justification not be required as to why an addition in a critical area buffer must be located where it is proposed in relationship to the existing floor plan and not further way from the critical area.

      Staff response: Staff indicated at the meeting that the Community Council's comment had merit and staff would consider it.

      Staff contacted the City of Bellevue who has the provision to require a locational analysis and found out that in most cases the original location is approved. Staff has subsequently **changed direction** and recommends to the Planning Commission that the **requirement be eliminated**. Most homeowners will place additions where they are needed to function with the existing floor plan. The preliminary draft chapter reflects this change in approach.

   b. Size of Addition Anywhere in the Critical Area Buffer: The Houghton Community Council questioned not allowing a footprint of **1,000 square feet anywhere in the critical area buffer** as does King County.

      Staff response at the meeting: Ecology does not support encroachments unless they are on the opposite side of the house from the critical area, but has accepted regulations that allow encroachments elsewhere in critical area buffers if they are minor in size.

      The Planning Commission direction's is to allow 250 sq. ft. to 1,000 sq. ft. encroachments, dependent on the location of the addition in the critical area buffer as do several other jurisdictions. Also, some jurisdictions do not allow any encroachments. Thus it is important to take a modest position on the encroachments. As a reminder, the provision for additions is based on the **footprint** of a house and not the total square footage of the addition. Adding a second or even third floor above the footprint could result in an addition of up to 3,000 square feet. Staff recommends keeping the approach as proposed, which is reflected in the preliminary draft chapter.

   c. Rebuilding Foundation of Non-Conforming Structure**:** The Houghton Community Council requested to allow a foundation of a nonconforming structure to be replaced in same location for reconstruction of the structure. Foundations sometimes need to be replacement after casualty damage to a structure.

Staff response at the meeting – A **damaged foundation** that must be removed and replaced should be relocated as far from the wetland or stream as possible taking into consideration the location of existing improvements and site constraints. It is a reasonable expectation to require bringing a nonconforming structure into conformance as much as possible with a complete rebuild including a foundation. Current regulations would not allow a rebuild of causality damage unless a 50% valuation threshold is met. Staff recommends retaining the approach as proposed that would require considering reduction of impacts to the critical area with foundation replacement. The preliminary draft chapter continues to reflect this approach.

2. Staff Recommendations:
a) Staff recommends not requiring review of a proposed addition to justify its location as part of the existing house floor plan and in relationship to the critical area buffer.

b) Staff recommends no change to the Planning Commission's direction to allow the various single family square footage encroachments dependent upon their location in the critical area buffer.

c) Staff recommends no change to the Planning Commission's direction to require a foundation replacement to be relocated as far as possible from the critical area.

H. Review Processes

1. Background.

The preliminary draft of Chapter 90 contains a section towards the beginning with a table of the proposed review process for each type of activity and use. The Planning Commission has discussed the review process for each type of permit as part of discussion of the new regulations. Here is a **summary comparing the review processes** for the existing and proposed Chapter 90 KZC.

Permits or Approvals	Existing Chapter 90 Process	Draft Chapter 90 Process
Exempt Activities and Uses	No review	No review
Critical Area Determination	P.O.	P.O.
Minor Improvement in portion of buffer	List of minor improvements: P.O.	PO for permitted activities with standards and public programmatic activities:
Improvements in Building Setback from Buffer	P.O.	P.O.
Wetland Buffer Modification	-Type 1: Process IIA -Type 2: Process IIA -Type 3: P.O.	P.O. for buffer averaging and isolated buffer waiver
Stream Buffer Modification	-Type A: Process HE -Type B: Process I	P.O. for buffer averaging,

	-Type C: Process P.O.	isolated buffer waiver and daylighting stream
Wetland Modification	-Type 1: Process IIB -Type 2: Process IIA -Type 3: P.O.	-Process I for modifications, public agency exceptions and public programmatic activities. -Unless permitted with standards, then P.O.
Stream Modification	Type A: Process I Type B: Process I Type C: P.O.	-Process I for modifications, public agency exceptions and public programmatic activities. -Unless permitted with standards, then P.O.
Stream Culvert	Process I	Process I
Stream Daylighting	Process I	P.O.
Stream Bulkhead (channel stabilization)	P. O.	Process I
Reasonable Use Exception	-Up to 3,000 sf of disturbance: Process I -More than 3,000 sf of disturbance: Process IIA	Process I
Totem Lake and Forbes Lake moorage facilities	Process I	Process I

- Process IIB = Hearing Examiner recommendation and City Council decision
- Process IIA = Hearing Examiner decision with appeal to City Council
- Process I = Planning Director decision with appeal to Hearing Examiner
- Planning Official (P.O.) = project planner

Those permits that are currently approved by the City Council (Process IIB) or Hearing Examiner (Process IIA) under the existing Chapter 90 are proposed to be reduced to the Planning Director (Process I) because the decisions are not policy in nature but technical in nature. The issues considered are to what extend the critical area is impacted, are the impacts the minimum necessary and if the proposed mitigation will offset the impacts. The new requirements for mitigation sequencing, compensatory wetland mitigation, mitigation plans, and required measures to reduce impacts provide clear standards for mitigation.

The process for daylighting a stream is reduced from a Planning Director to a Planning Official to encourage taking a stream out of a culvert. The process for stabilizing a streambank is increased from a Planning Official to a Planning Director to ensure that the applicant has considered all option before requesting to change the bank of a stream channel.

The Houghton Community Council did not consider the review processes for the various activities regulated by this Chapter.

2. Staff Recommendation: *Staff recommends the above review processes as proposed in the preliminary draft Chapter 90.*

I. Forbes Lake and Totem Lake

1. Background:

   Forbes and Totem Lake are surrounded by wetlands and streams. Forbes Lake contains residential development and a park. Totem Lake contains the Totem Lake Park that has an approved master plan for the park. According to TWC, the lakes do not contain salmonids such that the strict requirements that apply to moorage facilities along Lake Washington need not apply to these lakes.

   The existing Chapter 90 contains regulations for moorage facilities and bulkheads. Staff has made some updates to the section and deleted the bulkhead regulations since these lakes do not have wave action so lake edge stabilization is not needed.

   The Houghton Community Council did not consider the review processes for the various activities regulated by this Chapter.

2. Staff Recommendation: *Staff recommends the revisions to the existing regulations for Totem Lake and Forbes Lake proposed in the preliminary draft Chapter 90.*

V. FOUR CASE STUDIES

The Watershed Company analyzed four case studies looking at properties with different wetland categories and habitat scores to analyze and illustrate the effects of the regulations, if any, on a development scenario for each study. The scenarios do not reflect specific development proposals but scenarios that could likely be proposed. The case studies looked at wetlands and their buffers around Juanita Bay, Forbes Lake and Totem Lake and in the Totem Lake Neighborhood. See Attachment 2.

VI. REMAINING CODE AMENDMENTS TO PREPARE

Between now and the public hearing on the draft Chapter 90, staff will prepare minor amendments to the following chapters to reflect the changes to Chapter 90.

- Chapter 5: Definitions (reflect Chapter 90 terms)
- Chapter 75: Historic Overlay (indicate that provisions in Chapter 90 cannot be varied)
- Chapter 95: Tree Management (delete provisions that address vegetation in critical areas – these have been moved to Chapter 90)
- Chapter 120: Variances (indicate that provisions in Chapter 90 cannot be varied)
- Chapter 125: Planned Unit Development (indicate that provisions in Chapter 90 cannot be varied)
- Chapter 162: Nonconformances (reflect Chapter 90 conformance provisions and make other needed amendments)

- Subdivision Ordinance in the KMC (make amendments to be consistent with the new Chapter 90)
- Other chapters as needed once a complete review of the code has been done

IX. NEXT STEPS

- On July 25, 2016, staff anticipates that the Houghton Community Council will hold a study session on the draft that will include comments from the Planning Commission's June 23, 2016 meeting.

- Staff will:
  - Send the draft Chapter 90 to the Department of Commerce for the required 60 Day Review in advance of adoption consistent with GMA. Copies will also be sent to Department of Ecology, Department of Fish and Wildlife, and the Muckleshoot Tribe for their comments.

  - Complete the requirements of the State Environmental Policy Act by issuing a SEPA determination on the code amendments.

- If there is a quorum for both the Planning Commission and the Houghton Community Council, staff anticipates holding a joint public hearing on August 25, 2016 on the draft Chapter 90 KZC.

ATTACHMENTS:

1. Preliminary Draft Chapter 90 KZC
2. Four case studies showing effect of proposed regulations on different wetland types and habitat scores using development scenarios

Chapter 90 – CRITICAL AREAS – WETLANDS, STREAMS, MINOR LAKES, FISH WILDLIFE HABITAT AREAS, AND FREQUENTLY FLOODED AREAS

Sections:

90.05 User Guide

The regulations in this chapter apply to activities, alterations, work, and conditions in or near any wetland, stream, minor lake, wildlife habitat area, or frequently flooded area. These regulations add to and in some cases supersede other City regulations. Anyone interested in conducting any development activity on or near one of these critical areas; wishing to participate in the City's decision on a proposed development on or near any of these areas; or wishing to have a determination made as to the presence of one of these areas on their property, should read these regulations.

For properties within jurisdiction of the Shoreline Management Act, the regulations in Chapter 83 KZC must be met. Chapter 83 KZC contains wetland, stream and flood hazard reduction regulations for properties located within its jurisdiction. However, regulations contained in this chapter that are not addressed in Chapter 83 KZC continue to apply, such as bond or performance security, dedication and liability.

90.10 Purpose

These regulations were prepared to comply with the Growth Management Act and implement the goals and policies of the City' Comprehensive Plan. The purpose of these regulations is to protect the environment, human life, and property. This purpose will be achieved by preserving the important ecological functions of wetlands, streams, minor lakes, fish and wildlife habitat, and frequently flooded areas using best available science. The designation, classification, and regulation of these critical areas is intended to assure their preservation and protection from loss or degradation, no net loss of ecological functions and to restrict incompatible land uses.

These critical areas perform a variety of valuable biological, chemical, and physical functions that benefit the City and its residents. The functions of these critical areas include, but are not limited to, the following:

1. Wetlands – Wetlands perform the following eight functions: 1) flood/storm water control, 2) base stream flow/groundwater support, 3) erosion/shoreline protection, 4) water quality improvement, 5) general habitat functions, 6) specific habitat functions, 7) cultural and socioeconomic values, and 8) natural biological support. Natural biological support refers to the ability to support diverse lifeforms, and is based on a wetland's vegetation structure and diversity, landscape-scale connectivity, surface water conditions, and organic accumulation and export potential. Wetland functions for flood and stormwater control, erosion protection, and water quality improvement are particularly valuable to protect infrastructure and limit the effects of development on water quality in the City's streams and lakes.

   Wetland buffers serve to moderate runoff volume and flow rates; reduce sediment loads; remove waterborne contaminants such as excess nutrients, synthetic organic chemicals (e.g., pesticides, oils, and greases), and metals; provide shade for surface water temperature moderation; provide wildlife habitat; and deter harmful intrusion into wetlands. Wetlands are protected in part by buffers, which are upland areas adjacent to wetlands.

Buffers are vegetated areas next to wetlands that can protect them from or reduce the impacts of adjacent land uses. Buffers also provide terrestrial habitat for wetland-dependent species that need both aquatic and terrestrial habitats for their life-cycle. Buffers serve to limited moderation of precipitation and stormwater inputs (hydrology maintenance), removal of sediment, excess nutrients, and toxic substances(water quality improvement), influencing microclimate, maintaining adjacent habitat critical for wetland-dependent species, maintaining habitat connectivity (wildlife habitat), and screening adjacent disturbances (disturbance barrier). The factors that influence the performance of a buffer include vegetative structure, percent slope, soils, and buffer width and length.

The primary purpose of wetland regulations is to achieve a goal of no net loss of wetland function, value, and acreage, which, where possible, includes enhancing and restoring wetlands and the associated buffers.

2. Streams – Streams and their associated buffers provide important fish and wildlife habitat and travel corridors; help maintain water quality; store and convey storm and flood water; recharge groundwater; and serve as areas for recreation, education, scientific study, and aesthetic appreciation. Streams are protected in part by buffers, which are adjacent upland areas that interact with streams.

   Stream buffers serve an important role in maintaining stream function important for supporting diverse and productive fish population. These include water quality (i.e. sediment, nutrients, metals, pathogens, herbicides, and pharmaceuticals), water temperature and microclimate, bank stability, invertebrate communities, inputs of organic detritus, instream habitat complexity, including large woody debris, and habitat travel corridors.

   The primary purpose of stream regulations is to avoid reducing stream and riparian corridor functions, and where possible, to enhance and restore streams and riparian areas.

3. Minor Lakes – Minor Lakes provide important fish and wildlife habitat; store and convey storm and flood water; recharge ground water; store ground water discharge; and serve as areas for recreation, education, scientific study, and aesthetic appreciation. Because the shallow perimeter of minor lakes often meets the definition of a wetland, many uses and activities in and around lakes are regulated under the wetland regulations.

   The primary purpose of the minor lake regulations is to avoid impacts to lakes and contiguous stream and wetland areas, and where possible, to enhance and restore lakes.

4. Fish and Wildlife Habitat – Fish and wildlife habitat areas provide important nesting territory as well as spawning and protection areas for endangered, threatened, and sensitive species that have a primary association with that habitat area. The habitat areas help maintain long term viability of these species and contribute to the state's biodiversity. Preservation of the vegetation, faunal, and hydrologic characteristics of these habitat areas is critical to maintaining these species.

   The primary purpose of fish and wildlife habitat area regulations is to protect habitats from impacts of adjacent urban uses by minimizing fragmentation of native habitat, controlling invasive species, maintaining or providing habitat connectivity with vegetated corridors between

habitat patches, preserving habitat features including native vegetative, snags and downed wood, and providing buffers of adequate width adjacent to the habitat areas.

