EDITING NOTES / REFERENCES

New Text = Underlined

Removal of Existing Text = ~~Strikethrough~~

* * * = indicating intentionally omitted sections

Note: The following definitions are being updated or, if not updated, are included because they provide context for critical areas code chapters; these represent only a portion of the complete Chapter 5 – Definitions.

Chapter 5 – DEFINITIONS

.030 Alluvium
Soil deposits transported by surface waters.

***

.038 Anadromous Fish – A type of fish including salmon, steelhead, some trout and other fish that are born in freshwater, migrate to the salt water of the ocean to live their lives, and then return to freshwater to spawn. These fish impact many ecosystems throughout their life.

***

.067 Average Slope
The average grade of a site within each land area representing a distinct topographic change.

.070 Backfill
Material placed into an excavated area, pit, trench or behind a constructed retaining wall or foundation.

***

.079 Best Management Practices (BMPs)
Schedules of activities, prohibitions of practices, maintenance procedures and structural or managerial practices developed and vetted as industry guidance that, when used singly or in combination will improve conservation practices or systems of practices and management measures such as practices that:

1. Prevent or reduce the release of pollutants to waters of the state;

2. ~~1.~~ Control soil loss and reduce water quality degradation caused by high concentrations of nutrients, animal waste, toxins, or sediment;

3. ~~2.~~ Minimize adverse impacts to surface water and ground water flow and circulation patterns and to the chemical, physical and biological characteristics of critical areas;

4. ~~3.~~ Protect trees, vegetation, and soils designated to be retained during and following site construction and native plant species appropriate to the site for re-vegetation of disturbed areas; and

5. ~~4.~~ Provide standards for proper use of chemical herbicides within critical areas.

.079.5 Bog
A low-nutrient, acidic peat wetland with organic soils and characteristic bog plants.

.080 Bond
A written certificate guaranteeing to pay up to a specified amount of money if specified work is not performed; or any similar mechanism whereby the City has recourse to an identified fund from which to secure performance of specified work.

.085 Buffer, Land Use
Any structural, earth or vegetative form that is located along a boundary for the purpose of minimizing visual and noise impacts. Land use buffers may include, but are not limited to, berms, high shrubs, dense stands of trees, trellises and fences.

***

.112 Channel Migration Zone
Areas in a floodplain where a stream channel can move naturally over time changing the location of the stream banks and ordinary high water mark.

***

.127 Climate-Ready Vegetation
Plants, including native and non-native, but not invasive, species that may be adapted or resilient to the impacts of changing urban climatic conditions. This includes native plants from a wider genetic range than just the Puget Sound basin, and plants from nearby regions that may survive with minimal water, have pest and disease resistance, and may survive the expected climate changes in the Puget Sound region.

***

.178 Critical Area Buffer,
The regulated area contiguous to a critical area that protects ~~maintains~~ the functions and/or structural stability of the critical area.

> "Isolated Critical area buffers" are areas located within the regulated buffer where natural drainage, soil connectivity or habitat corridors have been disconnected from the critical area due to legal development activity.

.178.5 Critical Area Maps
Maps maintained by the Department of Planning and Building; ~~specifically Geologically Hazardous Areas Map~~ for Chapter 85 KZC~~,~~ and ~~Wetlands, Streams and Lakes Map for~~ Chapter 90 KZC. These maps are for education purposes and not to be used for survey purposes.

.179 Critical Area Restoration
Measures taken to restore an altered or damaged natural feature, including:

1. Active steps taken to restore damaged wetlands, streams, protected habitat, or their buffers to the functioning condition that existed prior to an unauthorized alteration; and

2. Actions performed to reestablish structural and functional characteristics of a critical area that have been lost by alteration, past management activities, catastrophic events, or introduction of invasive species.

.179.5 Critical Areas
Critical areas include the following areas: (a) wetlands; (b) critical aquifer recharge areas; (c) fish and wildlife habitat conservation areas including streams, riparian management zones and Priority habitat areas; (d) frequently flooded areas; and (e) geologically hazardous areas, as defined in Chapter 36.70A RCW and this chapter.

***

.195 Dedication
The deliberate appropriation of land by an owner for public use or purpose, reserving no other rights than those that are compatible with the full exercise and enjoyment of the public uses or purpose to which the property has been devoted.

***

.270 Easement
Land which has specific air, surface or subsurface rights conveyed for use by someone other than the owner of the subject property or to benefit some property other than the subject property.

***

.290 Erosion and Deposition
The removal of soils and the placement of these removed soils elsewhere by the natural forces of wind or water.

.292 Erosion Hazard Areas
Those areas containing soils which, according to the United States Department of Agriculture (USDA) Natural Resource Conservation Services (NRCS) Web Soil Survey, may experience severe to very severe erosion hazard. Due to potential for mapping errors and other discrepancies in the RCS data, erosion hazard area designation should be based on actual site conditions as verified in the field by the geotechnical professional.

***

.299.5 Factor of Safety
The ratio of forces that resist sliding to the forces that drive sliding.

***

.310 Fence
A manmade wall or barrier constructed for the purpose of enclosing space or separating parcels of land.

.315 Fill Material
Dirt, structural rock or gravel, broken concrete and similar structural substances customarily used to raise the level of the ground, but excluding topsoil, bark, ornamental rocks or gravel placed on the surface of the ground.

***

.321 Fish and Wildlife Habitat Conservation Area
Areas that serve a critical role in sustaining needed habitats for priority species and which, if altered, may reduce the likelihood that the species will persist over the long term. These areas may include, but are not limited to: ~~necessary for maintaining species in suitable habitats within their natural geographic distribution so that isolated subpopulations are not created. These areas include~~:

1. Ecological systems, communities and habitats including seasonal ranges, breeding habitat, winter ranges, and movement corridors associated with ~~Areas with which~~ state or federally designated endangered, threatened, and sensitive species have a primary association;

2. "Habitats of local importance" associated with species found to be locally important by the City or King County ~~Areas with which species of local importance have a primary association~~;

3. Naturally occurring ponds under 20 acres and their submerged aquatic beds that provide fish or wildlife habitat, including those artificial ponds intentionally created from dry areas in order to mitigate impacts to ponds;

4. Waters of the state, including lakes, rivers, ponds, streams, inland waters, underground waters, and all other surface waters and watercourses within the jurisdiction of the state of Washington~~.~~;

5. These areas do not include such artificial features or improvements such as irrigation delivery systems, infrastructure, or canals, drainage ditches that lie within the boundaries of and are maintained by a port district or an irrigation district or company.

***

.328 Geologically Hazardous Areas
Landslide hazard areas, erosion hazard areas and seismic hazard areas.

.329 Geotechnical Technician
A non-licensed geotechnical professional working under the supervision of a geologically hazardous area qualified professional.

***

.346.6 Habitats and Species of Local Importance

1. The priority habitats and species present within the City which are identified in the Washington Department of Fish and Wildlife's Priority Habitats and Species (PHS) list and maps; and

2. Any species of local concern designated by the City pursuant to KZC 90.95(8) due to their population status or their sensitivity to habitat manipulation, which will be listed here.

***

.361.5 High Landslide Hazard Areas

1. Areas that have shown movement during the Holocene epoch (from 10,000 years ago to the present) or that are underlain or covered by mass wastage debris of that epoch; or

2. Areas with both of the following characteristics:

   a. Slopes steeper than 15 percent that intersect geologic contacts with a relatively permeable sediment overlying a relatively impermeable sediment; and

   b. Springs; or

3. Areas potentially unstable because of rapid stream incision, stream bank erosion, or undercutting by wave action; or

4. Any area with a slope of 40 percent or steeper over a height of at least 10 feet.

5. For areas meeting the criteria of subsections (1) through (4) of this definition, the high landslide hazard area also includes the area within a horizontal distance "H" equal to either the height of the slope or 50 feet, whichever is greater.

***

~~**.442 Isolated Wetland**~~
~~A wetland that is hydrologically isolated from other aquatic resources, or as determined by the United States Army Corps of Engineers (USACE).~~

***

.455 Land Surface Modification
The clearing or removal of shrubs, groundcover and other vegetation, excluding trees, and all grading, excavation and filling of materials.

***

.530 Minor Lake
Forbes Lake and Totem Lake.

.532 Mitigation
A sequence of measures to avoid, minimize and mitigate for impacts, as follows:

1. Avoid the impact altogether by not taking a certain action or parts of actions;

2. Minimize impacts by limiting the degree or magnitude of the action and its implementation;

3. Rectify the impact by repairing, rehabilitating, or restoring the affected environment;

4. Reduce or eliminate the impact over time by preservation and maintenance operations during the life of the action;

5. Compensate for the impact by replacing or providing substitute resources or environments; and/or

6. Monitor the impacts and compensation projects and take appropriate corrective measures.

.534 Mitigation Service Area
The geographic area within which impacts can be mitigated at a specific mitigation bank or an in-lieu-fee program, as designated in its instrument.

***

.536.7 Moderate Landslide Hazard Areas
Areas with slopes between 15 percent and 40 percent over a height of at least 10 feet which do not meet the definition of high landslide hazard area.

***

,567 No Net Loss
A standard established by the Shoreline Management Act in Washington State to protect the ecological functions of critical areas such as wetlands and shorelines. The objective of no net loss requirements it to halt the introduction of new impacts from new development.

***

~~**.627 Out-of-Kind Wetland Compensation or Mitigation**~~
~~To replace wetland or habitat with substitute wetlands or habitat whose characteristics do not closely approximate those adversely affected, destroyed, or degraded by a regulated activity.~~

~~***~~

.651 Pervious Surface
As opposed to impervious surfaces, these are surfaces that allow, water to infiltrate into the ground. Pervious surfaces include pervious paving, lawn, landscaping, uncompacted bare ground, wood chips, pasture and native vegetation areas. For the purposes of compliance with storm water development regulations, impervious and pervious surfaces are defined pursuant to Chapter 15.52 KMC.

***

.690 Priority Species Habitat Conservation Areas
Designated regions that are crucial for the conservation of specific species identified in the Priority Habitats and Species (PHS) program in Washington. 5.346.6 Habitat and Species of Local Importance and 5.321 Fish and Wildlife Habitat areas may be regulated as priority species habitat.

***

.748 Qualified Critical Area and Shorelines Professional
A qualified professional for critical areas and shorelines projects shall have a minimum of five (5) years of experience in the pertinent scientific discipline and experience in preparing critical area or shoreline reports. A qualified critical area or shorelines professional must have obtained a Bachelor's degree in biology, engineering, geology, environmental studies, fisheries, geomorphology, soil science, ecology, botany,or other ~~a related~~ field related to their expertise. The Planning Official may require professionals to demonstrate the basis for qualifications and shall make the final determination as to qualifications. A qualified professional must meet the following additional ~~specific~~ professional requirements, dependent upon the type of critical area or the type of work required. ~~on the subject property or shoreline project that is proposed~~:

1. Wetlands ~~and streams~~ Qualified Professional: Shall be certified as a professional wetland scientist (PWS); through the Society of Wetland Scientists, and

    a. Shall have additional course work beyond their bachelors focused on wetland ecology, wetland delineation or similar; and

    b. Have at least five (5) years of full-time work experience as a wetland professional, including delineating wetlands ~~using the state or federal manuals~~, preparing wetland reports, conducting functional assessments, and developing and implementing wetland mitigation plans.

2. Shorelines and Stream Qualified Professional: A professional engineer, geologist or hydrologist, licensed in the state of Washington, and 3 year's experience of shoreline stabilization measures, or riparian design in Pacific Northwest environments. ~~an advanced degree in biology, or a related degree, and including a professional wetland scientist, a certified arborist, or a shoreline designer or other consultant familiar with lakeshore processes and shore stabilization~~.

3. Fish and Wildlife and Priority ~~h~~Habitat Conservation Areas~~s~~ Qualified Professional: A professional biologist~~,~~ meeting the requirements below relevant to the project~~. with a degree in biology, or a related field and or a related degree, with experience preparing reports for the relevant type of species.~~. ~~an advanced degree in biology, or a related degree, and including a professional wetland scientist, a certified arborist, or a shoreline designer or other consultant familiar with lakeshore processes and shore stabilization~~.

    a. For Priority Habitat Conservation areas: Bachelor's degree in related field and three (3) years Wildlife biology or fisheries experience, with experience preparing reports for the relevant type of species and local expertise in stream verifications;

    b. For buffer mitigation planning: At least five (5) years of experience designing, installing, and monitoring restoration or mitigation projects for wetlands, streams or other critical areas and experience preparing restoration plans and monitoring reports, and incorporating adaptive management concepts.

4~~3~~. Geologically hazardous area qualified professional: A professional engineer, geologist or hydrogeologist, licensed in the state of Washington, with experience analyzing geologic, hydrologic, and groundwater flow systems, and who has experience preparing reports for the relevant type of hazard.

.749 Quantitative Slope Stability Analysis
A study performed to assess the safe design of human-made or natural slopes and the equilibrium conditions.

***

.812 Riparian Management Zone
The zone of influence surrounding a stream that provides wildlife protection, shade, and water filtration and cooling for the stream habitat. The RMZ is measured similarly to riparian buffers from the ordinary high water mark, or in few cases, from the edge of the Channel migration zone (see WAC 365-190-030).

***

.825.5 Scrub-Shrub Wetland
A wetland with at least 30 percent of its surface area covered by woody vegetation less than 20 feet in height as the uppermost strata.

***

.827 Seismic Hazard Areas
Those areas subject to severe risk of earthquake damage as a result of seismically induced ground shaking, slope failure, settlement or soil liquefaction, which typically occurs in areas underlain by cohesionless soils of low density, usually in association with a shallow groundwater table.

***

.895 Stream
Areas where surface waters produce a defined channel or bed that demonstrates clear evidence of the passage of water, including but not limited to bedrock channels, gravel beds, sand and silt beds, and defined-channel swales. The channel or bed need not contain water year-round, provided there is evidence of at least intermittent flow during years of normal rainfall. Streams do not include irrigation ditches, canals, storm or surface water runoff devices, or other entirely artificial watercourses, unless they are used by salmonids or convey a naturally occurring stream that has been diverted into the artificial channel, or are created for the purposes of stream mitigation.

.897 Stream Channel Stabilization
Actions to stabilize a steam bank to prevent or limit erosion or risk of slope failure.

.898 Stream Types
Streams shall be typed pursuant to WAC 222-16-030 and 222-16-031

1. Type F water: means segments of natural waters, other than type S waters, which are within the bankfull widths of defined channels and periodically inundated areas of their associated wetlands, or within lakes, ponds, or impoundments having a surface area of 0.5 acre or greater at seasonal low water and which are known to be used by fish or meet the physical criteria to be potentially used by fish, ~~contain fish habitat~~ or are described by one of the four categories not commonly found in Kirkland pursuant to WAC 222-16-030, as amended. Type 2 and 3 waters are considered Type F waters pursuant to WAC 22.16.031
2. Type N~~p water~~: means all segments of natural waters within the bankfull widths of defined channels ~~that are not perennial nonfish habitat streams~~ consisting of, ~~Perennial streams are~~ flowing waters that do not go dry any time of a year of normal rainfall and include the intermittent dry portions of the perennial channel below the uppermost point of perennial flow pursuant to WAC 222-16-030, as amended, or 3.~~Type Ns: means all segments of natural waters within the bankfull width of the defined channels that are not Type F, or Np waters. These are~~ seasonal, nonfish habitat streams in which surface flow is not present for at least some portion of a year of normal rainfall and are ~~not located downstream from any stream reach that is a Type Np water. Ns waters must be~~ physically connected by an above-ground channel system to Type F, or N~~p~~ waters pursuant to WAC 222-16-030, as amended. Type N waters do not meet the physical criteria of a Type F stream and have been proven not to contain fish. Type N Waters consist of both Type Np and Ns waters and can be classified as Type 4 and 5 waters pursuant to WAC 22.16.031.

***

.925 Topsoil
The uppermost strata of soil containing a large percentage of organic materials and which is capable of providing suitable nourishment for vegetation.

***

.976 Water Resource Inventory Area (WRIA) 8
One (1) of Washington State's 62 major watersheds. WRIA 8 is located in the Cedar River/Sammamish basin, which drains into Lake Washington. WRIA 8 encompasses the City of Kirkland, along with 26 other member

jurisdictions, including portions of unincorporated King and Snohomish Counties. WRIAs support an integrated approach to managing water resources in Washington.

.976.1 Waters of the State
All waters defined as "surface waters of the state and "waters of the state" within the State of Washington, including lakes, rivers, ponds, streams, inland waters, underground water courses, and all other waters per RCW 90.48.020.

.977 Watershed
A region or area bounded on the periphery by a parting of water and draining to a particular watercourse or body of water.

***

.985 Wetland
"Wetland" or "wetlands" means areas that are inundated or saturated by surface water or ground water at a frequency and duration sufficient to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions. Wetlands generally include swamps, marshes, bogs, and similar areas. Wetlands do not include those artificial wetlands intentionally created from nonwetland sites, including, but not limited to, irrigation and drainage ditches, grass-lined swales, canals, detention facilities, wastewater treatment facilities, farm ponds, and landscape amenities, or those wetlands created after July 1, 1990, that were unintentionally created as a result of the construction of a road, street, or highway. Wetlands may include those artificial wetlands intentionally created from nonwetland areas to mitigate conversion of wetlands. (RCW 36.70A.030)

.986 Wetland Category or Wetland Rating
The classification of wetlands according to the Washington State Wetland Rating System for Western Washington (Department of Ecology 2014, or as revised). This document contains the definitions, methods and a rating form for determining the categorization of wetlands below:

1. Category I. Category I wetlands are: (a) relatively undisturbed estuarine wetlands larger than one (1) acre; (b) wetlands of high conservation value that are identified by scientists of the Washington Natural Heritage Program/DNR; (c) bogs; (d) mature and old-growth forested wetlands larger than one (1) acre; (e) wetlands in coastal lagoons; (f) interdunal wetlands that score eight (8) or nine (9) habitat points and are larger than one (1) acre; and (g) wetlands that perform many functions well (scoring 23 points or more). These wetlands: (a) represent unique or rare wetland types; (b) are more sensitive to disturbance than most wetlands; (c) are relatively undisturbed and contain ecological attributes that are impossible to replace within a human lifetime; or (d) provide a high level of functions.

2. Category II. Category II wetlands are: (a) estuarine wetlands smaller than one (1) acre, or disturbed estuarine wetlands larger than one (1) acre; (b) interdunal wetlands larger than one (1) acre or those found in a mosaic of wetlands; or (c) wetlands with a moderately high level of functions (scoring between 20 – 22 points).

3. Category III. Category III wetlands are: (a) wetlands with a moderate level of functions (scoring between 16 and 19 points); (b) can often be adequately replaced with a well-planned mitigation project; and (c) interdunal wetlands between 0.1 and one (1) acre. Wetlands scoring between 16 and 19 points generally have been disturbed in some ways and are often less diverse or more isolated from other natural resources in the landscape than Category II wetlands.

4. Category IV. Category IV wetlands have the lowest levels of functions (scoring fewer than 16 points) and are often heavily disturbed. These are wetlands that we should be able to replace, or in some cases to improve. However, experience has shown that replacement cannot be guaranteed in any specific case. These wetlands may provide some important functions, and should be protected to some degree.

.987 Wetland Creation
The manipulation of the physical, chemical, or biological characteristics to develop a wetland on an upland or deepwater site where a wetland did not previously exist.

.988 Wetland Enhancement
The manipulation of the physical, chemical, or biological characteristics of a wetland to heighten, intensify, or improve specific function(s) or to change the growth stage or composition of the vegetation present.

.988.05 Wetland Field Data Form
The wetland rating form which is used to classify wetlands according to the Washington State Wetland Rating System for Western Washington.

.988.10 Wetland In-Lieu-Fee Program
An agreement between a regulatory agency (state, federal, or local) and a single sponsor, generally a public natural resource agency or nonprofit organization. Under an in-lieu-fee agreement, the mitigation sponsor collects funds from an individual or a number of individuals who are required to conduct compensatory mitigation required under a wetland regulatory program. The sponsor pools from multiple permittees to create one or a number of sites under the authority of the agreement to satisfy the permittees' required mitigation.

.988.15 Wetland Mitigation Bank
A site certified under WAC 173-700 where wetlands are restored, created, enhanced, or in exceptional circumstances, preserved, expressly for the purpose of providing compensatory mitigation in advance of unavoidable impacts to wetlands or other aquatic resources that typically are unknown at the time of certification to compensate for future, permitted impacts to similar resources.

.988.20 Wetland Mosaic
An area with a concentration of multiple small wetlands, in which each patch of wetland is less than one (1) acre; on average, patches are less than 100 feet from each other; and areas delineated as vegetated wetland are more than 50 percent of the total area of the entire mosaic, including uplands and open water.

.988.21 Wetland Non-Federally Regulated
A wetland that is not jurisdictional under the federal Clean Water Act. Sometimes referred to as "isolated wetlands," these wetlands remain regulated under state and local laws and rules, whether or not they are protected by federal law.

.988.22 Wetland of High Conservation Value
Wetlands identified here, at https://www.dnr.wa.gov/NHPwetlandviewer, by the Washington Natural Heritage Program as important ecosystems for maintaining plant diversity in our state. These wetlands are classified as Category I wetlands by the 2014 Department of Ecology Washington State Wetland Rating System for Western Washington.

.988.25 Wetland Preservation
The removal of a threat to, or preventing the decline of, wetland conditions by an action in or near a wetland. This term includes the purchase of land or conservation easements, repairing water control structures or fences, or structural protection. Preservation does not result in a gain of wetland acres but may result in a gain in functions over the long term.

.988.30 Wetland Reestablishment
The manipulation of the physical, chemical, or biological characteristics of a site with the goal of returning (restoring) natural or historic functions to a former wetland. Reestablishment results in rebuilding a former wetland and results in a gain in wetland acres and functions. Activities could include removing fill, plugging ditches, or breaking drain tiles.

.988.35 Wetland Rehabilitation
The manipulation of the physical, chemical, or biological characteristics of a site with the goal of repairing natural or historic functions and processes of a degraded wetland. Rehabilitation results in a gain in wetland function but does not result in a gain in wetland acres. Activities could involve breaching a dike to reconnect wetlands to a floodplain or returning tidal influence to a wetland.

EDITING NOTES / REFERENCES

New Text = Underlined

Removal of Existing Text = ~~Strikethrough~~

Chapter 85 – CRITICAL AREAS: GEOLOGICALLY HAZARDOUS AREAS

Sections:

85.05 User Guide

1. This chapter establishes special regulations that apply to development on property containing geologically hazardous areas. These regulations add to and, in some cases, supersede other regulations of this code. See Chapter 95 KZC for additional regulations that address trees and other vegetation within and outside of geologically hazardous areas.

2. If you are interested in developing property that contains a geologically hazardous area, or if you wish to participate in the City's decision on a proposed development on any of these areas, you should read this chapter.

3. For properties within jurisdiction of the Shoreline Management Act, see Chapter 83 KZC.

85.07 Purpose Statement

These regulations were prepared to comply with the Growth Management Act and implement the goals and policies of the City's Comprehensive Plan. The purpose of these regulations is to protect human life, property, and the environment. This purpose will be achieved by thoroughly evaluating development activity in geologically hazardous areas using best available science.

85.10 Applicability

1. General – This chapter applies to any property that contains any of the following hazard areas as defined in Chapter 5 KZC:~~, including those shown on critical areas maps relating to this chapter: entitled "Landslide Susceptibility" and "Liquefaction Potential":~~

a. ~~An erosion hazard area.~~ Erosion Hazard Areas

b. ~~A landslide hazard area.~~ Landslide Hazard Areas (including high and moderate landslide hazard areas)

c. ~~A seismic hazard area.~~ Seismic Hazard Areas (including liquefaction potential)

2. In determining the applicability of this chapter, the Planning Official may request a memorandum prepared by a Qualified Critical Areas Professional which evaluates the applicability of the definitions of Moderate Landslide Hazard and High Landslide Hazard. If the Planning Official concurs with the findings, no further action otherwise required by this chapter will be required. Nothing in this section or in the provided memo obligates the Planning Official to waive any portion of this chapter.

3~~2~~. Conflict with Other Provisions of this Code – The provisions of this chapter supersede any conflicting provisions of this code. The other provisions of this code that do not conflict with the provisions of this chapter apply to property that contains a geologically hazardous area. If more than one (1) provision of this chapter applies to the subject property because of the presence on the subject property of more than one (1) type of geologically hazardous area, then the regulations that provide the greatest protection from the hazardous area shall apply to the area governed by multiple regulations.

4~~3~~. SEPA Compliance – Nothing in this chapter or the decisions made pursuant to this chapter in any way affect the authority of the City to review, approve, condition, and deny projects under SEPA.

85.12 Critical Area Maps

The City~~'s~~ maintains critical area maps relating to this chapter ~~are entitled "Landslide Susceptibility" and "Liquefaction Potential." The City also maintains~~ **and** ~~general mapping of~~ other known critical areas. These maps and other available resources (such as topographic maps, soils maps, and aerial photos) are for reference only. ~~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 currently be present.~~ The maps show the inferred locations of geologic hazard areas based on regional mapping and may not coincide with geologic hazard areas as defined in Chapter 5 KZC. The maps are intended to be used as a screening tool to identify potential geologic hazard locations. The presence or absence of a geologic hazard area shall be based on a geologic hazard area definition provided in KZC Chapter 5. The presence and risks of geologic hazards must be determined through site-specific studies such as a geotechnical investigation. The provisions of this chapter and the findings of a geotechnical report and review of the report by the City take precedence over the City's mapping in regard to identification and mitigation of potential geologic hazards. Site-specific geologic hazard studies shall be conducted prior to approval of development, land surface modification, utility installation, or other activities to determine ~~evaluate~~ if a geologic hazard area ~~actually~~ exists, and to assess suitable options for hazard mitigation, if appropriate.

85.14 Erosion Hazard Areas

Regulations to control erosion are contained within KMC Title 15 and in other codes and ordinances of the City. Development activity within erosion hazard areas is regulated using these other provisions of this code and other City codes and ordinances and may be subject to increased scrutiny and conditioning because of the presence of an erosion hazard area.

*[*Staff Note: The following new subsection (85.15) is being recodified to this subsection from its previous subsection (85.20) to improve user understanding and ease of application of the chapter. The proposed amendments shown are to the currently adopted language.]*

~~85.20~~85.15 **Required Review**

1. General – Except as specified in subsection (2) of this section, the Planning Official will review and decide upon any proposed development activity within a geologically hazardous area.

2. Other Approval Required – If the proposed development on the subject property requires approval through Process I, IIA, or IIB, described in Chapters 145, 150, and 152 KZC, respectively, the proposed development activity within the geologically hazardous area will be reviewed and decided upon as part of that other process.

3. The decision on a proposed project shall be to approve, deny or approve with conditions.

4. The City may modify any decision, prior to completion of the project, made under this section when it has been determined that physical circumstances have markedly and demonstrably changed on the subject property or the surrounding areas as a result of natural processes or human activity. This authority does not include requiring removal of structures or additions to structures that have been legally constructed under this decision.

85.16 Exemptions

The consequences of failure for the following activities, improvements, and uses present a low-level risk to property or persons (based on type of structure proposed, slope height, surrounding structures, and other characteristics) and are exempt from the provisions of KZC 85.15 through 85.25 unless otherwise deemed non-exempt by the Planning Official due to special circumstances.

1. Repair, maintenance, and replacement of existing decks, including the addition and or reconfiguration of footings, that do not increase the previously approved structure footprint.

2. Repair, maintenance, or replacement of existing utilities.

3. Installation of HVAC and similar types of mechanical equipment, including any hardscape surface beneath them, provided the total footprint is less than nine (9) square feet.

4. Installation of fences , including permanent critical area markers, fencing, and signage required under KZC 90.190.

5. Remodels within the footprint of an existing, legally constructed structure, including second story additions, provided that the project does not include any non-exempt, land-disturbing development activity outside of the building footprint.

~~**85.15**~~85.18 **Required Information**

The City may require the applicant to submit some or all of the following information, consistent with the nature, ~~and~~ extent, and phase of the proposed development activity~~, for any proposed development activity~~ in a geologically hazardous area:

~~1. A topographic survey of the subject property, or the portion of the subject property specified by the Planning Official, with two (2) foot contour intervals. This mapping shall contain the following information:~~

~~a. Delineation of areas containing slopes 15 percent or greater, and identification of slopes 40 percent or greater.;~~

~~b. Wetlands, streams and lakes on or adjacent to the subject property.~~

~~c. The location of storm drainage facilities on the subject property.~~

~~d. Existing vegetation, including size and type of significant trees.~~

~~2~~1. Geotechnical Investigation – An ~~geotechnical~~ investigation, prepared by a qualified critical area professional ~~geotechnical engineer licensed in Washington State or engineering geologist licensed in Washington State~~, to determine if a landslide hazard area or seismic hazard area exists on the subject property. A topographic survey (see KZC 85.15.3) is required to support the findings of a geotechnical investigation. The topographic survey requirement may be waived if the Planning Official can determine that no areas of the subject property meet the definition of a high or moderate landslide hazard area with the information otherwise provided in the investigation (e.g., there is evidence of erroneously mapped hazards resulting from human-made improvements).

The investigation may be submitted prior to or along with any development permits. If the investigation identifies a geologically hazardous area on the subject property and development is proposed within that area or recommended setback, a geotechnical report shall be required in accordance with KZC 85.15.3 unless exempt under KZC 85.22.3.

~~3~~2. Geotechnical Report - ~~geotechnical~~ A report, prepared by a geologically hazardous area qualified professional, qualified critical area professional ~~geotechnical engineer licensed in Washington State or engineering geologist licensed in Washington State,~~ required for development activity within a geologically hazardous area showing and including the following information.~~:~~ Geotechnical reports that include recommendations consistent with the practice of engineering, as defined in RCW 18.43.020, including but not limited to recommended allowable foundation soil bearing pressures, pile capacities, lateral earth pressures, and modular block wall design must be signed and sealed by a professional engineer.

a. Report Abstract - A summary ~~or abstract~~ of the geotechnical report for the property where the development activity is proposed. At a minimum the abstract should confirm the presence of a geologically hazardous area on the subject property; describe the geologic conditions, type, and extent of the hazard; provide a hazard analysis; and identify all materials referenced in the preparation of the report (e.g., geotechnical investigation, development permit materials, etc.).

b. Peer Review Exemption Analysis – Identify if the proposed development complies with any of the exemption criteria (see KZC 85.22.3) and is therefore exempt from third party peer review.

c. Statement of Safety – Provided that risk associated with the project indicates that geologic hazards associated with the project can be mitigated, the report must include the following statement: “The proposed development can be undertaken safely as long as the measures/recommendations of the geotechnical report are incorporated into the project pans.

~~b~~d. Development Impacts - A description of how the proposed development will or will not affect slope stability, surface and subsurface drainage, erosion, and seismic hazards on the subject property and other potentially impacted properties.

~~b~~e. Slope Movement - Evidence, if any, of holocene or recent landsliding, sloughing, or soil creep.

~~c~~f. Surface Water and Groundwater - The location of springs, seeps, or any other surface expression of groundwater, and the location of surface water or evidence of seasonal runoff or groundwater.

~~d~~g. Fill Areas - Identification of existing fill areas.

~~e~~h. Soil Description - Soil description in accordance with the Unified Soil Classification Systems.

~~f~~i. Groundwater - Depth to groundwater and estimates of potential seasonal fluctuations, if applicable to the project.

~~g~~j. Subsurface Exploration Logs - Subsurface exploration logs that assess geologic hazards at the site, meaning that soil descriptions on the logs shall be in accordance with the Unified Soil Classification System. In addition, the logs shall also identify each of the geologic units encountered (e.g., fill, Vashon lodgement till, Vashon advance outwash).

~~h~~k. LiDAR Map - If the subject property is located within 100 feet of a high landslide hazard area, then a current LiDAR-based shaded relief map of the project area and a discussion of the qualified critical area professional ~~licensed geotechnical professional~~ interpretation of this mapping must be provided.

~~i~~l. Quantitative Slope Stability Analysis - Results of a quantitative slope stability analysis for any project involving development within a horizontal distance “H” of a high landslide hazard area where “H” is equal to the height of the slope within the high landslide hazard area or 50 feet, whichever is greater. The evaluation of slope stability under seismic conditions shall be based on a site adjusted peak horizontal ground acceleration (PGAm) with a two percent in 50-year probability of exceedance as defined in the current version of the International Building Code. The design acceleration used for analysis shall be equal to not less than one-half of the PGAm, unless it can be demonstrated that further reduction can be justified based on slope-specific conditions, such as ground motion incoherence (i.e. wave scattering). Alternatively, a design acceleration based on a site-specific seismic site response analysis may also be used, provided that it is justified by supporting documentation. ~~The evaluation of slope stability under seismic conditions shall be based on a horizontal ground~~

~~acceleration equal to one-half of the peak horizontal ground acceleration with a two (2) percent in 50-year probability of exceedance as defined in the current version of the International Building Code.~~

~~j~~m. Historic Landslide Activity - A discussion of the presence or absence of site features potentially indicative of historic landslide activity or increased risk of future landslide activity. Such features include, but are not limited to, tree trunk deformation, emergent seepage, landslide scarps, tension cracks, reversed slope benches, hummocky topography, vegetation patterns, and area stormwater management practices.

~~k~~n. Seismically Induced Settlement - Estimate of the magnitude of seismically induced settlement that could occur during a seismic event for any project involving development within a seismic hazard area. Estimation of the magnitude of seismically induced settlement shall be based on a peak horizontal ground acceleration based on a seismic event with a two (2) percent in 50-year probability of exceedance as defined in the current version of the International Building Code. This requirement may be waived if it can be demonstrated that construction methods will mitigate the risk of seismically induced settlement such that there will be no significant impacts to life, health, safety and property.