5. Frequently Flooded Areas – Frequently flooded areas are areas of special flood hazard that help to store and convey storm and flood water; recharge ground water; provide important riparian habitat for fish and wildlife; protect the functions and values of floodplains and serve as areas for recreation, education, and scientific study. Development within these areas can be hazardous to those inhabiting such development, and to those living upstream and downstream. Flooding also can cause substantial damage to public and private property that results in significant costs to the public as well as to private individuals.

   The primary purpose of frequently flooded areas regulations is to manage potential risks to public safety and damage to public and private property due to flooding, and to protect instream habitat areas. The City of Kirkland defines frequently flooded areas as areas within the 100-year floodplain.

90.15 Applicability

1. General – These regulations apply to any property that contains any of the following:

   a. Wetlands;

   b. Streams;

   c. Minor Lakes;

   d. Fish and Wildlife Habitat Areas

   e. Frequently Flooded Areas; and

   f. Buffers required for the above.

2. Conflicting Provisions – The regulations in this chapter supersede any conflicting regulations in the Kirkland Zoning Code. For properties within jurisdiction of the Shoreline Management Act, the regulations in Chapter 83 KZC supersede any conflicting regulation in this chapter. If more than one regulation applies to the subject property, then the regulation that provides the greatest protection to critical areas shall apply.

3. Modifications to Provisions in this Chapter – The regulations in this chapter may not be modified using other provisions in this code, such as but no limited to historic overlay (Chapter KZC 75), variances (Chapter KZC 120), or planned unit developments (Chapter KZC 125), unless as specified in KZC.90.__.

4. Other Jurisdictions – Nothing in these regulations eliminates or otherwise affects the responsibility of the applicant or property owner to comply with all other applicable local, state, and federal regulations and permit requirements that may be required.

5. SEPA Compliance – Nothing in these regulations or the decisions made pursuant to these regulations affects the authority of the City to review, condition, and deny projects under the State Environmental Policy Act, Chapter 43.21C RCW.

90._ Critical Areas Maps and Other Resources

The City maintains general mapping of known critical areas. These maps and other available resources (such as topographic maps, soils maps, and air photos) are intended only as guides. They depict the approximate location and extent of known critical areas. Some critical areas depicted in these resources may no longer exist and critical areas not shown in these resources may occur. The provisions of this Chapter and the findings of a critical areas report and review of the report by the City take precedence over the City's mapping. Property owners and project applicants are strongly advised to retain qualified professionals to conduct site-specific studies for the presence of critical areas and related buffers.

90._ Regulated Activities

Regulated activities have a potential to adversely impact a critical area or its established buffer. The following activities shall be regulated by this chapter:

a. Removal, excavation, grading or dredging of soil, sand, gravel, minerals, organic matter, or material of any kind;
b. Dumping of, discharging of, or filling with any material.
c. Draining, flooding, or disturbing the water level or water table;
d. Driving pilings or placing obstructions;
e. Construction, reconstruction, demolition, or expansion of any structure;
f. Destruction or alteration of vegetation through clearing, harvesting, shading, intentional burning, or planting of vegetation that would alter the character of a regulated critical area.
g. Activities that result in significant changes of water temperature and physical or chemical characteristics of water sources to the critical area, including quantity and pollutants.
h. Any other development activity.

90._ Process

1. The regulated activities in this chapter shall be considered using the following review processes:

Type of activity or use	Review Process	Section
Exemptions	Activities permitted outright, (reviewed with underlying development or land surface modification permit - no review fee)	KZC 90._
Permitted Activities	Planning Official Decision	KZC 90._
Public Agency and Public Utility Exception	Process I - Planning Director Decision	KZC 90._
Critical Area Determination	Planning Official Decision	KZC 90.
Wetland and Stream Modifications	Process I – Planning Director Decision	KZC 90._
Stream Daylighting	Planning Official Decision	KZC 90._
Stream Channel Stabilization	Process I – Planning Director Decision	KZC 90._

Wetland and Stream Buffer averaging	Planning Official Decision	KZC 90._
Moorage Facilities and Other Improvements on Totem Lake and Forbes Lake	Process I – Planning Director Decision	KZC 90._
Reasonable Use Exceptions	Process I – Planning Director Decision	KZC 90.
Isolated Buffer	Planning Official Decision	KZC 90._
Nonconformance	Planning Official Decision	KZC 90._

90.20 Exemptions

The following activities have little or no environmental impact, are temporary in nature or are an emergency and are therefore exempt from the provisions of this chapter, unless otherwise determined by the Planning Official. All exempted activities shall use reasonable methods to avoid impacts to critical areas.

An exemption does not give permission to degrade a critical area or ignore risk from natural hazards. Any temporary damage to, or alteration of a critical area or buffer, shall be restored, rehabilitated, or replaced to prior condition or better, within 60 days of completion of the activity at the responsible party's expense.

1. Structures: Normal and routine repair and maintenance of existing legally established structures, other than public streets and public utilities within sensitive area buffers. See KZC 90.__ ,Non-conformances.[1]

2. Public Streets: Repair and maintenance and reconstruction of existing public streets, associated appurtenances, roads, bike lanes, and sidewalks. [2, 5, 6]

3. Public Utilities: Repair and maintenance, replacement or new public utility structures and utility systems and their associated facilities, lines, pipes, mains, equipment and appurtenances - both above and below ground, within existing improved rights of way or existing improved utility corridor. This provision does not include new electric facilities that exceed 55 KV and substations, and replacement of hazardous liquid pipelines that increase pipeline circumference.[3, 5, 6]

4. Existing Non-Motorized Public Trails: Repair and maintenance of existing non-motorized public trails, including the Cross Kirkland Corridor and Eastside Rail Corridor. [1]

5. Landscaping: Routine landscape maintenance of non-conforming lawns and gardens; including mowing, pruning, weeding, and planting; provided that such activities do not expand any further into critical areas or buffers.

6. HVAC Equipment: Addition of HVAC equipment with a footprint of less than nine square feet, provided that there is no feasible alternative location available, it does not expand the area of permanent disturbance, it is as far as possible from the critical area and includes noise minimization techniques.

7. Site investigative Work and Studies: Site investigative work and studies necessary for land use applications, including soils tests, water quality studies, wildlife studies, and critical area

investigations; provided, that any disturbance of the critical area or its buffer shall be the minimum necessary to carry out the work or studies. Use of any mechanized equipment requires prior approval of the Planning Official.

8. Restoration:
   a. Restoration of a critical area and its buffer through the removal of non-native invasive plant species listed in Kirkland's Prohibited Plant List and using the Vegetative Buffer Standards in KZC 90.___ as a guideline.
   b. Selected removal of invasive plant species shall be restricted to hand removal. All removed plant material shall be taken away from the site and appropriately disposed of.
   c. Plants that appear on the Washington State Noxious Weed Control Board list must be handled and disposed of according to a noxious weed control plan appropriate to that species.
   d. Revegetation with appropriate native species at natural densities is allowed in conjunction with removal of invasive plant species.

9. Other: Educational activities, scientific research, and passive outdoor recreational activities such as bird watching, fishing, and hiking, not including trail building or clearing.

10. Emergency Activities: Emergency activities necessary to prevent an immediate threat to public health, safety, or welfare. Alterations shall be reported to the City within seven (7) days to provide evidence of threat or imminent danger. The City may require a permit to be obtained after-the-fact and require the critical area and its buffer to be fully restored in accordance with a critical area report and mitigation/maintenance plan.[4]

Notes:

[1] Repair and maintenance shall not increase the previously approved structure footprint within a critical area or its buffer, and shall not include foundation replacement.

[2] Public street activities shall not expand the area of existing permanent disturbance, increase the impervious area in the right-of-way, or reduce flood storage capacity in the critical area or critical area buffer. Public Street activities in this provision also include expansion of pavement into previously disturbed impervious areas. See Plate __.

[3] Public utility activities shall not expand the area of existing permanent disturbance or increase the impervious area in the right-of-way or utility corridor (except utility poles), or reduce flood storage capacity in the critical area or critical area buffer. New or replaced overhead electric utilities and their associated facilities that will result in additional disturbance of the critical area or its buffer as a result of ongoing required maintenance shall not be exempt.

[4] All restoration and mitigation shall occur within the timeframe established with the underlying permit, but in no case more than one year from the date of the emergency.

[5] The construction drawings shall show the edge of the existing improved right-of-way or utility corridor, and the permanently disturbed area. The drawings shall also specify that all affected critical areas and buffers will be restored to their pre-project condition or better, including soil stabilization and revegetation, during or within 60 days of site disturbance.

[6] All activities shall be undertaken using best management practices as determined by the Planning Official and adhere to the fish and wildlife seasonal restrictions on construction

activities as determined by the Washington State Department of Fish and Wildlife pursuant to KZC 90.__.

90.22 Permitted Activities or Uses Subject to Development Standards

1. Permitted Activities and Uses: Certain activities are permitted subject to the following approval and development standards.

2. Process. The Planning Official may approve a permitted activity or uses. If the request is denied, the applicant may proceed to request a critical area permit for a wetland or stream modification pursuant to KZC 90.__ or KZC 90.___. The general and specific standards in subsections 5 and 6 along with the mitigation plan shall be conditions of approval.

3. Decisional Criteria: the Planning Official may approve a permitted activity or use if it is determined that:
    a. There is no practical alternative location with less adverse impact on the critical area or its buffer based on a critical area report and mitigation sequencing pursuant to KZC 90.__.
    b. The mitigation plan pursuant to KZC 90.__sufficiently mitigates impacts; and
    c. The project plans meet the general and specific standards in subsections 5 and 6 below.

4. Critical Area Report. The applicant shall submit a critical area report pursuant to KZC 90.__.

5. General Standards: The list of permitted activities or uses in subsection 6 below shall meet the following standards:

    a. Meet the rrequirements of mitigation sequencing pursuant to KZC 90.__;
    b. Implement a mitigation plan pursuant to KZC 90.__;
    c. No adverse impact on water quality or conveyance or degrade critical area functions and values;
    d. Locate structures and improvements to minimize removal of significant trees;
    e. Restore temporary disturbance areas associated with the work to pre-project conditions pursuant to a mitigation plans;
    f. Specify in the construction drawings that all affected critical areas and buffers will be expeditiously restored to their pre-project condition or better; and
    g. If located in a fish or wildlife habitat conservation area, meet requirements of KZC 90.__.

6. List of Permitted Activities and Uses. The following activities and uses may be permitted provided that the standards applicable to each activity or use and the general standards in subsection 5 above are met.

    a. Private, non-motorized trails, stream crossings, and benches:

        1) The improvement shall be located only in the outer twenty-five percent (25%) of the buffer area, except for stream crossings and related trail or access to Forbes Lake;

        2) Stream crossings are not permitted in Type F streams;

        3) Trails shall be limited to pervious surfaces no more than three (3) feet in width. Raised boardwalks utilizing non-treated pilings may be acceptable;

4) Stream crossings shall meet the standards for crossings in KZC 90.__and;

5) Buffers shall be expanded, where possible, equal to the width of the trail corridor and disturbed areas.

b. Private and Public In-Stream Rehabilitation:

1) Work limited to removing debris, sediment and invasive vegetation to improve in-stream fish habitat, fish passage and flow conveyance;

2) Work must be done by hand; and

3) May not occur during Washington State Fish and Wildlife's seasonal restrictions on work in a fish bearing stream.

c. Public Agency and Public Utility Activities:

1) Non-motorized trails, stream crossings, benches, and wildlife-viewing structures, provided:

a) The structure shall be located only in the outer twenty-five percent (25%) of the buffer area, except for stream crossings and public access through wetlands connecting to Forbes Lake and Totem Lake;

b) Stream crossings are not permitted in Type F streams;

c) The structure shall be limited to pervious surfaces no more than five (5) feet in width. Raised boardwalks utilizing non-treated pilings may be acceptable; and

d) Buffers shall be expanded, where possible, equal to the width of the trail corridor and disturbed areas.

2) Public Streets - Widening of existing public streets in critical area buffers, provided:

a) The facility shall only located in the outer 25% of the buffer area; and

b) Any necessary culvert modification or extension is designed to meet the Washington Department of Fish and Wildlife's culvert guidelines.

3) Public Utilities

a) New sewer and water lines in critical area buffers, provided they shall be located as far as possible from the critical area edge to allow for gravity flow.

b) New public utilities other than those addressed separately in this section in critical area buffers, such as gas and power, except substation buildings, provided:

(1) The facility shall be only located in the outer 25% of the buffer area; and

(2) The facility is not a hazardous liquid pipeline.

c) Drilling for utilities/utility corridor under a critical area, provided:

(1) Not permitted in a Category I Wetland;

(2) Entrance/exit portals must be located completely outside of the critical area buffer;

(3) Drilling does not interrupt the ground water connection to the wetland or percolation of surface water down through the soil column; and

(4) Specific studies by a hydrologist are required to determine whether the ground water connection to the critical area or percolation of surface water down through the soil column will be disturbed.

d) Surface Water Management

(1) New runoff treatment or flow control using Best Management Practices within critical area buffers, provided:

(a) No land surface modification or maintenance is required, and

(b) Vegetative buffer standards in KZC 90.__ shall be used as guidelines for vegetation.

(2) New stormwater outfalls and associated dissipation devices within critical area buffers, provided:

(a) Discharge of stormwater outside of the buffer is not feasible, or;

(b) If property adjoining the buffer is greater than 15% slope, specific studies by a geotechnical engineer or engineering geologist demonstrate that discharge outside of the buffer will cause slope instability or excessive erosion, and therefore the discharge should be in the buffer, and

(c) The outfall is located as far as possible from the critical area.

d. Improvements associated with the Cross Kirkland Corridor and Eastside Rail Corridor:

1) New public non-motorized trails within either corridor, provided:

a) The trail shall not create new disturbed area, increase impervious area, or reduce flood storage capacity in the critical area or critical area buffer; and

b) Porous materials such as porous asphalt, concrete, mulch, woodchips or other organic surfaces are used where practical.

2) New public non-motorized trails connecting to either corridor, provided:

a) The trail will be limited to pervious surfaces no more than five (5) feet in width. Raised boardwalks utilizing non-treated pilings may be acceptable, and.

b) Buffers shall be expanded, where possible, equal to the width of the trail corridor and disturbed areas.

3) Replacement or modification of existing facilities by a public utility in either corridor, provided the activity shall not increase the impervious area (except utility poles), expand into previously undisturbed areas, or remove flood storage capacity.

90.25 Public Agency and Public Utility Exception

If strict application of this chapter would prohibit a development proposal by a public agency or public utility, the agency may apply for an exception pursuant to this section.

1. Process. A critical area exception for public agencies and public utilities shall be reviewed as a Process I permit, pursuant to KZC Chapter 145. The application shall include the City's critical area determination pursuant to KZC 90.__ and a critical area report pursuant to KZC 90.__, including a restoration and mitigation plan, and any other related project documents.

2. Decisional Criteria. The Planning Director shall make a decision based on the following criteria:

   a. There is no other practical alternative to the proposed development with less impact on the critical areas or buffer;

   b. Strict application of this chapter would unreasonably restrict or prohibit the ability to provide public utilities, or public agency services to the public;

   c. The proposal minimizes impacts to the critical area or buffer through mitigation sequencing, and type and location of mitigation, pursuant to KZC 90__, including such installation measures as locating facilities in previously disturbed areas, boring rather than trenching, and use of pervious or other low impact materials; and

   d. The proposal protects and/or enhances critical area and buffer functions and values, consistent with the best available science and with the objective of no net loss of critical area functions and values.

90.30 Programmatic Permit– Public Agency and Public Utility

1. General. A public programmatic permit may be issued for either a permitted activity subject to development standards or a public agency or public utility exception, if it meets the requirements of this section, as determined by the Planning Official.

2. Criteria for a Programmatic Permit. The activity shall:
   a. Be repetitive and part of a maintenance program or other similar program;
   b. Have the same or similar identifiable impacts, as determined by the City, each time the activity is repeated at all sites covered by the programmatic permit; and
   c. Be suitable to having standard conditions that will apply to any and all sites.

3. Process.
   a. For an activity that would otherwise be approved as a permitted activity subject to development standards, the Planning Official shall make the decision on the programmatic permit.

b. For an activity that would otherwise be approved as a public agency or public utility exception, the programmatic permit shall be reviewed pursuant to a Process I described in Chapter 145 KZC.

4. Required Conditions. The City shall uniformly apply conditions to each activity authorized under the programmatic permit at all locations covered by the permit. The City may require that the applicant develop and have uniformly applicable conditions as part of the programmatic permit application, subject to City approval. The City shall not issue a programmatic permit until applicable conditions are developed and approved by the City.

5. Inspections. Activities authorized under a programmatic permit shall be subject to inspection by the Planning Official pre-arranged in advance. The Planning Official may require that the applicant submit periodic status reports. The frequency, method and contents of the inspection notifications and reports shall be specified as conditions in the programmatic permit.

6. Revisions and Modifications to Permit. The Planning Official may subsequently require revisions, impose new conditions or otherwise modify the programmatic permit or withdraw the permit and require that the applicant undergo review for a new permitted activity approval or new public agency and public utility exception, if the Planning Official determines that:
   a. The programmatic permit or activities authorized under the permit no longer comply with this chapter;
   b. The programmatic permit does not provide adequate regulation of the activity;
   c. The programmatic permit conditions or the manner in which the conditions are implemented are not adequate to protect against the impacts resulting from the activity; or
   d. A site requires site-specific regulation.

7. Other Agency Requirements. If an activity covered by a programmatic permit also requires other county, state and/or federal approvals, to the extent feasible, the City shall reference those conditions of other approvals in the programmatic permit.

90. WETLANDS

90. __Wetlands and Associated Buffer Standards

Wetlands types and associated buffer standards are outlined below.

Table 90.__ - Wetlands and Associated Buffer Standards

Wetland Determination and Delineation	In accordance with the approved federal delineation manual and applicable regional supplements described in WAC 173-22-035. The Planning Official makes final determination.
Wetland Rating	2014 Department of Ecology Washington State Wetland Rating System for Western Washington, as revised.

<table>
<tr><td>Wetland Buffer Width Standard</td><td>
Wetland Buffer Widths
<table>
<tr><th rowspan="2">Wetland Category</th><th colspan="4">Buffer width based on habitat points</th></tr>
<tr><th>3-4 habitat pts.</th><th>5 habitat pts.</th><th>6-7 habitat pts.</th><th>8-9 habitat pts.</th></tr>
<tr><td>Category I: Bogs and High Conservation Areas</td><td>190 feet</td><td>190 feet</td><td>190 feet</td><td>225 feet</td></tr>
<tr><td>Category I: Others</td><td>75 feet</td><td>105 feet</td><td>165 feet</td><td>225 feet</td></tr>
<tr><td>Category II</td><td>75 feet</td><td>105 feet</td><td>165 feet</td><td>225 feet</td></tr>
<tr><td>Category III</td><td>60 feet</td><td>105 feet</td><td>165 feet</td><td>225 feet</td></tr>
<tr><td>Category IV</td><td colspan="4">40 feet</td></tr>
</table>
</td></tr>
<tr><td>Structure Setback from Buffer</td><td>10 foot wide structure setback is required from upland edge of the entire buffer. Improvements listed in KZC 90.__ are permitted in the setback.</td></tr>
<tr><td>Other Standards</td><td>• Increased buffer width may be required if wetland or its buffer contains or is adjacent to severe erosion area, habitat of certain species or frequently flooded area based on critical area report. See KZC 90.__.
• All buffers must meet the vegetative buffer standards. See KZC 90.__.
• Measures to minimize impact must be implemented. See KZC 90.__.
• Buffer averaging is permitted if criteria are met. See KZC 90.__.
• Fencing and signage are required along the entire upland edge of buffer both during construction and upon completion of the project. See KZC 90.__.
• Wetlands and buffers shall be placed in recorded critical area easements or tracts for perpetual protection. See KZC 90.__.
• For mandatory restoration as a result of enforcement action, see KZC 90.__.
• For voluntary restoration, see KZC 90.__.</td></tr>
<tr><td>Alternative Buffer Standard</td><td>• Applicant can choose to not meet the vegetative buffer standards and the mitigating measures by increasing the required buffer width by 33%. Buffer averaging is permitted. See KZC 90.__.</td></tr>
<tr><td>Regulated Activities</td><td>• Regulated activities and uses shall be prohibited within wetlands and associated buffers, except those exempted or permitted in KZC 90.__, __ and ___, or those approved under another City review process in this chapter.</td></tr>
<tr><td>Modification to Wetlands and Related Impacts to Buffers</td><td>• Modification to a wetland requires a critical area permit pursuant to a Process I, Chapter 145 KZC, critical area report, mitigation sequencing, and compensatory mitigation plan. See KZC 90.__, __ and ___. Modifications include fill, structures, and other improvements in wetlands.
• Isolated Category IV wetlands less than 4,000 square feet and wetlands less than 1,000 square feet pursuant to KZC 90.___ are not required to meet mitigation sequencing, but mitigation is required.
• Buffer standard may not be modified or reduced, except as part of a wetland modification pursuant to a Process I, Chapter 145 KZC; or through buffer averaging or a waiver for an isolated buffer approved by the Planning Official. See KZC 90.__ and ___. For Non-conformances, see KZC 90.__.</td></tr>
</table>

90.__ Wetland Category and Rating

1. Classification and Rating.

Wetlands shall be classified and rated according to the approved version of the Department of Ecology Washington State Wetland Rating System for Western Washington, as revised. The classifications are based on four wetland categories referred to as Category I through Category 4.

2. Determination of Category and Rating. The category and rating shall be determined through a survey and field investigation by a qualified professional approved by the City as part of a critical area report as part of a wetland determination process in KZC 90.__. The most current Washington State Department of Ecology rating system and procedures shall be used. Wetland rating categories shall not change due to illegal modification.

90.__ Wetland Determination

The Planning Official shall make the wetland determination if a wetland and/or a buffer exist on the subject property, and if so, its category, rating, boundaries and buffer width based on a critical area report pursuant to KZC 90.__. In addition, the Planning Official shall determine whether the existing buffer vegetation meets the vegetative standards in KZC 90.__.

90. __Wetland Modification

1. Modifications to Wetlands. Modifications to wetlands shall be prohibited, except as permitted as part of a wetland modification approved under this subsection or a reasonable use permit approved under KZC 90.__. The following modifications may be considered:
   a. Fill of a wetland; and
   b. Structures and improvements in a wetland.

2. Exception. The following limited types of wetlands are not required to meet mitigation sequencing pursuant KZC 90.__ and may be filled if the impacts are fully mitigated. The applicant shall submit a critical area report pursuant to KZC 90.__ verifying that the following conditions are met. Impacts shall be mitigated through an in-lieu fee or mitigation bank program if a program is available pursuant to KZC 90.__.

   a. Isolated Category IV wetlands less than 4,000 square feet that:
      1) are not associated with streams or their buffers;
      2) are not part of a wetland mosaic;
      3) do not score 5 or more points for habitat function; and
      4) do not contain designated federal or state species or their priority habitats or habitats and species of local importance identified in KZC 90.__.

      The Planning Official may approve an application under this exception only if the applicant provides compensatory mitigation for both wetland and buffer loss pursuant to KZC 90.__.

   b. Wetlands less than 1,000 square feet that meet KZC 90.__ above are exempt from buffer requirements. The Planning Official may approve an application under this exception only if the applicant provides compensatory mitigation pursuant to KZC 90.__ for the wetland loss only but not the buffer loss.

3. Process. A modification to a wetland may be proposed through a critical area permit pursuant to a Process I, described in Chapter 145 KZC.

4. Decision Criteria. In addition to the criteria of a Process I, the Planning Director shall only approve a modification to a wetland and associated impact to the buffer along with the compensatory mitigation plan based on the wetland modification assessment, provided that:
   a. Mitigation sequencing requirements have been met. See KZC 90.___;
   b. Compensatory mitigation and mitigation plan requirements are approved. See KZC 90.___ and KZC 90.__;
   c. It will not adversely affect fish, wildlife, or their habitat, including habitat for endangered, threatened or sensitive species, or species of local significance. See KZC 90.___;
   d. It will not adversely affect water quality;
   e. It will not have an adverse effect on drainage and/or storm water detention capabilities either on-site or to the surrounding area;
   f. It will not lead to unstable geologic and soil conditions or create an erosion hazard;
   g. It will not have fill material that contains organic or inorganic material that would be detrimental to water quality or fish and wildlife habitat; and
   h. It will have all exposed areas stabilized with native vegetation normally associated with wetlands and/or buffers, as appropriate; and
   i. A statement signed by each owner of all properties is provided with the modification proposal consenting to a creation of a wetland if it occurs as part of the modification and if it results in creation of a wetland or buffer on their properties.

   If the wetland modification is approved, the wetland compensatory mitigation plan, the additional requirements in subsections 7 and 8 below and any conditions of approval for the modification shall be made conditions of any land surface modification and/or building permit.

5. Appeals. Decisions on a wetland modification may be appealed pursuant to KZC 90._.

6. Wetland Modification Assessment. As part of the application for a wetland modification, the applicant shall submit a wetland modification assessment and compensatory mitigation plan prepared by a qualified professional approved by the City, and fund City review of this assessment. The assessment shall contain:

   a. The findings of the critical area report for the wetland determination and the City's critical area determination along with the survey of the wetland and/or the buffer on the subject property;
   b. Description of the proposed modification to the wetland and impact to the buffer;
   c. Analysis of mitigation sequencing for the proposal as required in KZC 90.___;
   d. Evaluation of the effects of the proposed modification on the functions and values of the wetland and the buffer. The assessment shall look at impacts to water quality, storm water detention, erosion protection, functions of the wetland and wildlife habitat and frequently flooded areas and any other potential impact determined by the Planning Official;
   e. A compensatory mitigation plan pursuant to KZC 90.___, including mitigation for lost or affected functions, type, location, and approach of compensation, timing of the mitigation, and a monitoring and maintenance plan as required in KZC 90.___ and KZC 90.___, and how the plan results in no net loss of wetland and buffer functions;
   f. Assessment of the decisional criteria in subsection 4 above;
   g. Any other information or studies determined necessary by the Planning Official.

7. Additional Requirements for Approved Wetland Modification.

a. All work shall be carried out under the direct supervision of a qualified professional approved by the City and paid for by the applicant during all phases of the project;
b. The requirements for fish and wildlife habitat conservation areas in KZC 90.___ and frequently flooded areas in KZC 90.___ shall be met;
c. If a proposed wetland modification will result in the creation or expansion of a wetland or its buffer on any property other than the subject property a statement signed by the owners of all affected properties, in a form approved by the City Attorney shall be submitted with the modification application and recorded in the King County Recorder's Office. The statement(s) shall consent to the critical area and/or buffer creation or increase on their property.
d. The mitigated wetland and buffer area shall be located in a recorded critical area tract or easement meeting the standards in KZC 90.___; and
e. Any required state and federal permits and authorizations shall be obtained prior to conducting site work.

8. Buffers for Mitigation Sites. The buffer for a wetland that is created, restored, or enhanced as on-site or off-site compensation within the city for an approved wetland modification shall be subject to the buffer of the highest wetland category applicable to the replaced wetland.

90.__ Compensatory Wetland Mitigation

1. Compensatory Mitigation. Compensatory mitigation for modifications to wetlands and related impacts to the buffers shall be used for impacts that cannot be avoided or minimized and shall achieve equivalent or greater wetland functions. Approved modifications to a wetland and related impacts to the buffer require compensatory mitigation based on mitigation ratios pursuant to KZC 90.___ so that the goal of no net loss of wetland functions and value is achieved.

2. Compensatory Wetland Mitigation Ratios. Compensatory mitigation ratios are intended to replace lost functions and values of wetlands and buffers from proposed adjacent developments based on the category and rating of wetlands and the type of mitigation. The required ratio shall be determined according to acreage, type, location, timing and projected success of restoration or creation.