~~l. A summary or abstract of the geotechnical report for the property where the development activity is proposed. The abstract shall at a minimum include the type of hazard, extent of the hazard, hazard analysis and geologic conditions.~~

~~m. The geotechnical report shall state that the project can be undertaken safely as long as the measures/recommendations of the geotechnical report are incorporated into the project plans.~~

~~4~~o. Geotechnical R~~r~~ecommendations~~,~~ - ~~prepared by a geotechnical engineer licensed in Washington State or engineering geologist licensed in Washington State,~~ Recommendations for special engineering or other mitigation techniques appropriate ~~to~~for the hazard area, along with an analysis of their impact on ~~of how these techniques will affect~~ the subject property, adjacent properties, and any other potentially impacted properties, including discussions and recommendations on the following:

~~A~~1). The present stability of the subject property, the stability of the subject property during construction, the stability of the subject property after all development activities are completed and a discussion of the relative risks and slide potential relating to adjacent and other potentially impacted properties during each stage of development.

~~B~~2). Location of buildings, roadways, and other improvements consistent with the construction drawings submitted to the City for purposes of the related permit review(s).

~~C~~3). Grading and earthwork, including compaction and fill material requirements, use of site solids as fill or backfill, imported fill or backfill requirements, height and inclination of both cut and fill slopes and erosion control and wet weather construction considerations and/or limitations.

~~D~~4). Foundation and retaining wall design criteria, including bearing layer(s), allowable capacities, minimum width, minimum depth, estimated settlements (total and differential), lateral loads, and other pertinent recommendations.

~~E~~5). Surface and subsurface drainage requirements and drainage material requirements.

~~F~~6). Assessment of seismic ground motion amplification and liquefaction potential.

7). Identify areas of the subject property, if applicable, including structure setbacks from geologically hazardous areas, where development activity could significantly impact the subject property or adjacent properties (e.g., slope stability, increased erosion, sedimentation, etc.) and should therefore be restricted.

8). Vegetation recommendations including required revegetation and/or restrictions on removal of trees or vegetation within the geologically hazardous area.

~~G~~9). Other measures recommended to reduce the risk of slope instability.

~~H~~10). Any additional information believed to be relevant by the geotechnical engineer preparing the recommendations or requested by the Planning Official.

~~4~~3. A topographic survey of the subject property, or the portion of the subject property specified by the Planning Official, with two (2) foot contour intervals. This mapping shall contain the following information:

a. Delineation of areas containing slopes 15 percent or greater, and identification of slopes 40 percent or greater.~~.~~;

b. Wetlands, streams and lakes on or adjacent to the subject property~~.~~;

c. The location of storm drainage facilities on the subject property~~.~~; and

d. Existing vegetation, including size and type of regulated~~significant~~ trees.

~~85.20 Required Review~~

~~1. General – Except as specified in subsection (2) of this section, the Planning Official will review and decide upon any proposed development activity within a geologically hazardous area.~~

~~2. Other Approval Required – If the proposed development on the subject property requires approval through Process I, IIA, or IIB, described in Chapters 145, 150, and 152 KZC, respectively, the proposed development activity within the geologically hazardous area will be reviewed and decided upon as part of that other process.~~

~~3. The decision on a proposed project shall be to approve, deny or approve with conditions.~~

~~4. The City may modify any decision, prior to completion of the project, made under this section when it has been determined that physical circumstances have markedly and demonstrably changed on the subject property or the surrounding areas as a result of natural processes or human activity. This authority does not include requiring removal of structures or additions to structures that have been legally constructed under this decision.~~

85.22 Peer Review

1. High Landslide Hazard Areas - For projects that would disturb land located in high landslide hazard areas, ~~and including those areas within a horizontal distance "H" equal to the height of the slope or 50 feet, whichever is greater,~~ the City shall require applicant funding of a qualified critical area professional ~~licensed in Washington State geotechnical engineer or licensed in Washington State engineering geologist,~~ selected and retained by the City subject to a third party contract, to review the geotechnical report and recommendations.

2. Moderate Landslide Hazard Areas - For projects that would disturb land located in ~~to which subsection (1) of this section is not applicable but that are located within~~ moderate landslide hazard areas or ~~a~~ seismic hazard areas, the City shall ~~normally~~ require applicant funding of a qualified critical area professional ~~licensed in Washington State geotechnical engineer or licensed in Washington State engineering geologist~~ selected and retained by the City subject to third party contract, to review the geotechnical report and recommendations unless exempt under KZC 85.22.3. ~~The Planning Official may waive the third party review requirement in some cases. Guidance criteria to be considered by the Planning Official when evaluating if third party review will be waived, include, but is not necessarily limited to, any of the following:~~

~~a. City staff have the technical expertise of code requirements and knowledge of best practice to review the submitted geotechnical materials;~~

~~b. The consequences of failure present a low level of risk (e.g., type of structure proposed, slope height, surrounding topography or structures);~~

~~c. There is not any presence of known, recent landslide activity (i.e., anytime after the last continental glaciation, during the Holocene period) that presents a potential heightened landslide hazard risk;~~

~~d. Stormwater infiltration or stormwater facilities that could potentially impact slope stability are not proposed; or~~

~~e. Slopes that are the result of legally permitted grading activity.~~

3. Peer Review Exemptions – The following activities, improvements, and uses are exempt from third party peer review when located within a moderate landslide hazard area and do not utilize a site specific seismic site analysis as permitted by KZC 85.18.2.l. unless a waiver is granted pursuant to subsection 85.22.3.d:

a. New decks or additions to existing decks;

b. Retaining walls less than 4 feet in height that do not support a surcharge;

c. Structures less than 200 square feet such as a tool shed, greenhouse, or other structure not intended for human occupancy;

d. The Planning Official may also waive third party peer review for development proposals not listed in subsection 3 based on, but not limited to, the following guidance factors:

1) Best practices and code requirements used to review the submitted geotechnical materials;

2) The consequences of failure present a low level risk (e.g., type of structure proposed, slope height, surrounding topography, or structures);

3) There is not any presence of known, recent landslide activity (i.e., anytime after the last continental glaciation, during the Holocene period) that presents a potential heightened landslide hazard risk;

4) Stormwater infiltration or stormwater facilities that could potentially impact slope stability are not proposed; and

5) Slopes that are the result of legally permitted grading activity.

~~3~~4. For projects subject to peer review, the recommendations of the peer review shall be addressed in a revised geotechnical report ~~(~~or supplement to the originally prepared report~~)~~.

85.25 Performance Standards
~~(See also Chapter 95 KZC)~~

As part of any approval of development in a landslide hazard area or seismic hazard area, the City may require the following to protect property and persons:

1. Implementation of the geotechnical recommendations to mitigate identified impacts and geologic hazards, including the retention of trees, shrubs, and groundcover, and if applicable, the immediate implementation of a revegetation plan.

2. Written acknowledgment from the qualified critical area professional ~~licensed in Washington State geotechnical engineer or licensed in Washington State engineering geologist~~ who prepared the report required by KZC 85.15~~8~~ that they have reviewed the project plans and that they conform to their recommendations.

3. That a qualified geotechnical professional, or geotechnical technician, working under the supervision of a qualified critical area professional ~~geotechnical engineer licensed in Washington State or engineering geologist licensed in Washington State~~, be present on site during land surface modification and foundation installation activities, and submittal by a qualified critical area professional ~~geotechnical engineer licensed in Washington State or engineering geologist licensed in Washington State~~ of a final report prior to occupancy, certifying substantial compliance with the geotechnical recommendations and geotechnical-related permit requirements.

4. Specifically engineered foundation and retaining wall designs.

5. The review of all access and circulation plans by the Department of Public Works.

6. Limitation or restriction of any development activity that may:

a. Significantly impact slope stability on the subject property or other properties;

b. Significantly alter drainage patterns in a manner that would adversely impact the subject property or other properties;

c. Cause serious erosion hazards, sedimentation problems or landslide hazards on the subject property or other properties; or

d. Cause property damage or injury to persons on or off the subject property.

7. If a quantitative slope stability analysis is required with the geotechnical report, as specified in KZC 85.15(3)(~~i~~l), the proposed development shall provide a factor of safety of at least 1.5 for static conditions and at least 1.1 for seismic conditions. The use of a deformation analysis to justify a reduced minimum factor of safety for the seismic case may be considered by the City on a case-by-case basis and will be subject to the peer review provisions of KZC 85.22.

8. Dedication of one (1) or more ~~natural greenbelt protective~~ slope protection easements or tracts.

85.30 Appeals
All final land use decisions and determinations made under this chapter are appealable using the applicable appeal provisions of the underlying development permit.

85.35 Bonds
The City may require a bond under Chapter 175 KZC and/or a perpetual landscape maintenance agreement to ensure compliance with any aspect of this chapter or any decision or determination made under this chapter.

85.40 Dedication
The City may require that the applicant dedicate development rights, air space, or an open space easement to the City to avoid impacts associated with a landslide hazard area or seismic hazard area on the subject property.

85.45 Liability
Prior to issuance of any development permit, the applicant shall enter into an agreement with the City, which runs with the property, in a form acceptable to the City Attorney, indemnifying the City for any damage resulting from development activity on the subject property which is related to the physical condition of the property. The applicant shall record this agreement with the King County Recorder's Office and provide evidence to the City that the agreement has been recorded.

85.50 Notice of Geologic Hazard
Prior to final inspection of any development permit, the applicant shall record (unless legally prohibited from doing so), on the title of the property, a notice stating that the property is potentially located in a geologically hazardous area. This notice will inform future owners that, at the time of the permit's issuance, the property was potentially located in a geologically hazardous area.

EDITING NOTES / REFERENCES

New Text = Underlined

Removal of Existing Text = ~~Strikethrough~~

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

Sections:

INTRODUCTION

90.05 User Guide

The regulations in this chapter apply to activities, uses, alterations, work, and conditions in or near any wetland, stream, minor lake, ~~fish and wildlife~~ priority habitat conservation areas, or frequently flooded areas, and their associated buffers. These regulations add to and in many cases supersede other City regulations. Anyone interested in conducting any development activity on or near one of these critical areas; wanting to participate in the City's decision on a proposed development under this chapter; 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 shall 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 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's 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 conservation areas, and frequently flooded areas using best available science. The designation, classification, and regulation of critical areas are intended to protect property rights while assuring preservation and protection of critical areas from loss or degradation, ensuring no net loss of ecological functions and restricting 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 help store and convey flood and storm water, support base stream flow and recharge groundwater, provide erosion control and shoreline protection, maintain and improve water quality, provide fish and wildlife habitat, and provide cultural and socioeconomic values. Wetland functions for flood and storm water control, erosion protection, and water quality improvement are particularly valuable to protect infrastructure and to limit the effects of development on water quality in Kirkland's streams and lakes.

   Wetland buffers protect wetlands from or reduce the impacts of adjacent land uses. Buffers serve to moderate runoff volume and flow rates and storm water inputs (hydrology maintenance), remove sediment, excess nutrients, synthetic organic chemicals (e.g., pesticides, oils, and greases) and other toxic substances (water quality improvement), provide shade for surface water temperature (moderate temperature), and deter harmful intrusion into wetlands by humans and pets (disturbance barrier). Buffers provide habitat connectivity for wetland-dependent species that need both aquatic and terrestrial habitats for their life cycle.

   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.

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.

Stream buffers serve an important role in maintaining stream functions that are important for supporting a diverse and productive fish population. These include water quality (i.e., protection from 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 damage to 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, storage, and discharge of ground water; 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 minor lake regulations is to avoid impacts to lakes and contiguous stream and wetland areas and, where possible, to enhance and restore minor lakes.

4. Fish and Wildlife Habitat Conservation Areas – Fish and wildlife habitat conservation areas provide important nesting territory as well as spawning and protection areas for state and federally listed endangered, threatened, and sensitive species that have a primary association with that habitat area and state priority habitat that include species of local importance. These 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 conservation 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 vegetation, 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 uses the Federal Emergency Management Agency (FEMA) maps as a basis for a determination of the location of frequently flooded areas.

90.15 Applicability

1. General – These regulations apply to land within the City of Kirkland that contains any of the following:

a. Wetlands;

b. Streams;

c. Minor lakes;

d. Fish and wildlife habitat conservation areas;

e. Frequently flooded areas; and

f. Vegetative 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 the 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 not limited to historic overlay (Chapter 75 KZC), variances (Chapter 120 KZC), or planned unit developments (Chapter 125 KZC), unless as specified in KZC 90.180, Reasonable Use Exception.

4. Other Jurisdictions – Nothing in these regulations eliminates or otherwise affects the responsibility of an applicant or property owner to comply with all other applicable local, state, and federal regulations and permits 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.

90.20 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 aerial 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 presence of critical areas on or near a parcel per KZC 90.105 triggers the requirements of this chapter regardless of whether or not a critical area or buffer is depicted on an official map.~~The provisions of this chapter and the~~ The findings ~~of a~~ from critical area~~s~~ report~~s~~ and review of ~~the~~ report~~s~~ by the City take precedence over any map. ~~the City's mapping~~. It is strongly advised that property owners and project applicants retain a qualified critical area professional to conduct site-specific studies for the presence of critical areas and related buffers.

~~The City's map relating to this chapter is entitled "Wetlands, Streams and Minor Lakes" map.~~

90.25 Regulated Activities

Regulated activities have the potential to adversely impact a critical area or its established buffer. This chapter shall regulate the following activities:

1. Removal, excavation, grading or dredging of material of any kind;

2. Dumping of, discharging of, or filling with any material;

3. Draining, flooding, or disturbing the water level or water table;

4. Driving pilings or placing obstructions;

5. Construction or reconstruction, or expansion of any structure;

6. Destruction or alteration of vegetation through clearing, pruning, topping, harvesting, shading, intentional burning, or planting of vegetation that would alter the character of a regulated critical area;

7. 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;

8. Any other development activity; and

9. Application of herbicides and pesticides.

REVIEW PROCESS

90.30 City Review Process

1. Activities regulated by this chapter shall be considered using the following decision processes:

Table 90.30.1 City Review Process

Type of Action	City Review Process	Section
Exemptions	Activities permitted outright with ~~no~~ minimal review process and documentation/notification (or reviewed with underlying development or land surface modification permit) – no review fee~~)~~	KZC 90.35
Permitted Activities, Improvements and Uses Subject to Development Standards	Planning Official Decision	KZC 90.40
Exception – Public Agency and Public Utility	Planning and Building Director Decision	KZC 90.45
Programmatic Permits – Public Agency and Public Utility	Planning Official Decision or Planning and Building Director depending on scope of project	KZC 90.50
Wetland Modification	Planning and Building Director – Process I, Chapter 145 KZC	KZC 90.60
Category IV Wetland Exceptions	Planning Official Decision	KZC 90.60
Stream Modification	Planning and Building Director – Process I, Chapter 145 KZC	KZC 90.70
Daylighting of Streams	Planning Official Decision	KZC 90.75
Stream Channel Stabilization	Planning Official Decision	KZC 90.85
Moorage Facilities and Other Improvements on Minor Lakes	Planning and Building Director – Process I, Chapter 145 KZC	KZC 90.90
Critical Area Determination	Planning Official Decision ~~Determination~~	KZC 90.105
Buffer Averaging	Planning Official Decision	KZC 90.115
Limited Buffer Waiver	Planning Official Decision	KZC 90.120
Reasonable Use Exception	Planning and Building Director – Process I, Chapter 145 KZC	KZC 90.180

2. If a development, use or activity requiring approval through Planning Official or Process I pursuant to this chapter is part of a proposal that requires additional approval through Process IIA or Process IIB, the entire proposal shall be decided upon using that other process.

a. The decisional criteria for a permit reviewed under a Process I in this chapter shall be used for the Process IIA or Process IIB decision.

b. The decisional criteria, standards and/or requirements for a decision reviewed under a Planning Official Decision in this chapter shall be used for the Process IIA or Process IIB decision.

90.35 Exemptions
The following activities, improvements and uses have little or no environmental impact, are temporary in nature, or are an emergency and are therefore exempt from the provisions of KZC 90.40 through 90.225, unless otherwise determined by the Planning Official.

An exemption does not give permission to degrade a critical area or ignore risk from natural hazards. All exempted activities shall use reasonable methods to avoid impacts to critical areas or their buffers. Any temporary damage to, or alteration of, a critical area or buffer shall be restored, rehabilitated, or replaced to prior condition or better at the responsible party's expense. Revegetation shall occur during the wet season, but no later than 180 days after the damage or alteration of the critical area or buffer occurred. Soil stabilization and erosion control shall be completed immediately after vegetation removal during the wet season. All other restoration or rehabilitation shall be completed within 60 days of the damage or alteration, unless otherwise approved by the Planning Official.

The following activities, improvements and uses are exempt:

1. Repair and Maintenance of Structures – Repair and maintenance of existing legally established, functioning structures, This provision excludes public streets and utilities. [1]

2. Public Streets – Repair, maintenance, reconstruction and minor expansion of existing public streets, including associated appurtenances, bike lanes, and sidewalks. [2, 4, ~~5, 6~~]

3. Utilities – Repair and maintenance of utility structures and conveyance systems and their associated facilities including service lines, pipes, mains, poles, equipment and appurtenances – both above and below ground. Replacement, installation, or construction of new utility structures and conveyance systems and their associated facilities within existing improved rights-of-way, existing legally improved private roadways, utility corridors or the Cross Kirkland Corridor and Eastside Rail Corridor. This provision does not include upgrading electric facilities that exceed 115 KV or replacement of hazardous liquid pipelines that increase existing pipeline circumference, or installation of additional hazardous liquid pipelines. [3, 4, ~~5, 6~~]

4. Demolition – Removal of structures in critical area buffers; provided, that all disturbed soils are de-compacted, stabilized and revegetated with appropriate native vegetation and at spacing intervals listed in the City's Critical Area Plant List using the vegetative buffer standards in KZC 90.130 as a guideline for plant diversity and type.

5. Existing Nonmotorized Trails – Repair and maintenance of existing, legally established nonmotorized trails, and their associated structures including the Cross Kirkland Corridor and Eastside Rail Corridor. [1, ~~4~~ ~~5~~]

6. Existing Landscaping – Landscape maintenance of legally established lawns and gardens; including mowing, pruning, weeding, and planting; provided, that such activities do not expand any further into critical areas or buffers, and excludes removal of ~~significant~~ regulated trees, and the use and application of chemical fertilizers, herbicides and insecticides comply with provisions in KZC 90.195.

7. HVAC Equipment – Addition of HVAC equipment with a footprint of less than nine (9) square feet; provided, that:

a. There is no feasible alternative location available;

b. It does not expand the area beyond legally established landscaping or improvements;

c. It is not located in the critical area and is as far as possible from the critical area;

d. Noise minimization techniques are incorporated per KZC 90.155. HVAC equipment shall be baffled, shielded, and/or enclosed to reduce noise as much as possible. ~~Ensure compliance and except that the receiving property shall also include the upland edge of the critical area buffer; and~~

e. It must meet the setback requirements in KZC 115.115.

8. Site Investigative Work and Studies – Site investigative work and studies necessary for development permits, including geotechnical 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 and the area must be restored with native vegetation after testing is done. Use of any mechanized equipment requires prior approval of the Planning Official and must avoid damage to the Critical Root Zone of landmark trees and minimize damage under the canopy of regulated trees.

9. Public Restoration ~~5~~6 – Restoration of a critical area and its buffer through the manual and mechanical removal of nonnative invasive plant species, provided a program wide plan or agreement is in place for restoration that includes goals, timelines and proposed areas of work, and site plans are developed for individual sites and all of the following apply:

a. The entire area cleared of plants must be revegetated with appropriate native vegetation and at spacing intervals ~~listed in the City's Critical Area Plant List~~ using the Vegetative Buffer Standards in KZC 90.130 as a guideline for minimum plant diversity and type;

b. Site specific restoration and implementation plans are developed to minimize erosion and steep slope impacts if ~~The subject property is not~~ located in a high landslide hazard area, per KZC 85. All plans must minimize soil compaction and comply with erosion control requirements.

c. No grading or filling ~~is required~~ will occur to remove nonnative invasive plants or revegetate with native species;

d. Equipment used for ~~restoration~~ work shall be restricted to:

1) Hand removal equipment includes shovels, tillers, clippers, loppers, weed wrenches, and brush cutters and any handheld gas or electric equipment.

2) Light-tracked or walk-behind mechanical equipment may be used for restoration work provided tree, native plant, and soil protection plan for the site is approved by the Planning Official. All plans must follow mitigation sequencing to minimize impacts to critical areas. ~~; except that~~

3) Other machinery ~~can~~ may be used if the machinery can access the buffer from an abutting paved ~~road~~ surface without encroaching into the buffer or damaging overhanging vegetation;

e. Mitigation for soil erosion must take place immediately, and r~~R~~eplanting with native or climate-ready vegetation must ~~take place immediately~~ begin in the fall or winter planting season and no later than 180 days ~~-~~following removal of invasive species to maximize the potential for plant establishment;

f. Goats may be used to remove invasive species ~~only provided~~ if their use does not adversely affect stream or wetland functions and they are restricted from access to the wetland or stream. Use of goats may be limited or prohibited by the Planning Official in areas where trees and native ~~and~~ vegetation ~~is~~ are present and could be damaged;

g. In all cases, nonnative, invasive species removal shall avoid impacts to trees and minimize impacts to other native species; and

h. Community volunteers doing restoration must be under the direct supervision of City staff.

j. Pesticide and fertilizer applications must comply with requirements in KZC 90.195.

10. Voluntary Private Restoration ~~5~~6 – Restoration of a critical area and its buffer not associated with development permitting. Restoration may include the removal of regulated and non-regulated, ~~nonnative invasive plant species~~ noxious weeds listed in the King County Noxious Weed List provided a notification to the Planning and Building Department is provided confirming ~~and~~ all of the following apply:

a. The entire area cleared of noxious weeds ~~invasive plants~~ shall be revegetated with appropriate native vegetation and at a spacing interval cover and plant size ~~listed in the City's Critical Area Plant List and~~

using the vegetative buffer standards in KZC 90.130 and the City's Native Plant list as guidelines for plant diversity, spacing, planting size, and cover;

b. The subject property is not located in a high landslide hazard area;

c. No grading or filling is required to remove nonnative invasive vegetation or revegetate with native species;

d. A planting restoration plan must be submitted to the Planning Official for review and approval prior to any disturbance to the critical area and/or buffer. The plan must include the area to be restored, method of noxious weed ~~i~~invasive removal, protection of existing trees and soil, a detailed native planting plan with a plant list and schedule for commencement and completion of the project;

e. Restoration work shall be restricted to handheld equipment. Handheld equipment includes shovels, ~~tillers,~~ clippers, loppers, weed wrenches, and brush cutters and any handheld gas or electric equipment specified and approved in the plan. Machinery such as walk-behind equipment, excavators and bulldozers ~~is~~ are not allowed;

f. ~~Replanting with native vegetation~~ Covering exposed soil with wood chip mulch or other erosion control methods ~~must take place immediately following removal of invasive species,~~ and replanting with native vegetation must take place during the fall or winter planting season within 180 days of invasive removal; and

g. ~~All removed plant material shall be taken away from the site; and~~ ~~p~~Plants that appear on the King County Noxious Weed List must be handled and disposed of according to a noxious weed control plan appropriate to that species;

h. In all cases, vegetation ~~nonnative, invasive species~~ removal shall ~~avoid~~ minimize impacts to native species and protect soil and trees;

i. Management of nonnative, invasive species that are not on the King County Noxious weed list may be approved under limited circumstances by the~~, per approval of~~ Planning Official; and

j. No pesticide or fertilizer applications are utilized.

11. Storm Water Dispersion Flow Path – Creation of a vegetated flow path from a dispersion device that is located outside the critical area buffer, that flows into the critical area buffer provided the buffer meets the vegetative buffer standards in KZC 90.130, and the design is part of an approved development permit that meets LID requirements for water quality.

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

13. 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 and include evidence of threat or imminent danger, including photographs of the threat, the structure and/or area that is being threatened, and close-ups of the temporary alterations. 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] Any restoration and mitigation actions shall occur within the timeframe established with the underlying permit, but in no case more than one (1) year from the date of the emergency.

14. Beaver Management – Beaver management activities, provided the activity has an approved hydraulic project approval (HPA) from the WA Department of Fish and Wildlife and follows all requirements therein.

15. Private maintenance activities required by the City of Kirkland to mitigate substantial flooding risk to public or private property.

Notes:

[1] Repair and maintenance shall not increase the previously approved structure footprint or impervious or hardscape area, including paving and previously approved private roadways and driveways and parking areas within a critical area or its buffer, and shall not include foundation replacement. Foundation and complete structure replacement is regulated under KZC 90.185.

[2] Public street activities shall not 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 existing impervious street shoulders.

[3] Utility activities shall not increase the impervious area in the right-of-way or private roadway or utility corridor or the Cross Kirkland and Eastside Rail Corridors (except utility poles), or reduce flood storage capacity in the critical area or critical area buffer. Replaced overhead electric utilities and their associated facilities shall not be exempt if the work results in additional vegetation disturbance of the critical area or its buffer because of ongoing required vegetation maintenance due to wider vegetation clearance requirements. Utility activities in this provision also include expansion of existing structures such as substations into existing impervious areas.

~~[4] All restoration and mitigation actions shall occur within the timeframe established with the underlying permit, but in no case more than one (1) year from the date of the emergency.~~

[4] [5] The construction drawings shall show the edge of the right-of-way, private roadway or utility corridor, and the existing impervious shoulder area. The drawings shall also specify that all affected critical areas and buffers shall be restored to their pre-project condition or better, including soil stabilization and revegetation.

[5] [6] All activities shall be undertaken using best management practices as determined by the Planning Official and adhere to the Washington State Department of ~~f~~Fish and ~~w~~Wildlife seasonal restrictions on construction activities. ~~as determined by the Washington State Department of Fish and Wildlife.~~

90.40 Permitted Activities, Improvements or Uses Subject to Development Standards

1. Permitted Activities, Improvements and Uses – Activities, improvements and uses identified in this section are permitted subject to the following approval and development standards. Those activities and uses not identified or not meeting the standards in this section may be proposed under other sections of this chapter.

2. Process – The Planning Official shall review and decide on an application for a permitted activity or use. The general and specific standards in subsections (5) and (6) of this section 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 90.145;

b. The mitigation plan pursuant to KZC 90.145 sufficiently mitigates impacts; and

c. The project plans meet the general and specific standards in subsections (5) and (6) of this section.

4. Critical Area Determination and Report – The applicant shall submit a critical area determination pursuant to KZC 90.105 and a critical area report pursuant to KZC 90.110.

5. Standards

a. Application for permitted activities, improvements or uses identified in this section shall demonstrate that they meet the following standards except as noted in subsection (6) of this section.

1) General mitigation requirements including mitigation sequencing pursuant to KZC 90.145;

2) If located in a wetland or wetland buffer, requirements for wetland compensatory mitigation, pursuant to KZC 90.150;

3) Implement a mitigation plan pursuant to KZC 90.145 and/or KZC 90.150;

4) If located in a ~~fish or wildlife habitat~~ priority habitat and species conservation area, requirements of KZC 90.95;

5) Monitoring and maintenance requirements pursuant to KZC 90.160;

6) Financial security requirements pursuant to KZC 90.165;

7) Critical area markers, fencing and signage requirements pursuant to KZC 90.190;

8) Dedication of critical area and buffers requirements pursuant to KZC 90.210;

9) No adverse impact on water quality or conveyance or degradation of critical area functions and values;

10) Structures and improvements located to minimize impacts to and removal of ~~significant~~ regulated trees; and

11) Temporary impacts associated with disturbance in the critical area and buffer are limited to the minimum extent necessary.

12)~~11)~~ Restoration of temporary disturbance areas associated with the work to pre-project conditions or better shown on construction drawings and expeditiously done.

b. Except as provided in subsection (5)(a) of this section, the list of permitted activities, improvements or uses are not subject to general standards pursuant to KZC 90.105 through 90.225.

6. List of Permitted Activities, Improvements and Uses – The following activities and uses may be permitted; provided, that the specific standards applicable to each activity or use and the general standards in subsection (5) of this section are met.

a. Private Repair and Maintenance of Culverts

1) Work limited to removing impediments to improve flow conveyance;

2) Work must be done by hand; and

3) Shall comply with Washington State Department of Fish and Wildlife's seasonal restrictions on instream work.

b. Private Roadways – New private driveway or easement road through a buffer if there is no other option available to access a property that is both a legal building site and a buildable site, provided:

1) The driveway or easement road is the minimum width and length necessary to access the buildable site;

2) Buffer disturbance for installation of the driveway or easement road is the minimum necessary;

3) Buffer area and function are equal or better than pre-project condition;

4) An area at a minimum equal to the length and width of the roadway and disturbed areas shall be vegetated using KZC 90.130 as a guideline for plant diversity and type. This shall constitute mitigation for critical area and buffer impacts; and

5) The project does not include a wetland modification or stream modification pursuant to KZC 90.60 or 90.70, or a reasonable use exception pursuant to KZC 90.180.

c. Private and Public Nonmotorized Trails, Stream Crossings, and Benches and Public Wildlife Viewing Structures

1) The improvement shall be located only in the outer 25 percent of the buffer area. Exceptions are stream crossings, and trail access to Forbes Lake and Totem Lake which may require access through a buffer or wetland to get to the lake, and public wildlife viewing structures;

2) Stream crossings are not permitted in Type F streams under this section. See KZC 90.70 for proposing stream crossing of Type F streams;

3) Trails shall be limited to the least impactful pervious surfaces. Raised boardwalks utilizing approved nontreated pilings are acceptable if found to be the least impacting alternative, and shall not be counted toward lot coverage;

4) Private trails shall be no more than three (3) feet in width. Public trails shall be no more than five (5) feet in width;

5) Stream crossings shall meet the standards for crossings in KZC 90.70 and Washington State Department of Fish and Wildlife's Water Crossing Guidelines, and other state and federal permits;

6) An area equal to the length and width of the trail corridor and associated disturbed areas shall be vegetated using KZC 90.130 as a guideline for plant diversity and type. This shall constitute mitigation for critical area and buffer impacts; and

7) For public improvements, financial security standards of KZC 90.165 and dedication of critical area and buffer requirements of KZC 90.210 are waived.

d. Private and Public Utilities

1) New sewer and storm water lines in critical area buffers where necessary to allow for gravity flow, provided they shall be located as far as possible from the critical area edge;

2) New utilities in critical area buffers, other than addressed in subsection (6)(d)(1) of this section; provided, that:

(a) The facility must ~~shall~~ be ~~only~~ located in the outer 25 percent of the regulated buffer area,

(b) The facility is not a hazardous liquid or gas pipeline; and

(c) The facility is not a substation;

3) New piped storm water outfalls and associated dissipation devices, such as flow spreaders and rock pads, within critical area buffers, provided:

(a) Discharge of storm water outside of the buffer is not feasible as determined by the City; or

(b) If property adjoining the buffer is a high erosion or high landslide hazard area ~~greater than 15 percent slope~~, a specific study by a geotechnical engineer or engineering geologist per KZC 85 must show that discharge outside of the buffer will cause slope instability or excessive erosion, and therefore the discharge needs to be in the buffer; ~~and~~

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

(d) LID treatments per KMC 15.52 are integrated to treat all stormwater discharging into any critical area or buffer less than 100 feet wide.

4) Boring for utilities/utility corridor under a critical area, provided:

(a) Not permitted in a Category I Wetland;

(b) Entrance/exit portals must be located in the outer 25 percent of the regulated critical area buffer;

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

(d) A specific study by a hydrologist is 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;

5) For City utility projects, financial security standards of KZC 90.165 are waived;

6) For public utility projects, dedication of critical area and buffers requirements pursuant to KZC 90.210 may be waived if the Planning Official determines that they are not warranted; and

7) For private and public utility projects, critical area markers, permanent fencing and signage requirements pursuant to KZC 90.190 may be waived if the Planning Official determines that they are not warranted.

e. Private and Public Instream Maintenance

1) Work limited to removing inorganic debris, sediment, invasive vegetation and replanting of streambank with native vegetation to improve instream fish habitat, fish passage and flow conveyance;

2) Work must be done by hand. Hand removal equipment may include shovels, tillers, clippers, loppers, weed wrenches, and brush cutters, and any handheld gas or electric equipment;

3) Public work may include machinery if it can access the buffer from an abutting paved surface ~~roadway~~ without encroaching into the buffer;

4) Maintenance shall comply with Washington State Department of Fish and Wildlife's seasonal restrictions on stream work, and ~~including~~ state permit approvals;

5) For public instream maintenance, financial security standards of KZC 90.165 are waived;

6) For public instream maintenance, dedication of critical area and buffers requirements pursuant to KZC 90.210 may be waived if the Planning Official determines that they are not warranted; and

7) For private and public instream maintenance, critical area markers, permanent fencing and signage requirements pursuant to KZC 90.190 may be waived if the Planning Official determines that they are not warranted.

f. Private and Public Restoration – Restoration of a critical area and its buffer when located in high landslide hazard areas and/or where grading is necessary for the removal of nonnative plants, provided:

1) The entire area cleared of invasive plants shall be revegetated with appropriate native vegetation and at spacing intervals listed in the City's Critical Area Plant list, using the vegetative buffer standards in KZC 90.130 as a guideline for plant diversity and type;

2) The City may ~~shall~~ require a geotechnical ~~investigation~~ report for restoration in a high landslide hazard area~~s~~ pursuant to Chapter 85 KZC, ~~and~~ if determined to be necessary by the Planning Official. The report may require ~~based on the investigation, a geotechnical report with~~ recommendations on special mitigation techniques or measures~~, along with an erosion control~~

~~plan;~~) The city may also require a slope stabilization and erosion control plan as part of the restoration plan;

3) Removal of invasive plant species and other restoration work shall be restricted to work by hand, including use of shovels, tillers, clippers, loppers, weed wrenches, and brush cutters and any handheld gas or electric equipment;

4) Replanting with native vegetation must take place immediately following removal of invasive species;

5) For public restoration, machinery may be used if the use of such equipment is determined acceptable by a ~~the~~ geotechnical investigation and/or report;

6) For public restoration, community volunteers doing restoration must be under the direct supervision of City staff;

7) For private restoration, ~~removed~~ invasive and non-invasive plants ~~material shall be taken off the site; and plants that appear~~ identified on the King County Noxious Weed List must be handled and disposed of according to a noxious weed control plan appropriate to that species; and

8) For public restoration, financial security standards of KZC 90.165 are waived.

g. Private and Public Demolition – Removal of structures in critical areas; provided, that:

1) All disturbed soils are stabilized and revegetated with appropriate native vegetation and at spacing intervals listed in the City's Critical Area Plant List using the vegetative buffer standards in KZC 90.130 as a guideline for plant diversity and type;

2) Replanting with native vegetation must take place immediately following the clearing activity;

3) For public demolition, financial security standards of KZC 90.165 are waived;

4) For public demolition, dedication of critical area and buffers requirements pursuant to KZC 90.210 and critical area markers are waived; and

5) For private and public demolition, permanent fencing and signage requirements pursuant to KZC 90.190 may be waived if the Planning Official determines they are not warranted.

h. Public Streets – Widening of existing public streets in critical area buffers, provided:

~~1) The street shall only be located in the outer 25 percent of the buffer area;~~

1) ~~2)~~ Any necessary culvert modification or extension is designed to meet the Washington Department of Fish and Wildlife's Water Crossing Guidelines;

2) ~~3)~~ Financial security standards of KZC 90.165 and dedication of critical area and buffers requirements pursuant to KZC 90.210 are waived; and

3) ~~4)~~ Critical area markers, permanent fencing and signage requirements pursuant to KZC 90.190 may be waived if the Planning Official determines that they are not warranted.

i. Improvements Associated with the Cross Kirkland Corridor and Eastside Rail Corridor – New, modified or relocated public nonmotorized trails within the Cross Kirkland Corridor and Eastside Rail Corridor and connecting to either corridor approved under the City's Cross Kirkland Corridor Master Plan or as amended. Financial security standards of KZC 90.165 and dedication of critical area and buffers requirements pursuant to KZC 90.210 are waived.

j. Improvements Associated with City Park, Transportation, and Utility Master Plans – Any new or modified City projects, other than those associated with the Cross Kirkland Corridor or Eastside Rail Corridor, approved under a master plan approved by the City Council, for which a critical area determination and delineation pursuant to KZC 90.105 and location of critical areas have been considered as part of the master plan process. Financial security standards of KZC 90.165 and dedication of critical area and buffers requirements pursuant to KZC 90.210 are waived.