   The following wetland mitigation ratios (the ratio of the mitigated area to the impacted area) are required:

Table 90.__ Mitigation Ratios for Wetland Modification and Impacted Buffer

Category of Wetland Impacted	Creation	Re-establishment-Rehabilitation Only	Creation and Rehabilitation	Creation and Enhancement	Enhancement Only
Category IV	1.5:1	3:1	1:1 C and 1:1 RH	1:1 C and 2:1 E	6:1
Category III	2:1	4:1	1:1 C and 2:1 RH	1:1 C and 4:1 E	8:1
Category II	3:1	6:1	1:1 C and 4:1 RH	1:1 C and 8:1 E	12:1
Category I: Forested	6:1	12:1	1:1 C and 10:1 RH	1:1 C and 20:1 E	24:1

Category of Wetland Impacted	Creation	Re-establishment-Rehabilitation Only	Creation and Rehabilitation	Creation and Enhancement	Enhancement Only
Category I: based on total functions	4:1	8:1	1:1 C and 6:1 RH	1:1 C and 12:1 E	16:1
Category -I: Bog	Not possible	6:1 RH of a bog 8:1	Not possible	Not possible	Case-by-case
Buffer	1:1	1:1	1:1	1:1	1:1

Legend: C = Creation, RH = Rehabilitation, E = Enhancement

3. Mitigation for Lost Values and Affected Functions. Compensating for lost values and affected functions must be addressed in the compensatory mitigation plan of KZC 90.__ to achieve functional equivalency or improvement. The goal and preference shall be for the compensatory mitigation to provide in-kind wetland functions as those lost, except when:

   a. The fill/impacted wetland provides minimal functions as determined by a site-specific function assessment and the proposed mitigation action(s) will provide equal or greater functions; or will provide functions shown to be limiting within the city's watershed through a regional watershed plan; or

   b. Out of kind replacement will best meet formally identified watershed goals, such as replacement of historically diminished wetland types.

4. Preference of Compensation.

   a. Compensation shall occur in the following order of preference based on in-kind (like or like):
      1) Restoring wetlands on upland sites that were formerly wetlands. This action includes re-establishment and re-habitation;

      2) Creating/establishing wetlands on disturbed upland sites, such as those with vegetative cover consisting primarily of non-native species;

      3) Enhancing significantly degraded wetlands; or

      4) Preserving/maintaining a wetland to remove threat or prevent decline, such as purchasing land. Preservation does not result in gain of wetland acres.

   b. Location of compensatory mitigation shall occur in the order of preference established in KZC 90__.

5. Approaches to Compensatory Mitigation. Mitigation shall use one of the following options: applicant-responsible mitigation, wetland mitigation bank or in-lieu fee mitigation and, in some cases, advance mitigation as described in KZC 90.__ based on the preference described in KZC 90__.

6. Compensatory Mitigation Plan. A compensatory mitigation plan shall be prepared by a qualified professional approved by the City consistent with state guidelines and submitted with the wetland modification assessment of KZC 90.__ for approval as part of the critical area permit using a Process I. The plan shall contain:

   a. A topographic survey showing existing and proposed topography and improvements;
   b. Schedule of the project for all work;
   c. Description of the compensatory mitigation site, including location and vicinity map, rationale for selection and how it meets the required mitigation ratios of KZC 90.___;
   d. Description of proposed actions for compensation of wetland and buffer areas affected by the project, overall goals and targets of the proposed mitigation plan, and proposed mitigation timing. Documentation if the compensatory mitigation will be done through a mitigation banking or fee-in-lieu program pursuant to KZC 90.___;
   e. Construction protective measures that are necessary, such as siltation prevention measures and scheduling the construction activity to avoid interference with wildlife nesting activities;
   f. Description of surface and subsurface hydrologic conditions, including an analysis of existing and proposed hydrologic regimes for enhanced, created or restored compensatory mitigation areas;
   g. Description of performance standards for post-installation, a monitoring and maintenance schedule based on the time period required in KZC 90.__ along with a financial security estimate for the entire compensatory mitigation project that meet the standards in KZC 90.___;
   h. Proof of title ownership for the wetlands and buffers, including the compensatory mitigation areas, when mitigation is done by the applicant, and
   i. Identification of all local, state and/or federal wetland-related permits required for the project.

7. Timing of Compensatory Mitigation. See KZC 90__ for when an applicant must install the compensatory mitigation or document if a third party responsible mitigation is used to meet the mitigation requirement.

90. XX STREAMS

90. __Streams and Associated Buffer Standards

Stream classifications and associated buffers standards are outlined below.

Table 90. __ Streams and Associated Buffer Standards

<table>
<tr><td>Stream Classification</td><td>In accordance with WAC 222-16-030, as amended. The Planning Official makes final determination.</td></tr>
<tr><td>Stream Buffer Width Standard</td><td>Stream Buffer Widths<table><tr><th>Stream Type</th><th>Buffer Width</th></tr><tr><td>F (Fish bearing)</td><td>100 feet</td></tr><tr><td>Np (Perennial non-fish bearing)</td><td>50 feet</td></tr><tr><td>Ns (Seasonal non-fish bearing)</td><td>50 feet</td></tr></table></td></tr>
<tr><td>Structure Setback from Buffer</td><td>10 foot wide structure setback is required from upland edge of the entire buffer. Improvements listed in KZC 90.__ are permitted within the setback.</td></tr>
</table>

Other Standards	• Increased buffer width may be required if the stream or its buffer contains or is adjacent to a severe erosion area, habitat of certain species or frequently flooded area based on critical area report**.** See KZC 90.**__.** • All buffers must meet vegetative buffer standards. See KZC 90.__. • Measures that minimize impacts must be implemented. See KZC 90 __. • Buffer averaging is permitted if criteria are met. See KZC 90.__. The Planning Official makes decision. • Fencing and signage are required along the entire upland edge of buffer both during construction and upon completion of a project. See KZC 90.__. • For mandatory restoration as a result of enforcement action, see KZC 90.__. • Voluntary restoration of streams and buffers or stream rehabilitation, see KZC 90.___. • Streams and buffers shall be placed in recorded critical area easements or tracts for perpetual protection. See KZC 90.__.
Alternative Buffer Standard	• Applicant can choose to not meet the vegetative buffer standards by increasing the standard buffer width by 33%. Buffer averaging is permitted if criteria found in KZC 90. __ are met and approved by the Planning Official.
Regulated Activities	• Regulated activities shall be prohibited within streams and associated buffers, except those exempted or as permitted with development standards as found in KZC 90.__ and ___, or those approved under another a City review process in this chapter.
Modifications to Stream and Related Impacts to Buffer	• Modifications to stream and related impacts to buffers require a critical area permit pursuant to Process I, Chapter 145 KZC, a critical area report, mitigation sequencing and mitigation plan described in KZC 90.__ and__, and if criteria in KZC 90.__ are met. Stream modifications include stream crossing, relocation, channel stabilization and change in meandering course of a stream, and culverts. • Daylighting of streams is encouraged. The Planning Official makes decision unless it is part of a critical area permit under a Process I. See KZC 90.__. • Buffer standards may not be modified or reduced, except as part of a stream modification in KZC 90. __, pursuant to a Process I, or through buffer averaging, daylighting a stream and a waiver to an isolated buffer all approved by the Planning Official. See KZC 90.__.nonconformances.

90.__ Stream Classification

Streams and watercourses shall be classified according to WAC 222-16-030, as amended. The classifications are as follows:

- Type F: Fish bearing
- Type Np: Perennial non-fish bearing
- Type Ns: Seasonal non-fish bearing

90. __ Stream Determination

The Planning Official shall make the determination if a stream and/or a buffer exist on the subject property, and if so, its classification and the boundary of the associated buffer based on a critical area report pursuant to KZC 90.__. In addition, the Planning Official shall determine whether the existing buffer vegetation meets the vegetative standards in KZC 90.__.

90. __ Stream Modifications

1. Stream Modification. The following stream modifications may be considered:
   a. Stream crossings not permitted in KZC 90.___;
   b. Culverts and bridges;

c. Change in meandering course of a stream; and
d. Relocation of a Type NS or NP stream.

2. Buffer Modification. A stream buffer may not be modified or otherwise reduced, except if part of an approved stream modification or as specified below:

   a. Buffer averaging permitted pursuant to KZC 90.__;
   b. Change to meandering course of a stream pursuant to KZC 90.__;
   c. Daylighting of a stream pursuant to KZC 90.__; or
   d. Isolated buffer waiver permitted pursuant to KZC 90.__.
   e. Connection to an approved stream crossing that is the minimum necessary

3. Process. A modification to a stream and the impacted buffer may be proposed through a critical area permit pursuant to Process I, described in Chapter 145 KZC.

4. Decision Criteria. In addition to criteria of Process I, the Planning Director shall only approve a modification to a stream and impact to the buffer along with the mitigation plan after considering the stream modification assessment for the proposed stream modification and the stream modification plan, provided that:
   a. Mitigation sequencing requirements have been met. See KZC 90.___; and
   b. The applicant has demonstrated where applicable, based on information provided by a civil engineer and a qualified professional approved by the City, that:
      1) It will not have an adverse effect on drainage, storm water detention capabilities and based flood storage volume and function;
      2) No adverse effect water quality or frequently flood area will occur;
      3) No increase in velocity will occur upstream or downstream;
      4) No increase in sediment load will occur upstream or downstream;
      5) Does not lead to unstable geologic and soil conditions and slope conditions or create an erosion hazard or contribute to scouring actions;
      6) Fill material does not contain organic or inorganic material that would be detrimental to water quality or to fish, wildlife, or their habitat;
      7) All exposed areas are stabilized with vegetation normally associated with native stream buffers, as appropriate;
      8) It will not be detrimental to fish and wildlife habitat in KZC __, including fill material that contains organic or inorganic material;
      9) Maximum amount of existing native trees and other native vegetation is retained;
      10) For streams placed in culverts, fish passage will not be impaired and the Washington State Department of Fish and Wildlife's design criteria for road culverts for fish passage are met;
      11) For change to create a meandering course for the stream, demonstrate that the change is the only feasible option to stop erosion and/or that the change will improve the functions and value of the stream;
      12) For stream crossings, crossings shall have no adverse impact on in-stream habitat and flow conveyance;
      13) A statement signed by each owner of all properties consenting to the modification if it results in creation or expansion of a stream or stream buffer on their properties; and
      14) The stream modification plan is sufficient to mitigate identified impacts.

If the stream modification is approved, the stream modification plan, the requirements of subsection 8 below, and any conditions of approval shall be made conditions of the land surface modification and/or building permit.

5. Appeals. Decisions on a stream modification may be appealed pursuant to KZC 90._.

6. Stream Modification Assessment. As part of the application for a modification, the applicant shall submit a stream modification assessment prepared by a qualified professional approved by the City, and fund the City's review of this assessment. The assessment shall contain:

   a. The City's stream determination decision;
   b. Findings of the critical area report for the classification of the stream if done as part of the report, vegetative buffer assessment, and a survey of the stream and its buffer;
   c. Description of the proposed modification to the stream and impact to the buffer;
   d. Analysis of mitigation sequencing in KZC 90.___;
   e. Proposed mitigation as required in KZC 90.___;
   f. Evaluation of the effects of the proposed modification on the functions and values of the stream and the buffer, including on water quality and wildlife habitat;
   g. Any change in stream bank erosion due to modification;
   h. A stream modification plan as required in KZC 90.___;
   i. Explanation of how the decisional criteria above in subsection 4 above are met; and
   j. Any other information or studies determined necessary by the Planning Official.

7. Stream Modification Plan. As part of the application for a modification, the applicant shall submit a stream modification plan prepared by a qualified professional approved by the City. Also the applicant shall fund the City's peer review of this assessment. The plan shall contain:

   a. A topographic survey showing existing and proposed topography and improvements;
   b. Schedule of the project for all work;
   c. For a new stream channel, stream crossing or culvert, assessment that the stream channel, or crossing or culvert can accommodate flow and velocity of 100-year storm events;
   d. Detailed vegetation plan for the stream channel if applicable and stream buffer vegetation meeting KZC 90.___. For changing the meandering of a stream course, see buffer reduction option in KZC 90.___;
   e. Design for daylighting, changing the meandering course of the stream, relocating a stream or other modifications that achieves:
      1) Creation of natural meander patterns;
      2) Formation of gentle and stable side slopes, no steeper than two (2) feet horizontal to one (1) foot vertical, and the installation of both temporary and permanent erosion-control features (the use of native vegetation on stream banks shall be emphasized);
      3) Native vegetation normally associated with streams, emphasizing native plants with high food and cover value for fish and wildlife;
      4) Re-establishment of fish population, as appropriate and where applicable; and
      5) Restoration of water flow characteristics compatible with fish habitat areas;
   f. Demonstration that flow and velocity of the stream after modification shall not be increased or decreased at the points where the stream enters and leaves the subject property, unless the change has been approved by the City to improve fish and wildlife habitat or to improve storm water management;

g. Written description of how the proposed modification of the stream will improve water quality, conveyance, fish and wildlife habitat, wetland recharge (if hydrologically connected to a wetland), and storm water detention capabilities of the stream;
h. Assessment of how the requirements for fish and wildlife habitat conservation areas in KZC 90.___ and frequently flooded areas in KZC 90.___ are meet, if applicable;
i. Proposed protective measures that are needed, such as siltation prevention measures and scheduling the construction activity to avoid interference with wildlife and fisheries rearing, nesting or spawning activities;
j. Description of performance standards for post-installation, a monitoring and maintenance schedule based on the time period required in KZC 90.__ along with a financial security estimate for the entire compensatory mitigation project that meet the standards in KZC 90.___;
k. Address applicable requirements in subsection 8 below; and
l. List of all required state and federal permits and authorization.

8. Additional Requirements for Stream Modification.

a. All work shall be carried out under the direct supervision of a qualified professional approved by the City and paid for by the applicant during all phases of the project;
b. Work must be done during the summer low flow and are timed to avoid stream disturbance during periods when use of the stream is critical to fish consistent with the Department of Fish and Wildlife construction window; if applicable;
c. Prior to diverting water into a new stream channel for a relocated or daylighted stream:
    1) A qualified professional approved by the City shall inspect the completed new channel and issue a written report to the City stating that the new stream channel complies with the requirements of this section prior to diverting the stream;
    2) Cost of the inspections shall be funded by the applicant.
d. For stream crossings and culverts:
    1) Demonstrate that there is no other feasible alternative route for the crossing with less impact on the environment;
    2) Designed to meet Department of Fish and Wildlife standards;
    3) Crossings over Type 1 streams, only bridge structures, bottomless culverts or other appropriate methods shall be used that provide fisheries protection and fish passage;
    4) Crossing for all other streams, bridge or bottomless culvert is preferred over traditional pipe-style culvert;
    5) Roads and associated crossings shall be perpendicular to the stream to the maximum extent feasible;
    6) Crossing and culverts shall be free of debris and sediment to interfere with free passage of water, wood and fish; and
    7) Record a perpetual maintenance agreement on a form approved by the City for continued maintenance of the stream crossing and culvert.
e. If a proposed stream modification will result in the creation or expansion of a stream or its buffer on any property other than the subject property a statement signed by the owners of all affected properties, in a form approved by the City Attorney shall be submitted with the modification application and recorded in the King County Recorder's Office. The statement(s) shall consent to the critical area and/or buffer creation or increase on the other property; and
f. Streams and buffer areas shall be located in a recorded critical area tract or easement meeting the standards in KZC 90.___.

90.__ Daylighting of Streams

1. Daylighting. The City encourages opening up a stream that is located in a culvert to restore the stream to its prior condition. The purpose is to improve the values and function of the stream that include maintaining water quality, reducing storm and flooding water flow, and provide wildlife habitat.

2. Process. The Planning Official may approve removal of a stream from a culvert based on an approved critical areas report pursuant to KZC 90. ___ and an approved stream daylighting plan prepared by a qualified professional approved by the City.

3. Stream Daylighting Plan. The plan shall include the following:
   a. Detailed site plan of existing improvements and utilities in relationship to the daylighting, topography, daylighted stream course, hydrologic flow before and after daylighting and where the daylighted stream will connect once the culvert will be removed;
   b. The requirements of the stream modification plan in KZC 90.__ where applicable as determined by the Planning Official and the additional stream modification requirements in KZC 90.__, as applicable;
   c. Planting plan for the required stream buffer that meets KZC 90. ___, except as permitted to be reduced pursuant to KZC 90. ___;
   d. List of all required state and federal permits and authorization, if applicable; and
   e. Any other information deemed necessary by the Planning Official.

4. Requirement to Daylight a Stream. The City may require a stream to be daylighted as part of a Process IIA pursuant to Chapter 150 KZC or IIB permit pursuant to Chapter 152 KZC if the required measure is proportionate to the scope and nature of the Process IIA or IIB permit.

90. ___ Buffer Reduction for Changing Course or Daylighting of Stream

1. On-Site Buffer Reduction.
   a. A reduction to the required buffer standard may be approved as part of approval for:
      1) Changing the course to create a meandering stream if the modification improves in-stream habitat and flow conveyance; or
      2) Daylighting a stream;
   b. The buffer width reduction shall be the minimum necessary to accommodate existing improvements and/or site conditions; and
   c. For any reduction in the buffer, the required vegetative standards in KZC 90. ___ shall be increased proportionally to the extent feasible based on an appropriate planting density within the reduced buffer to mitigate the impact to the critical area.

2. Off-Site Buffer Waiver.
   a. The buffer standard requirements for adjacent properties shall not increase due to the change in the meandering course of the stream or daylighting of a stream. The City shall document the waiver to the required buffer standard in the City's permitting system for the adjacent

properties due to the change in the critical area. The City will also record a document with King County Recorder Office at the request of any affected adjacent property owner; and

b. There is no waiver to the existing buffer requirement prior to the change in the adjacent critical area.

90. __ Stream Channel Stabilization.

1. When Permitted. Stream channel stabilization may be permitted if demonstrated to be necessary for:
   a. Protecting existing legal primary structure(s) and/or utilities that serve the structure(s), or public facilities or improvements, or unique natural resources determined by the City; or
   b. Providing the only feasible access to a property.

2. Stabilization Measures Options.
   a. Avoidance measures are to be used before soft-bank stabilization or hard-bank stabilization measures that include vegetation enhancement, upland drainage control, protective walls or embankments placed outside of the stream and buffer.
   b. Soft-bank stabilization measures may only be used if it is demonstrated that avoidance measures are not a feasible alternative due to site-specific soil, geologic, and/or hydrologic conditions, or location of existing primary structures, utilities or public facilities. These measures include bank enhancement, anchor trees, gravel placement, stepped back rockeries, vegetative plantings and similar measures that use natural materials engineered to preserve functions and values of the stream.
   c. Hard-bank stabilization measures may only be used if it is demonstrated first that avoidance measures are not feasible and then that soft-bank measures are also not a feasible alternative due to site-specific soil, geologic and/or hydrologic conditions. These measures include rock revetments, gabions, concrete groins, retaining walls, bulkheads and similar measures that present a vertical or nearly vertical interface with the water.

3. Process. Stream channel stabilization may be proposed pursuant to a Process I, described in Chapter 145 KZC.

4. Decision Criteria. In addition to criteria of Process I, the Planning Director shall only approve stream channel stabilization after considering the critical area report for the proposed stabilization and the stream channel stabilization plan, and if found that:
   a. Findings of the critical area report of KZC 90 ___;
   b. Mitigation sequencing found in KZC 90 __ has been met;
   c. There is a demonstrated risk to legal primary structures and/or utilities due to erosion or slope failure and that stabilization is necessary to prevent damage to these improvements;
   d. Stream channel stabilization plan will prevent stream bank erosion while minimizing impacts to the stream and the buffer; and
      1) For soft-bank stabilization and hard-bank measures, soft-bank measures must be used over avoidance measures, or that hard-bank measures must be used over soft-bank measures or

avoidance measures based on the critical area report provided by a qualified professional approved by the City;

2) The ability of both permanent and temporary impacts to the stream can be mitigated.

e. There will be no adverse impact to water quality;
f. There will be no adverse impact to fish, wildlife, and their habitat;
g. There will be no increase in the velocity of stream flow, unless approved by the City to improve fish habitat;
h. There will be no decrease in flood storage volumes; and
i. The installation of the stabilization measure will lead to unstable earth conditions or create erosion hazards or contribute to scouring actions.

5 Streambank Assessment. As part of the application for stream channel stabilization, the applicant shall submit a streambank assessment prepared by a qualified professional approved by the City, and fund City's peer review of the assessment. The assessment shall contain:

a. Analysis of mitigation sequencing in KZC 90.___;
b. Analysis of proposed stream channel stabilization plan, why it is needed and the suitability of the stabilization proposed;
c. Level and extent of risk to a primary structure and/or utilities due to erosion or slope failure and the ability of the proposed measure to mitigate that risk;
d. Whether the level and extent of risk of damage from erosion is substantially more compared to the environmental impact of the proposed disturbance to the stream, including any continued impacts on functions and values over time;
e. Assessment of the proposed stream channel stabilization measure and how it is consistent with Washington Department of Fish and Wildlife's guidelines on streambank protection;
f. The ability of both permanent and temporary impacts to the stream and fish passage can be mitigated;
g. Explanation of how the decisional criteria above in subsection 4 above are met; and
h. Any other information or studies determined necessary by the Planning Official.

6. Stream Channel Stabilization Plan. The plan shall include the following:

a. Detailed site plan of existing improvements and utilities in relationship to the stream, topography and soil conditions;
b. Proposed stabilization measure, including cross elevations, that is consistent with Washington Department of Fish and Wildlife's guidelines on streambank protection;
c. Timing of construction that avoids stream disturbance during periods when use of the stream is critical to resident or anadromous fish including salmonids; and
d. Work to be carried out under the direct supervision of a qualified biologist during all phases of the project.

90.XX MINOR LAKES - TOTEM LAKE AND FORBES LAKE

The majority, if not the entirety, of the perimeters of Totem Lake and Forbes Lake are wetlands. All activities in the shallow areas of the lakes relating to the wetland and their contiguous wetlands located above the high waterline are regulated pursuant to KZC 90.__ through 90.__.

Activities and uses waterward of the lakes' perimeter wetlands and outside of the wetland shall be regulated as follows:

1. General Standards. As part of a permit or approval under this chapter, the City may require maintenance or rehabilitation of the lake in the vicinity of as part of improvement by removing

material detrimental to the lake, such as debris, sediment, or non-native vegetation. Rehabilitation is required when a condition is detrimental to water quality or habitat.

2. Moorage Facilities. Moorage facilities may be proposed to be constructed, expanded or replaced using the process and meeting the standards below.

   a. Process. Moorage facilities may be proposed pursuant to a Process I, described in Chapter 145 KZC.

   b. Decision Criteria. A new, expanded or replaced moorage structure may be approved if the standards in subsection d. below are met.

   c. Standards.
      1) It is accessory to an allowed use on the subject property;
      2) Critical area report pursuant to KZC 90__ shall be prepared to assess impacts to wetlands and streams and any fish and wildlife habitat area due to construction and use of the moorage structures. If any impacts are identified, a mitigation plan shall be prepared and implemented;
      3) Moorage structure shall not extend farther than 25 feet waterward of the high waterline;
      4) Additions and replacements must meet the standards;
      5) Only one (1) moorage structure may be located on a subject property;
      6) Moorage structure associated with a dwelling unit shall be for the exclusive use of the resident and guests of the associated dwelling unit. Structures shall not be leased, rented or sold;
      7) Moorage structure shall not be treated with creosote or oil base or toxic substances;
      8) Any existing in-water structures not in use must be removed;
      9) For pedestrian access trails or boardwalks, see KZC 90.__.

3. Repair of Moorage Facilities. Moorage facilities may be repaired as an exempted activity pursuant to KZC 90._, but they may not be reconstructed or expanded under repair and maintenance.

4. Viewing Platforms.
   a. Public viewing platforms in the lake associated with a public park may be approved by the Planning Official. The platform shall not be treated with creosote or oil base or toxic substances. If the platform would disturb a wetland for either construction or its location, a critical area report is required pursuant to KZC ___.
   b. Private viewing platforms are not permitted.

5. Public Park. Construction of a park shall be reviewed through a Park Master Plan process.

90.XX FISH AND WILDLIFE HABITAT CONSERVATION AREAS

1. Location of Habitat Areas. Fish and wildlife habitat conservation areas can be found in wetlands, streams, frequently flooded areas, and Forbes and Totem lakes.

2. Species and Habitat Criteria. The habitat conservation areas are those that meet one or more of the following species and habitat criteria:

   a. State or federally designated endangered, threatened, and sensitive species that have a primary association with the habitat area.

b. State priority habitat and species
c. Species of local importance as identified by the City of Kirkland that due to their population status, or sensitivity to habitat manipulation, warrant protection.

The following species are designated as species of local importance:
1) Coho Salmon
2) Sockeye/kokanee Salmon
3) Cutthroat Trout
4) Bald Eagle
5) Pileated Woodpecker
6) Great Blue Heron

4. Determination of Habitat Conservation Area: Determination of a fish and wildlife habitat conservation area will be made in the field by a qualified professional approved by the City and based on the following maps and reports as part of a critical area report for a critical area determination in KZC 90.__.
   a. Department of Fish and Wildlife priority habitat and species maps;
   b. Anadromous and resident salmonid distribution maps contained in the habitat-limiting factors reports published by the Washington State Conservation Commission;
   c. Federal and state information and maps related to species of concern; and
   d. Findings of the critical area report prepared by a qualified professional approved by the City.

5. Modifications to Habitat Conservation Areas.

   a. Modification: Modification to habitat conservation areas may only be approved if the following requirements are met:
      1) Mitigation sequencing is followed under KZC 90.___ and a modification is determined to be necessary; and
      2) A habitat management plan is prepared based on recommendations from the Washington State Department of Fish and Wildlife as part of a critical area report, prepared by a qualified professional and approved by the City,
      3) The development standards in KZC 90.__ are met.
      4) Areas shall be protected through implementation of protection measures in accordance with a critical area report based on the management plan.
      5) The applicant shall fund the cost of the management plan, the critical area report and implementation of the management plan, including monitoring and maintenance.
      6) The management plan shall be implemented through the life of the use or activity

   b. Process: Modification to habitat conservation areas shall be approved as part of a related permit or approval under this chapter.

6. General Standards for Habitat Conservation Areas. Activities and uses located in, and in some cases adjacent, to fish and wildlife habitat conservation areas shall meet the following standards:
   a. Minimize or mitigate any potential adverse impacts based on best available science, including:
      1) Establishment of buffer zones planted with native vegetation;
      2) Preservation of critically important vegetation and/or habitat features, such as snags and downed wood;
      3) Limitation of access to the habitat area, including fencing to deter unauthorized access;
      4) Seasonal restriction of construction activities as determined by the Washington State Department of Fish and Wildlife;

5) Establishment of a duration and timetable for periodic review of mitigation activities; and
6) Requirement of a performance bond, when necessary, to ensure completion and success of proposed mitigation.

b. The use of hazardous substances, pesticides, and fertilizers in a wetland and stream and its buffer or a frequently flooded area containing a habitat conservation area must follow state and City standards.
c. The introduction of any plant, wildlife, or fish species not indigenous to the region shall be prohibited unless authorized by a state or federal permit or approval.

7. Buffer Standards for Habitat Conservation Areas. The City shall require the establishment of buffer areas for activities and uses adjacent to habitat conservation areas to protect the habitat based on a critical area report.
   a. Required buffer widths shall reflect the sensitivity of the habitat and the type and intensity of activity proposed to be conducted nearby, and shall be consistent with the management recommendations issued by the Washington Department of Fish and Wildlife and U.S Department of Fish and Wildlife;
   b. The City may require the buffer standards for wetland in KZC 90.__ or for stream in KZC 90.__ to be increased if needed to protect the habitat conservation areas. See KZC 90.__; and
   c. Buffers shall consist of an undisturbed area of native vegetation or areas identified in a management plan for restoration to protect the integrity, functions, and values of the affected habitat.