~~k. Temporary construction impacts to wetland and stream buffers, provided:~~

~~1) The impact is the minimum necessary for the task;~~

~~2) The construction is for an approved use; and~~

~~3) The buffer area is fully restored to preconstruction conditions immediately following completion of construction.~~

90.45 Public Agency and Public Utility Exceptions

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. General – Prior to seeking approval through this section, the Planning Official in conjunction with a public agency or public utility shall first determine that:

a. The project scope cannot be approved under KZC 90.60 for wetland modifications; KZC 90.70 for stream modifications; KZC 90.85 for stream channel stabilization; and KZC 90.95 for wildlife habitat conservation areas; and

b. The project cannot meet the requirements under KZC 90.130, Vegetative Buffer Standards; and KZC 90.140, Structure Setback from Critical Area Buffer; or any other provision in this chapter.

2. Process – A critical area exception for public agencies and public utilities shall be reviewed and decided upon by the Planning and Building Director.

3. Decisional Criteria – The Planning and Building Director shall make a decision based on the following criteria:

a. There is no other practical alternative to the proposed project 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 through type and location of mitigation, pursuant to KZC 90.145 and 90.150, if applicable, including such installation measures as locating facilities in previously disturbed areas, boring rather than trenching, and using 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.

4. Submittal Requirements – The application shall include the City's critical area determination pursuant to KZC 90.105; a critical area report pursuant to KZC 90.110; a mitigation plan pursuant to KZC 90.145, and a mitigation plan pursuant to KZC 90.150 if a wetland is to be modified; a response to the decisional criteria in subsection (3) of this section; and the following documents and/or analysis based upon the type of exception proposed in order to determine that the strict application of this chapter would otherwise prohibit a development proposal:

a. Wetland Modifications

1) The public agency or public utility shall submit a wetland modification assessment pursuant to KZC 90.60(6); and

2) The public agency or public utility shall demonstrate that the requirements in KZC 90.60(8) and (9) cannot be met.

b. Stream Modifications

1) The public agency or public utility shall submit a stream modification assessment pursuant to KZC 90.70(5); and

2) The public agency or public utility shall demonstrate that the requirements in KZC 90.70(6) and (7) cannot be met.

c. Daylighting of Stream – The public agency or public utility shall submit a stream daylighting plan demonstrating that the requirements in KZC 90.75(3) cannot be met.

d. Stream Channel Stabilization – The public agency or public utility shall submit a streambank assessment and stream channel stabilization plan demonstrating that the requirements in KZC 90.85(5) and (6) cannot be met.

e. Wildlife Habitat Conservation Area Modifications

1) The public agency or public utility shall submit an assessment of a habitat conservation area pursuant to KZC 90.95(3), a habitat management plan pursuant to KZC 90.95(6); and

2) The public agency or public utility shall demonstrate that the requirements in KZC 90.95(7) cannot be met.

f. Buffer Averaging – The public agency or public utility shall demonstrate that the standards in KZC 90.115(2) cannot be met.

g. Vegetative Buffer Standards – The public agency or public utility shall demonstrate that the standards in 90.130(2) through (4) cannot be met.

h. Structure Setback – The public agency or public utility shall demonstrate that the standards in KZC 90.140 cannot be met.

5. Waiver – Planning Official may waive a specific submittal requirement if it is determined not to be applicable or necessary.

90.50 Programmatic Permit – Public Agency and Public Utility

1. General – A public programmatic permit may be issued for either a permitted activity subject to the submittal requirements and development standards of permitted activities, improvements and uses with standards in KZC 90.40 or public agency or public utility exception in KZC 90.45, if it meets the requirements of this section, as determined by the Planning Official. Exempted activities pursuant to KZC 90.35 do not require a programmatic permit.

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 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 and decided upon by the Planning and Building Director.

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 and prearranged 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 exception for a public agency and public utility, 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.

WETLANDs

90.55 Wetlands and Associated Buffer Standards

~~Wetlands and associated buffer standards are provided in this section. The table below is a summary of the wetland regulations. More details are provided for some of the regulations elsewhere in this chapter.~~

~~Table 90.55.1 Wetlands and Associated Buffer Standards~~

~~Wetland Classification and Rating~~	~~In accordance with the 2014 Department of Ecology Washington State Wetland Rating System for Western Washington, as revised. Wetland category and rating shall be determined through a survey and field investigation by a qualified critical area professional approved by the City as part of a critical area report in KZC 90.110. Wetland rating categories shall not change due to illegal modification.~~		
~~Wetland Delineation~~	~~In accordance with the approved federal delineation manual and applicable regional supplements described in WAC 173-22-035 and based on field investigation and a survey. See KZC 90.110.~~		
~~Wetland Determination~~	~~Planning Official makes 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 required critical area report pursuant to KZC 90.110. In addition, the Planning Official makes determination if the standard buffer meets the buffer vegetative standards in KZC 90.130.~~		
~~Wetland Buffer Width Standard~~	**~~Wetland Buffer Widths~~**		–
	–	~~Buffer Width Based on Habitat Points~~	

		Wetland Category			
	–		3-5 habitat pts.	6-7 habitat pts.	8-9 habitat pts.
	–	Category I: Bogs and Wetlands of High Conservation Value	190 feet	190 feet	225 feet
	–	Category I: Others	75 feet	110 feet	225 feet
	–	Category II	75 feet	110 feet	225 feet
	–	Category III	60 feet	110 feet	225 feet
	–	Category IV	40 feet		
	–	–	See KZC 90.130 for buffer vegetation requirements		
Wetland Buffer Width Alternative	Applicant can choose not to comply with the vegetative buffer standards in KZC 90.130 by complying with the following requirements: 1) Increase buffer width listed above in Wetland Buffer Widths by 33% within entire buffer. 2) Remove all structures and improvements within the buffer. 3) Discontinue any maintenance of lawn and nonnative vegetation within the buffer. 4) Cease all activities in the buffer, except those permitted under KZC 90.35(12) and (13). In no case shall a standard and an alternate buffer standard be combined for a development proposal.				
Other Standards	•	Buffer averaging is permitted for both the standard buffer and the alternative buffer if criteria are met. See KZC 90.115.			
	•	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 90.125.			
	•	Wetlands that are degraded must be restored if the project is subject to KZC 90.130(3)(a) for the vegetative buffer standard and/or a wetland modification is proposed. A critical area report shall address any needed restoration due to degraded vegetation, habitat, water quality and hydrologic functions.			
	•	Standard buffers must meet the vegetative buffer standards. See KZC 90.130.			
	•	Measures to minimize impact to wetlands must be implemented for standard buffers. See KZC 90.155.			
	•	For wetlands that score 6 or more points for habitat function, the following conditions must be maintained in order to use the standard buffers, as follows:			
	–	• If an existing, relatively undisturbed vegetated corridor at least 100 feet wide exists between the on-site wetland and other priority habitats, as defined by the Washington State Department of Fish and Wildlife, and the off-site portion of the corridor is already protected via an existing conservation easement, critical areas regulations, or other legal requirement, the portion of the corridor on site must also be protected by a similar legal protection. All other applicable criteria found in this section must also be met. The evaluation of presence or absence of the conditions described above must be completed as part of the critical areas report.			
	–	• If no such corridor is present to protect, the standard buffers alone may be used with the other applicable criteria contained in KZC 90.55. If an option for protection of a corridor, as defined in this section, exists on the parcel, but is not provided, standard buffer widths must be increased by 33%.			
	•	Fencing and signage are required along the entire upland edge of buffer both during construction and upon completion of the project. See KZC 90.190.			
	•	For voluntary restoration, see KZC 90.35 and 90.40.			
	•	For code enforcement to correct an illegal modification to a wetland or buffer, see KZC 90.205.			
	•	Wetlands and buffers shall be placed in recorded critical area easements or tracts for perpetual protection and maintenance. See KZC 90.210.			

~~**Structure Setback from Buffer**~~	~~10-foot-wide structure setback is required from upland edge of the entire buffer. Improvements listed in KZC 90.140 are permitted in the setback.~~

~~**Activities, Improvements and Uses in Wetlands**~~	~~Activities, improvements and uses are prohibited within wetlands and associated buffers, except those exempted or permitted subject to development standards in KZC 90.35 and 90.40, or those approved under a City review process in this chapter.~~
~~**Modification to Wetlands, Related Impacts to Associated Buffers**~~	~~▪ Modification to a wetland and related impacts to buffers require approval pursuant to a Process I, Chapter 145 KZC along with a critical area report, mitigation sequencing, and compensatory mitigation plan. See KZC 90.110, 90.145 and 90.150.~~ ~~▪ Buffer standard may be modified for vehicular access to a property that is both a legal building site and a buildable site pursuant to KZC 90.40 and for an interrupted buffer pursuant to KZC 90.120. Also, see nonconformances pursuant to KZC 90.185.~~ ~~▪ Isolated Category IV wetlands less than 4,000 square feet and wetlands less than 1,000 square feet pursuant to KZC 90.60 are not required to meet mitigation sequencing, but compensatory mitigation is required pursuant to KZC 90.150.~~

1. Wetland Classification and Rating - In accordance with the 2014 Department of Ecology, Washington State Wetland Rating System for Western Washington, Version 2.0, as revised. Wetland category and rating shall be determined through a survey and field investigation by a qualified critical area professional approved by the City as part of a critical area report in KZC 90.110. Wetland rating categories shall not change due to illegal modification.
2. Wetland Delineation- In accordance with the approved federal delineation manual and applicable regional supplements described in WAC 173-22-035 and based on field investigation and a survey. See KZC 90.110.
3. Wetland Determination - Planning Official makes determination if a regulated wetland and/or a buffer exists on the subject property, and if so, its category, rating, boundaries and buffer width based on a required critical area report pursuant to KZC 90.110. In addition, The Planning Official makes the determination if the standard reduced buffer meets the buffer vegetative standards in KZC 90.130.
4. The Reduced Buffer (Table 90.55.1) is equivalent to 75% of the Regulated Wetland Buffer Width (Table 90.55.2). Impacts inside the regulated buffer require mitigation to ensure a no net loss to the function of the protected critical area. See KZC 90.130 for mitigation standards.

Table 90.55.1 Reduced Wetland Buffer Widths

Wetland Category	Reduced Buffer Width Based on Habitat Points		
	3-5 habitat pts.	6-7 habitat pts.	8-9 habitat pts.
Category I: Bogs and Wetlands of High Conservation Value	190 feet	190 feet	225 feet
Category I: Others	75 feet	110 feet	225 feet
Category II	75 feet	110 feet	225 feet
Category III	60 feet	110 feet	225 feet
Category IV	40 feet [1]		

Note 1: Category IV wetlands less than 1000 sq. ft. that meet requirements in KZC.90.60.2.b do not have a buffer

5. Regulated Wetland Buffer Width - Applicant can choose not to comply with the vegetative buffer standards in KZC 90.130 by complying with the following requirements:

a. Apply the regulated buffer width listed in Table 90.55.2 across the entire buffer.
b Remove all structures and improvements within the regulated buffer and restore the area of disturbance to meet minimum vegetative buffer standards in KZC 90.130 at a 1:1 ratio.
c. Discontinue any maintenance of lawn and nonnative vegetation within the regulated buffer and restore the area of disturbance to meet minimum vegetative buffer standards in KZC 90.130 at a 1:1 ratio.
d. Cease all activities in the buffer, except those permitted under KZC 90.35.

e. In no case shall a reduced buffer and the regulated buffer and their associated requirements be combined for a development proposal; development applications shall propose compliance with a single buffer standard (regulated or reduced) for the entirety of the subject property.

Table 90.55.2 Regulated Buffer Width

Wetland Category	Regulated Buffer Width Based on Habitat Points		
	3-5 habitat pts.	6-7 habitat pts.	8-9 habitat pts.
Category I: Bogs and Wetlands of High Conservation Value	250 feet	250 feet	300 feet
Category I: Others	100 feet	150 feet	300 feet
Category II	100 feet	150 feet	300 feet
Category III	80 feet	150 feet	300 feet
Category IV	50 feet [1]		

Note 1: Category IV wetlands less than 1000 sq. ft. that meet requirements in KZC.90.60.2.b do not have a buffer.

6. Wetland and Buffer Width Modifications

a. KZC 90.145, 90.150, 90.155 apply for all buffer width reductions~~.~~
b. Buffer averaging is permitted for both the reduced buffer and the regulated buffer if criteria are met. ~~in~~ See KZC 90.115.
c. Increased buffer width may be required if a wetland 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 90.125.
d. Modification to a wetland and associated impacts to buffers require approval pursuant to a Process I, Chapter 145 KZC along with a critical area report, a mitigation sequencing analysis and compensatory mitigation plan. See KZC 90.60, 90.110, 90.115, 90.145 and 90.150.
e. Buffer standard may be modified pursuant to KZC 90.40 for vehicular access to a property that is both a legal building site and a buildable site and for an interrupted buffer pursuant to KZC 90.120. Also see nonconformances pursuant to KZC 90.185.
f. A 10-foot wide structure setback is required from the edge of the entire buffer. Improvements listed in KZC 90.140 are permitted in the setback~~.~~

7. Other Standards:

a. Activities, improvements and uses are prohibited within wetlands and associated buffers, except those exempted or permitted subject to development standards in KZC 90.35 and 90.40, or those approved under a City review process in this chapter. The provisions of this chapter do not supersede or negate the need for any applicable state or federal permits or their respective requirements.

b. For wetlands that score 6 or more points for habitat function, the following conditions must be maintained in order to use the reduced buffers:

    1) If an existing, relatively undisturbed vegetated corridor at least 100 feet wide exists between the on-site wetland and other priority habitats, as defined by the Washington State Department of Fish and Wildlife, and the off-site portion of the corridor is already protected via an existing conservation easement, critical areas regulations, or other legal requirement, the portion of the corridor on site must also be protected by a similar legal protection.
    2) If no such corridor is present to protect, the reduced buffers alone may be used with the other applicable criteria contained in KZC 90.55.

3) If an option for protection of a corridor, as defined in this section exists on the parcel but is not provided, the regulated buffer width must be used.

4) The evaluation of the presence or absence of the conditions described above must be completed as part of the critical areas report.

c. Development proposals using reduced buffers must meet the vegetative buffer standards. See KZC 90.130.

d. Wetlands that are degraded must be restored if the project is subject to KZC 90.130(3)(a) for the vegetative buffer standard and/or if a wetland modification is proposed. A critical area report shall address any needed restoration due to degraded vegetation, habitat, water quality and hydrologic functions.

e. Impacts to regulated wetland buffers shall be mitigated at a minimum of a 1:1 ratio (every square foot of permanent disturbance must have an equivalent amount of buffer meeting the minimum vegetative requirements in KZC 90.130). If minimum vegetative standard requirements within the reduced buffer are less than the impacts on site, additional mitigation must be provided in accordance with the location of mitigation preferences in KZC 90.145.3.

f. Measures to minimize impact to wetlands must be implemented for all development using the reduced buffer and occurring inside the regulated buffers. See KZC 90.155.

g. Isolated category IV wetlands less than 4000 square feet and wetlands less than 1000 square feet pursuant to KZC 90.60 are not required to follow mitigation sequencing. Only compensatory mitigation is required pursuant to KZC 90.150.

h. Fencing and signage are required along the entire edge of the determined buffer both during construction and upon completion of the project. See KZC 90.190.

i. Wetlands and buffers shall be placed in recorded critical area easements or tracts for perpetual protection and maintenance. See KZC 90.210.

90.60 Wetland and Wetland Buffer Modification

1. Applicability – This section does not apply to wetland modifications and wetland buffer modifications that may be approved in certain circumstances under a reasonable use exception pursuant to KZC 90.180; permitted activities, improvements or uses subject to development standards pursuant to KZC 90.40; public agency and public utility exceptions pursuant to KZC 90.45; or programmatic permit, public agency and public utility pursuant to KZC 90.50.

2. Wetland Modification- Modifications to wetlands shall be prohibited except ~~that the following limited types of~~ those Category IV wetlands identified below that are considered Non-federally regulated. ~~are not required to meet~~ Mitigation sequencing pursuant to KZC 90.145 is required, except for the avoidance and impact minimization criteria. These wetlands ~~and~~ may be filled or modified if the impacts are fully mitigated based on the remaining actions in the mitigation sequence. The applicant shall submit a critical area report pursuant to KZC 90.105 and 90.110 verifying that the following criteria are met.

a. Category IV ~~isolated wetlands~~ Non-federally regulated 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 six (6) or more points for habitat function; and

4) Do not contain a Priority Habitat for a Priority Species identified by the Washington Department of Fish and Wildlife and do not contain a state or federally listed species ~~designated endangered, threatened or sensitive species~~ or their critical habitats ~~or state priority habitats~~, or ~~including~~ species of local importance identified in KZC 90.95.

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 90.150. Impacts shall be mitigated through an in-lieu fee or mitigation bank program if a program is available. Otherwise, preference for mitigation location shall be pursuant to KZC 90.145.

It is the applicant's responsibility to ~~arrange a jurisdictional~~ provide a determination by a qualified consultant ~~by the U.S. Army Corps of Engineers~~ on whether a wetland is not federally regulated, ~~isolated but~~ and regulated only by the Washington State Department of Ecology for the purposes of filling and mitigating a Category IV ~~isolated~~ wetland.

b. Category IV ~~isolated~~ Non-federally regulated wetlands less than 1,000 square feet that meet subsection (2)(a) of this section do not have a buffer and therefore are exempt from buffer requirements. The Planning Official may approve an application for modification under this exception ~~only~~ if the applicant provides compensatory mitigation based on the remaining actions in the mitigation sequence pursuant to KZC 90.150 for the wetland loss. ~~No compensatory mitigation is required for the buffers loss.~~

3. Wetland Buffer Modification – A wetland buffer may not be modified or otherwise reduced, except if part of an approved wetland or buffer modification in this section.

The following wetland buffer modifications may be proposed:

a. Impacts to associated buffer as part of wetland modification;

b. Buffer averaging permitted pursuant to KZC 90.115; or

c. Interrupted buffer waiver permitted pursuant to KZC 90.120.

4. Process – Unless otherwise specified above or in KZC 90.40, 90.115 or 90.120, any proposal to modify a wetland and its buffer shall be reviewed and approved pursuant to Process I, described in Chapter 145 KZC.

5. Decisional Criteria – In addition to the criteria of a Process I, the Planning and Building Director shall only approve a modification to a wetland and buffer if:

a. Mitigation sequencing requirements have been met. See KZC 90.145;

b. Compensatory mitigation and mitigation plan requirements are approved. See KZC 90.150;

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 90.95;

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 adjacent area;

f. It will not result in 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. All exposed areas will be stabilized with native vegetation normally associated with wetlands and/or buffers, as appropriate.

The wetland compensatory mitigation plan, additional requirements in subsection (9) of this section and any conditions of approval for the modification shall be conditions for all related land surface modification and/or building permit approvals.

6. Wetland Modification Assessment – As part of the application for a wetland modification, the applicant shall submit a wetland modification assessment prepared by a qualified critical area professional approved by the City, and also fund the City's peer review of the assessment. The assessment shall contain:

a. The City's final critical area determination and critical area report along with the survey of the wetland and/or buffer on the subject property pursuant to KZC 90.105;

b. Description of the proposed modification to the wetland and associated impact to the buffer if applicable;

c. Analysis of mitigation sequencing for the proposal and mitigation as required in KZC 90.145. If the vegetative buffer standards are required under KZC 90.130, the required enhanced buffer may not be used towards mitigating a modified buffer;

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; and

e. Any other information or studies determined necessary by the Planning Official.

7. Wetland Compensatory Mitigation Plan – As part of the application for a wetland modification, the applicant shall submit a compensatory mitigation plan pursuant to KZC 90.150 that is prepared by a qualified critical area professional approved by the City. The applicant shall also fund City peer review of the plan. The plan shall include mitigation for lost or affected functions; type, location, and approach of compensation; timing of the mitigation; a monitoring and maintenance plan and financial security estimate as required in KZC 90.160 and 90.165.

8. Buffers for Mitigation Sites – A wetland that is created, restored, or enhanced as on-site or off-site compensation within Kirkland for an approved wetland modification shall have a buffer width that is applicable to the wetland category for the created, restored, or enhanced wetland.

9. Additional Requirements for Approved Wetland Modification

a. All work shall be carried out under the direct supervision of a qualified critical area professional approved by the City and paid for by the applicant during all phases of the project;

b. The requirements for wildlife habitat conservation areas in KZC 90.95 and frequently flooded areas in KZC 90.100 shall be met if applicable;

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 shall consent to the critical area and/or buffer creation or increase on their property; and

d. Any required state and federal permits and authorizations shall be obtained prior to conducting site work.

STREAMS <u>AND RIPARIAN MANAGEMENT ZONES</u>

90.65 Streams and Associated Buffer Standards

Streams<u>,</u>~~and~~ associated buffers ~~standards~~ and <u>Riparian Management Zones (RMZ's)</u> <u>are regulated Fish and Wildlife Habitat Conservation areas as defined in WAC 365-190-030. Regulations for protection of these areas</u> are provided in this section. ~~The table below is a summary of the stream regulations. More details are provided for some of the regulations elsewhere in this chapter.~~

Table 90.65.1 Streams and Associated Buffer Standards

Stream Classification	In accordance with WAC 222-16-030, as amended. The Planning Official makes final determination. Stream classification shall not change due to illegal modifications.		
Stream Determination	Planning Official makes determination if a stream and/or a buffer exist on the subject property, and if so, a stream's classification and boundary, and width of buffer based on required critical area report pursuant to KZC 90.110. In addition, the Planning Official makes determination if the standard buffer meets the vegetative buffer standards in KZC 90.130.		
Stream Buffer Width Standard	—	**Stream Buffer Widths**	—
	—	Stream Type / Buffer Width	—
	—	F (Fish bearing) / 100 feet	—
	—	Np (Perennial non-fish bearing) / 50 feet	—
	—	Ns (Seasonal non-fish bearing) / 50 feet	—
	—	— / See KZC 90.130 for buffer vegetation requirements	—
Stream Buffer Width Alternative	Applicant may choose not to comply with the vegetative buffer standards in KZC 90.130 by complying with the following requirements: 1) Increase buffer width listed above in stream buffer widths by 33% within entire buffer. 2) Remove all structures and improvements within the buffer. 3) Discontinue any maintenance of lawn and nonnative vegetation within the buffer. 4) Cease all activities in the buffer, except those permitted under KZC 90.35(12) and (13). In no case shall a standard and an alternate buffer standard be combined for a development proposal.		
Other Standards	• Buffer averaging is permitted for both the standard buffer and the alternative buffer if criteria are met. See KZC 90.115. The Planning Official makes decision. • 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 90.125. • Streams that are degraded must be restored if the project is subject to KZC 90.130(3)(a) for a vegetative buffer and/or a stream modification is proposed. A critical area report shall address any needed restoration due to degraded vegetation, habitat, water quality and hydrologic functions with specific consideration for anadromous salmon. • Standard buffers must meet vegetative buffer requirements pursuant to KZC 90.130. • Buffers shall be provided where a stream abuts an inlet and outlet of culverted streams as shown in Chapter 180 KZC, Plate 16A. • Fencing and signage are required along the entire upland edge of buffer both during construction and upon completion of a project. See KZC 90.190. • Voluntary restoration of streams and buffers or instream maintenance, see KZC 90.35 and 90.40. • For code enforcement to correct an illegal modification to a stream or buffer, see KZC 90.205. • Streams and buffers shall be placed in recorded critical area easements or tracts for perpetual protection and maintenance. See KZC 90.210.		
Structure Setback from Buffer	10-foot-wide structure setback is required from upland edge of the entire buffer. Improvements listed in KZC 90.140 are permitted within the setback.		
Activities, Improvements and Uses in Streams	Activities, improvements and uses shall be prohibited within streams and associated buffers, except those exempted or permitted subject to development standards in KZC 90.35 and 90.40, or those approved under another City review process in this chapter.		
Modifications to Stream and Impacts to Associated Buffer	• Buffer standards may be modified for vehicular access to a property that is both a legal building site and a buildable site pursuant to KZC 90.40, for daylighting a stream pursuant to KZC 90.75, and for limited buffer waivers pursuant to KZC 90.120. Also, see KZC 90.185, Nonconformances. • Impacts to stream buffers shall be mitigated at a minimum of a 1:1 ratio.		
	• Daylighting of a stream is encouraged. The Planning Official makes decision unless it is part of approval pursuant to Process I, Chapter 145 KZC. See KZC 90.75.		

1. Stream Classification – Streams shall be typed pursuant to WAC 222-16-030 and WAC 222-16-031, as amended, stream classifications must be determined based on location of the OHWM or top of bank and an assessment of supporting habitat features. This assessment must be performed by a qualified critical area professional. Stream classification shall not change due to illegal modifications.

2. Stream Determination - Planning Official shall determine the following:
   a. If a regulated stream, ~~and/or buffer~~ exists on or within 150 feet of any portion the subject property;
   b. The extent of Riparian Management Zone impact on the property pursuant to KZC 90.67;
   c. The stream's classification and boundary, width of buffer and interruptions to that buffer based on required critical area report pursuant to KZC 90.110,
   d. If the reduced buffer meets the vegetative buffer standards in KZC 90.130; and
   e. If the planning official is uncertain if a watercourse on or within 150 feet of the property is classified as a stream, or if the stream has not already been typed, a critical area report shall be required

3. Reduced Stream Buffer Width - A reduced stream buffer (Table 90.65.1) may be allowed if the respective area on the subject property meets the minimum vegetation buffer standards in KZC 90.130. All allowed impacts inside the regulated buffer shall also be mitigated pursuant to KZC 90.145.

Table 90.65.1 Reduced Stream Buffer Widths

Stream Type	Buffer Width
Type F (2 and 3) waters	100 feet
Type N (4 and 5) waters	50 feet

Note: Piped streams and other disconnected streams not rated as N streams do not require a stream buffer or riparian management zone. All streams have a structure set back requirement (KZC 90.140) .

4. Regulated Stream Buffer Width - Applicant may choose not to comply with the vegetative buffer standards in KZC 90.130 by complying with the following requirements:
   a. Apply the regulated buffer width shown in Table 90.65.2, across the entire buffer.
   b Remove all structures and improvements within the regulated buffer and restore the area of disturbance to meet minimum vegetative buffer standards in KZC 90.130 at a 1:1 ratio.
   c. Discontinue any maintenance of lawn and nonnative vegetation within the regulated buffer, and restore the area of disturbance to meet minimum vegetative buffer standards in KZC 90.130 at a 1:1 ratio; and
   d. Cease all activities in the buffer, except those permitted under KZC 90.35.
   e. In no case shall a standard and an alternate buffer standard be combined for a development proposal; development applications shall propose compliance with a single buffer standard (regulated or reduced) for the entirety of the subject property.

Table 90.65.2 Regulated Stream Buffer Widths

Stream Type	Buffer Width
Type F (2 and 3) waters	133 feet

Type N (4 and 5) waters	75 feet

5. Stream Buffer Width ~~Standards and~~ Modifications

   a. Increased buffer widths may be required based on critical area report recommendations (See KZC 90.125) if:

      1) The stream or its buffer contains or is adjacent to a severe erosion or landslide area,

      2) The stream or buffer contain a priority species with larger habitat requirements per KZC 90.95.

      3) The stream is in-a frequently flooded area or channel migration zone

   b. Buffer averaging is permitted for both the reduced buffer and the regulated buffer if criteria are met in KZC 90.115.

   c. Buffers shall be provided where a stream abuts an inlet and outlet of a piped/culverted stream as shown in Chapter 180 KZC, Plate 16A. When culverts extend into the stream channel from a developed or disturbed area, buffers may be required to include areas around the pipe per the decision of the Planning Official.

   d. A 10-foot-wide structure setback is required from edge of the entire buffer. For streams without buffers, such as piped streams, setback shall be from the top of bank or edge of structure. Improvements listed in KZC 90.140 may be permitted within the setback.

   e. Buffer standards may be modified for vehicular access to a property that is both a legal building site and a buildable site pursuant to KZC 90.40, for daylighting a stream pursuant to KZC 90.75, and for limited buffer waivers pursuant to KZC 90.120. Also, see KZC 90.185, Nonconformances.

6. Other Stream Buffer Standards

   a. Activities, improvements, and uses in streams and stream buffers shall be prohibited within streams and associated buffers, except those exempted or permitted subject to development standards in KZC 90.35 and 90.40, or those approved under another City review process in this chapter. The provisions of this chapter do not supersede or negate the need for any applicable state or federal permits or their respective requirements.

   b. Development proposals using reduced buffers must meet vegetative buffer requirements pursuant to KZC 90.130.

   c. Daylighting of a stream is encouraged. The Planning Official makes decision unless it is part of approval pursuant to Process I, Chapter 145 KZC. See KZC 90.75.

   d. Streams that are degraded must be restored if a stream modification is proposed. A critical area report shall address any needed restoration due to degraded vegetation, habitat, water quality and hydrologic functions with specific consideration for anadromous salmon.

   e. Impacts to regulated stream buffers shall be mitigated at a minimum of a 1:1 ratio (every square foot of permanent disturbance must have an equivalent amount of buffer meeting the minimum vegetative requirements in KZC 90.130). If minimum vegetative standard requirements within the reduced buffer are less than the impacts on site, additional mitigation must be provided in accordance with the location of mitigation preferences in KZC 90.145.3.

   f. Fencing and signage are required along the entire upland edge of buffer both during construction and upon completion of a project. See KZC 90.190.

   g. For voluntary restoration of streams and buffers or instream maintenance, see KZC 90.35 and 90.40.

   h. Streams and buffers shall be placed in recorded critical area easements or tracts for perpetual protection and maintenance. See KZC 90.210.

i. Buffers for Type F streams identified as anadromous fishery habitat shall also conform to requirements in 90.95

90.67 Riparian Management Zone

The riparian management zone (RMZ) is equivalent to the average of the maximum potential heights of riparian tree species found in the Puget Sound Basin and is equal to 150 feet. The RMZ is measured similarly to riparian buffers from the ordinary high water mark, or from the edge of the channel migration zone.if it exists on site.

1. RMZ Standard Width – This section applies to all areas of the subject property within 150 feet of both Type F and Type N streams. RMZ standards do not independently apply to wetlands.

2. RMZ Tree Retention not associated with Development Activity: All areas within the RMZ width shall follow Critical Area tree regulations pursuant to KZC 95.27.

3. When RMZ Standard Applies with Development activity- The RMZ standards shall be required when:

a. The total new net impervious or hardscape area anywhere on the subject property exceeds 1,000 square feet, or

b. The cost of new or replacement improvements exceeds 50 percent of the replacement cost of the existing improvements on the entire subject property. This 50 percent threshold shall not apply to detached dwelling units approved for expansion pursuant to KZC 90.185.

3. RMZ Standards

a. Any improvements within the RMZ width shall incorporate the following in the project design:

1) LID requirements to treat water before entering stream (KMC 15.52); and

2) Measures to minimize impacts to Critical areas Buffers, and Riparian Management Zones pursuant to KZC Table 90.155.1.

b. When the RMZ standards apply, the applicant shall submit documentation of their adherence to the required standards with any and all development permit applications in a form acceptable to the Planning Official.

c. Prior to final inspection of any development permit, the applicant shall record, on the title of the property, a covenant in a form acceptable to the City Attorney that depicts that area of the RMZ and the applicable standards to be maintained in perpetuity.

90.70 Stream Modification

1. Applicability – This section does not apply to stream modifications or stream buffer modifications that may be approved in certain circumstances under a reasonable use exception pursuant to KZC 90.180; permitted activities, improvements or uses subject to development standards pursuant to KZC 90.40; public agency and public utility exceptions pursuant to KZC 90.45; or programmatic permit – public agency and public utility pursuant to KZC 90.50.

2. Stream Modification – Modifications to streams and associated impacts to buffers are prohibited, except as approved as part of a stream modification in this section.

The following stream modifications may be considered:

a. Stream crossings for Type F streams (see KZC 90.40 for Type N streams);

b. Culverts and bridges;

c. Change in meandering course of a stream;

d. Relocation of a Type N~~s or Np~~ stream. Relocation of a Type F stream is not permitted; and

e. Impacts to buffers associated with a stream modification.

3. Limited Buffer Modification – A stream buffer may only be modified or otherwise reduced as part of an approved stream or buffer modification in this section or in limited circumstances under permitted activities; improvements or uses subject to development standards pursuant to KZC 90.40; public agency and public utility exceptions pursuant to KZC 90.45; programmatic permits – public agency and public utility pursuant to KZC 90.50; or reasonable use exception pursuant to KZC 90.180.