8. Habitat Conservation Area Assessment. In addition to the critical area report requirements of KZC 90.__, the following information shall be provided:

   a. Evaluation. Evaluation of the presence or absence of potential fish or wildlife habitat on the subject property or within the vicinity. A habitat assessment shall include the following information:
      1) Extent of fish and wildlife habitat areas and required buffers based on the priority species;
      2) Existing habitat area acreage;
      3) Vegetative, faunal, and hydrologic characteristics;
      4) Identification of species of local importance, priority species, or endangered, threatened, sensitive, or candidate species that have a primary association with habitat on or adjacent to the project area;
      5) Evaluation of potential project impacts to the use of the subject property by the species;
      6) A discussion of any federal, state, or local special management recommendations, including Washington Department of Fish and Wildlife habitat management recommendations, that have been developed for species or habitats located on or adjacent to the project area; and
      7) A detailed discussion of the direct and indirect potential impacts on habitat by the project, including potential impacts to water quality.

   b. Proposed Mitigation. If required, a mitigation plan consistent with KZC 90. __ and KZC 90. __. The mitigation plan shall include a written assessment and accompanying maps of the mitigation area, including the following information at a minimum:
      1) Prohibition or limitation of development activities within the fish and wildlife habitat conservation area;
      2) Establishment of a buffer around the fish and wildlife habitat conservation area;
      3) Retention of certain vegetation or areas of vegetation critically important to the listed species;
      4) Limitation of access to the fish and wildlife habitat conservation area and buffer;

5) Seasonal restrictions on construction activities on the subject property;
6) Clustering of development on the subject property if appropriate; and
7) Preservation or creation of a habitat area for the listed species.

c. Habitat Management. When appropriate due to the type of habitat or species present or the project area conditions, the City may also require a habitat management plan to include:
   1) A discussion of ongoing management practices that will protect habitat after the project site has been developed, including proposed monitoring and maintenance programs;
   2) Consultation with the Washington State Department of Fish and Wildlife, affected tribes or other appropriate agency regarding the effectiveness of any proposed mitigating measures or programs, as appropriate; and
   3) Detailed surface and subsurface hydrologic features both on and adjacent to the site.

9. Mitigation - Fish and Wildlife Habitat Conservation Areas.

a. General. Mitigation for modification to habitat conservation areas shall achieve equivalent or greater biologic functions based on best available science and shall include mitigation for adverse impacts upstream or downstream of the development proposal site as appropriate or within the entire wetland.
b. Restoration. Restoration shall be required as part of a development proposal or as required in an enforcement action pursuant to KZC 90. __ where impacts, either direct or indirect, to the habitat conservation area occur.
c. Mitigation Plan: A mitigation plan shall be included as part of the critical area report, shall demonstrate that:
   1) Habitat conservation area will not be further degraded by the restoration or mitigation activity;
   2) Mitigation will reliably and demonstrably improve the water quality and fish and wildlife habitat;
   3) Mitigation will result in no net loss and no significant adverse impact will occur to habitat functions; and
   4) On sites where nonnative vegetation was cleared, restoration shall include installation of native vegetation with a density equal to or greater than vegetative buffer standards in KZC 90.__ as guideline.
d. Monitoring and Maintenance: Mitigation sites shall be monitored and maintained consistent with KZC 90. __.

10. Designation of Habitats or Species of Local Importance.

The City may designate additional habitat or species of local importance found in KZC 90 __ as an amendment to this chapter through a Process IV pursuant to Chapter 160 KZC.

90. XX FREQUENTLY FLOODED AREAS

No disturbance or, land surface modification may take place and no improvements or activities may be located in frequently flooded area that are areas of special flood hazard, except as specifically provided for in Chapter 21.56 KMC, Flood Damage Prevention. As required in Chapter 21.56 KMC, habitat assessment for development within special flood areas must be consistent with the 2008 FEMA Biological Opinion.

90.XX GENERAL STANDARDS

90.XX Buffer Averaging

1. Applicability. Buffer averaging may be applied to wetlands and stream buffers. An applicant who chooses to the alternative buffer standard pursuant to KZC.90__ may use buffer averaging.

2. Standards. Averaging of buffer widths may only be allowed if all of the following criteria, based on best available science, are met as demonstrated in a critical areas report:
   a. The buffer width is not reduced below 75% of the required width in any location;
   b. The total area contained in the buffer area after averaging is no less than that which would be contained within the standard buffer and must be contiguous;
   c. It will provide additional protection to wetlands and result in a net improvement of wetland habitat, functions, and values; and
   d. The wetland contains variations in sensitivity due to existing physical characteristics or the character of the buffer varies in slope, soils, or vegetation, and the wetland or stream would benefit from a wider buffer in places and would not be adversely impacted by a narrower buffer in other places.

2. Process. The Planning Official makes decision based on the critical areas report described in KZC 90.__.

90.XX Buffer Modifications and Waivers

1. Buffer Modifications. Buffers may not be modified or otherwise reduced, except as specified below. The modifications apply to both wetland and stream buffers.
   a. As part of an approved wetland or stream modification pursuant to KZC 90.__ and KZC 90.__, the buffer edge shall be modified relative to the new edge of the modified critical area;
   b. Buffer averaging permitted pursuant to KZC 90.__;
   c. Daylighting of a stream pursuant to KZC 90.__;
   d. Changing the meandering course of a stream pursuant to KZC 90.__; or
   e. Isolated buffer waiver pursuant to subsection 2 below.

2. Isolated Buffer Waiver.

   a. Where a legally established and improved public right-of-way, improved easement road or driveway, or existing structure isolates a portion of the critical area buffer from the portion of the buffer adjacent to the critical area, the Planning Official may waive the required critical area buffer in that portion of the buffer isolated from the critical area.

   b. The Planning Official may only waive the buffer requirement if, based on a critical area report pursuant to KZC 90.__, the waiver request is found to meet the following criteria (see Plate __):

      a. The existing improvements create a substantial barrier to the buffer functions that would benefit the critical area; and
      b. The isolated buffer does not provide additional protection of the critical area from the proposed development; and

c. The isolated does not provides any significant biological or hydrological buffer functions relating to the portion of the buffer adjacent to the critical area.

90.XX Increase in Buffer Width Standard

1. Criteria to Require Increase in Buffer Width. The City shall determine if a buffer must be increased beyond the standards in this chapter based on best available science and the recommendation of a critical area report for a project. The increase in buffer width may be required when a larger buffer is necessary to protect critical area functions and values either on the subject property or on an adjacent property. This determination shall be based on one or more of the following criteria:

   a. Severe Erosion Areas. If the critical area buffer abuts land that contains a slope with severe erosion, has minimal vegetative cover and is designated as hazardous in Chapter 85. KZC, and erosion control measures will not effectively prevent adverse impacts on the critical area based on a geotechnical study, a larger buffer shall be required.

   b. Fish and Wildlife Habitat Conservation Areas. If the wetland or stream contains documented habitat for endangered, threatened, priority species or species of local importance, a larger buffer may be required to protect the habitat consistent with the management recommendations issued by the Washington Department of Fish and Wildlife or the United States Department of Fish and Wildlife; or

   c. Frequently Flooded Areas. If a site contains a frequently flooded area and the frequently flooded area is wider than the buffer standard required for a wetland or stream, the buffer shall be increased to incorporate the entire frequently flooded area.

2. Process. The Planning Official shall make a determination if a buffer width must be increased beyond the standard buffer width based on a critical area report as part of the critical area determination in KZC 90.__.

90.XX Structure Setback from Critical Area Buffer

Buildings and other structures shall be set back at least ten (10) feet from the edge of the wetland or stream buffer to ensure adequate width for construction staging, and maintenance and repair of primary structures without disturbing the critical area buffer or critical area. For wetlands that are less than 1,000 square feet and have no buffer requirement, improvements are not permitted in the building setback.

The following improvements may extend into the structure setback, provided that they do not necessitate encroachment into the critical area buffer to maintain.

Structure Setback	Improvement:	Location within setback:
Ten (10) feet	Chimneys, bay windows, greenhouse windows, eaves, cornices, awnings and canopies, and decks above the ground floor;	May extend no more than 18" into structure setback

	Uncovered improvements less than 18" above finished grade and railings less than four feet above finished grade;	May extend no more than five (5) feet into structure setback
	Uncovered play structures;	
	Rockeries and retaining walls that are not more than four feet above finished grade;	
	Uncovered improvements less than 4" above finished grade	May extend no more than nine (9) feet into structure setback
	benches, walkways, paths and pedestrian bridges;	
	garden sculpture, light fixtures, trellises and similar decorative structures;	
	Driveways and parking areas;	
	stormwater conveyance that results in sheet flow such as rain gardens, and similar techniques;	
	Non-native landscaping	
	Solid or split rail fence perpendicular to the building setback at up to 6 feet in height above grade.	May extend to the critical area buffer

90.XX Vegetative Buffer Standards

1. Vegetative Buffer Standard. A wetland or stream shall have a buffer that meets the standards in this subsection. The entire buffer shall meet the standard.
   a. Native cover of at least 80% on average throughout the buffer area with two out of three of the following strata of native plant species composing of at least 20% areal cover:
      1) Multi-age forest canopy (combination of existing and new vegetation);
      2) Shrubs; and
      3) Woody groundcover (such as kinickinick, salal and sword fern) or unmowed herbaceous groundcover;
   b. At least three native species each making up a minimum of 10% coverage (for diversity);
   c. Less than 10% noxious weeds cover using King County weed list (but require removal of knotweed which is very invasive);
   d. Removal of lawn (source of fertilizers, fecal coliform from pets and herbicides detrimental to wetlands and streams) and any illegal fill;
   e. Augmented soil as needed to provide a well-functioning buffer;
   f. Mulch added meeting the Planning and Building Department standards; and
   g. Available water source for irrigating the vegetation.

   Existing healthy native vegetation may count towards meeting the requirements if the overall standard is met.

2. Process: The Planning Official shall determine whether an existing buffer meets the standards in KZC 90.___ as part of the critical area determination based on information provided and reviewed in the critical area report.

3. When Vegetative Standard Applies. The vegetative buffer standard shall apply to the following:
   a. New structure, excluding detached dwelling units.
   b. New detached dwelling unit.

Staff is still considering Subsection 3

4. Vegetative Buffer Plan. When a buffer does not meet the standards in KZC 90.___., a vegetative buffer restoration plan shall be submitted for approval as follows:

   a. For a critical area permit or approval that does not require a critical area modification pursuant KZC 90.___, KZC 90.___ or KZC 90.___:
      1) A revegetation plan shall be submitted as part of a development permit for the development or before commencement of an activity approved under this chapter that does not require a development permit; and
      2) The Planning Official shall approve the plan only if it meets the vegetative buffer standard.

   b. For a critical area permit or approval that requires a critical area modification pursuant KZC 90.___, KZC 90.___ or KZC 90.___:
      1) A revegetation plan shall be submitted as part of the required mitigation plan pursuant to KZC 90.___, KZC 90.___ and KZC 90.___;
      2) The vegetative plan shall be approved as part of the critical area permit or approval under this chapter, and then subsequently submitted as part of the development permit application or before commencement of the activity if a development permit is not required; and
      3) Any changes to the approved vegetative plan must be approved by the Planning Official and may require review by the City's consultant at the applicant's expense.
   c. Maintenance and monitoring plan and a financial security for the vegetative buffer shall be submitted prior to issuance of a development permit or before commencement of an activity pursuant to KZC 90.___ and KZC 90.___.

5. Installation of Buffer.
   a. Access to water for irrigating new plants must available and indicated on the planting plan;
   b. Work generally shall be done by hand unless use of mechanical equipment is specifically authorized due to site conditions;

6. Maintenance of Buffer. Buffers shall be placed in recorded easements or tracts pursuant to KZC 90.___ and shall be maintained in perpetuity.

90.XX Trees in Critical Areas or Critical Area Buffer

1. Removal of Trees.
   a. Only a nuisance or hazardous tree may be removed in a critical area or its buffer and only if approved in advance by the City;
   b. If a tree in a critical area or its buffer meets the criteria of a nuisance or hazard based on this code at the determination of the Planning Official, then a "snag" or wildlife tree shall be created;
   c. If creation of a snag is not feasible, then the felled tree shall be left in place unless the Planning Official approves tree removal in writing; and
   d. Any tree approved to be removed must be replaced with one (1) native tree at a minimum height of (6) feet approved by the Planning Official.

2. Pruning of Trees. Pruning or topping of trees in critical areas or buffers is prohibited.

90.XX Measures to Minimize Impacts to Wetlands

The following measures must be incorporated into the design of a site containing a wetland and/or buffer. The Planning Official shall determine the applicability of each measure based on the uses and/or activities on the subject property. The City will maintain best management practice policies for implementing these measures.

Table 90.__ Measures to Minimized Impact to Critical Areas

Disturbance	Required Measures to Minimize Impacts
Lights	- Shield exterior wall mounted and free standing lights that face the wetland or buffer so that they are down casted and directed away from critical area and associated buffer.
Noise	- Activities that generate noise, such as parking lots, drive thru facilities, generators, HVAC units shall be located away from the wetland or buffer to the maximum extent possible, or noise shall be minimized through use of design measures, insulation techniques or additional native vegetation. - Activities or uses that generate relatively continuous, potentially disruptive noise, such as certain heavy industrial shall provide an additional 10 feet in width of heavily vegetated buffer strip immediately adjacent to the outer wetland buffer.
Toxic runoff	- Route all new untreated runoff away from critical area while ensuring wetlands are not dewatered. - Establish covenants limiting use of pesticides within 150 feet of wetland. - Apply integrated pesticides management.
Stormwater runoff	- Retrofit stormwater detention and treatment for roads and existing adjacent development. - Prevent channelized flow from lawns that directly enters the wetland buffer. - Use low impact development techniques per the City's standards.
Pets and human disturbance	- Install split rail fence and signage pursuant to KZC 90.__ to provide clear separation of buffer and wetland. - Place wetland and buffer in a separate conservation easement or tract pursuant to KZC 90.__.
Dust	- Use best management practices to control dust.

90.XX Critical Area Markers, Fencing and Signage

1. Survey Stakes. Permanent survey stakes delineating the boundary of the critical area buffer shall be set, using iron or concrete markers as established by current survey standards.

2. Construction Fencing. Prior to commencement of any grading or other development activities on the subject property, a 6-foot-high construction chain link fence must be installed along the entire edge of the buffer. The fence may not be located in the critical area buffer. The Planning Official

shall inspect the fence prior to commencement of any work. The fence must remain in place until completion of the project and not removed at any time other than as authorized by the Planning Official.

3. Permanent Fencing. Upon completion of the project, a permanent 3- to 4-foot-tall wood rail fence must be installed along the entire edge of the buffer. The fence may not be located in the critical area buffer. The Planning Official shall inspect the fence prior to final inspection or occupancy. The fence must be maintained and remain in perpetuity.

4. Permanent Signage. Upon completion of the project, permanent signage shall be with the fence stating that the protected critical area and buffer must not be disturbed other than necessary for maintenance of vegetation. The signs must be maintained and remain in perpetuity. Signage shall meet the administrative standards of the Planning and Building Department for design, number and location. The Planning Official shall inspect the signage prior to final inspection or occupancy.

90.XX __ Critical Area Determination

1. Initial Determination. Either prior to or during review of a development application, the Planning Official shall make an initial assessment based on a site inspection and other information as to whether:

   a. For wetlands, any portion of the subject property or surrounding area within 250 feet of the subject property meets the definition of a wetland. If this initial site inspection does not indicate the presence of a wetland on the subject property or within 250 feet of the subject property, no additional wetland assessment will be required.

   b. A stream is present on any portion of the subject property or surrounding area within 125 feet of the subject property. If the site inspection does not indicate a stream on or within 125 feet of the subject property, no additional action will be required.

   c. If the initial determination indicates that a wetland exists or may exist on the subject property or within 250 feet of the subject property and/or a stream exists on the subject property or within 125 feet of the subject property and/or, then the applicant shall have a critical area report prepared pursuant to KZC 90.___ either by:

      1) Funding a report prepared by the City or the City's consultant; or
      2) Submitting a report prepared by a qualified professional approved by the City. In addition, fund the City's review of the critical area report.

   d. If the Planning Official is not able to determine the classification of a stream or is uncertain if a watercourse is classified as a stream, a critical area report shall include a recommendation on a stream determination if the site does contain a stream and if so, its classification. The Planning Official shall make the final determination based on the critical area report. If the critical area report determines that no stream exists in the subject property, no further action is need.

2. Final Determination. The Planning Official shall make a final determination based on a critical area and the supplemental critical area assessment. The determination shall be for any development permit application or other request for permission to proceed that would modify a site that includes a critical area or associated buffer, other than those exempted KZC 90.__. As part of the critical area determination, the Planning Official shall:

a. Determine whether a critical area exists or likely exists on the property, and if so, require a critical area report.
b. If a critical area exists on the property, determine:
   1) The critical area boundaries, wetland category and rating and/or stream classification;
   2) The buffer width standards and location of the buffer for the critical area;
   3) Whether the required buffer meets the vegetative standards found in KZC 90.__. If not, what revisions need to be made to the buffer;
   4) Whether the subject property contains or is within the vicinity of a known habitat for species that are federally or state listed or of local importance pursuant to KZC 90. __. If so, require and review a habitat management plan to determine necessary implementation actions;
   5) Whether the standard buffer width must be increased pursuant to KZC 90.__;
   6) Whether the development proposal is consistent with this chapter; and
   7) Whether any proposed modification to the critical area is necessary.

3. Development Review. The Planning Official's final determination under this chapter shall be used for review of any development permit or activity proposed on the subject property.

4. Validity of Determination. The critical area determination is valid for five (5) years from the date of the decision. However, the Planning Official may modify the final critical area determination whenever physical circumstances have markedly and demonstrably changed on the subject property or within 250 feet of the subject property for wetlands and 125 feet for streams as a result of natural processes or human activity.

90.XX __ Critical Area Report

1. General. An application for a development permit that includes a critical area and/or its buffer, except those exempted pursuant to KZC 90.__, shall provide a critical area report that uses the best available science to evaluate the proposal and all probable impacts and include the required supplemental wetland or stream critical area assessment pursuant to KZC 90.__ and KZC 90.__.

2. Waiver. The Planning Official may waive requiring specific information for the report if it is determined that:
   a. The information is not needed to evaluate a critical area or requirement of this chapter.
   b. If the development proposal will affect only a part of the subject property, the Planning Official may limit the scope of the required report to include only that part of the site that would be affected by the development.

3. Report Format. The critical area report shall be in the form of a written document provided in electronic form. The City may establish specific administrative requirements for the format of the report.

4. Report Content – General. A critical area report shall evaluate the subject property and critical areas within 250 feet of the subject property for wetlands and 125 feet for known streams. A critical area report shall include the following information:

   a. The name and contact information of the applicant; the name, qualifications , and contact information from the primary author(s) of the report; identification of all the local, state, and /or federal critical area related permit(s) required for the project; and a vicinity map for the project;
   b. A statement specifying the accuracy of the report and all assumptions made and relied upon;

c. Documentation of any fieldwork performed on the site, including field date sheets for wetland delineation and rating system forms, stream classification, baseline hydrologic data;
d. A description of the methodologies used to conduct the wetland delineations and rating system forms, stream classification if done as part of the critical area report, and impact analyses including references;
e. Identification, characterization and boundaries of all critical area, and buffers on or adjacent to the subject property. For areas off site of the subject property, estimate conditions within 250 feet of the subject property boundaries for a wetland and 125 feet of a stream using the best available information;
f. A site plan of the project area, drawn to scale, with existing improvements and site features;
g. Project narrative describing the proposal; anticipated temporary and permanent impacts to critical area or its buffer and a survey, construction activities and sequencing of construction, and other relevant information;
h. A description of existing native, ornamental or invasive vegetation, fauna, and hydrologic characteristics found in the critical area and its buffer both on-site and on adjacent properties;
i. Assessment of existing vegetation in the required buffer and whether it meets the vegetative buffer standards found in KZC 90.__. If the vegetation in the buffer does not meet the vegetative standards, submit a detailed re-vegetation plan meeting KZC 90.__;
j. Assessment of any habitat for species that are federally or state listed or for species of local importance pursuant to KZC 90. __ on the subject property or in the vicinity. Include a management plan for any habitat that meets KZC 90. __ to address methods to protect and enhance on-site habitat and critical area functions;
k. When impacts are proposed to the critical area, the requirements of mitigation sequencing pursuant to KZC 90.__ must be met;
l. When impacts are proposed to the critical area, an assessment of mitigation and/or restoration plan meeting KZC 90.__ and monitoring and maintenance plan meeting KZC 90.__. Mitigation shall be design to achieve no net loss of ecological function consistent with mitigation sequencing in KZC 90.__ for critical areas and compensatory mitigation for wetlands in KZC 90.__;
m. A professional survey as specified in KZC 90.__;and
n. Any other information deemed necessary by the Planning Official.

5. Report Content – Wetlands. In addition to the requirements for the General Report Content pursuant to KZC 90.__, the critical area report shall include:

a. Identification of wetlands and delineation of their boundaries shall be in accordance with the current approved federal delineation manual and applicable regional supplements described in WAC 173-22-035, as amended. All determinations and delineations of wetlands shall be based on the entire extent of the wetland, irrespective of property lines, ownership patterns, existing improvements or features;
b. Wetland rating and category including the rationale for the proposed rating and the required buffer based on the regulations in this code;
c. Existing wetland acreage which may be approximated if the wetland extends onto adjacent properties;
d. Soil and substrate conditions;
e. A description of historical hydrologic, vegetative, habitat, topographic, and soil modifications, if any;

f. Description of the water sources entering and leaving the wetland and documentation of hydrologic regime (locations of inlet and outlet features, water depths throughout the wetland, evidence of recharge or discharge, evidence of water depths throughout the year – drift lines, algal layers, moss lines, and sediment deposits); and
g. A completed Department of Ecology Wetland Field Data Form.

6. Report Content – Stream. In addition to the requirements for the General Report Content pursuant to KZC 90.__, the critical area report shall include the stream classification and rationale, based on WAC 222-16-030, as amended; if done as part of the critical area report rather than as a determination by the Planning Official; and

7. Professional Survey and Measuring Buffer Boundary.

   a. The survey shall be based on the King County Datum (NAVD 88 vertical, NAD 83/91 horizontal) and shall indicate the temporary or permanent benchmark used in the survey depicting:

      1) The wetland boundary on the subject property and within 250 of the subject property and its buffer based on the determined wetland category and rating, and the buffer standards in this chapter; and/or
      2) The ordinary high water mark (OHWM) of any stream or the opening of a pipe where any stream enters or exits a pipe on the subject property or within 125 feet of the subject property and its buffer based on the determined classification and the buffer standards in this chapter:

   b. For wetlands, buffer widths shall be measured along the outer edge of the entire wetland.

   c. For streams, buffer widths shall be measured outward in each direction on the horizontal plane from the OHWM or from the top of the bank if the OWHM cannot be identified. Where a stream enters or exits a pipe, the buffer shall be measured in all directions from the pipe opening (see Plates 16 and 16A of Chapter 180 KZC).

8. Site and Construction Plans. For a site proposed to be developed, plans showing the following:

   a. Site diagrams and cross-sectional drawings;
   b. Slope gradients, and existing and final grade elevations at two-foot intervals;
   c. Type and extent of all critical areas, and buffers on or adjacent to the subject property within 250 feet of any wetland and 125 feet of any stream;
   d. Location of springs, steeps, surface water runoff features, or other surface expressions of groundwater on or within 250 feet of a wetland and 125 feet of a stream of the subject property;
   e. Proposed development, including the location of existing and proposed structures, fill, grading clearing limits with dimensions indicating distances to the critical area, areas of proposed impacts to the critical areas and/or buffers (include square footage estimates), and storage of construction materials if available;
   f. A depiction of the proposed stormwater management facility and outlets for the project, including estimated areas of intrusion into the critical area buffer;
   g. Other drawings to demonstrate construction techniques; and
   h. Any other information deemed necessary by the Planning Official.

Sections to be presented at the Planning Commission on July 14, 2016

90.XX Mitigation Requirements

90.XX Monitoring and Maintenance

90. XX Restoration for Code Enforcement

90.XX Financial Security for Performance, Monitoring and Maintenance

90.XX Maximum Development Potential

90.XX Dimensional Design Standards

90.XX Reasonable Use Exception

90.XX Nonconformances

90.XX Pesticide and Herbicide Use

90.XX Structure Setbacks and Buffers Required by Prior Approvals

90.XX Dedication of Critical Area and Buffer

90.XX LIABILITY

90.XX APPEALS

90.170 LASPE OF APPROVAL

Proposed Critical Areas Update –Case Studies

Prepared by The Watershed Company

June 13, 2016

INTRODUCTION

The following four case studies have been developed to inform the City's review and discussion of the proposed updated critical areas regulations. **These case studies represent theoretical developments**. In the tables below each project has been evaluated under the existing and proposed provisions to provide a comparison and understanding of the outcomes of proposed regulatory changes.

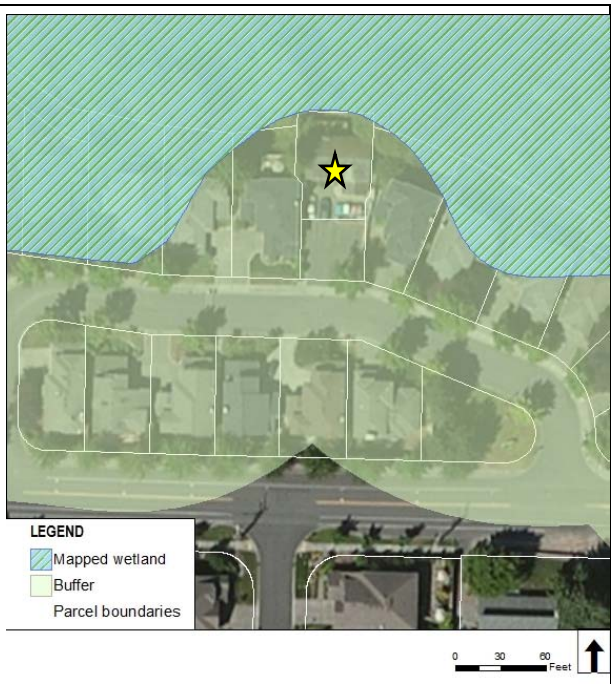
ATTACHMENT 2

CASE STUDY 1: EXPANSION OF NON-CONFORMING RESIDENTIAL USE

Project Overview

The applicant would like to repair and expand the primary residential structure marked with a star. The primary structure is located 20 feet from the mapped edge of the **Juanita Bay wetlands**, and it is entirely within both the existing and proposed buffers.

Although Juanita Bay Wetlands are themselves within shoreline jurisdiction, the wetland buffers are regulated under the CAO.



Distinguishing Wetland Characteristics

Water quality improvement potential is moderate because there is extensive development and degraded water quality in the basin, but there is also limited water retention capability. Flood control structures and low water retention potentially limit functions associated with flooding and erosion.

The potential to provide wildlife habitat is extremely high, based on the complex physical structure (e.g., forested, scrub-shrub, aquatic bed, etc.) and variety of hydrologic regimes (e.g., permanently flooded, seasonally flooded, etc.). At the landscape-scale, habitat is limited by surrounding development.