The following stream buffer modifications may also be proposed in conjunction with the ~~following~~ referenced sections:

a. Impacts to associated buffer as part of stream modification, pursuant to KZC 90.70(2);

b. Change to meandering course of a stream pursuant to KZC 90.80;

c. Daylighting of a stream pursuant to KZC 90.75;

d. Buffer averaging permitted pursuant to KZC 90.115; or

e. Limited buffer waivers permitted pursuant to KZC 90.120.

4. Process – All proposals in subsections (2) and (3)(a) of this section shall be reviewed and decided upon pursuant to Process I, described in Chapter 145 KZC. All proposals in subsections (3)(b) through (3)(e) of this section shall be decided upon by the Planning Official.

5. Decisional Criteria – For all proposals in subsections (3)(b) through (3)(e) of this section, refer to the decisional criteria in the applicable section. For proposals in subsections (2) and (3)(a) of this section, in addition to criteria of Process I, the Planning and Building Director shall only approve a modification to a stream and impact to the buffer if:

a. Mitigation sequencing requirements have been met. See KZC 90.145; and

b. The applicant has demonstrated, where applicable, based on information provided by a civil engineer and a qualified critical area professional approved by the City, that:

1) It will not be detrimental to fish habitat, including fill material that contains organic or inorganic material;

2) It will not have an adverse effect on drainage, storm water detention capabilities and base flood storage volume and function;

3) It will not have an adverse effect on water quality or frequently flooded areas;

4) It will not increase velocity upstream or downstream;

5) It will not increase sediment load upstream or downstream;

6) It will not result in unstable geologic and soil conditions and slope conditions or create an erosion hazard or contribute to scouring actions;

7) All exposed areas are stabilized with vegetation normally associated with native stream buffers, as appropriate;

8) Existing native trees and other native vegetation are retained to the maximum extent feasible given site conditions and the proposal;

9) The stream modification plan is sufficient to mitigate identified impacts;

10) For streams placed in culverts or stream crossings, 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 in meandering course for the stream, demonstrate that the change is the only feasible option to stop excessive erosion to protect legally established buildings that cannot be achieved through streambank stabilization and will improve the overall functions and value of the stream;

12) For stream crossings, demonstrate that crossings shall have no adverse impact on instream habitat and flow conveyance;

13) For relocation of a Type Ns or Np stream, demonstrate that relocation would improve stream functions; and

14) With the exception of meandering a stream, submit a statement signed by each owner of all adjacent affected properties consenting to the modification if it results in creation or expansion of a stream or stream buffer on their properties.

The stream and/or associated buffer modification plan, the additional requirements in subsection (7) of this section and any conditions of approval shall be conditions for all related land surface modification and/or building permit approvals.

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

a. The City's final stream determination decision pursuant to KZC 90.105 and critical area report pursuant to KZC 90.110, including the vegetative buffer assessment, and a survey of the stream and its buffer;

b. Description of the proposed modification to the stream and impact to the associated buffer if applicable;

c. Analysis of mitigation sequencing and proposed mitigation as required in KZC 90.145. If the vegetative buffer standards are required under KZC 90.130, the enhanced buffer may not be used towards mitigating a proposed impacted buffer;

d. Modeling of impacts to stream;

e. Evaluation of the effects of the proposed modification on the functions and values of the stream and the buffer, including on water quality and fish and wildlife habitat pursuant to KZC 90.95; and

f. 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 critical area professional approved by the City. Also, the applicant shall fund the City's peer review of the plan. The plan shall contain:

a. A topographic survey showing existing and proposed topography and improvements;

b. Schedule of the project for all work;

c. Written description of how the proposed modification plan will mitigate any adverse impacts identified in the stream modification assessment and any associated impact to the buffer if applicable in subsection (6) of this section;

d. Written description of how the proposed modification plan 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;

e. Detailed vegetation plan for stream channel if applicable and stream buffer vegetation meeting the vegetative buffer standard in KZC 90.130;

f. For an impacted stream buffer, propose mitigation at a minimum of 1:1 ratio depending on the location and functions of impacts and proposed mitigation, including consideration of vegetation structure, slope and flow paths;

g. Demonstrate 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;

h. Protective measures needed, such as siltation prevention measures and scheduling the construction activity to avoid interference with fisheries rearing and spawning activities;

i. Description of performance standards for post-installation, a monitoring and maintenance schedule along with a financial security estimate for the entire mitigation plan that meet the standards in KZC 90.160 and 90.165;

j. For stream channel relocation or meandered stream, a survey of the new location of the stream;

k. For stream channel relocation, meandered stream, a new or replacement stream crossing or culvert, demonstrate that the stream channel, or crossing or culvert can accommodate flow and velocity of 100-year storm events;

l. For stream channel relocation, including for a meandering stream, prior to diverting water into a new stream channel, a qualified critical area 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. The applicant shall fund the cost of the inspection, report, and peer review by the City;

m. 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) Design shall meet Washington State Department of Fish and Wildlife design standards for fish passage projects;

3) For crossings over Type F streams, only bridge structures, bottomless culverts or other appropriate methods shall be used that provide fisheries protection and fish passage;

4) For crossings for all other streams, bridge or bottomless culvert is preferred over traditional pipe-style culvert. Where culverts are applicable, single barrels shall be used;

5) Roads and associated crossings shall be perpendicular to the stream to the maximum extent feasible;

n. For changing the meandering course of the stream or relocating a stream, show that the design 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 that includes native vegetation on stream banks. The steepness of the slope of the stream may be modified given existing conditions;

3) Native vegetation normally associated with streams, emphasizing native plants with high food and cover value for fish and wildlife and approved by the City;

4) Restoration of water flow characteristics compatible with fish habitat areas; and

o. For changing the meandering of a stream course, see buffer reduction option in KZC 90.80.

8. Additional Requirements for Stream Modification

a. All work shall be carried out under the direct supervision of a qualified critical area 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 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. For stream crossings and culverts, record a perpetual maintenance agreement on a form approved by the City for continued maintenance of the stream crossing and culvert;

d. For changing the meandering of a stream course, a survey must be provided of the new stream course;

e. If a proposed stream modification will result in the creation or expansion of a stream or its buffer on any adjacent 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 shall consent to the critical area and/or buffer creation or increase on the other property. Exempt from this provision is a meandering stream. See buffer reduction option in KZC 90.80; and

f. Any required state and federal permits and authorizations shall be obtained prior to conducting site work.

90.75 Daylighting of Streams

1. Daylighting – The City encourages opening up a stream that is located in a culvert to restore the stream to a more natural and open condition. The purpose is to improve the values and functions of the stream, including maintaining water quality, reducing storm and flooding water flow, and providing wildlife habitat. Development incentives, including reduced dimensional design standards identified in table 90.175.1 may be implemented on a subject property with a daylighted stream..

2. Process – The Planning Official may approve removal of a stream from a pipe or culvert based on a critical area report pursuant to KZC 90.110 and an approved stream daylighting plan prepared by a qualified critical area 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 is removed;

b. Demonstrate that the design 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 that includes native vegetation on stream banks. The steepness of the slope of the stream may be modified given existing conditions;

3) Native vegetation normally associated with streams, emphasizing native plants with high food and cover value for fish and wildlife and approved by the City;

4) Restoration of water flow characteristics compatible with fish habitat areas;

c. Prior to placing the stream into a new stream channel, a qualified critical area 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 daylighting the stream. Cost of the inspection and report shall be funded by the applicant. The applicant shall also fund the cost of peer review by the City if such review is deemed necessary by the Planning Official;

d. A survey of the daylighted stream;

e. Stream channel planting plan using appropriate native stream vegetation;

f. Vegetative buffer plan meeting KZC 90.130, except as permitted to be reduced pursuant to KZC 90.80; and

g. Any other information deemed necessary by the Planning Official. See requirements for stream modification plan pursuant to KZC 90.70.

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 daylighting is proportionate to the scope and nature of the Process IIA or IIB permit. Where stream daylighting is required, the applicant shall submit a plan as outlined in subsection (3) of this section.

90.80 Buffer Reduction for Meandering or Daylighting of Stream

1. On-Site Stream Buffer Reduction

a. A reduction to the required stream buffer standard may only be approved as part of approval for:

1) Changing the course to create a meandering stream if the modification improves instream habitat and flow conveyance; or

2) Daylighting a stream.

b. The buffer width reduction shall be the minimum necessary to accommodate existing and proposed improvements and/or site conditions; and

c. For any reduction in the buffer, the required vegetative standards in KZC 90.130 shall be ~~increased~~ adjusted proportionally ~~to the extent feasible based on an appropriate planting density~~ and adapted to meet site conditions within the reduced buffer per a Planning Official determination based on qualified critical area professional recommendations. ~~to mitigate the impact to the critical area.~~

2. Off-Site Stream Buffer Waiver

a. The buffer standard requirements for adjacent properties shall not increase due to the deliberate change in the meandering course of the stream or daylighting of a stream;

b. The City shall record the buffer waiver on the title of those affected properties with King County Recorder's Office. The City shall contact any affected property owners in writing to notify them of the buffer waiver notice and the applicable survey, and to determine if the property owner chooses to opt out having the notice and survey recorded on their property title;

c. The applicant shall pay for the fees to record the buffer waiver notice and the survey; and

d. There is no waiver to the existing buffer requirement prior to the change in the adjacent stream, or to any future change to the City's buffer standards.

90.85 Stream Channel Stabilization

1. When Permitted – Stream channel stabilization may be permitted if demonstrated to be necessary for the following:

a. Protecting existing legal structures and/or utilities that serve the structure(s), public facilities or improvements, unique natural resources determined by the City or where erosion results from the stream channel itself, rather than from unregulated storm water flows to its banks; or

b. Providing the only feasible vehicular access to a property.

2. Stabilization Measures Options

a. Measures including vegetation enhancement, upland drainage control, or protective walls or embankments placed outside of the stream and buffer shall be considered and utilized where feasible.

b. Soft-bank stabilization measures may only be used if it is demonstrated that the measures in subsection (2)(a) of this section 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. The soft-bank stabilization measures may 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 the measures in subsections (2)(a) and (b) of this section are not feasible due to site-specific soil, geologic and/or hydrologic conditions. Hard-bank measures may include rock revetments, gabions, retaining walls, bulkheads and similar measures that present a vertical or nearly vertical interface with the water.

3. Process – The Planning Official may approve a stream stabilization based on the criteria in subsection (4) of this section.

4. Decisional Criteria – The Planning Official shall only approve stream channel stabilization if:

a. Mitigation sequencing found in KZC 90.145 has been met;

b. 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;

c. Stream channel stabilization plan will prevent stream bank erosion while minimizing impacts to the stream and the buffer; and

1) For proposed hard-bank measures, show evidence that soft-bank measures cannot be used, consistent with subsection (2)(b) of this section;

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

d. There will be no adverse impact to water quality;

e. There will be no adverse impact to fish, wildlife, and their habitat;

f. There will be no increase in the velocity of stream flow, unless approved by the City to improve fish habitat;

g. There will be no decrease in flood storage volumes; and

h. The installation of the stabilization measure will not lead to unstable earth conditions, create erosion hazards or contribute to scouring actions.

The stream channel stabilization plan, the additional requirements in subsection (7) of this section and any conditions of approval shall be conditions for all related land surface modification and/or building permit approvals.

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

a. The City's stream determination decision pursuant to KZC 90.105 and the critical area report pursuant to KZC 90.110, including the vegetative buffer assessment, and a survey of the stream and its buffer;

b. 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;

c. Description of the proposed modification to the streambank;

d. Analysis of mitigation sequencing in KZC 90.145;

e. Description of the proposed method to stabilize a streambank and why the method must be used. If soft or hard stabilization is proposed, justify its use;

f. 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;

g. Evaluation of the effects of the proposed stream channel stabilization on the functions and values of the stream and the buffer, including on water quality and fish habitat, and suitability of the proposed stabilization;

h. The ability of both permanent and temporary impacts to the stream and fish passage can be mitigated; and

i. 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 and cross elevation of the stabilization measure in relationship to the stream, topography, soil conditions and existing improvements; and

b. Explanation on how the stream channel stabilization measure is consistent with Washington State Department of Fish and Wildlife's guidelines on streambank protection.

7. Additional Requirements for Stream Channel Stabilization

a. All work shall be carried out under the direct supervision of a qualified critical area 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 timed to avoid stream disturbance during periods when use of the stream is critical to fish consistent with the Washington State Department of Fish and Wildlife construction window, if applicable; and

c. Any required state and federal permits and authorizations shall be obtained prior to conducting site work.

90.90 Minor Lakes – Totem Lake and Forbes Lake

~~The majority, if not the entirety, of the perimeters of~~ Totem Lake and Forbes Lake are considered wetlands. All activities in the shallow areas of the lakes ~~relating to contiguous wetlands~~ and contiguous wetlands located above the ordinary high water mark are regulated pursuant to KZC 90.55 and 90.60.

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 as part of a project by removing material detrimental to the lake, such as inorganic debris, sediment, or nonnative vegetation. Rehabilitation is required when an existing condition is detrimental to water quality or habitat.

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

a. Process – Any proposal for a moorage facility shall be reviewed and decided upon 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 (2)(c) of this section are met.

c. Standards

1) Moorage structure shall not extend farther than 25 feet waterward of the ordinary high water mark;

2) Only one (1) moorage structure may be located on a subject property;

3) It is accessory to an allowed use on the subject property;

4) Moorage structure associated with a dwelling unit shall be for the exclusive use of the residents and guests of the associated dwelling unit. Structures shall not be leased, rented or sold;

5) Moorage structure shall not be treated with creosote or oil base or toxic substances;

6) Any existing in-water structures abandoned or in disrepair must be removed as part of a new permit;

7) A critical area determination shall be made pursuant to KZC 90.105 and a critical area report shall be prepared pursuant to KZC 90.110 to assess impacts to wetlands and streams and any 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 pursuant to KZC 90.145 and 90.150; and

8) For pedestrian access trails or boardwalks, see KZC 90.40.

3. Repair of Moorage Facilities – Moorage facilities may be repaired and maintained as an exempted activity pursuant to KZC 90.35, but they may not be reconstructed or expanded under repair and maintenance.

4. Viewing Platforms

a. Public viewing platforms in a lake associated with a public park may be approved as part of a Park Master Plan process, pursuant to KZC 90.40(6).

b. If the platform would be located in a wetland, the final critical area determination and critical report is required pursuant to KZC 90.105 and 90.110, and mitigation is required pursuant to KZC 90.145 and 90.150.

c. The platform shall not be treated with creosote or oil base or toxic substances.

d. Private viewing platforms are not permitted.

5. Public Park – Construction of a park associated with a minor lake shall be reviewed through a Park Master Plan process, pursuant to KZC 90.40(6).

90.95 ~~Fish and Wildlife Habitat~~ Priority Habitat and Species Conservation Areas

1. Location and Regulation of Fish and Wildlife Habitat Areas and Priority Habitat Species and Conservation areas:

a. ~~Fish and wildlife~~ Priority habitat conservation areas ~~can be found in or near critical areas~~, consist of large forested areas streams, lakes, and some ~~on~~ Lake Washington shoreline areas that provide habitat for identified state endangered, threatened, sensitive, and candidate species and other identified vulnerable animal groups. The current Priority Habitat and species lists developed by Washington State Fish and Wildlife identify locations of these areas.

b. Streams identified as Priority Fish habitat ~~is~~ are protected under the provisions of KZC 90.65, Streams and Associated Buffer Standards~~.~~ in addition to ~~Thus, the provisions in~~ subsections (3) through (7) of this section ~~do not apply to fish habitat~~.

c. Additional habitats and species of local importance, as identified in the city sensitive areas map, are also regulated under this chapter.

2. Criteria – Fish and wildlife habitat conservation areas are those that meet one or more of the following species listed 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 habitats and habitats with which State priority species have a primary association that are located in the City. Those in Kirkland are deemed to be Habitats and Species of Local Importance.

3. ~~Wildlife Habitat~~ Priority Habitat Conservation Area Assessment – As part of a critical area report pursuant to KZC 90.110, a determination shall be made if a ~~wildlife~~ priority habitat conservation area exists on the subject property or near the property by a qualified critical area professional approved by the City with experience preparing reports for the relevant type of habitat. The assessment shall include the following information:

a. Evaluation – Evaluation of the presence or absence of potential wildlife habitat on the subject property or within the vicinity. A wildlife habitat assessment shall include the following information:

1) Identification of state priority species ~~using the or state or federally listed endangered, threatened or sensitive species~~ that have a primary association with habitat on or in the vicinity of the property using the Washington State Department of Fish and Wildlife priority species list and habitat maps and associated City of Kirkland critical areas maps.~~-~~

2) Extent of wildlife habitat areas, including acreage, and required buffers based on the species;

3) Vegetative, faunal, and hydrologic characteristics recommended for those protected areas;

4) Evaluation of potential direct and indirect ~~potential~~ impacts on habitat by the project, including potential impacts to water quality; and

5) A discussion of any federal, state, or local ~~special~~ management recommendations, including Washington State Department of Fish and Wildlife habitat management recommendations that have been developed for the species or habitats.

b. Maps – The following maps shall be used in the evaluation:

1) Washington State Department of Fish and Wildlife priority habitat and species maps; and

2) Federal and state information and maps related to those species and habitat identified in subsection (2) of this section. and

3) City sensitive or critical areas maps

4. Process – Modification to priority species ~~wildlife~~ habitat conservation areas shall be proposed as part of the required critical area approval under this chapter for a project.

5. Decisional Criteria – Modification to wildlife habitat conservation areas may only be approved if the following criteria are met:

a. Mitigation sequencing is met pursuant to KZC 90.145;

b. It can be demonstrated that required habitat areas can be protected through implementation of protection measures in accordance with a management plan; and

c. It can be demonstrated that the management plan and requirements in subsections (6) and (7) of this section can be met with the proposed project.

6. Priority Species Wildlife Habitat Management Plan

a.A site specific wildlife habitat management plan shall be prepared by a qualified critical area professional with experience preparing reports for the relevant type of habitat and approved by the City and based on recommendations from the Washington State Department of Fish and Wildlife;

b. The applicant shall fund the cost and implementation of the management plan, and also fund peer review by the City of the management plan;

c. The plan shall establish:

1) Seasonal restriction of construction activities as determined by the Washington State Department of Fish and Wildlife;

2) Duration and timetable for periodic review of mitigation activities;

3) Vegetative buffer widths that reflect the sensitivity of the habitat and the type and intensity of activity or use proposed to be conducted nearby. The buffer widths shall be consistent with the management recommendations issued by the Washington State Department of Fish and Wildlife and U.S. Fish and Wildlife Service;

4) Measures to provide an appropriate wildlife corridor for the conservation of the species if a wetland scoring six (6) or greater habitat points is within 300 feet of the habitat area;

5) Specific limitations on pesticide and herbicide use in conservation area; and

6) Monitoring and maintenance program for the mitigating measures. The applicant shall fund the monitoring and maintenance program and also fund peer review by the City. Installation of vegetation shall follow the monitoring and maintenance schedule for a five-year program pursuant to KZC 90.160;

d. Clustering of a development shall be considered in the plan if a project contains more than one (1) dwelling unit or building if it would provide less impact and/or greater protection of the conservation area; and

e. Consultation with the Washington State Department of Fish and Wildlife, affected tribes or other appropriate agency regarding the effectiveness of any proposed mitigating measures shall occur if the Planning Official determines that it is needed.

7. Standard Requirements for Priority ~~Wildlife~~ Habitat Conservation Area – Improvements, structures or activities located in or near wildlife habitat conservation areas shall meet the following standards:

a. Preservation of critically important vegetation and/or habitat features, such as large trees, snags and downed wood;

b. 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;

c. Limitation of access to the wildlife habitat area, including fencing and signage, to deter unauthorized access;

d. Introduction of any plant or wildlife not indigenous to the region shall be prohibited unless authorized by a state or federal approval;

e. A performance, monitoring and maintenance security shall be submitted pursuant to KZC 90.165 to ensure completion and success of proposed mitigation; and

f. The management plan shall be implemented through the life of the use or activity.

8. Designation of Wildlife Habitats or Species of Local Importance – The City may designate additional habitat or species of local importance as an amendment to the definition in Chapter 5 KZC.

90.100 Frequently Flooded Areas

No disturbance or land surface modification may take place and no improvements or activities may be located in frequently flooded areas that are areas of special flood hazard, except as specifically provided in Chapter 21.56 KMC, Flood Damage Prevention. See Federal Emergency Management Agency (FEMA) for current flood maps.

GENERAL STANDARDS

90.105 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. A wetland is present on any portion of the subject property or surrounding area within 300 feet of the subject property. If a site inspection does not indicate the presence of a wetland on the subject property or within 300 feet of the subject property, no additional wetland assessment will be required.

b. A priority habitat area is identified anywhere on the property based on the Washington Department of Fish and Wildlife Priority Habitat Map.

c. A stream is present on any portion of the subject property or surrounding area within ~~125~~ 150 feet of the subject property. If a site inspection does not indicate a stream on or within ~~125~~150 feet of the subject property, no additional stream assessment will be required.

d. ~~b~~ If the initial determination indicates that a wetland exists or may exist on the subject property or within 300 feet of the subject property and/or a stream exists on the subject property or within ~~125~~ 150 feet of the subject property, or if the property contains a Priority Habitat Area, then the applicant shall have a critical area report prepared pursuant to KZC 90.110.

e. For projects on public property, the edge of the footprint of the proposed improvement project shall be considered the subject property. Wetland determinations shall be conducted 300 feet and stream determinations within 150 feet from the proposed impact.

~~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 as to whether the site does contain a stream, and if so, its classification. If the critical area report determines that no stream exists on or within 125 feet of the subject property, no further assessment is needed.~~

2. Final Determination – The Planning Official shall make a final determination based on the critical area report. As part of the critical area determination, the Planning Official shall determine:

a. The critical area boundaries, wetland category and rating and/or stream classification;

b. The location of the buffer and buffer width standards for the critical area;

c. Whether the wetland or stream needs to be restored due to degraded vegetation, wildlife habitat, water quality and hydrologic functions, and if so, what measures are needed;

d. Whether the required buffer meets the vegetative standards found in KZC 90.130. If not, what changes need to be made to the buffer to meet the standard;

e. Whether the subject property contains ~~or is within the vicinity of~~ a ~~known~~ Priority H~~h~~abitat requiring preservation or management ~~for species that are federally or state listed~~ pursuant to KZC 90.95; and

f. Whether the standard buffer width must be increased due to severe erosion area, or high landslide hazard area pursuant to KZC Chapter 85 ~~fish and wildlife habitat conservation area~~ or frequently flooded area on or adjacent to the subject property pursuant to KZC 90.125.

3. Development Review – The determination shall apply to any development permit application or request that would modify a site that includes a critical area or associated buffer, other than those exempted pursuant to KZC 90.35.

4. Validity of Determination – The critical area determination is valid for five (5) years from the date of the decision unless the City's standards for critical areas or critical area buffers have been modified during that time period, in which case a new critical area determination and/or buffer decision may be required. ~~However~~ In addition, the Planning Official may modify the final critical area determination or require a new determination whenever physical circumstances have markedly and demonstrably changed on the subject property or within 300 feet of the subject property for wetlands and 150~~25~~ feet for streams because of natural processes or ~~authorized~~ human activity.

90.110 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 90.35, shall provide a critical area report that uses the best available science to evaluate the proposal and all probable impacts.

2. Preparation of Report

a. The critical area report shall be prepared by a qualified critical area professional.

b. The applicant shall either:

1) Fund a report prepared by the City or the City's consultant; or

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

3. Report Format – The critical area report shall be 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 300 feet of the subject property for wetlands and ~~125~~150 feet for streams and any on-site priority species habitats. A critical area report shall include the following information:

a. The name and contact information of the applicant; the name, qualifications, and contact information of the primary author(s) of the report;

b. Documentation of any fieldwork performed on the site, including field data sheets for wetland delineation and rating system forms, stream classification, baseline hydrologic data;

c. 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;

d. Identification, characterization and boundaries of all critical areas, and buffers on or adjacent to the subject property. For areas off site of the subject property, estimated conditions within 300 feet of the subject property boundaries for a wetland and 125 feet of a stream using the best available information;

e. A vicinity map and a site plan of the property, drawn to scale, with existing improvements and site features, including ~~significant~~ regulated trees;

f. Project narrative describing the proposal; anticipated temporary and permanent impacts to critical area or its buffer, construction activities and sequencing of construction, and other relevant information;

g. 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;

h. An assessment of existing vegetation in the required buffer and:

1) whether it meets the vegetative buffer standards found in KZC 90.130(2)

2) if the development threshold of KZC 90.130 is met or if any 1:1 mitigation is required for existing nonconformance within the reduced buffer.

3) ~~I~~if the vegetation in the buffer does not meet the vegetative standards, a ~~detailed~~ preliminary revegetation plan meeting KZC 90.130~~(2) is required~~ within the timeframe established in KZC 90.130(6).

4) A detailed restoration plan ~~If~~ for revegetation of buffer impacts associated with ~~the buffer is part of~~ a stream or wetland modification proposal (KZC 90.60 or 90.70), a public agency exception (KZC 90.45), daylighting of a stream (KZC 90.75), meandering a stream (KZC 90.80) or stream channel stabilization (KZC 90.85), a detailed final revegetation plan must be submitted with ~~those~~ these applications;

i. An assessment of whether the wetland or stream should ~~needs to~~ be restored due to degraded vegetation, wildlife habitat, water quality and hydrologic functions, and if so, identify thresholds for success and what measures would be required to meet those. ~~needed~~;

j. An assessment of whether the reduced or regulated ~~standard~~ buffer width must be increased due to severe erosion, high landslide area, ~~fish and wildlife habitat conservation area~~ or frequently flooded area on or adjacent to the subject property pursuant to KZC 90.125;

k. An assessment of mapped ~~any existing habitat for~~ Priority Habitats ~~that are federally or state listed or priority species,~~ and ~~including~~ species of local importance pursuant to KZC 90.95 on the subject property and recommended protection buffer widths ~~or in the vicinity~~;

l. A professional survey as specified in subsection (7) of this section;

m. A statement specifying the accuracy of the report and all assumptions made and relied upon; and

n. Any other information deemed necessary by the Planning Official.

5. Additional Report Content – Wetlands – In addition to the requirements for the general report content pursuant to subsection (4) of this section, the critical area report shall include:

a. Identification of wetlands and delineation of their boundaries 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. A completed Army Corps of Engineers Wetland Field Data Form;

d. Existing wetland acreage that may be approximated if the wetland extends onto adjacent properties;

e. Soil and substrate conditions;

f. A description of historical hydrologic, vegetative, habitat, topographic, and soil modifications, if any; and

g. 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, water marks, and sediment deposits).

6. Additional Report Content – Streams – In addition to the requirements for the general report content pursuant to subsection (4) of this section, the critical area report shall include the stream classification and rationale, based on WAC 222-16-030, as amended. Best available information shall be used to determine ~~if~~ fish habitat ~~are present~~ in the stream given known substantial fish barriers and other unusual conditions.

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 approved delineation marking of a wetland and/or buffer boundary on the subject property and an estimate of the location of off-site wetlands and buffers within 300 feet of the subject property, 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 and/or any buffer surveyed on the subject property and ~~an estimate of~~ the location of any off-site stream, and buffer and riparian management zone within ~~125~~ 150 feet of the subject property based on the stream classification determination and the buffer standards in this chapter.

b. For wetlands, buffer widths shall be measured from ~~along~~ the outer edge of the entire wetland, perpendicular to the wetland edge or in the direction that results in the greatest dimension from the wetland. Surveys must depict both the regulated and reduced buffer boundaries.

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 OHWM cannot be identified (see Chapter 180 KZC, Plate 16). Where a stream enters or exits a pipe, the buffer shall be measured either perpendicular at the pipe opening or, perpendicular to where the pipe exits the fill when pipes extend into a stream channel (see Chapter 180 KZC, Plate 16A). Surveys must depict the regulated and reduced buffer boundaries and the riparian management zone.

d. For public projects that do not require King County recording and do not impact private property, delineations may be documented on a ground verified map using professional surveying methods and be projected in the NAD 83 State Plane Washington North coordinate system. The “subject property” for

public projects shall be the extent of the proposed improvement and potential areas of permanent and temporary impacts.

8. Site and Construction Plans – For a site proposed to be developed, the critical area report shall include general plans showing the following:

a. Site plan-view cross-sectional drawings;

b. Slope gradients, and existing and final grade elevations at two-foot intervals;

c. The type and extent of all critical areas, ~~and~~ buffers, and priority species habitats on the subject property and an estimate of any off-site critical areas and buffer within 300 feet of any wetland and 150 ~~25~~ feet of any stream measured from the subject property;

d. An approximate location of springs, seeps, surface water runoff features, or other surface expressions of groundwater on or within 300 feet of a wetland and 150 ~~25~~ feet of a stream from 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 and equipment if available;

f. A depiction of the proposed storm water management facility and outlets for the project, including estimated areas of permanent and temporary intrusion into the critical area buffer;

g. Other drawings to demonstrate construction techniques; and

h. Any other information deemed necessary by the Planning Official.

9. Waiver – The Planning Official may waive the requirement of certain 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; or

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.

10. If the applicant's consultant prepares the critical area report, the applicant shall also fund peer review of the report by the City's consultant.

90.115 Buffer Averaging

1. Applicability – Buffer averaging may be applied to wetland and stream buffers. Both the reduced ~~standard~~ buffer and the regulated ~~alternative~~ buffer may use buffer averaging pursuant to this section, however, a single buffer standard (reduced or regulated) must be applied to the entire property.

2. Standards – Averaging of buffer widths for either the reduced ~~standard~~ buffer or regulated ~~alternative~~ buffer may only be allowed if all of the following criteria are met as demonstrated in a critical area report:

a. The applicable ~~standard~~ buffer ~~or alternative buffer~~ width is not reduced below 75 percent ~~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 applicable ~~standard~~ buffer ~~or alternative buffer~~ and must be contiguous to the buffer;

c. ~~Buffer averaging will provide additional protection to the critical area and result in a net improvement of the critical area habitat, functions, and values; and~~ Buffer averaging results in improved connectivity to adjacent critical areas and buffers that results in maintaining connected regulated buffer edges; and

d. The critical area 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 one area and would not be adversely impacted by a narrower buffer in another area.

3. Process: ~~–~~The Planning Official makes the decision based on the standards of subsection (2) of this section, standards in KZC 90.60 and/or KZC 90.70, and review of the critical area report described in KZC 90.110.

90.120 Interrupted and Limited Buffer Waivers

1. Interrupted Buffer Waiver

a. The Planning Official may waive the required critical area buffer for ~~in that~~ isolated portions of the buffer ~~isolated from the critical area~~ where an existing legally established and improved public right-of-way or improved easement road interrupts the function of that ~~a~~ portion of the critical area buffer from ~~the portion of the buffer adjacent to~~ the critical area. The Planning Official may require a critical area report be prepared to address the criteria in subsection (1)(d) of this section.

b. The Planning Official may waive the required critical area buffer for ~~in that~~ isolated portions of the buffer ~~isolated from the critical area~~ where an existing legally established building, detached garage, accessory dwelling unit, driveway, commercial parking area or retaining wall or other structure over six feet in height divides the function of that ~~a~~ portion of the critical area buffer from ~~the portion of the buffer adjacent to~~ the critical area. For the buffer waiver to be approved, the applicant must demonstrate conclusively in a critical area report that all of the criteria in subsection (1)(d) of this section are met.

c. A waiver shall not be granted due to minor ~~the presence of~~ improvements such as fences, sheds, patios, decks or other minor structures and impervious or hardscape surfaces.

d. The Planning Official may waive the buffer requirement if the waiver request is found to meet the following criteria (see Chapter 180 KZC, Plate 25):

1) The existing legal improvement creates a substantial barrier to the buffer function;

2) The interrupted buffer does not provide additional protection for ~~of~~ the critical area from the proposed development; and

3) The interrupted buffer does not provide significant hydrological, water quality and wildlife buffer functions relating to the portion of the buffer adjacent to the critical area.

e. If the applicant's consultant prepares the critical area report, the applicant shall also fund peer review of the report by the City's consultant.

f. Buffer waivers shall not be considered until after critical area determinations are completed.

2. Type F Stream Limited Buffer Waiver

a. The Planning Official may partially waive the required buffer for a Type F stream if the stream, while meeting the definition of Type F, does not currently support fish use due to the presence of a substantial downstream barrier and fish habitat in the subject area could not reasonably be recovered by restoration or management. The Planning Official shall require a critical area report be prepared to address the criteria in subsection (2)(c) of this section.

b. If, based on analysis of the criteria in subsection (2)(c) of this section the Planning Official approves a waiver of the Type F stream buffer, a Type N stream buffer shall apply to the stream within the subject area.

c. The Planning Official may waive the Type F buffer requirement if the waiver request is found to meet the following criteria:

1) The Type F stream otherwise meets the WAC 222-16-030 definition of Type F but does not currently support fish use due to the presence of a substantial downstream barrier(s) and fish habitat in the subject area could not reasonably be recovered by restoration or management as determined by an analysis of the following characteristics:

a) Length or condition of downstream barrier(s);

b) Infrastructure above and adjacent to downstream barrier;

c) Average gradient of barrier;

d) Area and quality of potential fish habitat upstream of barrier.

d. If the applicant's consultant prepares the critical area report, the applicant shall also fund peer review of the report by the City's consultant.

e. The Planning Official may apply the limited buffer waiver to other properties along the same stream reach in the immediate vicinity of a prior determination where the same conditions exist. In such cases, the Planning Official may waive the required application and reports.

90.125 Increase in Buffer Width Standard

1. Criteria to Require Increase in Buffer Width – The Planning Official ~~City~~ shall determine if a critical area 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. Priority Habitat ~~Fish and Wildlife Habitat~~ Conservation Areas – If the wetland or stream contains documented habitat for state or federally listed endangered, threatened, and sensitive species or state priority species, including species of local importance, a larger buffer may be required to protect the habitat consistent with the management recommendations issued by the Washington State Department of Fish and Wildlife ~~or the United States Fish and Wildlife Service;~~ 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 begin from the Ordinary High Water mark or the edge of the Channel Migration Zone ~~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 the critical area report as part of the final critical area determination in KZC 90.105.

90.130 Vegetative Buffer Standards

1. General – The entire reduced wetland buffer width of KZC Table 90.55.1 and ~~standard~~ reduced stream buffer width of KZC Table 90.65.1, referred to hereafter as the "buffer," shall be vegetated pursuant to the requirements of this section.

2. Vegetative Buffer Standard – The following vegetative buffer standards shall be met:

a. Native cover of at least 80 percent on average throughout the buffer area. Additionally, the first two of the following strata of native plant species each must compose at least 20 percent areal cover, and the third may compose no more than 20 percent areal cover:

1) Multi-age forest canopy (combination of existing and new vegetation);

2) Native Shrubs; and

3) ~~Woody~~ Native—unmowed woody or herbaceous groundcover ~~(such as kinnikinnick, salal and sword fern) or unmowed herbaceous groundcover;~~

b. At least three (3) native tree and three native shrub species ~~each making up a minimum of 10 percent coverage (for diversity);~~

c. Less than 10 percent overall cover of King County regulated or non regulated noxious weeds c~~over using King County weed list and permanent removal of all knotweed;~~ and a weed management plan for all regulated noxious weeds, and all listed knotweeds identified on site.

d. Removal of lawn and any illegal fill as determined by the City.

3. When Vegetative Buffer Standard Applies

a. The complete vegetative buffer standard shall be required ~~installed either~~ when structures or improvements exist or will be developed inside the regulated buffer, and when:

1) The total new net impervious or hardscape area anywhere on the ~~entire~~ subject property exceeds 1,000 square feet, or

2) The cost of new or replacement improvements exceeds 50 percent of the of the replacement cost ~~of assessed or appraised value~~ of the existing improvements on the entire subject property ~~r~~. This 50 percent threshold shall not apply to detached dwelling units approved for expansion pursuant to KZC 90.185.3)

b. A partial vegetative buffer shall be required to be installed when improvements exist or will be developed inside the regulated buffer and:

1) The total new net impervious or hardscape area is ~~between 50 square feet and~~ less than 1,000 square feet on the subject property.

a) The buffer shall be vegetated at a minimum 1:1 ratio (new net impervious or hardscape area is equal to the total square feet of buffer vegetation) meeting the vegetated buffer standard at the proportional rate of the standard;

b) If the new net impervious or hardscape area results in removal of a ~~significant~~ regulated tree in a buffer, the tree shall be replaced per standards in KZC 95.27 ~~90.135 with two three native or trees in the buffer. The replacement trees shall be six feet tall for a conifer and two-inch caliper for deciduous or broadleaf. For a removed significant tree in a buffer that is 24 inches in diameter, the tree shall be replaced with a minimum of three native trees.~~

c) The partial vegetated buffer improvement area shall be located in the buffer abutting or nearest to the critical area or connected to existing vegetated buffers and shall be ~~at~~ a minimum width of 10 feet;

d) The location of the vegetation in the buffer shall be between ~~across from~~ the new structure footprint and the critical area and approved by the Planning Official;

e) For total areas of required vegetative buffer less than 100 square feet, additional tree canopy shall be planted at 1 tree per 25 square feet to meet mitigation requirements.

~~2) When a new net impervious surface on the subject property totals less than 50 square feet, no vegetation is required to be planted in the buffer;~~

2) ~~3)~~ For new utility poles the buffer shall be calculated based on the combined area of all new utility pole footprints and be vegetated at a minimum 1:1 ratio (net new impervious or hardscape area equals total square feet of buffer vegetation), meeting the vegetated buffer standard at a proportional rate.

c. For public facilities in public parks, for net new impervious or hardscape improvements of any amount, the buffer shall be vegetated at a minimum 1:1 ratio (i.e., net square footage of vegetated buffer area must be planted to meet the standards to match the net new square footage of added impervious or hardscape surfaces) meeting the vegetated buffer standard at the proportional rate of the standard, in a location and of dimensions approved by the Planning Official.

d. For permitted activities, improvements and uses subject to development standards pursuant to KZC 90.40, vegetative buffer requirements will be determined as part of mitigation sequencing.

e. For nonconformances, see KZC 90.185.

4. Additional Standards

a. All existing improvements and structures within ~~a~~ the reduced buffer width must be removed when the vegetative buffer installation is required pursuant to subsection (3)(a) of this section, unless such improvement is permitted to remain pursuant to the provisions in KZC 90.185.

b. All activities in the applicable buffer must cease, except those permitted under KZC 90.35(12) and (13);

c. Native vegetation appropriate for wetlands and streams shall be used based on the City's ~~Critical Areas~~ Native Plant List. Other climate-ready and drought-tolerant vegetation may be proposed if appropriate for the site and approved by the City;

d. Trees and shrubs placement in the buffer ~~shall~~ should be located ~~along the bank of streams~~ to prioritize ~~provide effective~~ shading of the stream to lower water temperature;

e. Existing healthy native vegetation may count towards meeting ~~the~~ mitigation requirements if the overall minimum vegetation standards are met;

f. The City may require amended soil if needed to provide a well-functioning buffer;

g. The City may require supplemental wood chip mulch to meet the site goals of soil stabilization or weed control. ~~Planning and Building Department standards~~;

h. A reliable temporary irrigation source must be available while the vegetation is being established and the source must be indicated on the planting plan;

i. Installation shall be done by hand unless use of mechanical equipment is specifically authorized due to site conditions. By hand includes any handheld equipment that is gas or electric powered;

j. A perpetual landscape maintenance agreement, in a form approved by the City, shall be recorded over the vegetated buffer prior to final inspection; and

k. Buffers shall not be mowed and animals may not be used to remove weeds, except goats may be used to remove invasive species only for public restoration projects pursuant to KZC 90.35 and 90.40.

5. Process – The Planning Official shall determine whether an existing buffer meets the standards in subsection (2) of this section as part of the final critical area determination based on information in the critical area report.

6. Submittal of Vegetative Buffer Plan – Timing and Contents

a. When an existing buffer does not meet the standards in subsection (2) of this section, the applicant shall submit a vegetative buffer plan with the development permit application;

b. The vegetative buffer plan shall be prepared by a qualified critical area professional. The applicant shall also submit funds to the City for peer review of the vegetative buffer plan;

c. The Planning Official shall approve the plan only if it meets the vegetative buffer standard in this section; and

d. If a modification is proposed to a wetland or stream (KZC 90.60 or 90.70), a public agency exception (KZC 90.45), daylighting of a stream (KZC 90.75), meandering a stream (KZC 90.80), or stream channel stabilization (KZC 90.85), then a detailed final planting plan shall be submitted with the development permit application.

e. Description of existing or potential risks to buffer repair such as beaver or other browsing/herbivory activity, invasive species management, high public access, flooding, and unusual irrigation designs. Known risks to successful establishment shall identify design action thresholds, contingency requirements and adaptative management strategies to address potential impacts using best management practices

7. Maintenance, Monitoring and Financial Security – A maintenance and monitoring program pursuant to KZC 90.160 with the building or land surface modification permit application. The financial security pursuant to KZC 90.165 for the vegetative buffer shall be submitted prior to issuance of a building or land surface modification permit or before commencement of an activity. The maintenance/monitoring program shall be prepared by a qualified critical area professional. The applicant shall fund the cost of peer review by the City.

8. Protection and Maintenance of Vegetative Buffer – Critical areas and buffers shall be placed in recorded critical area easements or tracts pursuant to KZC 90.210 and shall be maintained in perpetuity.

~~**90.135 Trees in Critical Areas and Critical Area Buffer**~~

~~1. Removal of Trees~~

~~a. Other than as specifically approved as part of a critical area approval under this chapter, no trees shall be removed from a critical area or critical area buffer unless determined to be nuisance or hazardous trees. Any removal shall be authorized in advance through a tree removal permit pursuant to Chapter 95 KZC unless tree removal is an emergency to prevent immediate damage to a structure. In case of an emergency, documentation to the City must be provided within seven (7) days of removal that supports that the tree was a nuisance or hazardous;~~

~~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 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, created as a snag or felled with stump retained must be replaced with a minimum of one (1) to three (3) native trees at a height of six (6) feet in the buffer depending on the size, quality and species of removed tree. Planning Official shall determine the required number of replacement trees~~

~~2. Pruning of Trees – Pruning or topping of trees in critical areas or buffers is prohibited other than City approved creation of snags for nuisance or hazard trees.~~

90.140 Structure Setback from Critical Area Buffer

1. Buildings and other structures shall be set back at least 10 feet from the edge of the wetland or stream buffer to ensure adequate width for construction staging, maintenance and repair of primary buildings and accessory structures, and use of improvements without disturbing the critical area buffer or critical area. This section does not apply to:

a. Category IV wetlands that are less than 1,000 square feet that do not have a buffer requirement and thus no building setback requirement.

b. Those linear utility improvements associated with either permitted activities, improvements or uses or public agency and utility exceptions that have been approved to be located in a critical area or buffer and therefore can traverse the structure setback.

2. The following improvements may extend into the structure setback; provided, that they do not necessitate encroachment into the critical area buffer for construction, maintenance and use. No other improvements are permitted.

Table 90.140.1 Structure Setback from Critical Area Buffers

Structure Setback	Improvement	Location within Setback:
10 feet in width from edge of buffer	Chimneys, bay windows, greenhouse windows, eaves, cornices, awnings and canopies, and decks above the ground floor	May extend no more than 18 inches into structure setback
	Uncovered improvements less than 18 inches above finished grade to 4 inches above finished grade, such as ground floor decks, and railings less than 4 feet above finished grade	May extend no more than 5 feet into structure setback
	Uncovered play structures	
	Rockeries and retaining walls that are not more than 4 feet above finished grade	
	Uncovered improvements less than 4 inches above finished grade, such as patios, driveways and parking areas, including curbing	May extend no more than 9 feet into structure setback
	Garden sculpture, light fixtures, trellises and similar decorative structures	
	Benches, walkways, paths and pedestrian bridges	
	Bio-retention, such as rain gardens, and dispersion techniques that result in sheet flow such as level spreaders, dispersion trenches, splash blocks and similar techniques	
	Fence perpendicular to the structure setback at up to 6 feet in height above finished grade	May extend to the upland edge of the critical area buffer
	Split rail, open slatted with at least 18" spacing, wrought iron and chain link, or similar nonsolid fence parallel to the structure setback up to 6 feet in height above finished grade. Solid fencing is not permitted. Except for split rail, a gate is required for access to the buffer.	Along the entire upland edge of the buffer

90.145 Mitigation – General

1. General – If a modification is proposed to a critical area or buffer, as part of the application the applicant must have the proposal evaluated using mitigation sequencing and then submit a mitigation plan that addresses the impacts to the critical area.

2. Mitigation Sequencing – The intent of mitigation sequencing is to evaluate and implement opportunities to avoid, minimize~~, eliminate~~ or compensate for impacts to critical areas while still meeting the objectives of the project as defined in the State Environmental Policy Act rules per WAC 197-11-768. All projects must provide documentation of sequencing for permit review. When a modification to a critical area and buffer is proposed, the modification shall be mitigated ~~avoided, minimized, or compensated for, as outlined by WAC 197-11-768~~, in the following order ~~of preference~~:

a. Avoiding the impact - ~~altogether~~ by not taking a certain action or parts of actions~~;~~

b. Minimizing impacts - by limiting the degree or magnitude of the action and its implementation by using appropriate technology or by taking affirmative steps to avoid or reduce impacts;

c. Rectifying the impact - by repairing, rehabilitating, or restoring the affected environment;

d. Reducing or eliminating the impact over time - ~~by~~ through preservation and maintenance operations during the life of the action;

e. Compensating for the impact - by replacing, enhancing or providing substitute resources or environments; and/or

f. Monitoring the impacts~~- and compensation projects~~ and taking appropriate corrective measures.

3. Location options for ~~of~~ m~~M~~itigation

~~a. Preference – Preference shall be given to the location of the mitigation in the following order unless it can be demonstrated that off-site in-kind mitigation is ecologically preferable:~~

~~1) On-site in-kind;~~

~~2) Off-site in City in-kind;~~

~~3) Off-site in-kind within the Lake Washington/Cedar/Sammamish Watershed.~~

~~b. On-Site versus Off-Site Mitigation~~

a.~~ 1)~~ ~~Mitigation shall occur~~ Preference will be given to on-site mitigation except when the City determines that the following criteria have been met as part of a proposal under this chapter:

1)~~b)~~ Off-site mitigation has a greater likelihood of providing equal or improved critical area functions than the impacted critical area as determined by the applicants qualified wetland professional;

2) ~~a)~~ There is limited ~~no~~ opportunity for on-site mitigation or on-site mitigation ~~opportunities~~ does not have a high likelihood of success due to the size, location, or condition of the property, ~~site constraints~~ or the critical area ~~size and quality of the wetland,~~or buffer~~. location and quality of the stream~~;

~~b) Off-site mitigation has a greater likelihood of providing equal or improved critical area functions than the impacted critical area; a~~

3) ~~c)~~ Off-site locations ~~shall be~~ are located in the same Water Resource Inventory Area (WRIA) 8 Lake Washington/Cedar/Sammamish Watershed as the impacted critical area; and

4) ~~d)~~ The off-site critical area mitigation will ~~best~~ meet formally established watershed goals for water quality, flood or conveyance, habitat, or other wetland functions that have been established and strongly justify location of mitigation at another site.

b. ~~2)~~ Permittee-responsible compensatory wetland mitigation actions shall be conducted using a watershed approach to prioritize mitigation in the most ecologically effective areas within the same sub-drainage basin except when the applicant can demonstrate that a mitigation site in a different sub-drainage basin is ecologically preferable or meets watershed goals for other critical area functions established by the City.

c. ~~3)~~ ~~When considering~~ For off-site mitigation ~~outside of the City~~, preference should be given to using mitigation banking or an in-lieu fee program pursuant to subsection (4) of this section.

4. Responsible Party for Mitigation ~~Site -~~ Mitigation for lost or diminished critical area functions and values for critical areas and their buffers ~~either wetlands or streams~~ shall use the following options~~:~~ to identify who holds responsibility for the success of that mitigation to meet the no net loss requirements.

a. Applicant-Responsible Mitigation – The applicant is responsible for the implementation, monitoring and success of the mitigation pursuant to this chapter.

b. Non-Applicant Responsible Mitigation – Mitigation Bank and In-Lieu Fee Mitigation

1) Funds are collected from the applicant by the sponsoring agency, nonprofit, private party or jurisdiction. The sponsor is responsible from that point forward for the completion and success of the mitigation. The applicant's fee is based on the project impact and includes all costs for ~~the~~ mitigation, including design, land acquisition, materials, construction, administration, monitoring, and stewardship.

2) Credits purchased by an applicant from a wetland mitigation bank certified under WAC 173-700 or an approved In-Lieu Fee program such as the King County Mitigation Reserves Program ~~that is certified under federal and state rules~~, may be used as a method of mitigation if approved by the City to compensate for impacts when all of the following apply:

a) The City determines as part of the critical area approval that the program ~~it~~ will ~~would~~ provide appropriate compensation for the proposed impacts and;

b) Projects shall have debits associated with the proposed impacts calculated by the applicant's qualified critical area professional using the credit assessment method or appropriate method for the impact as specified in the approved instrument for the program. The assessment shall be reviewed and approved by the City;

c) For Wetland Mitigation Banks, mitigation ratios are consistent with ratios specified in the mitigation bank instrument;

~~c) The proposed use of credits is consistent with the terms and conditions of the certified wetland mitigation bank or in-lieu fee program instrument; and~~

d) For In-Lieu Fee (ILF) Mitigation, credits from an approved in-lieu fee program may be used if the impacts are located within the service area specified in the approved program;

~~d~~) e)The record of payment for credits shall be provided to the City in advance of the authorized impacts but no later than issuance of the building or land surface modification permit.)

c. City-Responsible, ~~Mitigation –~~ Advance Mitigation – The City is responsible for ~~does~~ mitigation on City-owned property as mitigation credit either for City critical area projects or at the discretion of the City official for other public agencies with critical area projects within the City. Advanced ~~The~~ mitigation programs shall be developed and implemented pursuant to federal and state rules, and guidance on advanced mitigation. ~~state water quality regulations~~. Use of Advanced Mitigation Program credits should be prioritized for qualifying projects over other off-site mitigation approaches when credits are available.

5. Timing of Mitigation

a. On-Site Mitigation

1) On-site mitigation planting shall be completed ~~immediately before or~~ following disturbance and prior to use or final inspection of the activity or development. Construction of mitigation projects shall be timed to reduce impacts to existing fisheries, wildlife and flora; and

2) The Planning Official may allow flexibility with respect to seasonal timing of excavation noxious weed control, or planting for mitigation. If on-site mitigation must be completed after final inspection of a building or land surface modification permit or commencement of an activity, a performance financial security shall be required pursuant to KZC 90.165 along with a timeline commitment for completion and adjusted monitoring schedule pursuant to KZC 90.160

b. Off-Site Mitigation

1) For in-lieu fee, mitigation bank or advance mitigation programs:

a) Mitigation shall be completed based on the program's established timeline, except advance mitigation shall be completed prior to issuance of the development permit;

b) The applicant shall provide documentation of the proof of purchase of credits for in-lieu fee and mitigation banking in advance of the authorized impacts but no later than issuance of the building or land surface modification permit. However, if the program sponsor requires proof of development permit prior to credit purchase, the documentation may be provided to the City prior to final inspection; and

c) For advanced mitigation, the applicant shall submit documentation of completion of the advance mitigation prior to issuance of a land surface modification or building permit.

2) For all other off-site mitigation:

a) Mitigation shall be completed immediately before or following disturbance and prior to use or final inspection of the activity or development. Construction of mitigation projects shall be timed to reduce impacts to existing fisheries, wildlife and flora. The Planning Official may allow flexibility with respect to seasonal timing of excavation or planting for mitigation; and

b) Documentation of the proof of purchase of off-site property shall be provided in advance of the authorized impacts but no later than issuance of the building or land surface modification permit.

6. Mitigation Plan Standards – All critical area mitigation plans, except mitigation met through mitigation bank or an in-lieu fee program, shall meet the following standards. In addition, for wetlands the standards for wetland compensatory mitigation pursuant to KZC 90.150 shall be followed.

a. A mitigation plan shall be prepared by a qualified critical area professional, approved by the City that:

1) Addresses the impacts to a critical area and buffer based on best available science;

2) Is designed to maintain and enhance ecological functions and values, and to prevent risk from hazards posed to the critical area; and

3) Provides a description of the mitigation site, including location and vicinity map, and rationale for selection of the mitigation site.

4) Documents environmental factors critical for site success, including but not limited to: availability of temporary water for irrigation, soil conditions and repair requirements, habitat connectivity, site growing conditions such as sun and shade, human and wildlife influences that may impact success.

b. The plan shall show that:

1) The vegetative buffer standards and requirements in KZC 90.130 are met. If the buffer does not currently meet the vegetative buffer standards, a detailed final revegetation plan shall be submitted including specification on size and type of each native species of plants, and number and spacing of the plants meeting the City of Kirkland's Critical Area Plant List and standards;

2) Seed source must be as local as possible, and plants must be nursery propagated unless transplanted from on-site areas approved for disturbance. These requirements must be included in the mitigation plan specifications;

3) Plant materials may be supported with material (e.g., stakes, guy wires) only when necessary. Staking and ties shall follow the International Society of Arboriculture standards. Where support is necessary, stakes, guy wires, or other measures must be removed as soon as the plant can support itself, usually after the first growing season;

4) The stream buffer mitigation area replacement at a minimum ratio of 1:1 pursuant to KZC 90.65 is met;

5) Proposed erosion control measures comply with the City's Public Works Pre-Approved Plans;

6) Mitigation is consistent with other requirements in this code, including sight distance requirements at intersections pursuant to Chapter 115 KZC; and

7) All planted areas of the mitigation project have a temporary, above ground sprinkler system set to automatic timers. Temporary sprinkler systems shall be removed in the final year of monitoring once vegetation is well established. When public or private water is not available, a plan for reliable watering by truck or hand shall be included.

90.150 Wetland Compensatory Mitigation

1. General – Compensatory mitigation for modifications to wetlands and related impacts to 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 in subsection (2) of this section so that the goal of no net loss of wetland functions and values is achieved.

2. Compensatory Wetland Mitigation Ratios

a. Acreage Replacement Ratios – The following ratios shall apply to creation, re-establishment, rehabilitation, and enhancement of wetlands. These ratios do not apply to the use of credits from a state-certified wetland mitigation bank or in-lieu fee program pursuant to KZC 90.145(4). The first ratio number specifies the acreage of replacement wetlands and the second number specifies the acreage of wetlands altered. In the event that unusual wetlands such as bogs, fens, or other category 1 wetlands not included in this table are found, refer to the most up-to-date Mitigation table for wetlands and buffers in Western Washington from the Department of Ecology

Table 90.150.1 Mitigation Ratios for Wetlands and Buffers

Category of Wetland Impacted	Re-establishment or Creation	~~Re-establishment – Rehabilitation Only~~	~~Creation and Rehabilitation~~	~~Creation and Enhancement~~	Preservation or 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	Re-establishment or Creation	~~Re-establishment – Rehabilitation Only~~	~~Creation and Rehabilitation~~	~~Creation and Enhancement~~	Preservation or 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 (see additional requirements in subsection (2)(c) and (7) of this section)	Minimum of 1:1	Minimum of 1:1	~~Minimum of 1:1~~	~~Minimum of 1:1~~	Minimum of 1:1

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

b. Remedial Action – Remedial actions resulting from unauthorized alterations of a wetland or its buffer may require greater ratios depending on the extent of impact to the value and function of the wetland based on an analysis by a critical area professional and a final determination by the Planning Official.

c. Buffer Enhancement Ratio – The City may require a buffer enhancement ratio of greater than 1:1 for exceptional second growth forest or mitigation of an already functioning buffer based on the critical area report, buffer modification or consideration of vegetation structure slope and flow paths.

d. Credit/Debit Method – As an alternative to the mitigation ratios, the City may allow mitigation based on the "credit/debit" method developed by the Department of Ecology. This method may be appropriate where a wetland is not eliminated, but is otherwise modified.

3. Mitigation for Lost Values and Affected Functions – Compensating for lost values and affected functions must be addressed in the compensatory mitigation plan of subsection (5) of this section to achieve functional equivalency or improvement. The goal and preference shall be for the compensatory mitigation to provide in-kind wetland functions for those lost, except when:

a. The filled/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 limited within Kirkland's watershed; or

b. Out-of-kind replacement will best meet formally identified Water Resource Inventory Area (WRIA) 8 Lake Washington/Cedar/Sammamish Watershed goals, such as replacement of historically diminished wetland types.

4. Preference of Compensation

a. Compensation shall <u>be prioritized</u> ~~occur~~ in the following order ~~of preference based on in-kind mitigation~~ <u>using site selection criteria found in KZC.90.145</u>

1) Restoring wetlands on upland sites that were formerly wetlands. This action includes reestablishment and rehabilitation;

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

<u>3) Preserving/maintaining a wetland to remove threat or prevent decline, such as purchasing land. Preservation does not result in gain of wetland acres; or</u>

<u>4)</u> ~~3)~~ Enhancing significantly degraded wetlands<u>.</u>~~; 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 90.145(3).

5. Compensatory Mitigation Plan – A compensatory mitigation plan shall be prepared by a qualified critical area professional approved by the City using the Washington State Department of Ecology Developing Mitigation Plans Manual 2006 as revised and ~~consistent with state guidelines~~ and submitted with the wetland modification assessment of KZC 90.60 for approval as part of the critical area permit using Process I. The plan shall contain the following:

a. A topographic survey showing existing and proposed topography and improvements. Surveys should be of sufficient quality to determine accurate one-foot minimum contour intervals;

b. Description of the compensatory mitigation site, including location and vicinity map, rationale for selection of site and how it meets the required mitigation ratios of subsection (2) of this section;

c. 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 90.145;

d. Protective construction measures that are necessary, such as siltation prevention measures and scheduling the construction activity to avoid interference with wildlife nesting activities;

e. Description of surface and subsurface hydrologic conditions, including an analysis of existing and proposed hydrologic regimes for enhanced, created or restored compensatory mitigation areas;

f. Schedule of the project for all work;

g. Description of performance standards for post-installation, a monitoring and maintenance schedule based on the time period required in KZC 90.160 along with a financial security estimate for the entire compensatory mitigation project that meet the standards in KZC 90.165;

h. Proof of title ownership for the wetlands and buffers, including the compensatory mitigation areas, when mitigation is done by the applicant;If the applicant does not hold title ownership to the applicant-responsible mitigation site, proof of perpetual right to locate the mitigation shall be provided

i. Critical areas shall be placed in recorded critical area easements or tracts pursuant to KZC 90.210.

j. List of all local, state and/or federal wetland-related permits required for the project.

k. Description of existing or potential beaver activity on the mitigation site. If beavers are known to be present within the subbasin, the mitigation plan shall identify design measures, contingency requirements and adaptative management strategies to address potential impacts from beavers using current, regional best management practices

6. Timing of Compensatory Mitigation – See KZC 90.145(5) for when an applicant must install the compensatory mitigation or document if a nonapplicant responsible mitigation program is used to meet the mitigation requirement.

90.155 Measures to Minimize Impacts to Wetlands, Buffers, and Riparian Management Zones

The following measures must be incorporated, into the design of a site containing a wetland, stream, ~~and/or~~ buffer, or ~~are located~~ within a Riparian Management Zone, or other Priority Habitat Area. The Planning Official shall determine the applicability of each minimization measure based on the uses, improvements and/or activities on the subject property. Some measures may not apply to the subject development or may not be feasible for the site. Unique activities and disturbances not included in the table may require alternative measures to minimize the identified impacts. New or innovative techniques or solutions to limit disturbances may be approved by the planning official.

Table 90.155.1 Measures to Minimize Impact to Wetlands ~~and Associated,~~ Buffers, and Riparian Management Zones

~~Disturbance~~	~~Required Measures to Minimize Impacts~~	
~~Lights~~	~~–~~	~~Shield exterior lights that face the wetland or buffer so that they are downcast and directed away from critical area and associated buffer pursuant to Chapter 115 KZC.~~
~~Noise~~	~~–~~	~~Activities that generate noise, such as parking lots, drive-thru facilities, generators and 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 and/or additional native vegetation.~~
	~~–~~	~~Activities or uses that generate relatively continuous, potentially disruptive exterior noise, such as certain industrial, manufacturing and repair services, shall provide an additional 10 feet in width of heavily vegetated buffer strip immediately adjacent to the outer wetland buffer that meets KZC 95.42, Buffer Standard 1.~~
~~Toxic runoff~~	~~–~~	~~Treat all runoff from pollution generating surfaces prior to discharge to the wetlands.~~
	~~–~~	~~Establish covenants for homeowner's associations and commercial developments where applicable for restriction of pesticide use within 150 feet of wetland.~~
	~~–~~	~~Apply integrated pesticides management pursuant to KZC 90.195.~~
~~Storm water runoff~~	~~–~~	~~As part of redevelopment, replacement or expansion of an existing development, retrofit storm water flow control and treatment for public streets when the value of all improvements, including interior improvements exceed 50% of the assessed value (or replacement value) of the existing site improvements.~~
	~~–~~	~~Control storm water flow and improve water quality from new and redevelopment, including to wetlands, through the requirements of the Western Washington Phase II Municipal Stormwater Permit, National Pollutant Discharge Elimination System (NPDES), administered by the Washington State Department of Ecology.~~
	~~–~~	~~Use low impact development techniques per the City's standards.~~
~~Pets and human disturbance~~	~~–~~	~~Install fence and signage pursuant to KZC 90.190 along the edge of the buffer.~~
	~~–~~	~~Place wetland and buffer in a separate conservation easement or tract pursuant to KZC 90.210.~~
~~Dust~~	~~–~~	~~Use best management practices to control dust.~~

Disturbance	Development activities and uses that cause disturbances	Measures to minimize impacts
Lights	Parking lots Commercial Industrial Residential Recreation (e.g., athletic fields)	• All exterior building-mounted and ground-mounted light fixtures will be directed downward and use "fully shielded cut off" fixtures as defined by the Illuminating Engineering Society of North America (IESNA), or other appropriate measures to conceal the light source from adjoining uses and the critical area and buffer. Manufacturer specification sheets for the lighting fixtures, including photometric data shall be included with lighting plans; and • The maximum mounting height of light fixtures will be 12 feet. • Areas facing a critical area buffer, exterior lighting fixtures shall produce a maximum initial luminance value of 0.6 footcandles (as measured at three (3) feet above grade) at the site or environment boundary. • Exterior lighting installations shall incorporate motion-sensitive lighting and lighting shall be limited to those areas where it is needed for safety, security, and operational purposes. • For businesses, all exterior lighting shall be turned off after business hours or 10:00 p.m., whichever is earlier, leaving necessary lighting for site security. • Outdoor lighting used for security purposes or to illuminate walkways, roadways, equipment yards, parking lots and building entrances may remain on after 10:00 p.m., Site illumination does not exceed a uniformity ratio maximum of 15:1, vertical illumination of 0.25 foot-candles and horizontal luminance of 0.5 foot-candles. • Limit use of blue-white colored lights in favor of red-amber hues
	All lighting requirements follow the intent of regulations in KZC 115 and 83.470	
Noise	Parking lots Drive-through facilities Commercial Industrial Recreation (e.g., athletic fields, bleachers, etc.) Residential Generators and HVAC units	• Locate activity that generates noise as far away from critical areas as feasible. • Minimize noise through design measures: o Construct a fence to reduce noise impacts on the adjacent critical and buffer. Fences must comply with KZC 115.40 regulations. o Plant a strip of additional dense shrub vegetation adjacent to buffer. o Install other noise abatement techniques in between the improvement generating noise and the critical area buffer.
	Activities or uses that generate relatively continuous, potentially disruptive exterior noise, such as industrial, manufacturing and repair services, shall provide an additional 10 feet in width of heavily vegetated buffer strip immediately adjacent to the outer wetland buffer that meets the requirements of KZC 95.42.1, Buffer Standard 1.	

Disturbance	Development activities and uses that cause disturbances	Measures to minimize impacts
	Any documented noise pollution associated with Activities and equipment must also comply with Noise Regulations in KMZ115.95	
Toxic runoff	Parking lots Roads Commercial/industrial Residential areas Application of pesticides Landscaping	• Do not install new pollutant generating surfaces as identified in the Surface Water manual for Western Washington, including, but not limited to, artificial turf. • Route any untreated, contaminated runoff away from wetland while ensuring wetland is not dewatered. • Treat runoff from pollution-generating surfaces prior to discharge to the wetlands. • Limit use of pesticides within 150 ft. of critical areas. • Apply integrated pest management pursuant to KZC 90.195. These examples are not necessarily adequate for minimizing toxic runoff if threatened or endangered species are present at the site.
	KMC 15.36.030 regulates prohibited toxic substances. KZC 90.195 regulates Pesticide use in critical areas and critical area buffers.	
Stormwater runoff including sediment and soil erosion	Parking lots Roads Residential areas Commercial/industrial Recreation Landscaping/lawns Other impermeable surfaces, compacted soil, etc.	• Prevent channelized or sheet flow from lawns from directly entering the buffer. • Infiltrate or treat, detain, and disperse new runoff from impervious surfaces and lawns. • Implement LID solutions per KZC 114 and KMZ 15.52 where feasible.
	Control storm water flow and improve water quality to wetlands, through the requirements of the Western Washington Phase II Municipal Stormwater Permit, National Pollutant Discharge Elimination System (NPDES), administered by the Washington State Department of Ecology.	
Pets and human disturbance	Residential areas Recreation Commercial	Install pet enclosure fencing, such as an invisible fence, or similar to limit access that meets requirements per KZC 90.190. Plant dense native vegetation to delineate the buffer edge and to discourage disturbance When planning new subdivisions, locate greenbelts, stormwater facilities, and other lower intensity uses adjacent to critical area buffers or riparian management zones
	Animal Waste regulations pursuant to KZC 8.09.508 apply to all yards adjacent to critical area buffers	

Disturbance	**Development activities and uses that cause disturbances**	**Measures to minimize impacts**
Dust and air pollution	Exposed soil Roads Active Construction sites High traffic Industrial sites	Examples of techniques to reduce dust and air pollution can be found in the SWMMWW BMP C140 for dust control. Install vegetation such as a 10 foot-wide dense vegetative buffer or hedge between the pollution source and the critical area buffer.
	Dust pollution prevention may be temporarily required during construction (KZC 29.24.010) or may require permanent mitigation depending on the site. Additional regulations can be found in KZC 115.15, KZC 40.20.PU15	

90.160 Monitoring and Maintenance

1. Timing

a. After installation and acceptance by the Planning Official of the critical area mitigation or vegetative buffer enhancement, the monitoring and maintenance program shall commence.

b. A monitoring report shall be submitted to the Planning Official within one month after each site visit, pursuant to subsection (3) of this section.

2. Monitoring and Maintenance Program for Vegetative Buffers – Requirements for a monitoring and maintenance program for revegetation of a buffer shall include the following, unless an alternative program is approved by the City.

a. Clear, and measurable site specific ~~The~~ goals and objectives ~~of~~ for the monitoring and maintenance program;

b. The performance standards by which the vegetative buffer mitigation will be assessed. At a minimum, buffer vegetation mitigation shall include the following performance standards:

1) Year-1: 60 percent survival of installed vegetation with replacement of poor or dead vegetation to meet the 100 percent planting requirement. ~~survival of installed vegetation through a combination of survival and replacement~~ In cases with less than 60% survival in the first year, adaptive management to adjust planting plans, watering or maintenance will be required.

2) Year-2: 80 percent survival of installed vegetation;

3) Year-3: At least 50 percent native vegetation coverage within the enhanced and created buffer for installed vegetation;

4) Year-5:

a) At least 80 percent native vegetation cover~~age on average~~ throughout the mitigation area. ~~Additionally, two (2) out of three (3) of the following strata of native plant species each must compose at least 20 percent areal cover:~~

~~(1) Trees;~~

~~(2) Shrubs; and~~

~~(3) Woody groundcover (such as kinnikinnick, salal and sword fern);~~

b) At least three (3) native tree and 3 native shrub species ~~making up a minimum of 10 percent coverage~~ each must be represented on the site. Each species must contribute a minimum of 5 percent coverage for the site.

c) Both Trees and Shrubs must each compose at least 20 percent cover

d) All soils must be covered with organic wood chip mulch, or unmowed or unpruned native woody or herbaceous groundcover or shrubs.