	Existing	**Proposed**
Wetland Rating	Type 1	Category 2, Habitat Score 7
Standard Buffer	100 feet	165 feet
Code Requirements	The structure is nonconforming as to the current buffer requirements. As a legally established, nonconforming structure, the applicant could repair and maintain the existing structure [KZC 90.20(6)]. However, reconstruction is not permitted, except in the case of extensive casualty damage [KZC 163.30]. An expansion is not possible because a buffer width can only be reduced by one-third through a reduction process, which is not enough to allow an expansion.	As a legally established, nonconforming use, the applicant can rebuild on the existing foundation. The applicant would have the following options for expanding the structure: 1) up to 1,000 square feet on the southern side of the house, away from the wetland; 2) up to 500 square feet on the side of the house, but no closer to the wetland than the existing structure; or 3) up to 250 square feet toward the wetland, subject to the minimum setback from the wetland that will be established. Mitigation for buffer impacts would be required.
Discussion	The proposed changes would allow reconstruction of the primary structure on the same footprint and provide options to add an addition in the buffer.	

ATTACHMENT 2

CASE STUDY 1: CONTINUED

Juanita Bay Wetlands, facing northwest. Note diversity of plant communities that provide a wide variety of habitat niches.	 Photo 1 (Source: Google Earth)
Juanita Bay Wetlands, facing north. Note interspersion of habitat communities.	 Photo 2 (Source: Google Earth)
Aerial photograph of Juanita Bay Wetlands. Note extensive surround development, which limits habitat connectivity.	 Photo 3 (Source: King County iMAP)

CASE STUDY 2: NEW RESIDENTIAL USE

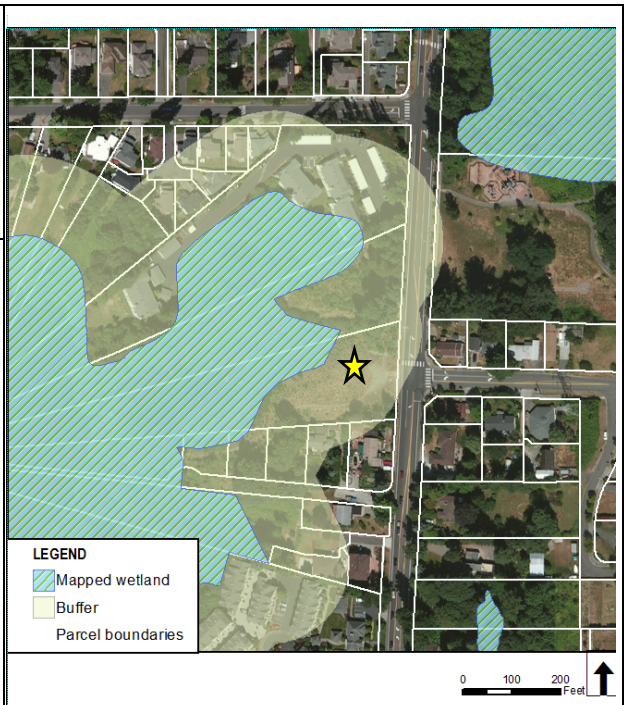
Project Overview

The applicant would like to develop an undeveloped residential parcel along **Forbes Lake**. All but 400 square feet of the parcel is within the proposed wetland buffer.

Distinguishing Wetland Characteristics

Water quality improvement potential is moderate due to the presence of organic soils and extensive development and water quality degradation in the basin. Low seasonal water level variations limit value associated with controlling flooding and erosion, although the potential is high, due to intensive development of the basin.

The potential to provide wildlife habitat is extremely high, based on the complex physical structure (e.g., forested, scrub-shrub, aquatic bed, etc.) and variety of hydrologic regimes (e.g., permanently flooded, seasonally flooded, etc.). On the landscape-scale, habitat is limited by surrounding development.



	Existing	Proposed
Wetland Rating	Type 1	Category 3, Habitat Score 7
Standard Buffer	100 feet	165 feet
Code Requirements	Approximately 12,000 square feet falls outside of the current 100-foot-wide buffer. This may yield enough room for construction of a new residence. However, if additional area were necessary, utilization of the existing buffer reduction mechanism could be used to reduce the standard buffer from 100-feet to a minimum of 66.6-feet [KZC 90.60(2)(a)(2)]. Reduction of the buffer would require enhancement of the remaining reduced buffer. Approval for the buffer reduction would be granted by the City's Hearing Examiner.	Under proposed buffer standards, nearly the entire parcel would be encumbered. Buffer reduction is not allowed under proposed provisions. Therefore, the new residence would fall under the City's reasonable use exception (RUE) provision. RUE would allow a disturbance area of up to 8,500 square feet, depending on the size of the property, through a Planning Director decision. Mitigation sequencing would be required.
Discussion	The wider proposed buffer encumbers this lot, meaning that new development would fall under an RUE. A new residential use is allowed under either scenario; however, the RUE would limit the area of disturbance. The RUE process would be simplified from a Hearing Examiner decision to a Planning Director decision. The area of disturbance allowed under an RUE would depend on lot size, with more disturbance allowed on larger lots.	

ATTACHMENT 2

CASE STUDY 2: CONTINUED

Forbes Lake, facing southeast. Note diversity of plant communities and flooding regimes.	 Photo 1
Beaver lodge on Forbes Lake, a reflection of habitat function and variable hydrologic regimes.	 Photo 2
Aerial photograph of Forbes Lake Wetland. Note extensive development in the surrounding landscape.	 Photo 3 (Source: King County iMAP)

CASE STUDY 3: NEW OVERPASS STRUCTURE

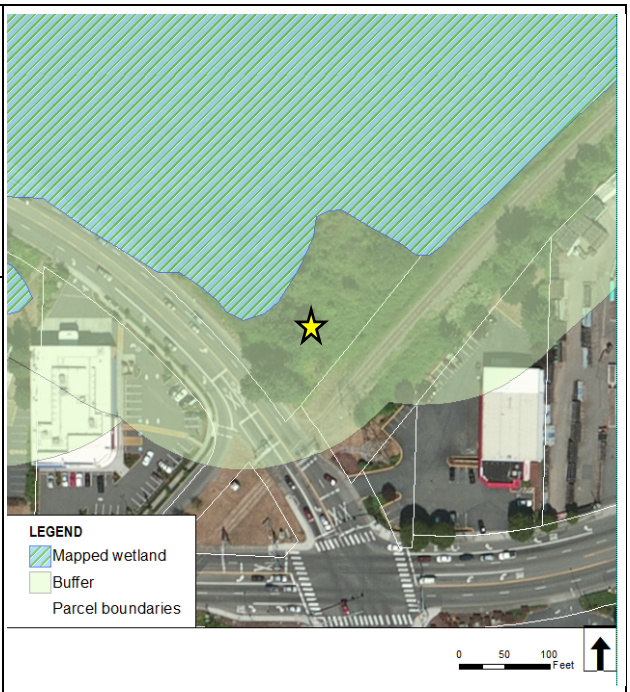
Project Overview

The City would like to construct a new elevated pedestrian walkway in the area marked with a star. The proposed location is 25 feet from the mapped edge of the **Totem Lake wetlands**, and entirely within both the existing and proposed buffers.

Distinguishing Wetland Characteristics

Totem Lake provides moderate to high levels of water quality functions and very high levels of function related to flooding and erosion, due to its ability to retain stormwater flows and seasonal fluctuations; its large size relative to its contributing basin; and the intense development of the basin.

The potential to provide wildlife habitat is moderate, based on physical structure (scrub-shrub, emergent, and aquatic bed) and variety of special habitat features (e.g., snags, woody debris, amphibian egg-laying structures, etc.). On the landscape-scale, habitat is limited by surrounding development.



	Existing	Proposed
Wetland Rating	Type 1	Category 2, Habitat Score 6
Standard Buffer	100 feet	165 feet
Code Requirements	The proposed work area is nearly entirely encumbered by the standard buffer under existing provisions. The buffer could be reduced from 100-feet to a minimum of 66.6-feet, although this would likely not result in the ability to place the entire structure outside the buffer and associated setback. Any proposed impacts within the wetland itself would require City Council approval. In addition, no more than 5 percent of the total wetland area on the property could be impacted.	The proposed work would require demonstration of mitigation sequencing to avoid, minimize and/or mitigate while still meeting the objective of the project Approval would be administrative if work is done in the outer 1/4 of the buffer or a Planning Director decision for work in the remainder of the buffer.
Discussion	The existing provisions do not allow this type of improvement in the inner 2/3^{rds} of the buffer. Under the proposed provisions, the project could be approved administratively or through the Planning Director process with mitigation.	

ATTACHMENT 2

CASE STUDY 3: CONTINUED

Totem Lake facing east. Note diversity and interspersion of different vegetation communities and hydrologic regimes.	 Photo 1
Totem Lake facing south. Close proximity of commercial development increased the potential for improving water quality and reducing flooding and erosion; however, it creates habitat fragmentation that hinders wildlife passage.	 Photo 2
Aerial photograph of Totem Lake. Note the intense, commercial development in the surrounding landscape.	 Photo 3 (Source: King County iMAP)

CASE STUDY 4: COMMERCIAL EXPANSION

ATTACHMENT 2

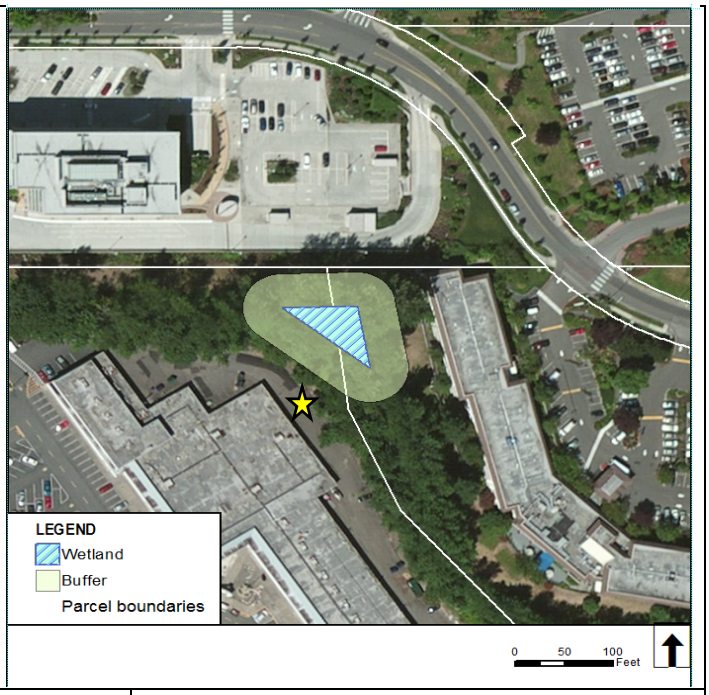
Project Overview

The applicant would like to expand the existing parking and roadway for a commercial property into the critical area buffer. Existing development is entirely outside of the wetland and wetland buffer.

Distinguishing Wetland Characteristics

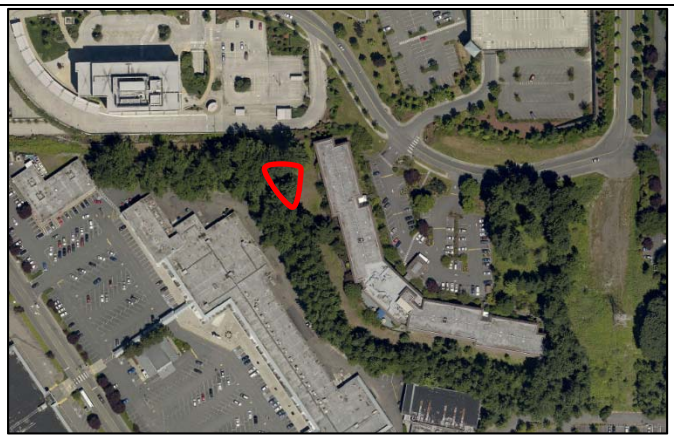
Slope-type wetlands, such as this have limited ability to perform water quality and hydrologic functions since they cannot retain water for long periods. The limited ability to perform these functions is exacerbated with a lack of dense, low-lying vegetation that can slow water velocities and trap sediments and pollutants.

This wetland provides very low habitat function, due to a lack of structural complexity, special habitat features, species diversity, and complete isolation from other habitat areas.



	Existing	Proposed
Wetland Rating	Type 3	Category 4, Habitat Score 3
Standard Buffer	50 feet	40 feet
Code Requirements	Because the wetland is larger than 1,000 SF, wetland buffers apply. If necessary, a portion of the buffer could be reduced from 50-feet to a minimum of 33-feet. This could occur through buffer averaging or buffer reduction. Averaging would require an equivalent expansion of the buffer elsewhere and vegetation enhancement, whereas reduction would require that the remaining reduced buffer be enhanced. Avoidance and minimization efforts would not need to be demonstrated as part of a buffer modification. Approval for averaging or reduction would be obtained administratively.	Because the wetland is larger than 1,000 SF, wetland buffers apply. Under the proposed changes, the required buffer width would be 10 feet less than the current code. The applicant would need to work through mitigation sequencing. This may include identifying opportunities to reposition or reconfigure parking areas (avoidance), employing LID techniques (minimization), and mitigating for unavoidable impacts. The applicant could propose buffer averaging to reduce the width to a minimum of 75% of the standard buffer (30 feet wide), but must widen the buffer in other areas so that the total area before the reduction is provided and it is enhanced to meet vegetation standard. The permit process is administrative.
Discussion	In some cases such as this example of a lower quality wetland, the proposed regulations will result in a reduction in the standard buffer width and minimal change in how the site could be developed. Mitigation sequencing is an important proposed requirement to ensure that impacts to critical areas and their buffers are avoided and minimized to the greatest extent feasible.	

CASE STUDY 4: CONTINUED

Totem Lake Mall Wetland, facing east. Note lack of dense groundcover that can reduce stormwater velocities and trap sediments and pollutants.	 Photo 1
Totem Lake Mall Wetland, facing northeast. Note moderately steep gradient and preponderance of invasive vegetation (e.g., English holly and Himalayan blackberry).	 Photo 2
Aerial photograph of wetland. Note the complete isolation from other habitat areas by high-intensity land uses.	 Photo 3 (Source: King County iMAP)