5) All years:

a) Less than 10 percent combined ~~noxious~~ weed~~s~~ cover of regulated and non-regulated class A,B, and C noxious weeds ~~using~~ identified on the King County Noxious weed list, ~~except less than 20 percent cover of reed canarygrass where a pre-existing or proximate monoculture occurred; and~~

~~b) No presence of knotweed at any time during the duration of the program period.~~

b) Less than 3 percent cover of any individual species of regulated or non-regulated Class A, B, or C noxious weeds identified on the King County Noxious weed list.

c). The following weeds may be regulated separately from the above requirements provided a weed management plan is provided and a planting plan is designed to control weeds over the long-term using shading techniques through multi layered canopy cover:

1) Less than 20 percent cover of pre-existing monocultures of reed canary grass

2) Less than 10 percent cover of pre-existing monocultures of Himalayan blackberry.

3) Less than 10 percent cover of preexisting monocultures of invasive Knotweeds

c. Contingency plan identifying adaptative management ~~a course of action~~, corrective measures and a timetable to be taken if monitoring indicates that the performance measures have not been met.

3. Monitoring and Maintenance Program for Critical Area Mitigation or Vegetative Buffer-Enhancement – A monitoring and maintenance program shall be established for restoration for a wetland or stream due to prior degradation for an approved modification project as part of the mitigation plan or vegetative buffer enhancement plan. The monitoring and maintenance plan shall address goals and objectives as well as performance standards and a contingency plan.

4. Duration and Schedule of Monitoring and Maintenance Program – Unless otherwise required by the Planning Official, the minimum duration of the program shall be as follows:

a. Three (3) growing seasons for mitigation associated with new structures of less than 1,000 square feet of footprint approved pursuant to KZC 90.130 and for additions to nonconformances pursuant to KZC 90.185.

b. Five (5) growing seasons for mitigation projects and revegetating a buffer to meet the buffer standards in KZC 90.130, except for forested and scrub-shrub wetland~~s~~ creation, re-establishment, or rehabilitation. Forested and scrub-shrub enhancement mitigation projects shall be monitored for five years

c. Ten growing seasons for forested or scrub-shrub wetland creation, re-establishment, or rehabilitation.

d. The required schedule for site visits and reporting for monitoring and maintenance is as follows:

1) For three-year program: two (2) site visits for each of the first two (2) years and one (1) site inspection for the third year;

2) For five-year program: two (2) site visits for each of the first two (2) years and one (1) site inspection every 12 months for subsequent years; and

3) For 10-year program: visits in growing seasons 1, 2, 3, 5, 7 and 10.

e. The Planning Official may extend the duration of the program and the number of visits at the end of the established monitoring and maintenance period if the program requirements have not been met. The Planning official may reduce the frequency of site visits when all standards in KZC 90.160.2.b 1-5 are exceeded. In no case shall the first year, or final year of monitoring be waived.

f. Annual Monitoring shall occur at the end of a summer growing season and replanting/adaptative management requirements shall be completed before the next spring monitoring.

5. Maintenance Work – Prior to final inspection of the vegetation and any other mitigating measures required in this chapter, the applicant shall submit a signed contract with a landscape maintenance company to maintain the installed improvements over the period of the monitoring program that includes the required maintenance tasks and schedule, that meets best management practices for natural area care, except for the following:

a. For commercial, multifamily or institutional uses, if a property owner has an existing contract with a landscape maintenance company and desires that company to maintain the installed improvements, a copy of the contract with that company shall be submitted. The contract shall clearly indicate the inclusion of the required maintenance tasks and schedule and process to meet best management practices for natural area care.

b. For single-family residential uses, homeowners may maintain the installed improvements if they sign an agreement that runs with the property to maintain the improvements over the period of the monitoring program. The agreement must be recorded with the King County Recorder's Office with the recording fee paid by the homeowner.

If the improvements are not satisfactorily maintained based on the monitoring report at the end of any growing season, then the homeowner shall submit a copy of a contract with a landscape maintenance company to have the company maintain the improvements. This option is not available to developers and builders where the property will be sold on completion of the construction.

c. A City department may choose to maintain the vegetated buffer and any other improvements and not hire a landscape maintenance company.

6. Options for Monitoring Work – The applicant may choose one of the following methods for who performs the monitoring work:

a. City Does Work – If the City will oversee the maintenance and monitoring through the City's consultant, the monitoring fee will be based on an actual cost estimate of the work. The applicant shall submit a cash prepayment for all work to the City prior to issuance of the development permit. The City's consultant or staff must be a qualified critical area professional

b. Applicant's Consultant Does Work

1) If the City will not perform the monitoring, the applicant shall submit a signed contract to fund a qualified critical area professional, approved by the City, to monitor the maintenance and perform the monitoring over the life of the program. The cost of the work must be included in the performance security under KZC 90.165; and

2) In addition, the applicant shall submit a cash prepayment prior to final inspection of the development permit for the cost of the City to do peer review of the monitoring reports.

c. Public Projects

1) For City projects, City staff meeting the criteria for qualified critical area professionals may perform the monitoring work,or oversee the monitoring work performed by other City staff. Alternatively, the City may use a consulting qualified critical area professional.

2) Peer review of monitoring reports will be conducted by a qualified critical area professional and may be conducted by either city staff or a consultant.

7. Financial Security – A financial security for performance, monitoring and maintenance is required pursuant to KZC 90.165.

90.165 Financial Security for Performance, Maintenance and Monitoring

1. Performance or Maintenance Security Requirement

a. A security is required in the amount and form as the Planning Official deems necessary to assure that all work or actions are satisfactorily completed and maintained in accordance with the approved plans, specifications, and permit or approval requirements.

b. State agencies and local government bodies, including school districts, shall not be required to provide a performance or maintenance security. The Planning Official may enforce compliance by not approving final inspection, by administrative enforcement action, or by any other legal means.

c. The security shall be conditioned on the work being completed or maintained in accordance with requirements, approvals, or permits for the site being left or maintained in a safe condition, and on the site and adjacent or surrounding areas being restored in the event of damages or other environmental degradation from development or maintenance activities conducted pursuant to the permit or approval.

2. Submitted Documents

a. The security shall be in the form of a:

1) Surety bond obtained from companies registered as surety in the state or certified as acceptable sureties on federal bonds;

2) Assignment of funds or account;

3) Escrow agreement;

4) Irrevocable letter of credit; or

5) Other financial security device.

b. A completed security information form, security agreement and license to enter property document along with the required recording fee for that document shall be submitted. All forms shall be provided by the City.

3. When Submitted – A financial security for performance, monitoring and maintenance shall be submitted prior to issuance of a land surface modification or building permit for plantings, improvements and other mitigation measures required in this chapter. The performance portion of the security will be released upon City approval of the installed mitigation.

4. Determination of the Security Amount

a. Determination of the security amount shall be done using the City's security value worksheet based on the approved plans, specifications, permit or approval requirements, and applicable regulations. Construction, maintenance and monitoring costs shall be based on King County's or the City of Kirkland's Critical Areas Mitigation Bond Quantity Worksheet. The City may request changes in unit pricing if the worksheet is found to be out of date with respect to current market prices;

b. The financial security shall be equal to or greater than 150 percent of the estimated cost of conformance to plans, specifications and permit or approval requirements of this chapter, including corrective work, compensation, enhancement, mitigation, monitoring, maintenance and restoration of critical areas; and

c. Actual security costs shall include all labor, materials, erosion control and other general items, and sales tax associated with the required work. The security shall be sufficient to guarantee that all required improvements and measures will be completed in a timely manner and with sufficient funds in accordance with this chapter. The security shall cover all work or actions not satisfactorily completed or maintained that need to be corrected to comply with the approved plans.

5. Cash Deposit – A cash deposit for the cost of City administration of the security shall be submitted with the financial security.

6. Duration of Performance, Monitoring and Maintenance Security

a. Duration of monitoring and maintenance security shall be consistent with the approved program pursuant to KZC 90.160;

b. The performance or maintenance security may be released upon written notification by the Planning Official, following final site inspection or when the Planning Official is satisfied that the work or activity complies with permits or approved requirement;

c. The Planning Official may require a security longer than stated in KZC 90.160 for complex mitigation projects, such as creation of wetlands, daylighting of a stream or relocating a stream channel, or to extend the length of a security for projects where vegetation or other improvements have been poorly maintained over several years or for code enforcement actions; and

d. No portion of the security may be released early during the established monitoring and maintenance period to ensure that potential catastrophic failure of the plantings and other improvements that may occur in the future are covered.

7. Corrective Measures

a. If, during the term of the performance, maintenance and monitoring security, the Planning Official determines that conditions exist which do not conform with the plans, specification, approval or permit requirements, the Planning Official may issue a stop work order prohibiting any additional work or maintenance until the condition is correct;

b. The Planning Official may call in all or a portion of a performance, maintenance and monitoring security to correct conditions that are not in conformance with plans, specifications, approval or permit requirements; and

c. Where monitoring reveals a failure of mitigation or maintenance measures, the applicant shall be responsible for appropriate corrective action which, when approved by the Planning Official, shall be subject to further monitoring. The Planning Official shall determine the additional monitoring requirements as needed.

8. Transfer of Security – In the event that a performance, monitoring and maintenance security is transferred to a subsequent property owner or management entity:

a. An additional City administrative fee shall be charged for transferring a security to subsequent owner;

b. The applicant and the subsequent owner must document the transfer authority of the security; and

c. A written agreement from the subsequent owner shall be submitted agreeing to the costs and other responsibilities of the maintenance and monitoring program.

9. Obligation – Any inability of a security device to fund the cost of the security shall not discharge the obligation of an applicant or violator to complete the required mitigation, maintenance or monitoring.

90.170 Subdivisions and Maximum Development Potential

1. Subdivisions – The subdivision and/or short subdivision of land in a wetland, stream or related buffer is subject to the following criteria and subsections (2) through (4) of this section:

a. Land that is located entirely within a wetland, stream or related buffer may not be subdivided.

b. Land that is located partially within a wetland, stream or related buffer may be subdivided if, as part of the short plat or subdivision application, the applicant demonstrates that:

1) Each lot contains sufficient developable area to accommodate the allowed use(s) in that zone, including required vehicular access, parking, structure setback, and storm water management facilities outside of the critical area and its buffer; and

2) Each lot meets all zoning requirements applicable to that zone, except for reduced dimensional design standards for residential uses pursuant to KZC 90.175.

2. Calculating Allowed Number of Dwelling Units – The maximum potential number of dwelling units for a subject property that contains a critical area ~~wetland, stream, or minor lake~~ or critical area ~~their~~ buffers is reduced from the maximum potential number of dwelling units that otherwise ~~are~~ may be allowed in the underlying zone.

3. Maximum Development Potential Calculation

a. The maximum potential number of dwelling units shall be the buildable area in square feet divided by the minimum lot area per unit or the maximum units per acre as specified by Chapters 15 through 56 KZC, plus the area of the required critical area buffer in square feet divided by the minimum lot area per unit, the maximum units per acre or as specified by Chapters 15 through 56 KZC, multiplied by the development factor derived from subsection 2 of this section as provided in the formula below:

MAXIMUM DWELLING UNIT POTENTIAL = [(BUILDABLE AREA IN SQUARE FEET) / EITHER THE PRESCRIBED MINIMUM LOT AREA PER UNIT **OR** (43,560 SQUARE FEET/ MAXIMUM UNITS PER ACRE)] + [(BUFFER AREA/THE PRESCRIBED MINIMUM LOT AREA PER UNIT OR MAXIMUM UNITS PER ACRE) X (DEVELOPMENT FACTOR)]

b. For purposes of this subsection only, “buildable area” means the total area of the subject property minus critical areas and either the regulated or reduced ~~their~~ buffer.

c. A professional surveyor shall incorporate ~~of~~ the approved regulated and reduced delineation markings and shall determine the area of critical area, ~~and~~ buffers and buildable area associated with each buffer on the subject property pursuant to KZC 90.110.

d. For multifamily development, and single-family development in RSA zones, if application of the maximum development potential formula results in a fraction, the number of permitted dwelling units ~~shall~~ may be rounded up to the next whole number (unit) if the fraction of the whole number is at least 0.50 and integration of Reduced Dimensional Standards (KZC 90.175) allows for no additional buffer impact.

e. For single-family development in low-density zones other than the RSA zones, the number of permitted dwelling units shall be rounded down to the previous whole number (unit), regardless of the fraction of the whole number.

f. For developments providing affordable housing units pursuant to Chapter 112 KZC, or cottage, carriage or two/three unit homes pursuant to Chapter 113 KZC, or low impact development pursuant to Chapter 114 KZC, the maximum dwelling unit potential of this section establishes the base density allowed. The additional density

or bonus units allowed by those chapters shall remain in conformance with be in addition to the maximum dwelling unit potential.

g. The provisions in KZC 125.30 for density under a planned unit development shall not be applied to properties containing critical areas or buffers.

h. The maximum development potential formula shall not be construed to preclude application of Chapter 22.28 KMC (lot size reduction, low impact development, small lot single-family, and historic preservation) to potentially achieve an increased number of single-family dwelling units for short plats and subdivisions.

i. Lot size and/or density may be limited by or through other provisions of this code or other applicable law, and the application of the provisions of this chapter may result in the necessity for larger lot sizes or lower density due to inadequate buildable area.

4. Development Factor – The development factor, consisting of a "percent credit," to be used in computing the maximum potential number of dwelling units for a site which contains a critical area buffer, is derived from the following table:

Table 90.170.1 Maximum Development Potential

Percentage of Site in Critical Area Buffer			Counted at
< 1%	To	10%	100%
> 10%	To	20%	90%
> 20%	To	30%	80%
> 30%	To	40%	70%
> 40%	To	50%	60%
> 50%	To	60%	50%
> 60%	To	70%	40%
> 70%	To	80%	30%
> 80%	To	90%	20%
> 90%	To	100%	10%

90.175 Dimensional Design Standards for Residential Uses

1. Reduced Dimensional Standards for Residential Uses – The following dimensional requirements may be reduced for the noncritical area portion of the site to accommodate the constraints of the buildable area of the site; provided that the applicant shall demonstrate that:

a. The reduction is the minimum necessary to allow avoidance of the critical area, critical area buffer and structure setback; and

b. The resulting development is compatible with other development or potential development in the immediate vicinity of the subject property in the same zone and with similar site constraints.

2. Standards – Common The reduced standards include but are not limited to the following: are as follows:

Table 90.175.1 Reduced Dimensional Standards for Residential Uses

Reduced Dimensional Standards for Residential Uses		
Minimum Required Yards	•	0' for interior side and rear yards within the proposed development to encourage clustering between dwelling units
	•	10' for front yards
	•	5' for side and rear yards that abut properties that are not part of the proposed development
Minimum Parking Pad Dimensions[1]	•	width – 8.5 feet per required stall
	•	depth – 18~~.5~~ feet per required stall
Tandem Parking	•	allowed where stalls are shared by the same dwelling unit

Notes: 1. Any garage or other structure shall be set back a minimum of 18 feet from the property line to allow on-site parking on the driveway.

90.180 Reasonable Use Exception

1. Purpose – The purpose of the reasonable use exception is to:

a. Provide the City with a mechanism to approve limited use and disturbance of a critical area and critical area buffer when strict application of this chapter would deny all economically viable use of the subject property;

b. Establish guidelines and standards for the exercise of this authority adjusted to the specific conditions of each subject property; and

c. Protect the public health, welfare and safety of the citizens of Kirkland.

2. Reasonable Use – Reasonable use is a legal concept that has been articulated by federal and state courts in regulatory takings cases. Regulatory takings analysis begins with the premise that landowners do not have the right to use their property in a manner that injures the public interest. However, when not injuring the public interest, a landowner should not be forced to solely bear the economic burden of conferring a benefit upon the public, the cost of which rightfully should be spread over the entire community. When a regulation restricts an owner's use of property but advances legitimate public interests, such as the protection of critical areas and buffers as required by the Growth Management Act, RCW 36.70A.130(1), the City evaluates the potential for takings using the following three (3) factors: (1) the regulation's economic impact on the property, (2) the extent of the regulation's interference with investment-backed expectations, and (3) the character of the government action.

3. Reasonable Use Process – If the strict application of this chapter would preclude all reasonable use of the subject property, an owner of the subject property may apply for a reasonable use exception. The application shall be considered under Process I of Chapter 145 KZC.

4. Submittal Requirements – As part of the reasonable use exception request application, the applicant shall submit a critical area report pursuant to KZC 90.110, prepared by a qualified critical area professional approved by the City, and also fund peer review of this report by the City's consultant. The report shall include the following:

a. For a wetland, the additional report information requirements specified in KZC 90.110(5). For a stream, the additional report information requirements specified in KZC 90.110(6);

b. An analysis of whether any other reasonable use with less impact on the critical area and critical area buffer is possible;

c. Site design and construction staging of the proposal shall have the least impact to the critical area and critical area buffer;

d. A site plan showing:

1) The critical area, critical area buffer and structure setback required by this chapter;

2) The proposed area of disturbance both on and off the subject property pursuant to the disturbance area limitations of subsection (5)(c) of this section;

3) All proposed structures and improvements meeting the conditions of subsection (5) of this section, including:

a) Building footprints, including garages;

b) Parking areas;

c) Driveways;

d) Paved surfaces, such as walking paths;

e) Patios, decks and similar structures;

f) Utility and storm water improvements;

g) Yard landscaping;

h) Retaining walls and rockeries;

e. A description of protective measures that will be undertaken, such as siltation curtains, compost berms and other siltation prevention measures, and a schedule of the construction activity to avoid interference with wildlife and fisheries rearing, nesting or spawning activities;

f. An analysis of the impact that the proposed development would have on the critical area and the critical area buffer;

g. An illustration of how the proposal mitigates for impacts to the critical area and critical area buffers;

h. An illustration of how the proposal minimizes to the greatest extent possible net loss of critical area functions;

i. An analysis of whether the improvement is located away from the critical area and the critical area buffer to the greatest extent possible; and

j. Such other information or studies as the Planning Official may reasonably require.

5. Allowed Use and Maximum Disturbance Limits – Allowed uses and maximum disturbance limits under a reasonable use exception are as follows:

a. The following land uses may be proposed with a reasonable use exception:

1) Residential zones – one single-family dwelling with a footprint no larger than 750 square feet and a maximum gross floor area of 1,500 square feet, including cantilevered areas, and attached garage not to exceed a footprint and gross floor area of 250 square feet. If no garage is provided, the square footage of garage uses cannot be allocated to the square footage allowances for the primary residence;

2) Commercial or Office zones – office or retail space, subject to the following parameters, with a footprint no larger than 750 square feet and a maximum gross floor area of 1,500 square feet, including cantilevered areas, and attached garage not to exceed a footprint and gross floor area of 250 square feet. If no garage is provided, the square footage of garage uses cannot be allocated to square footage allowances for the commercial or office use:

a) An office use, except veterinary offices with outdoor facilities; and

b) A limited retail establishment, excluding restaurants and taverns, gas stations, vehicle or boat sales, service or repair, car washes, drive-thru, outdoor seating area and storage.

c) In order to limit disturbance and impacts to the critical area and buffer these uses shall:

(1) Locate parking on the opposite side of the building from the critical area; and

(2) Limit hours of operation to between 8:00 a.m. and 11:00 p.m.

b. For purposes of this section, "site" means the subject property, abutting lots, and adjacent right-of-way. The maximum amount of site area that may be disturbed by structure placement and all land alteration associated with the proposed development activity, including but not limited to land surface modification, utility installation, and installation of decks, driveways, paved areas, and landscaping, shall not exceed the following limits:

1) The maximum amount of disturbance shall be limited to building footprints, the minimum walkways and driveways needed to access the property, associated utilities, and a 10-foot buffer around the building footprint. The location of allowable disturbance shall be that which will have the least impact on the critical area and the critical area buffer given the characteristics and context of the site, critical area, and critical area buffer.

2) If the subject property contains 6,000 square feet of area or less, the maximum amount of disturbance shall not exceed 50 percent of the site.

3) If the subject property contains more than 6,000 square feet but less than 30,000 square feet, the maximum amount of disturbance shall not exceed 3,000 square feet.

4) For the subject property containing 30,000 square feet or more, the maximum amount of disturbance shall be between 3,000 square feet and 10 percent of the lot area, to be determined by the City on a case-by-case basis.

5) Public improvements within the right-of-way required by Chapter 110 KZC (for example, required curb, gutter and sidewalk improvements) are not counted in the maximum amount of disturbance. The City shall allow or require modifications to the public improvement standards that minimize the impact to the critical area and buffer and any impacts associated with required public improvements shall be mitigated by the applicant.

6) The portion of a driveway located within an improved right-of-way is not counted in the maximum amount of disturbance. However, a driveway or any other private improvement located in an unimproved right-of-way shall be counted in the maximum amount of disturbance. See subsection (8)(a)(2) of this section for calculating the disturbance of on-site driveways.

The applicant shall fund peer review of the proposed maximum amount of disturbance by the City's consultant.

c. The exemptions in KZC 115.42 do not apply to the square footage limitations in this subsection.

6. Decisional Criteria – The City may approve applications for reasonable use exceptions only if all of the following criteria are met:

a. There is no feasible alternative to the proposed activities and uses on the subject property, including reduction in size, density or intensity, phasing of project implementation, change in timing of activities, revision of road and lot layout, and/or related site planning considerations that would allow a reasonable economic use with less adverse impacts to the critical area and critical area buffer.

b. The proposal is compatible in design, scale and use with other legally established development in the immediate vicinity of the subject property in the same zone.

c. The proposal utilizes to the maximum extent possible innovative construction, design, and development techniques that minimize to the greatest extent possible net loss of critical area functions and values, including pin construction, vegetated roofs, and pervious surfaces.

d. The proposed development does not pose an unacceptable threat to the public health, safety, or welfare on or off the subject property.

e. The proposal meets the mitigation, maintenance, and monitoring requirements of this chapter.

f. The proposed development is on a lot meeting the criteria of KZC 115.80, Legal Building Site.

g. The inability to derive reasonable use is not the result of the applicant's actions or that of previous property owners, such as by altering lot lines pursuant to Chapter 22 KMC that results in an undevelopable condition.

h. The granting of the exception will not confer on the applicant any special privilege that is denied by this chapter to other lands, buildings, or structures under similar circumstances.

7. Process for Extraordinary Circumstances – If, due to extraordinary circumstances, the allowed use and maximum disturbance limits specified in subsection (5) of this section would preclude all reasonable use of a site, an owner of real property may apply to exceed those limits. The application shall be considered under Process IIA of Chapter 150 KZC. In addition to the criteria in subsection (6) of this section and Chapter 150 KZC, the Hearing Examiner shall take into account the restrictive regulation's economic impact on the property, the extent of the regulation's interference with reasonable investment-backed expectations, and the character of the government action. An applicant may apply to exceed the allowed use and maximum disturbance limits specified in subsection (5) of this section even if the applicant acquired an interest in the property after enactment of the restrictive regulations, but the extent of the regulation's interference with reasonable investment-backed expectations shall be considered in light of the regulations that existed at the time the applicant acquired an interest in the property.

8. Modifications and Conditions – The City shall include any conditions and restrictions in the written decision that the City determines are necessary to eliminate or minimize any undesirable effects of approving the proposal. To provide reasonable use of the subject property and reduce the impact on the critical area and critical area buffer, the Planning and Building Director pursuant to a Process I under Chapter 145 KZC or Hearing Examiner pursuant to a Process IIA under Chapter 150 KZC is authorized to approve the following modifications:

a. Residential

1) Where the applicant demonstrates that the residential development cannot meet the City's code requirements without encroaching into the critical area or critical area buffer:

a) The required front yard may be reduced by up to 50 percent; provided, that a minimum 18.5-foot-long parking pad between the structure and the lot line is provided; and

b) The required side and rear yards may be reduced to five feet in width.

2) The portion of a driveway exceeding 30 feet in length may be exempt from the calculation of the permitted disturbance area; provided, that the driveway length is the minimum necessary to provide access to the building.

3) The structure setback from a critical area buffer pursuant to KZC 90.140 may be reduced to five feet in width; provided, that those improvements allowed in this area are limited to:

a) Chimneys, bay windows, greenhouse windows, eaves, cornices, awnings and canopies, and decks above the ground floor extending no more than 18 inches into the structure setback;

b) Benches, walkways, paths and pedestrian bridges extending no more than four feet into the structure setback;

c) Garden sculpture, light fixtures, trellises and similar decorative structures extending no more than four feet in width into structure setback; and

d) Nonnative and native landscaping.

4) The garage width requirements of KZC 115.43 for detached dwelling units in low-density zones may be waived.

5) The maximum height of structures may be increased up to five feet if needed to reduce the slope of a driveway to a structure based on existing grade. The applicant must demonstrate that the additional height is needed to reduce the steepness of the slope and no other option is available.

b. Nonresidential – Where the applicant demonstrates that the nonresidential development cannot meet the City's code requirements without encroaching into the critical area or critical area buffer:

1) The required front yard may be reduced by up to 50 percent.

2) The structure setback from a critical area buffer may be reduced by five feet in width; provided, that those improvements allowed in this area are limited to:

a) Chimneys, bay windows, eaves, cornices, awnings and canopies;

b) Benches, walkways, paths and pedestrian bridges extending no more than four feet into the structure setback;

c) Light fixtures, trellises and similar decorative structures extending no more than four feet into the structure setback; and

d) Nonnative and native landscaping.

3) The maximum height of structures may be increased up to five feet if needed to reduce the slope of a driveway to a structure based on existing grade. The applicant must demonstrate that the additional height is needed to reduce the steepness of the slope and no other option is available.

4) The portion of a driveway exceeding 30 feet in length may be exempt from the calculation of the permitted site disturbance area; provided, that the driveway length is the minimum necessary to provide access to the building.

9. Lapse of Approval

a. The reasonable use exception approval expires and is void if the applicant fails to file a complete building permit application within five years of the final decision granting or approving the exception. However, in the event judicial review is initiated per KZC 145.110, the running of the five years is tolled for any period of time during which a court order in said judicial review proceeding prohibits the required development activity, use of land, or other actions. "Final decision" means the final decision of the Planning and Building Director; and

b. The applicant must substantially complete construction for the development activity, use of land, or other actions approved under this chapter and complete the applicable conditions listed on the notice of decision within seven years after the final approval on the matter, or the decision becomes void, excluding any applicable tolling period as described in subsection (9)(a) of this section.

10. Complete Compliance Required

a. General – Except as specified in subsection (8)(b) of this section, the applicant must comply with all aspects, including conditions and restrictions, of an approval granted under this chapter in order to construct the improvements authorized by the approval.

b. Exception: Subsequent Modification – The Planning Official may approve a subsequent modification to a specific use and site plan that has been approved through the reasonable use exception, provided the change meets the standards of this chapter. Otherwise, the applicant is required to apply for and obtain approval through a Process I pursuant to Chapter 145 KZC for a new reasonable use exception.

90.185 Nonconformances

1. General Provisions for Nonconforming Structures and Improvements in Critical Areas, ~~or~~ Buffers, or structure setbacks – The following general provisions apply to properties that contain nonconformances due to the existence of buffers and/or critical areas, until such times as redevelopment of the property is proposed that meets the threshold in KZC 90.130:

a. Legally established structures and improvements may remain and be repaired and maintained. See KZC 90.35 and subsection (3) of this section;

b. New structures or improvements may not be added or expanded in the buffer and/or critical area, including those listed in KZC 90.140;

c. Legally established lawns may be mowed and maintained, but not expanded in the buffer and/or critical area; and

d. Nonnative vegetation may be maintained, but not expanded in the buffer and/or critical area.

2. General Standards for Subsections (3) through (6) of This Section

a. Except for above ground floor expansions, the provisions of subsections (4) through (6) of this section may each be used one time for the subject property and may be used in combination. Any building permit application utilizing these provisions shall clearly document the proposed location and size relative to the specific provision(s) being utilized. Above ground floor expansions may be utilized an unlimited number of times;

b. Any structures or improvements that are nonconforming because of the regulations in this chapter shall be regulated pursuant to the following provisions rather than the provisions of Chapter 162 KZC. However, nonconforming multifamily structures for density pursuant to KZC 162.35(12) and continued uses pursuant to KZC 162.55 shall be regulated under Chapter 162 KZC and shall not be eligible to use the provision in this section;

c. No disturbance to the critical area is permitted. Any approved disturbance to the critical area buffer as a result of development activity shall be the minimum necessary and follow the mitigation sequencing process (90.145.2) and all disturbed areas shall be restored ~~to pre-existing condition;~~ to ensure no net loss of function.

d. Any existing native vegetation removed in the buffer as part of the disturbance shall be replaced with native vegetation at a 1:1 ratio;

e. The limits of disturbance, a ~~and a~~ replanting plan for disturbed areas, if applicable, shall be submitted as part of the building permit application;

f. Temporary construction fencing is required pursuant to KZC 90.190. The Planning Official shall determine the appropriate location of the fencing depending on the location of existing improvements in relationship to the critical area buffer;

g. Lawn and nonnative landscaped areas shall not be expanded in the buffer area; and

h. All costs for review by a qualified critical area professional and the City's review, mitigation and restoration shall be at the expense of the applicant.

3. Maintenance and Repair of Nonconforming Structure

a. A legal nonconforming structure may be maintained and repaired as an exemption pursuant to KZC 90.35; provided, that the work does not increase the previously approved structure footprint or impervious or hardscape area.

b. Multifamily structures in multifamily zones that are nonconforming for density may not increase the density as part of the work on the structure. See KZC 162.35(12).

4. Reconstruction of Existing Nonconforming Structures

a. General Standards

1) If there is no increase in the size of the structure footprint or impervious or hardscape area and the reconstructed structure is no closer to the critical area, then the requirements of KZC 90.105 and 90.110 for a critical area determination and report, KZC 90.130 for vegetative buffer, KZC 90.190 for critical area fencing and signage and KZC 90.210 for dedication of critical area and buffer are not required.

2) Existing buffer fencing, native buffer vegetation and dedication of the critical area must be retained.

b. Detached Dwelling Units

1) An existing legally nonconforming building or detached garage may be reconstructed as repair, replacement or due to casualty damage such as a fire; provided, that:

a) There is no expansion of the existing size of the footprint, including decks or patios or other improvements;

b) There is no increase in impervious or hardscape surface;

c) There is no expansion of existing exterior walls, including adding exterior walls below a cantilevered structure; except for new additional upper floors in subsection (4)(b)(4) of this section;

d) There is no increase in the nonconformity in any way; and

e) Reconstruction is built on the existing foundation, except as provided in subsection (4)(b)(2) of this section;

2) With the exception of a casualty damage, if a new foundation is to be built, the new foundation must be relocated outside of the critical area, its buffer and the structure setback to the greatest extent possible given other required yards, configuration of the subject property and existing improvements;

3) For casualty damage, a structure may be reconstructed on the existing foundation, or a new foundation of the same, or smaller footprint may be built in the same location or further ~~away~~ from the critical area, but not closer to the critical area; and

4) Additional upper floors may be added above the ground floor if they do not encroach into the critical area, its buffer or the structure setback any further than the exterior walls of the existing nonconforming structure.

c. All Other Uses

1) An existing legally nonconforming structure may be reconstructed as repair, reconstruction or due to a casualty damage such as a fire; provided, that there is no expansion of the existing footprint or increase of impervious or hardscape area, including decks, patios or other improvements, no expansion of exterior walls, including adding exterior walls below a cantilevered structure, no increase in the nonconformity in any way, and reconstruction is built on the existing foundation;

2) Additional upper floors may be added above the ground floor if they do not encroach into the critical area, its buffer or the structure setback any further than the exterior walls of the existing nonconforming structure; and

3) If the cost of the reconstruction as a repair, replacement or due to a casualty damage, or for any upper floor additions exceeds 50 percent of the assessed or appraised value of that primary structure and all improvements attached to the primary structure, whichever is greater, the structure and improvements shall be brought into conformance.

d. In case of casualty damage, the following is required:

1) A complete building permit application to rebuild a nonconforming structure must be submitted within two (2) years of the date of the damage or the nonconformance shall be considered to be terminated and shall not be replaced in its prior nonconforming location; and

2) Rebuilding of the nonconforming structure shall be substantially complete within four (4) years of the date of the damage or the nonconformance shall be considered to be terminated and shall not be replaced in its prior nonconforming location; and

3) Documentation showing the date of the damage, the location and dimensions of the damaged structure and cause of the damage shall be submitted to the Planning Official for review and confirmation.

5. Expansion of Nonconforming Structure that Does Not Increase the Degree of Nonconformance – An existing, legally established nonconforming structure may be expanded outside of a critical area, buffer and ~~or~~ the ~~building~~ structure setback under the following standards and limitations:

a. Except as disallowed under subsection (3)(b) of this section for multifamily structures that are nonconforming for density, an expansion of a nonconforming structure that increases the footprint, impervious or hardscape area or size of the structure, including new upper floors, is permitted if the expansion or any other change to the structure is outside of the critical area, critical area buffer, and structure setback.

b. If the size of the new net impervious or hardscape surface or cost of new or replacement improvements meets KZC 90.130(3)(a), then the requirements of KZC 90.105 and 90.110 for a critical area determination and report, KZC 90.130 for vegetative buffer, KZC 90.160 and 90.165 for monitoring and maintenance and financial security, and KZC 90.210 for dedication of critical area and buffer and subsection (6)(a)(11) of this section for fencing and signage shall be met.

c. If the size of new net impervious or hardscape area meets KZC 90.130(3)(b), the requirements of subsections (6)(a)(7) through (12) of this section shall be met.

6. Expansion of Nonconforming Structure that Increases the Nonconformance – An existing, legally established nonconforming structure may be expanded in~~to~~ a critical area buffer or the ~~building~~ structure setback under the following standards and limitations:

a. General Standards for Any Expansion

1) The expansion provisions of KZC 90.185(6)(b), (c), (d) and (e) are only permitted for those ~~structures~~ properties that have not received City approval for a critical area or buffer modification

allowed under this or a previous code or not received approval for a reasonable use exception pursuant to KZC 90.180;

2) A one (1) time expansion of each option found in subsections (6)(b) through (e) of this section is permitted on a subject property. No more than one expansion is permitted for each option except for above ground floor expansions per KZC 90.185.2.a. ~~See vegetative buffer standards in KZC 90.130;~~

3) No expansion is permitted in a critical area buffer that is a fish and wildlife or Priority Habitat conservation area without an approved management plan pursuant to KZC 90.95;

4) The following nonconforming improvements are allowed without going through review under subsections (6)(b) through (e) of this section if a new or replacement foundation is not required:

a) Upper floor additions are allowed above the ground floor of an existing nonconforming building if they do not encroach closer to the critical area buffer or structure setback from the buffer beyond the existing exterior walls;

b) Existing carports ~~and decks with roofs~~ may be enclosed if the new exterior walls do not extend beyond the existing foundation or corner supports of the structure; and

c) An interior open courtyard of an existing building may be enclosed if the courtyard is covered entirely with impervious material. See subsection (6)(d) of this section if the material is not entirely impervious;

d) An existing deck may be covered up to 250 sq ft if the deck is not located on a high landslide area

5) Covering an existing deck with a roof greater than 250 square feet, or an existing pathway with a breezeway or similar improvements, may be proposed using the criteria in subsections (6)(b) through (e) of this section;

6) Any commercial parking required for additions shall not be located in the critical area buffer;

7) For any expansions to legally Non-Conforming structures, A critical area determination, report and a survey pursuant to KZC 90.105 and 90.110 are required if the wetland has not been rated and delineated pursuant to KZC 90.55 within the past five (5) years or the stream has not been classified or delineated pursuant to KZC 90.65;

8) ~~Compensatory mitigation~~ Critical area and ~~through~~ buffer ~~restoration~~ impacts associated with expanding building footprints shall ~~be provided as~~ comply with KZC 90.130; 90.145, and 90.150 and 95.27 for mitigation and restoration requirements:

~~a) A native vegetative buffer at a minimum ratio of 1:1 (new footprint area is equal to or less than vegetative buffer area) shall be provided;~~

~~b) If the new or expanded building footprint results in removal of a significant tree in a buffer, the tree shall be replaced with two (2) native trees in the buffer. The replacement tree shall be six (6) feet tall for a conifer and 2-inch caliper for deciduous or broadleaf. For a removed significant tree in a buffer that is 24 inches in diameter, the tree shall be replaced with three (3) native trees –~~

~~c) The vegetative buffer shall be located along the edge of the critical area or as close to the critical area as possible if the critical area is located off site;~~

~~d) The vegetative buffer shall be 10 feet in depth and located across from the building expansion area;~~

~~e) The buffer vegetative standards pursuant to KZC 90.130 shall be used as a guideline for the mitigation area; and~~

~~f) The mitigation is in addition to revegetation of any disturbed area;~~

9) A mitigation planting plan, shall be prepared by a qualified critical area professional approved by the City, and shall be submitted for approval as part of the building permit. Prior to final inspection, replanting of any disturbed area and the mitigation planting shall be installed by the applicant and inspected by the City;

10)A performance and three-year maintenance and monitoring security shall be submitted with the building permit pursuant to KZC 90.165 for the mitigation plan;

11) Permanent critical area fencing and signage is required. Prior to issuance of a building permit, the Planning Official shall determine the location of the required critical area fencing and signage to be installed pursuant to KZC 90.190.

a) The fencing shall be located at the edge of the buffer across the entire subject property. However, if all or portions of the buffer is covered by legally established lawn, nonnative vegetation and/or improvements, then the fencing shall be located at the boundary of that maintained area;

b) If the critical area is off site and that maintained area extends to the property line, then the fencing shall be located at the property line; and

c) Existing buffer fencing may need to be relocated to meet this provision;

12) A critical area covenant on a form approved by the City shall be recorded along with an as-built site plan showing the location of the approved expansion and mitigation vegetation in the buffer to protect the vegetated portion of the buffer in perpetuity. A critical area dedication pursuant to KZC 90.210 is not required for the vegetated portion of the buffer.

b. Expansion into Critical Area Buffer on Side of the Building Opposite of Critical Area

1) The footprint of an existing building may be expanded into the critical area buffer on the side of the building opposite of the critical area up to a maximum of 1,000 square feet. The existing building must be between the addition and the critical area (see Chapter 180 KZC, Plate 26);

2) Only a one (1) time expansion of this option is permitted for the subject property. See subsection (6)(a)(2) of this section; and

3) See general standards in subsection (6)(a) of this section for an expansion.

c. Expansion into Structure Setback from the Buffer

1) The footprint of an existing building may be expanded into the structure setback up to a maximum of 500 square feet;

2) If an addition is located at the edge of the buffer, the portion of the buffer next to the side of the addition abutting the buffer is considered a structure setback from the buffer. Only necessary maintenance and repair of the addition are permitted in this portion of the structure setback. No improvements pursuant to KZC 90.140 are permitted in this portion of the structure setback;

3) Only a one (1) time expansion of this option is permitted for the subject property. See subsection (6)(a)(2) of this section; and

4) See general standards in subsection (6)(a) of this section for a building expansion.

d. Expansion into Critical Area Buffer but No Closer than the Existing Building

1) The footprint of an existing building may be expanded into the critical area buffer, but no closer than the edge of the existing building nearest to the critical area, up to a maximum of 500 square feet (see Chapter 180 KZC, Plate 26);

2) An interior open courtyard of an existing building may be enclosed up to 500 square feet if the courtyard is covered partially or entirely with pervious material. This improvement can be done in conjunction with subsection (6)(d)(1) of this section if the total new impervious area of the expanded building does not exceed 500 square feet;

3) The minimum buffer width for the addition shall be 60 percent of the required buffer width standard pursuant to KZC 90.55 for wetlands and KZC 90.65 for streams;

4) Only a one (1) time expansion of this option is permitted for the subject property. See subsection (6)(a)(2) of this section; and

5) See general standards in subsection (6)(a) of this section for a building expansion.

e. Expansion into Critical Area Buffer between the Building and the Critical Area

1) The footprint of a building may be expanded into the critical area buffer between the building and the critical area up to a maximum of 250 square feet (see Chapter 180 KZC, Plate 26);

2) The new footprint must be attached to the original building and not to any subsequent footprint addition under subsection (6) of this section;

3) The minimum buffer width for the addition shall be 60 percent of the required buffer width standard pursuant to KZC 90.55 for wetlands and KZC 90.65 for streams;

4) Only a one (1) time expansion of this option is permitted for the subject property. See subsection (6)(a)(2) of this section; and

5) See general standards in subsection (6)(a) of this section for a building expansion.

90.190 Critical Area Markers, Fencing and Signage

1. Survey Stakes – Permanent survey stakes delineating the boundary of the critical area buffer per 90.110.7 shall be set, using iron or concrete markers as established by current survey standards. For public projects, alternative survey stakes may be approved by the Planning Official. ~~, such as flexible delineator posts~~.

2. Construction Fencing

a. Prior to commencement of any grading or other development activities on the subject property, a six-foot-high construction chain link fence with silt fencing must be installed along the entire edge of the buffer;

b. The fence may not be located in the critical area or its buffer, except see nonconformance section pursuant to KZC 90.185(2);

c. The Planning Official shall inspect the fence prior to commencement of any work;

d. The fence will ~~must~~ remain in place ~~until completion of the project and not be removed~~ until all exterior project work is completed, heavy equipment is removed from the site, permanent fencing and landscaping are ready to be installed, and removal is ~~at any time other than as~~ authorized by the Planning Official~~;~~ At no time shall the protective fence be adjusted or moved without authorization from the Planning Official.

e. The location of construction fencing for nonconformances shall be on a case-by-case basis as determined by the Planning Official; and

f. The location of construction fencing for public agency and utilities activities, improvements or uses shall be determined on a case-by-case basis by the Planning Official.

g. A temporary gap or gate in construction fencing for the purposes of buffer enhancement work prior to project completion may be approved by the Planning Official.

3. Permanent Fencing

a. Except as specified in subsections (3)(b) through (e) of this section, upon completion of the project:

1) A permanent split rail, open slatted with at least 18 inches between each slat, ~~wrought iron, chain link,~~ or similar nonsolid fence between three (3) and six (6) feet in height such as wrought iron, chain link, or similar open design must be installed along the entire edge of the buffer;

2) Solid privacy fencing is not permitted;

3) Except for split rail, a gate is required for pedestrian access to the buffer;

4) The fence may not be located in the critical area buffer, except for properties containing nonconformances pursuant to KZC 90.185(6)(a)(11);

5) The Planning Official shall inspect the fence prior to final inspection; and

6) The fence must be maintained and remain in perpetuity.

b. Except for utility substations, permanent fencing for the purpose of identifying critical area buffers is not required for public or private utility, ~~activities or uses occurring in~~ utility corridors, public rights-of-way, the Cross Kirkland Corridor or the Eastside Rail Corridor.

c. The location of permanent fencing for public properties ~~agency activities~~, ~~improvements or uses~~ shall be determined on a case-by-case basis by the Planning Official.

d. The location of fencing for nonconformances shall be determined on a case-by-case basis by the Planning Official. See KZC 90.185.

e. The location of fencing on steep slopes, high landslide, or other geohazard areas shall be determined on a case-by-case basis.

4. Permanent Signage

a. Upon completion of the project, permanent signage shall be attached to the fence stating that the protected critical area and buffer must not be disturbed other than necessary for maintenance of vegetation;

b. The signs must be maintained and remain in perpetuity;

c. Signage shall meet the administrative standards of the Planning and Building Department for design, number and location;

d. The location of signage for public agency activities or uses shall be determined by the Planning Official on a case-by-case basis;

e. Signage for nonconformances shall be determined on a case-by-case basis by the Planning Official. See KZC 90.185; and

f. The Planning Official shall inspect the signage prior to final inspection.

90.195 Pesticide ~~and Herbicide~~ and Fertilizer Use

~~Application of pesticides, herbicides, or fertilizers and irrigation practices for residential, commercial and institutional uses shall follow best management practices (BMP) for the application of pesticides, herbicides and fertilizers. These practices include:~~

~~1. Never apply pesticides and fertilizers if it is raining or about to rain;~~

~~2. *Repealed by Ord. 4701.*~~

~~3. Determine the proper fertilizer application for the types of soil and vegetation involved. Follow manufacturers' recommendations and label directions;~~

~~4. Clean up after spills immediately;~~

~~5. Use mulch or other erosion control measures when soils are exposed for more than one (1) week during the dry season or two (2) days during the rainy season;~~

~~6. Ensure sprinkler systems do not spray beyond vegetated areas resulting in the excess water discharging into the storm drain system; and~~

~~7. Use of hazardous substances, pesticides and fertilizers in a critical area containing a fish and wildlife habitat conservation area must follow state and City standards.~~

1. Application of pesticides including, herbicides, insecticides, rodenticides or synthetic fertilizers are prohibited in wetlands, streams and their buffers except as allowed for the following exceptions:

a The State or local Health Department recommends or directs their use to address a threat to public health;

b. A county, state, or federal agency with jurisdiction directs their use for control of a Washington State-regulated noxious weed or plant pest covered by the Washington State Department of Agriculture plant pest program, or King County-regulated or non-regulated noxious weed,

2. Applications shall be approved subject to the following standards:

a. If the use of a pesticide to control invasive plants and plant pests would have less overall adverse environmental impact than other control strategies, and non-chemical alternatives have been evaluated as ineffective;

b. The applicant has developed best management practices or an integrated pest/vegetation management plan consistent with RCW 17.15 standards to minimize chemical applications.

c. ~~If allowed, p~~Pesticide, herbicide, and synthetic fertilizer applications will be mixed and applied and reported directly by a Washington State licensed applicator with an aquatic endorsement for application near shorelines, wetlands and streams.

d. Application of approved pesticide, herbicide or synthetic fertilizers shall follow best management practices for use near shorelines, wetlands, streams and their buffers including:

1) All applicators have secondary spill protection or on site clean up equipment and follow no contact chemical transfer protocols

2) At no time shall chemical treatments be applied during a temperature inversion, or be allowed to accumulate or run on soil surfaces.

3) All treated areas must comply with erosion prevention and bare soil and replanting requirements .

4) All treatments must be applied per chemical label requirements

5) Public notifications shall comply with current regulations of the Washington State Department of Agriculture.

90.200 Critical Area Buffer and Structure Setback from Buffer Under Prior Approvals

1. If the City approved a development permit through Process I, II, IIA, IIB, or a Planning Official decision (excluding critical area determinations and delineations), and/or a subdivision or short subdivision, and that development permit or subdivision or short subdivision approval established critical area buffers and/or structure setbacks on the subject property allowed under the KZC at the time of approval, then those structure setbacks and/or buffers shall apply; provided, that:

a. The development permit or subdivision or short subdivision approval is valid; ~~and~~

b. The development permit or subdivision or short subdivision has not lapsed pursuant to the applicable lapse of approval standards; and

c. For recorded subdivisions and short subdivisions, a complete building permit application has been submitted for the parcels within the recording time limit for the subdivision or short subdivision as established in KMC 22.16.130 and KMC 22.20.370, respectively.

All further development activity and construction on the subject property shall comply with the provisions of this chapter.

2. All provisions of this chapter that do not conflict with the structure setback and/or buffer requirements set forth in subsection (1) of this section shall fully apply to the subject property.

90.205 Code Enforcement

Violations shall be subject to the City's code enforcement procedures and penalties under Chapter 1.12 KMC. In addition to any enforcement action or determinations pursuant to Chapter 1.12 KMC, enforcement for critical area violations shall meet the following requirements:

1. Unauthorized development activity, use, land surface modification or other disturbances to a critical area or buffer shall cease immediately. All disturbances shall be rectified and restored consistent with an approved correction plan;

2. A correction plan, prepared by a qualified critical area professional approved by the City, must be submitted to the City within 30 calendar days of the enforcement notice from the City in conformance with this chapter unless otherwise approved by the City;

3. The correction plan shall include:

a. Site plan drawn to scale;

b. Location of the sensitive area and buffer;

c. Affected area;

d. A restoration plan that includes a planting plan that meets the requirements for a vegetative buffer in KZC 90.130 if the disturbance occurred in the buffer. If the disturbance occurred in a stream or wetland, the restoration plan must propose appropriate restoration based on the type of wetland or stream;

e. The Planning Official may require a critical area report pursuant to KZC 90.110, funded by the property owner, or at a minimum a wetland delineation of the disturbed wetland, classification of a stream if it cannot be determined by the City, boundary of the critical area buffer and a survey depending on the extent and nature of the disturbance; and

f. The critical area report shall make recommendations on a correction plan. The City may require the applicant to fund City peer review of the correction plan depending on the nature and extent of disturbance.

4. The Planning Official shall review and approve the correction plan based on the regulations in this chapter and inspect the restoration after installation. The City may require the applicant to fund City peer review to inspect the restoration plan depending on the nature and extent of disturbance;

5. The applicant shall pay the City's cost for the enforcement, including review of the plan and doing the inspection;

6. The City may require a monitoring and maintenance plan for approval by the Planning Official pursuant to KZC 90.160 depending on the nature and extent of the disturbance;

7. The City may require a performance and maintenance/monitoring financial security for restoration depending on the nature and scope of the disturbance. If a security is required, the security shall be on a form and in an amount determined by the Planning Official. See KZC 90.165;

8. The correction work shall be completed within 60 calendar days from the date of the enforcement notice, unless otherwise specifically approved by the Planning Official;

9. The requirements for a critical area dedication must be met pursuant to KZC 90.210; and

10. For repeat violators, the City is authorized to require monitoring and maintenance to extend beyond requirements of KZC 90.160 and funded by the violator.

90.210 Dedication and Maintenance of Critical Area and Buffer

1. Dedication

a. Consistent with law, the applicant shall dedicate development rights, air space, or grant a greenbelt protection or open space easement to the City to protect sensitive areas and their buffers;

b. Land survey information shall be provided by the applicant for this purpose in a format approved by the Planning Official;

c. The applicant shall record the dedication with the King County Recorder's Office as part of a subdivision recording or prior to issuance of a final inspection for all other developments;

d. The applicant shall provide proof of title ownership for the wetlands and buffers, including any compensatory mitigation areas; and

e. If the applicant does not hold title ownership to the mitigation site, proof of perpetual right to locate the mitigation on the subject property shall be provided.

2. Critical Area Boundaries Subject to Change – Critical area categories, ratings, classifications and boundaries are subject to change due to amendments to this chapter and/or physical changes to the subject property or vicinity. Subsequent development on a subject property may require a change in the boundary of critical area tract or easement.

3. Removal or Modification of Dedication

a. The Planning and Building Director may authorize removal or modification to a recorded critical area dedication; provided, that removal or modification does not conflict with any requirement of this chapter or prior approval;

b. The applicant shall submit a request in writing along with documentation as to why the dedication should be removed or modified and how the change is consistent with this chapter, along with any required review fee; and

c. If the removal or modification is approved, the applicant shall record a document with King County Recorder's Office revising the dedication.

4. Maintenance of Critical Area and Buffer – In critical areas and their buffers, native vegetation shall not be removed without prior City approval. It is the responsibility of the property owner to maintain critical areas and their buffers by removing nonnative, invasive, and noxious plants in a manner that will not harm critical areas or their buffers.

90.215 Liability

Prior to issuance of a land surface modification permit or a building permit, whichever is issued first, the applicant shall enter into an agreement with the City that runs with the property, in a form acceptable to the City Attorney, indemnifying the City from any claims, actions, liability and damages to critical areas arising out of development activity on the subject property. The applicant shall record the agreement with the King County Recorder's Office.

90.220 Appeals

Any decision made by the Planning Official or Planning and Building Director pursuant to this chapter may be appealed using, except as stated below, the applicable appeal provisions of Chapter 145 KZC. If a proposed development activity requires approval through Process IIA or IIB (as described in Chapters 150 and 152 KZC, respectively), any appeal of a classification, determination, or decision shall be heard as part of that other process.

90.225 Lapse of Approval

Any decision made by the Planning Official and Planning and Building Director authorized by this chapter shall be subject to the lapse of approval provisions of KZC 145.115 unless otherwise specified in this chapter.

EDITING NOTES / REFERENCES

New Text = Underlined

* * * = indicates intentionally omitted sections

Chapter 95 – TREE MANAGEMENT AND REQUIRED LANDSCAPING

Sections:

* * *

95.27 Trees in Critical Areas, Critical Area Buffers and Riparian Management Zones

1. Removal of Trees

a. Other than as specifically approved as part of a critical area permit under Chapter 90 or 85, no trees shall be removed from a critical area, critical area buffer, or high landslide hazard area unless determined to be nuisance or hazardous trees. Any removal shall be authorized in advance through a tree removal permit pursuant to Chapter 95 KZC, unless tree removal is an emergency per KZC 95.15.

b. If a tree in a critical area or critical area buffer meets the criteria of a nuisance or hazard at the determination of the Planning Official, then a snag tree shall be created. If creation of a snag is not feasible, then the felled tree, stump and supporting root system shall be left in place unless the Planning Official approves full tree removal in writing.

c. If a regulated tree in a in a high landslide hazard area is determined by the Planning Official to meet the criteria of a hazard or nuisance tree under this code, only the stump and supporting root system shall be left in place.

d. Any tree approved to be removed, created as a snag, or felled with stump and root system retained must be replaced with a minimum of three (3) native or climate ready trees at a minimum size of five (5) gallon or a height of four (4) feet in size within the buffer. Landmark trees shall be replaced with native or climate-ready trees from the "Kirkland Landmark tree list" and trees in high landslide hazard areas shall have at least two (2) of the tree replacement trees be conifers.

The Planning Official shall determine the required number of replacement trees, including additional trees to replace landmark canopy loss, based on the size, species, and viability of the trees removed and proposed for replacement.

2. Pruning of Trees – Pruning or topping of trees in wetlands, streams, or flood plains critical areas or buffers is prohibited other than for City approved mitigation for nuisance or hazard trees.

3. Trees in Riparian Management Zones or in high landslide areas outside the regulated wetland, stream, flood plain buffer may be pruned according to 95.20 and 95.21. No more than 25% of the canopy may be pruned in any year, and all trees shall have a minimum of 40% crown canopy retained. Topping of any tree is prohibited.

95.28 Trees and Vegetation in Geologically Hazardous Areas

The provisions below apply to trees and vegetation not associated with development activity unless otherwise determined by the Planning Official.

1. Where geologically hazardous areas overlap with other critical areas, tree removal shall follow 95.27.

2. Tree Pruning and Removal in Moderate Landslide Hazard Areas – see KZC 95.25

3. Tree Pruning and Removal in High Landslide Hazard Areas – see KZC 95.27

4. Vegetation Removal – Removal of vegetation, including shrubs and groundcover, within a high landslide hazard area is prohibited without prior approval of the City. Vegetation must be replaced within 60 days of removal unless otherwise determined by the Planning Official. Failure to comply may result in code enforcement.

* * *

Staff note for amendments to KZC 90.55 and 90.65: Attachment 3 to the October 23, 2025 Planning Commission packet includes the official proposed amendments to KZC sections 90.55 and 90.65, where the tables therein are shown as completely removed, with the reformatted code sections showing as completely new (following City standards for legislative amendments). However, much of the existing code language from those tables is being retained, and the actual amendments to the standards are shown in track changes in the below code excerpts. This supplement to the hearing packet is provided for reference only and shows ~~removed text in strikethrough~~, and added text as underlined.

WETLANDS

90.55 Wetlands and Associated Buffer Standards

1. Wetland Classification and Rating - In accordance with the 2014 Department of Ecology, Washington State Wetland Rating System for Western Washington, Version 2.0, as revised. Wetland category and rating shall be determined through a survey and field investigation by a qualified critical area professional approved by the City as part of a critical area report in KZC 90.110. Wetland rating categories shall not change due to illegal modification.
2. Wetland Delineation- In accordance with the approved federal delineation manual and applicable regional supplements described in WAC 173-22-035 and based on field investigation and a survey. See KZC 90.110.
3. Wetland Determination - Planning Official makes determination if a regulated wetland and/or a buffer exists on the subject property, and if so, its category, rating, boundaries and buffer width based on a required critical area report pursuant to KZC 90.110. In addition, The Planning Official makes the determination if the standard reduced buffer meets the buffer vegetative standards in KZC 90.130.
4. The Reduced Buffer (Table 90.55.1) is equivalent to 75% of the Regulated Wetland Buffer Width (Table 90.55.2). Impacts inside the regulated buffer require mitigation to ensure a no net loss to the function of the protected critical area. See KZC 90.130 for mitigation standards.

Table 90.55.1 ~~Standard~~ Reduced Wetland Buffer Widths

Wetland Category	~~Standard~~ Reduced Buffer Width Based on Habitat Points		
	3-5 habitat pts.	6-7 habitat pts.	8-9 habitat pts.
Category I: Bogs and Wetlands of High Conservation Value	190 feet	190 feet	225 feet
Category I: Others	75 feet	110 feet	225 feet
Category II	75 feet	110 feet	225 feet
Category III	60 feet	110 feet	225 feet
Category IV	40 feet [1]		

Note 1: Category IV wetlands less than 1000 Sq. ft. do not require a buffer

5. **4.**Regulated Wetland Buffer Width ~~Alternative~~ - Applicant can choose not to comply with the vegetative buffer standards in KZC 90.130 by complying with the following requirements:

a. Apply the regulated buffer width ~~Increase buffer width listed above in Wetland Buffer Width by 33% within~~ listed in Table 90.55.2 across the entire buffer.

b Remove all structures and improvements within the regulated buffer and restore the area of disturbance to meet minimum vegetative buffer standards in KZC 90.130 at a 1:1 ratio.

c. Discontinue any maintenance of lawn and nonnative vegetation within the regulated buffer and restore the area of disturbance to meet minimum vegetative buffer standards in KZC 90.130 at a 1:1 ratio.

d. Cease all activities in the buffer, except those permitted under KZC 90.35 ~~(12) and (13)~~.
e. In no case shall a ~~standard~~ reduced buffer and the regulated buffer ~~standard~~ and their associated requirements be combined for a development proposal; development applications shall propose compliance with a single buffer standard (regulated or reduced) for the entirety of the subject property.

Table 90.55.2 Regulated Buffer Width

Wetland Category	Regulated Buffer Width Based on Habitat Points		
	3-5 habitat pts.	6-7 habitat pts.	8-9 habitat pts.
Category I: Bogs and Wetlands of High Conservation Value	250 feet	250 feet	300 feet
Category I: Others	100 feet	150 feet	300 feet
Category II	100 feet	150 feet	300 feet
Category III	80 feet	150 feet	300 feet
Category IV	50 feet [1]		

Note 1: Category IV wetlands less than 1000 Sq. ft. do not require a buffer.

6. Wetland and Buffer Width Modifications ~~Standards~~
a. KZC 90.145, 90.150, 90.155 apply for all buffer width reductions
~~b. Category IV wetlands less than 1000 sq ft do not require a buffer.~~
c. Buffer averaging is permitted for both the ~~standard~~ reduced buffer and the regulated ~~alternative~~ buffer if criteria are met in See KZC 90.115.
d. Increased buffer width may be required if a wetland 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 90.125.
e. For wetlands that score 6 or more points for habitat function, the following conditions must be maintained in order to use the reduced ~~standard~~ buffers:
    1) If an existing, relatively undisturbed vegetated corridor at least 100 feet wide exists between the on-site wetland and other priority habitats, as defined by the Washington State Department of Fish and Wildlife, and the off-site portion of the corridor is already protected via an existing conservation easement, critical areas regulations, or other legal requirement, the portion of the corridor on site must also be protected by a similar legal protection.
    2) If no such corridor is present to protect, the ~~standard~~ reduced buffers alone may be used with the other applicable criteria contained in KZC 90.55.
    3) If an option for protection of a corridor, as defined in this section exists on the parcel but is not provided, the ~~standard~~ regulated buffer width must be ~~increased by 33%~~ used.
    4) The evaluation of the presence or absence of the conditions described above must be completed as part of the critical areas report.
f. Modification to a wetland and associated ~~related~~ impacts to buffers require approval pursuant to a Process ~~1~~ I, Chapter 145 KZC along with a critical area report, a mitigation sequencing analysis and compensatory mitigation plan. See KZC 90.60, 90.110, 90.115, 90.145 and 90.150.
g. Buffer standard may be modified pursuant to KZC 90.40 for vehicular access to a property that is both a legal building site and a buildable site ~~pursuant to KZC 90.40~~ and for an interrupted buffer pursuant to KZC 90.120. Also see nonconformances pursuant to KZC 90.185.
h. A 10-foot wide structure~~al~~ setback is required from the ~~upland~~ edge of the entire buffer. Improvements listed in KZC 90.140 are permitted in the setback~~.~~

7. Other Standards:

a. Activities, improvements and uses are prohibited within wetlands and associated buffers, except those exempted or permitted subject to development standards in KZC 90.35 and 90.40, or those approved under a City review process in this chapter. The provisions of this chapter do not supersede or negate the need for any applicable state or federal permits or their respective requirements.

b. Development proposals using ~~standard~~ reduced buffers must meet the vegetative buffer standards. See KZC 90.130.

c. Wetlands that are degraded must be restored if the project is subject to KZC 90.130(3)(a) for the vegetative buffer standard and/or if a wetland modification is proposed. A critical area report shall address any needed restoration due to degraded vegetation, habitat, water quality and hydrologic functions.

d. Impacts to regulated wetland buffers shall be mitigated at a minimum of a 1:1 ratio (every square foot of permanent disturbance must have an equivalent amount of buffer meeting the minimum vegetative requirements in KZC 90.130). If minimum vegetative standard requirements within the reduced buffer are less than the impacts on site, additional mitigation must be provided in accordance with the location of mitigation preferences in KZC 90.145.3.

e. Measures to minimize impact to wetlands must be implemented for all development using the standard buffer and occurring inside the regulated buffers. See KZC 90.155.

f. Isolated category IV wetlands less than 4000 square feet and wetlands less than 1000 square feet pursuant to KZC 90.60 are not required to follow ~~meet~~ mitigation sequencing. Only ~~but~~ compensatory mitigation is required ~~pursuing~~ pursuant to KZC 90.150.

g. Fencing and signage are required along the entire ~~upland~~ edge of the determined buffer both during construction and upon completion of the project. See KZC 90.190.

~~h. For voluntary restoration, see KZC 90.35 and 90.40.~~

i. Wetlands and buffers shall be placed in recorded critical area easements or tracts for perpetual protection and maintenance. See KZC 90.210.

STREAMS AND RIPARIAN MANAGEMENT ZONES

90.65 Streams and Associated Buffer Standards

Streams,and associated buffers standards and Riparian Management Zones (RMZ's) are regulated Fish and Wildlife Habitat Conservation areas as defined in WAC 365-190-030. Regulations for protection of these areas are provided in this section. The table below is a summary of the stream regulations. More details are provided for some of the regulations elsewhere in this chapter.

1. Stream Classification – Streams shall be typed pursuant to In accordance with WAC 222-16-030 and WAC 222-16-031, as amended, The Planning Official makes final determination. stream classifications must be determined based on location of the OHWM or top of bank and an assessment of supporting habitat features. This assessment must be performed by a qualified critical area professional. Stream classification shall not change due to illegal modifications.

2. Stream Determination - Planning Official shall makes determineation the following:
   a. If a regulated stream, and/or buffer exists on or within 150 feet of any portion the subject property;
   b. The extent of Riparian Management Zone impact on the property pursuant to KZC 90.67;
   c. and if so, t The stream's classification and boundary, and width of buffer and interruptions to that buffer based on required critical area report pursuant to KZC 90.110,
   d. In addition, the planning Official makes dertimination I If the standard reduced buffer meets the vegetative buffer standards in KZC 90.130; and
   e. If the planning official is uncertain if a watercourse on or within 150 feet of the property is classified as a stream, or if the stream has not already been typed, a critical area report shall be required

3. Reduced Stream Buffer Width standard - A reduced stream buffer (Table 90.65.1) may be allowed if the respective area on the subject property meets the minimum vegetation buffer standards in KZC 90.130. All allowed impacts inside the regulated buffer shall also be mitigated pursuant to KZC 90.145.

Table 90.65.1 Standard Reduced Stream Buffer Widths

Standard Reduced Stream Buffer Widths

Stream Type	Buffer Width
Type F (Fish bearing) (2 and 3) waters	100 feet
Type Np (Perennial non-fish bearing) (4 and 5) waters	50 feet
Ns (Seasonal non-fish bearing)	50 feet

Note: Piped streams and other disconnected streams not rated as N streams do not require a stream buffer or riparian management zone. All streams have a structure set back requirement (KZC 90.140) .

4. Regulated Stream Buffer Width Alternative - Applicant may choose not to comply with the vegetative buffer standards in KZC 90.130 by complying with the following requirements:
   a. Increase buffer width listed above in stream buffer widths by 33% within the entire buffer. Apply the regulated buffer width shown in Table 90.65.2, across the entire buffer.
   b. Remove all illegal structures and improvements from, and remove or mitigate for remaining legal non-conforming structures and improvements within the regulated buffer,

c. Discontinue any maintenance of lawn and nonnative vegetation within the regulated buffer, and

d. Cease all activities in the buffer, except those permitted under KZC 90.35~~(12) and (13).~~

e. In no case shall a standard and an alternate buffer standard be combined for a development proposal.

Table 90.65.2 Regulated Stream Buffer Widths

Stream Type	Buffer Width
Type F (2 and 3) waters	133 feet
Type N (4 and 5) waters	75 feet

5. Stream Buffer Width ~~Standards and~~ Modifications

   a. Increased buffer widths may be required based on critical area report recommendations (See KZC 90.125) if:

      1) The stream or its buffer contains or is adjacent to a severe erosion or landslide area,

      2) The stream or buffer contain a priority species with larger habitat requirements ~~retention areas of certain species~~ per KZC 90.95.

      3) The stream is in ~~a for~~ larger frequently flooded area~~s~~ or channel migration zone.

   b. Buffer averaging is permitted for both the ~~standard~~ reduced buffer and the regulated ~~alternative~~ buffer ~~per~~ if criteria are met in ~~See~~ KZC 90.115.

   c. Buffers shall be provided where a stream abuts an inlet and outlet of a piped/culverted stream as shown in Chapter 180 KZC, Plate 16A. When culverts extend into the stream channel from a developed or disturbed area, buffers may be adapted to include areas around the pipe per the decision of the Planning Official.

   d. A 10-foot-wide structure setback is required from ~~upland~~ edge of the entire buffer. For streams without buffers, such as piped streams, setback shall be from the top of bank or edge of structure. Improvements listed in KZC 90.140 may be permitted within the setback.

   e. Buffer standards may be modified for vehicular access to a property that is both a legal building site and a buildable site pursuant to KZC 90.40, for daylighting a stream pursuant to KZC 90.75, and for limited buffer waivers pursuant to KZC 90.120. Also, see KZC 90.185, Nonconformances.

6. Other Stream Buffer Standards

   j. Activities, improvements, and uses in streams and stream buffers ~~. Activities, improvements and uses~~ shall be prohibited within streams and associated buffers, except those exempted or permitted subject to development standards in KZC 90.35 and 90.40, or those approved under another City review process in this chapter. The provisions of this chapter do not supersede or negate the need for any applicable state or federal permits or their respective requirements.

   k. Development proposals using ~~standard~~ reduced buffers must meet vegetative buffer requirements pursuant to KZC 90.130.

l. Daylighting of a stream is encouraged. The Planning Official makes decision unless it is part of approval pursuant to Process I, Chapter 145 KZC. See KZC 90.75.

m. Streams that are degraded must be restored if ~~the project is subject to KZC 90.130(3)(a) for a vegetative buffer and/or~~ a stream modification is proposed. A critical area report shall address any needed restoration due to degraded vegetation, habitat, water quality and hydrologic functions with specific consideration for anadromous salmon.

n. Impacts to regulated stream buffers shall be mitigated at a minimum of a 1:1 ratio (every square foot of permanent disturbance must have an equivalent amount of buffer meeting the minimum vegetative requirements in KZC 90.130). If minimum vegetative standard requirements within the reduced buffer are less than the impacts on site, additional mitigation must be provided in accordance with the location of mitigation preferences in KZC 90.145.3.

o. Fencing and signage are required along the entire upland edge of buffer both during construction and upon completion of a project. See KZC 90.190.

p. For voluntary restoration of streams and buffers or instream maintenance, see KZC 90.35 and 90.40.

q. Streams and buffers shall be placed in recorded critical area easements or tracts for perpetual protection and maintenance. See KZC 90.210.

r. Buffers for Type F streams identified as anadromous fishery habitat shall also conform to requirements in 90.95

~~s. For code enforcement to correct an illegal modification to a stream of buffer, see KZC 90.205~~

Jennifer Anderer

From: Veronica Shakotko <Vshakotko@mbaks.com>
Sent: Wednesday, September 24, 2025 10:31 AM
To: Planning Commissioners
Cc: Anna Heckman; Jennifer Anderer; Adam Weinstein; Allison Zike
Subject: MBAKS Written Comments re: Critical Areas Ordinance Updates - September 25 Agenda
Attachments: 2025, 9-24 MBAKS CAO Comment Letter to PC.pdf

Dear Chair Rutherford, Vice Chair Rozmyn, and Planning Commissioners,

In preparation for tomorrow's briefing on Critical Areas Ordinance updates, I've attached MBAKS' supplemental comment letter dated September 24, 2025, for your consideration.

In the attached letter, we provide detailed recommendations to ensure the ordinance remains workable for housing providers, especially for modest infill projects and middle housing. We also emphasize the importance of local discretion under the GMA and note that Kirkland's current regulations have not been shown to be out of compliance with environmental or legal standards. As Kirkland plans for 13,200 new homes by 2044, efficient use of land and predictable permitting are essential. Every project delayed by uncertain or overly cautious regulation contributes to the widening housing gap.

Key recommendations in our letter include:

- Exempting low-risk residential projects in hazard areas.
- Limiting peer review to high-risk or complex cases.
- Distinguishing between natural and engineered slopes.
- Clarifying and limit RMZ requirements in the preferred Option 1B.
- Preserving housing potential by rejecting SPTH buffer expansion.
- Expanding access to offsite mitigation.

Thank you again for your thoughtful consideration. Please don't hesitate to reach out with any questions.

Best regards,
Veronica

Veronica Shakotko
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Find us on
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MASTER BUILDERS ASSOCIATION of King and Snohomish Counties

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335 116TH AVENUE SE | BELLEVUE, WASHINGTON 98004

September 24, 2025

Kirkland Planning Commission
123 5th Avenue
Kirkland, WA 98033

RE: Critical Areas Ordinance Update Briefing #3 – September 25 Agenda

Dear Chair Rutherford, Vice Chair Rozmyn, and Commissioners:

The Master Builders Association of King and Snohomish Counties (MBAKS), with nearly 2,500 members, is the largest homebuilders' association in the U.S. MBAKS represents builders and developers who are working to create homes for current and future Kirkland residents. We believe everyone deserves a place to call home.

Thank you for the opportunity to provide additional comments on Kirkland's proposed updates to the Critical Areas Ordinance. We appreciate the thoughtful conversations from the Planning Commission, City Council, and staff. We also value the City's engagement with stakeholders and willingness to hear concerns.

As you are keenly aware, Kirkland is facing a significant housing gap. Washington's housing production is not keeping pace with economic and population growth, creating a severe imbalance between supply and demand. Kirkland is no exception. Under the adopted Countywide Planning Policies, the city must plan for 13,200 additional housing units by 2044.

These facts underscore a clear imperative: the efficient use of remaining developable land and the adoption of predictable, buildable regulations are essential. Every unnecessary regulatory barrier or delay undermines Kirkland's ability to meet its growth targets. If the permitting process becomes unpredictable or burdensome, small-scale and middle housing projects will be shelved or canceled. This not only delays needed supply, but it also accelerates the affordability crisis and increases displacement pressures.

Every stalled project, every unit lost to red tape, and every rule that lacks clarity or flexibility widens the housing gap. To deliver the housing Kirkland needs, the city must embrace policy tools that support infill, streamline permitting, and maintain regulatory certainty across neighborhoods.

On behalf of MBAKS, we offer the following recommendations and observations:

1. Kirkland Has Clear Discretion Under the GMA
Under the Growth Management Act, Kirkland has wide authority to tailor its regulations to meet local needs. In *Yakima County v. Eastern Washington Growth Management Hearings Board*, the court reaffirmed that cities have broad discretion to craft development regulations based on their own circumstances. In *Lewis County v. Western Washington Growth Management Hearings Board*, the court held that when regulations are challenged, the Board must presume they are valid unless they are clearly erroneous in light of the entire record.

We are unaware of any documented case or record evidence indicating that Kirkland's current CAO fails to protect critical areas, or that it is out of compliance with the GMA or scientific standards. That absence of demonstrated failure gives the Planning Commission and City Council room to adopt a balanced update that meets environmental goals while preserving housing feasibility.

2. Exempt Low-Risk Residential Projects in Hazard Areas
The draft ordinance requires geotechnical reports for even modest improvements if they fall within a mapped hazard area. For example, a ground-level backyard ADU built on flat, previously graded land may be required to hire an engineer and fund peer review. These are low-risk projects that do not increase landslide potential. We recommend creating clear exemptions for additions, accessory structures, and remodels that stay within previously disturbed areas. This would reduce cost and delay while allowing staff to focus resources on higher-risk sites.

3. Limit Peer Review to High-Risk or Complex Cases
Peer review can cost between $3,000 and $5,000. In many cases, it results in only minor comments instead of meaningful changes. For example, a homeowner who wants to add a second-story dormer may have to pay for third-party review just because the lot is in a mapped slope area. This requirement may apply even if the slope is untouched and the addition is stamped by a licensed engineer. We recommend making peer review optional. It should be required only when staff identify a clear and specific risk. This would streamline the process without reducing safety or environmental protection.

4. Distinguish Between Natural and Engineered Slopes
The current definition of geologic hazard areas is based solely on slope percentage, not on function or stability. This fails to account for engineered slopes that have been stabilized through grading or retaining walls. For example, a previously graded subdivision with stepped retaining walls is treated the same as an undisturbed ravine. We recommend amending the code to differentiate between natural and engineered slopes and allow these features to be excluded from hazard area designations when documented.

5. Clarify and Limit Riparian Management Zone (RMZ) Requirements
Option 1B introduces a new RMZ framework with performance-based standards. While this option is more flexible than simply expanding buffers, it still presents uncertainty. Requirements such as native planting, noise reduction, and low-impact development techniques may apply even when the project does not encroach into the buffer. For example, a homeowner rebuilding an existing structure in its legal footprint may be required to install native vegetation or modify lighting systems, even if no new buffer impact occurs. The code should clearly state when RMZ requirements apply and provide exemptions for redevelopment, legal nonconforming uses, and other low-impact projects.

6. Do Not Apply Site Potential Tree Height (SPTH) in Urban Buffer Calculations
The SPTH approach would apply a one-size-fits-all metric of 150-foot buffers based on hypothetical tree height rather than actual conditions. This would significantly reduce buildable area on urban lots. For example, a Type N stream that currently has a 50-foot buffer could suddenly become subject to a 150-foot buffer if SPTH is applied, even in areas with no existing tree canopy. This could render entire lots undevelopable. We recommend relying on observed site conditions rather than theoretical models.

7. Expand Access to Offsite Mitigation and In-Lieu Fees
On-site mitigation is not feasible on many small infill lots. A triplex on an 8,000-square-foot lot may not have room to plant buffer vegetation or trees without compromising the layout or function of the housing.
We recommend codifying in-lieu fee and mitigation banking options, without requiring a variance or site-specific hardship showing. This gives builders and homeowners a predictable path forward on constrained sites while still delivering ecological benefit.

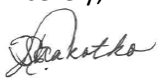
8. Shorten Monitoring and Maintenance Requirements for Small Projects
Five years of monitoring and maintenance can create long-term cost burdens, particularly for small projects. For example, planting a handful of shrubs to offset a minor buffer impact may still trigger a five-year monitoring schedule with annual reports costing $2,800 each year. We recommend reducing the monitoring duration for low-impact projects or allowing categorical exemptions where mitigation is limited in scope. This aligns cost with risk.

9. Improve Mapping Tools and Provide an Administrative Pathway for Clarification
Kirkland's GIS mapping tools are helpful but can be overly conservative or outdated. A site may appear within a mapped hazard area or stream buffer due to inaccurate topography or historical vegetation that no longer exists. Currently, the only way to challenge a map designation is through a full technical study. We recommend giving applicants the ability to request a staff-level map correction or administrative review process to avoid unnecessary delay and cost.

10. Maintain a Balanced and Predictable Process
When layered together, expanded buffers, RMZ requirements, peer reviews, and long-term monitoring create cumulative costs and uncertainty. This can make otherwise viable projects infeasible. For example, a builder proposing a two-lot short plat near a stream may need to submit multiple technical studies, fund peer review, plant vegetation, pay for five years of monitoring, and negotiate offsite mitigation. These layers of review can cause projects to be shelved, especially for modest infill and middle housing. We urge the City to ensure that permitting thresholds are clear, mitigation paths are flexible, and that requirements are tied to actual site risk and impact. This will support the City's housing goals and promote good environmental outcomes.

Thank you again for the opportunity to comment. We stand ready to work with the City on solutions that meet both environmental and housing needs.

Sincerely,



Veronica Shakotko | MBAKS
Senior King County Government Affairs Manager

CC: Anna Heckman, Environmental Program Coordinator
Jen Anderer, Senior Planner
Allison Zike, AICP, Deputy Planning & Building Director
Adam Weinstein, AICP, Planning & Building Director

Jennifer Anderer

From: Sharon Sherrard <sherrard.family@gmail.com>
Sent: Tuesday, September 9, 2025 3:24 PM
To: Anna Heckman
Subject: Streams, wetlands and slopes changes

My late husband and I moved to our house at 558 20th Ave in September 1991. I don't recall anything being said about a "critical area" at the time. However, I believe my property encompasses all three of these! The "stream" would be a seasonal stream that is usually dry in the summer months. A number of years ago, we had a period with several atmospheric rivers/rainstorms and there was a landslide on the slope that ended up down the hill on Forbes Creek Drive, so I am pretty confident my property would qualify as a critical area! I went to the website indicated to read about this, but would love to actually talk with someone about how this would impact me. Would that be you? If not, who could I talk with before either of these meetings? Thanks for your help.

Sharon Sherrard

Jennifer Anderer

From: M3 Sweatt <m3sweatt@outlook.com>
Sent: Tuesday, September 23, 2025 9:45 AM
To: Anna Heckman
Subject: Feedback on Critical Area Ordinance

Dear Ms. Heckman –

As a local resident and property developer in Kirkland, I read through the two options being considered for stream buffer rules.

I wanted to share my perspective and take aways on the proposals, as well as breakdown of some of the pros and cons. While I have completed the online form page, it does not offer an option for structured feedback, nor was an email address indicated on the site or mailer. I trust that you will forward this to the appropriate contacts in the City for review and consideration.

Option 1: Keep the current buffer, add a Riparian Management Zone (RMZ)

This approach keeps an existing stream buffer but adds a zone next to it (the RMZ) where any new development must use special techniques that help protect water quality and wildlife habitat.

Pros

- Some flexibility for property owners: People who want to redevelop their property might prefer this, since it lets them keep more usable space. You can still develop closer to streams if you use low-impact and wildlife-friendly building methods. (As a side note, this may require the City to better / improve the definition of what denotes a stream: there are different interpretations based on various maps used in assessing development areas, and not consistently applied.)
- Targeted environmental upgrades: Instead of just making buffers wider, this focuses on things like planting trees or installing rain gardens. These actions could make a noticeable difference for water quality on each property and provide other community improvements.
- Less visual impact: Since the buffer size isn't increasing, there's less chance of changing the look or feel of properties with smaller existing buffers.

Cons

- Inconsistent results: Because each property can use different techniques, the effectiveness might vary a lot from place to place. The health of the stream could end up depending on how well each project follows the RMZ rules.
- Not always as effective: Using special techniques in an RMZ instead of just making the buffer bigger may not always protect streams as well. As you may be familiar, research suggests wider, naturally vegetated buffers do a better job filtering pollution and slowing stormwater runoff. (See Wetland/Riparian Management (US EPA) and Riparian Forest Buffers (USDA))
- More complicated for homeowners: If you want to build something major, the rules are more complex. You'll have to make sure your plans meet all the new RMZ requirements, which could make the process trickier, longer, more expensive, and not as flexible.

Option 2: Increase the width of the buffer and restore native plants

With this option, the buffer along streams would get wider for major new development. The expanded area would be planted with native trees and shrubs to help the environment.

Pros

- Stronger environmental benefits: Wider buffers do a better job protecting streams. They help filter out pollution, control erosion, absorb and slow down floodwaters, and give more space for wildlife. This matches up with new state guidelines calling for wider buffers.
- Long-term consistency: This creates a more permanent, reliable way to protect streams. A wider buffer of native plants builds a stronger, self-sustaining natural system that benefits the whole community.
- Meets state standards: Adopting bigger buffers would follow the latest recommendations from the state and support Kirkland's environmental goals.

Cons

- Less buildable space: Some property owners would lose usable land if buffer zones get bigger. New development or big additions would have to move back or have to pay for more specific retrofits or rebuilds, limiting building options and increasing costs. And property owners adjacent to these developments and just beyond the extended scope would be at a competitive and financial advantage given these allowances.
- Impact on property values: Having less room to build could affect property values, though some people might see the improved natural area as a bonus. Additional costs would also impact and could reduce investment in improved housing and accessory structures (Accessory Dwelling Units, or ADUs), reducing the opportunity to care for aging parents, adult kids, and future flexibility to home owners.
- Stricter land use rules: This approach puts tighter limits on how close you can build to what is currently interpreted / designated as a stream, which could affect the design, approval, cost, and construction time of remodels and new homes.

As this discussion moves forward, I want to express both my concern and gratitude to the City for fostering openness throughout the process. The opportunity for residents to participate in planning commission meetings and to share feedback is invaluable and ensures a diverse set of voices and experiences to be considered.

M E Sweatt

Jennifer Anderer

From: johanna@thepalmers.com
Sent: Monday, September 29, 2025 6:32 PM
To: Anna Heckman
Cc: Jennifer Anderer; Allison Zike
Subject: Re: Request for presentation on the Critical Areas Update for the Evergreen Hill NA meeting Oct 15th 7:00 PM

Follow Up Flag: Follow up
Flag Status: Flagged

Thank you Anna,

The link is posted below. One area of concern for a couple of our regular attendee is the slope between NE 128th Pl and NE 126th Pl between 132nd Ave NE and about 128th NE. Are there any changes related to that slope? Are there extra requirements if the home is near the slope and the homeowner wants to remodel?

Topic: Evergreen Hill Neighborhood Association

Time: Oct 15, 2025 07:00 PM Pacific Time (US and Canada)

Every month on the Third Wed, until Oct 15, 2025, 2 occurrence(s)

Join Zoom Meeting

https://us06web.zoom.us/j/84821303338?pwd=9YbTHaShHtlfKO4ZCnDF2xfCOO5cTE.1

Meeting ID: 848 2130 3338

Passcode: 983910

On 2025-09-18 7:54 am, Anna Heckman wrote:

> Hi Johanna –
> Thank you for reaching out. We have you on our calendar! Please feel free to send a zoom link invitation to Allison, Jennifer and Myself.
>
> If specific questions come up before the meeting please feel free to let us know so we can prepare visuals to help explain if needed. We look forward to meeting with you!
>
> -Anna
>
> **From:** johanna@thepalmers.com <johanna@thepalmers.com>
> **Sent:** Wednesday, September 17, 2025 8:41 PM
> **To:** Anna Heckman <aheckman@kirklandwa.gov>; Jennifer Anderer <janderer@kirklandwa.gov>
> **Subject:** Request for presentation on the Critical Areas Update for the Evergreen Hill NA meeting Oct 15th 7:00 PM

Hello,

I saw your presentation at KAN on the Critical Areas Update and am inviting you to present at the October 15th Evergreen Hill Neighborhood Association. Our meeting begins at 7:00PM and is via Zoom only.

Several of our attendees live on NE 128th Pl just south of 132nd Square Park and may have questions relating to Geologically Hazardous Areas (GHA).

Thank you for your attention.

Johanna Palmer

425-922-6888

Davis Wright Tremaine LLP

Suite 3300
920 Fifth Avenue
Seattle, WA 98104-1610

Clayton Graham
206.757.8052 tel
206.757.7052 fax

claytongraham@dwt.com

October 21, 2025

VIA EMAIL

Planning Commission, City of Kirkland
Email: PlanningCommissioners@kirklandwa.gov

Re: Comments on Proposed Amendments to Chapter 90, Kirkland Municipal Code (Critical Areas Ordinance)

Dear Chair Rutherford and Members of the Planning Commission:

This firm represents Kirk and Carol Mathewson. The Mathewsons and certain affiliated entities are owners of King County Assessor's Tax Parcel Nos. 3892100045, 0825059070, 0825059238, 0192400060, 0192400080, 3892100080, and 0825059020 in the City of Kirkland (referred to here as the "**Subject Property**"). We submit this correspondence to provide public comment on the City's proposed Critical Areas Ordinance (CAO) updates, which is scheduled to be addressed in a public hearing on October 23, 2025.

Our clients' property includes a channel occasionally referred to by the City as Houghton Creek (the "**Subject Channel**"), which the City has effectively incorporated into its stormwater conveyance system through approximately three miles of underground pipes, although some city documents refer to the Subject Channel as a "stream." During heavy rains, the Subject Channel becomes a high-velocity, debris-laden torrent that erodes the property, creates sink holes on the property, and conveys contaminated runoff. During dry periods, it stagnates into odor-producing, flowless puddles in which the ditch simply appears moist. In practice, the Subject Channel functions as public stormwater infrastructure, not as anything resembling a natural fish-bearing or habitat-supporting stream. The resulting problems are the subject of a separate lawsuit asserted against the City in the United States District Court for the Western District of Washington, Case No. 2:19-cv-01705-RSM.

We write to formally register our clients' concerns with several proposed changes that could substantially expand regulation in already developed urban areas, including on the Subject Property.

The proposed amendments incorporate Best Available Science (BAS) standards intended to improve "water quality and habitat quality and quantity" around streams. While we support the City's environmental objectives, applying statewide BAS criteria developed primarily for rural or natural systems to engineered urban channels like the Subject Channel risks imposing disproportionate burdens without meaningful environmental benefit. **We request that the Commission—and ultimately, the City Council—differentiate between natural streams and stormwater conveyances when implementing any BAS-based standards.**

The proposed amendments propose new vegetation buffer requirements and best management practices (KZC 90.130 and 90.145). While appropriate for functioning riparian corridors, such requirements are unworkable and inappropriate in a municipally engineered drainageway where vegetation cannot survive repeated stormwater scouring or contamination. Our clients should not be required to undertake

restoration or maintenance efforts to remedy conditions resulting from the City's own actions, including its historic use of the Subject Channel as a storm drainage system, and near complete obliteration of the tree canopy in downtown Kirkland except, thanks to our clients, on our clients' property.

We are particularly concerned by the proposal to establish a new 150-foot Riparian Management Zone (RMZ) adjacent to certain streams. Although staff describe the RMZ as an alternative to doubling buffer widths, it effectively creates an additional regulatory overlay extending beyond the existing stream buffer. Under the current proposal, properties within an RMZ would be subject to new tree-canopy, low-impact-development (LID), and "wildlife-friendly" requirements, even where no natural riparian habitat exists. This expansion of regulation into fully developed parcels such as the Subject Property would be unwarranted as well as legally questionable. Accordingly, the proposed regulations should exempt engineered conveyance channels, such as the Subject Channel, from the proposed RMZ designation.

We understand the proposed amendments would require 1:1 mitigation for all impacts within regulated buffers and encourage off-site mitigation when on-site improvements are infeasible. While we appreciate the City's interest in maintaining "no net loss," applying these requirements to an urban drainage corridor would impose cost and complexity without measurable habitat improvement. The City should allow flexibility and proportionality where the impacted feature serves primarily a stormwater function.

Finally, as we have communicated in the past, our clients remain concerned about any regulation that would require dedications, easements, or public access across private property for sidewalks, crossings, "urban connectivity," or other public purposes. Development restrictions that are takings primarily serving a public benefit should be imposed only through voluntary agreements with landowners.

Specifically, our clients oppose any ordinance language that would:

1. Expand buffer widths or introduce overlapping regulatory zones (such as RMZs) on developed parcels.
2. Apply BAS or vegetation standards to engineered stormwater channels; or
3. Reduce the development potential of private land to provide access or other public benefits.

Our clients will continue to monitor this process and reserve all rights and remedies should the final ordinance adversely affect their property interests.

Thank you for including this letter in the official record for the October 23, 2025 public hearing.

Sincerely,

Davis Wright Tremaine LLP

Clayton P. Graham

cc: Client (*via email*)
Stephanie Croll, Kirkland City Attorney's Office (*via email*: scroll@kirklandwa.gov)
Christina Behar, Land Use Planner (*via email*)

Completion time	Name1	Please provide any comments about the critical area code and potential updates in the space below.	Please provide any questions you have about critical areas and the 2025 critical area code update. The city will respond as soon as possible.
7/30/2025	Michael Jones	We have lived across from the wetland bordered by 108th Ave NE, 108th ST NE and Juanita drive, since 2001 and have noticed a loss of wildlife since development on the north side of 108th ST access road (now trail). I'm concerned that further high density development on the south side of Juanita drive will be further detrimental.	I would like to know of any proposed changes to the wetland bordered by 108th Ave NE, 108th ST NE and Juanita Drive.
8/31/2025	Gongquan Liu	If there is no financial mitigation plan to take care impacted house owner, does it mean we can change ordinance any time and say "Let's extend 150ft from buffer and make sure no new structure under this rules. Which means, the owner of the property will suffer complete lose for long term since house will decay any way. Or for any changes, home owner needs to file a permission such as RUE which means the value.control of the property is depirved by this new code.	1. What's the compensation plan for the property value impact due to any of these options? 2. What's the property tax evaluation impact especially land value impact due to new regulation? 3. The real risk is long-term redevelopment/rebuild limitations, which can indeed hurt value if buyers see it as a decaying asset they can't replace. Who will take care the loss of this part?
8/31/2025	Brian Magee	While I fully support improvements for water quality and understand the background of this, I have significant concerns about the impacts upon my property for both proposed options. We moved into our home in 2013 and recently replaced our deck structure. This was a process that took over 6 months to permit, had significant communication issues which delayed the process, and led to us downgrading the final structure replacement. In the end, it was slightly smaller than our original structure we moved in with despite the everything being over the top of a much larger NPGIS area (extensive concrete pad) that was remaining in place outside of the buffer at the time the home was constructed. Knowing that these changes will impose further impacts upon our ability to manage our home and our property, particularly high cost implications of future work and permitting requiring critical area reports, survey, etc. seem burdensome for a basic homeowner when compared to properties zoned for for multi-family, mixed use, or commercial uses.	My question here is how the City plans to minimize impacts and future costs for our residents/property owners. (This applies both to my family as well as countless homeowners in the City who may not understand the implications of these changes.) For example, will the City define the critical area boundary, particularly something like a 150-ft buffer boundary, so that homeowners are not required to have a stream and wetland professionally surveyed with each permit application for work they undertake on their property? Is there an understanding of the expected change in cost for completing permitting for work under both the current condition as well as each option being proposed? Is there an understanding of the expected change in cost for construction/landscape/etc. between the current condition and proposed conditions as well?

Completion time	Name1	Please provide any comments about the critical area code and potential updates in the space below.	Please provide any questions you have about critical areas and the 2025 critical area code update. The city will respond as soon as possible.
8/31/2025	David Skurnik	I live at 10523 NE 135th LN, between Cedar and Juanita Creeks. The close proximity to these two creeks likely will prohibit me from building an ADU on my property. Is that true? Would an ADU be considered a major development? I understand that Kirkland supports the construction of ADUs. Will the new sensitive area regulations make special considerations for ADUs?	The regulations regarding tree removal in critical areas are very restrictive, basically prohibiting any tree removal. I have lived on my property for 35 years and have left the surrounding forest untouched. The trees have grown to almost double their height in those years, slowly blocking the sunlight until now I live in almost perpetual dark shade. I would love to be able to manage the forest on my property - to thin out sick and dying trees and improve illumination. Many arborists who have visited my property agree that the forest needs active management to thrive. Are there any plans to authorize homeowners in sensitive areas to manage the surrounding forest for the benefit of all? Also, the underbrush is very thick. As our climate warms, forest fires will become an increasing danger, even in Kirkland. Active management of the forest should be part of Kirkland's overall forest fire mitigation plan. It has not happened yet, but it is only a matter of time until Kirkland sees a Los Angeles scale fire. If the nearby forest caught fire, my house would be the first to burn down.
9/2/2025	Carrie Blanton		Which potential option will allow you to have a paved surface in the zone or buffer that would allow for underground stormwater treatment below the paved surface. or will that not be permitted in either option?
9/2/2025	Sharon Sherrard	I live at the very north end of 6th St. There is a "stream" in a "ravine" on the west side of my property, but it doesn't usually have water running in it unless we've had some storms. In 2019 (? might have been 2020) there was a slopeslide from the northwest part of my property that sent some muddy water down to Forbes Creek drive. I was surprised when some folks from the city contacted me about it.	My late husband and I purchased the house in 1991 and no one mentioned anything at all about this being a critical area or a stream buffer. I am thinking about selling my house in 2026 and wondering how these changes might effect a sale.

Completion time	Name1	Please provide any comments about the critical area code and potential updates in the space below.	Please provide any questions you have about critical areas and the 2025 critical area code update. The city will respond as soon as possible.
9/5/2025	Abby Scott	Subject: Comment on Critical Areas Ordinance Updates – Urgent Erosion Concerns at 9330 NE Juanita Drive To Whom It May Concern, My name is Abby Scott, I am the HOA President for Inn on the Park Condominiums located at 9330 NE Juanita Drive in Kirkland. I am writing to provide formal comment and raise a serious concern regarding the City's upcoming updates to the Critical Areas Ordinance (CAO), particularly as they pertain to stream buffer regulations, culvert improvements, and erosion impacts related to city-managed stormwater systems. Our property sits directly adjacent to Juanita Creek, with the creek running along the west side of our land. Over the past 20 years, we have experienced significant erosion along this bank—erosion that has now reached a critical point, placing both our primary egress exit walkway and nearby building footings at risk. While we do own the land on one side of the creek, we understand—per guidance from the Washington State Department of Ecology and in response to tribal habitat restoration goals—that the waterway itself is managed and regulated by the City and other agencies. However, the erosion that has occurred over the last two decades has been significantly worsened by stormwater infrastructure and drainage planning implemented by the City, which has altered flow patterns and increased the velocity and volume of water through our section of the creek.	SECTION 1: Bridge and Culvert at Juanita Drive and Juanita Creek Culvert Enlargement Timeline and Plans When is the existing culvert under Juanita Drive at the Juanita Creek intersection scheduled to be enlarged or replaced? What is the scope and objective of the planned work on this culvert? What agencies (City of Kirkland, King County, etc.) are responsible for overseeing the culvert enlargement project? Erosion Control and Structural Risk Mitigation What specific actions will the City take to address the ongoing erosion along Juanita Creek, particularly near the culvert and downstream areas? How will the City ensure that the erosion does not compromise the structural integrity of the property at 9330 NE Juanita Drive, which lies directly adjacent to the creek? Are there any geotechnical or hydrological assessments being performed (or scheduled) to evaluate the risk to nearby private properties like 9330 NE Juanita Drive? Will the culvert enlargement project include measures to stabilize the creek banks and protect private properties? Resident Safety Assurance What safety measures will be implemented during and after construction to protect the residents of 9330 NE Juanita Drive from potential landslides,

Completion time	Name1	Please provide any comments about the critical area code and potential updates in the space below.	Please provide any questions you have about critical areas and the 2025 critical area code update. The city will respond as soon as possible.
9/5/2025	Ashish shah	While city is taking steps to protect natural habitat, city has been negligent in protesting owners and their property. Part of our property has a wetland with many cottonwoods. Every year we have major branches and entire tree falling on or close to home causing major damage and potential danger to our lives. We are willing to plant redwoods in lieu of cottonwoods but city doesn't even allow trimming risky branches hazardous to our home. We have complained to city several times but a blind eye is turned stating that it's part of nature. It's matter of time that someone is hurt if no actions taken.	
9/6/2025	Nate McMaster		How can I stay informed of updates to the code? I am planning landscaping on my property and trying to make sure I follow the requirements.
9/13/2025	Matthew Maertens	We would prefer the Riparian Management Zone option.	What would be the rain garden requirements? How large? What type of plants? Are the requirements different for slopes or flat ground? What constitutes major renovations? What resources do residents have to know they are in compliance?
9/23/2025	M E Sweatt	Comments submitted by email as they exceed the space allowed.	How will the critical area code update take into account new data as provided by homeowners from impartial third-party experts? For example, while old records may indicate that a property is in a landslide hazard area, or assumed to be in a liquification area, the City should recognize and aggregate data from geotechnical engineers and others.

Completion time	Name1	Please provide any comments about the critical area code and potential updates in the space below.	Please provide any questions you have about critical areas and the 2025 critical area code update. The city will respond as soon as possible.
9/25/2025	Carl Kester, member Falling Rock LLC	Hello, my siblings and I are members of Falling Rock, LLC, which owns six plus acres on NE 132nd St. Juanita Creek runs through the property. We also are shareholders of Lakeside Recovery Centers, the property tenant. We have been here since 1995, helping families, employing residents and paying taxes. Thank you for sending out the postcard informing us of your work. It is our hope that setbacks for future development are not increased. We have always sought to protect Juanita Creek and the natural beauty of our campus. Increasing the setbacks for growth would impact our ability to help those in need and produce a financial hardship. In regard to future development on our site or others, it seems we want to do everything we can to keep access to land with an eye on affordable housing options in Kirkland. We believe the best option for development is to improve the effectiveness of existing setbacks, not increase their size.	Please consider Falling Rock LLC a party of record on this topic. Falling Rock LLC, member Carl Kester 10322 NE 132nd ST Kirkland WA 98034
9/26/2025	Susan Thornes	The condominium community of the Point on Yarrow Bay (POYB) was built in the early 1990s near the Yarrow Bay wetlands and the streams that feed into the bay. There is no new structural redevelopment planned, nor any additions, major or otherwise at the POYB. There was a question raised about the wording in the proposed new regulations as to whether repair or rebuilding of an existing building in the event of a disaster, e.g., flood, earthquake, fire, etc., would be allowed. It is requested that it be made clear in the regulations that repair or rebuilding to an existing structure is not prohibited, provided that such repair or rebuilding is to the original form and footprint. Regards, Residents of the Point on Yarrow Bay.	The condominium community of the Point on Yarrow Bay (POYB) was built in the early 1990s near the Yarrow Bay wetlands and the streams that feed into the bay. There is no new structural redevelopment planned, nor any additions, major or otherwise at the POYB. There was a question raised about the wording in the proposed new regulations as to whether repair or rebuilding of an existing building in the event of a disaster, e.g., flood, earthquake, fire, etc., would be allowed. It is requested that it be made clear in the regulations that repair or rebuilding to an existing structure is not prohibited, provided that such repair or rebuilding is to the original form and footprint. Regards, Residents of the Point on Yarrow Bay.
10/17/2025	Ali veiseh		How will potential code updates impact my property?;

State of Washington
Department of Fish and Wildlife, Region 4
Region 4 information: 16018 Mill Creek Blvd, Mill Creek, WA 98012 | phone: (425)-775-1311

October 16, 2025

City of Kirkland
Anna Heckman, Environmental Program Coordinator
City of Kirkland
123 5th Ave,
Kirkland, WA 98033

RE: Submittal ID 2025-S-9893, WDFW's draft comments for Kirkland Critical Area Ordinance update

Dear Ms. Heckman,

On behalf of the Washington Department of Fish and Wildlife (WDFW), thank you for the opportunity to comment on Kirkland's proposed Critical Area Ordinance (CAO) amendments as part of the current periodic update. Within the State of Washington's land use decision-making framework, WDFW is considered a technical advisor for the habitat needs of fish and wildlife and routinely provides input into the implications of land use decisions.

We provide these comments and recommendations in keeping with our legislative mandate to preserve, protect, and perpetuate fish and wildlife and their habitats for the benefit of future generations – a mission we can only accomplish in partnership with local jurisdictions.

Table 1. Recommended changes to proposed code language.

Code Section	Code Language (with WDFW suggestions in red)	WDFW Comment
5.10 Definitions Amended Ord. 4905		
Page 9/35	Ecosystem functions The products, physical and biological conditions, and environmental qualities of an ecosystem that result from interactions among ecosystem processes and ecosystem structures. Ecosystem functions include, but are not limited to, sequestered carbon,	We suggest including the definition of ecosystem functions as found in WAC 365-196-210 (14), as both ecosystem functions and ecosystem values are mentioned throughout Chapter 90.

	attenuated peak streamflow, aquifer water level, reduced pollutant concentrations in surface and ground waters, cool summer in-stream water temperatures, and fish and wildlife habitat functions.	
Page 9/35	Ecosystem values The cultural, social, economic, and ecological benefits attributed to ecosystem functions.	See comment above. Ecosystem functions and values are terms used together. See WAC 365-196-210 (15).
Page 11/35	Fish Habitat Habitat, which is used by fish life at any life stage at any time of the year including potential habitat likely to be used by fish life, which could reasonably be recovered by restoration or management and includes off-channel habitat, as defined in WAC 220-660-030(52).	It is important to include this definition to align with state requirements.
Page 12/35	~~.327.10 Functions and Values The services provided by critical areas to society, including, but not limited to, improving and maintaining water quality, providing fish and wildlife habitat, supporting terrestrial and aquatic food chains, reducing flooding and erosive flows, wave attenuation, historical or archaeological importance, educational opportunities, and recreation.~~	Ecosystem functions and values are two separate concepts that should be uniquely defined. See above comments.
Page 13/35	Hazard tree A tree that is considered a threat to life, property, or public safety. Due to their high habitat value, hazard tree removal shall not adversely affect ecosystem functions to the extent practicable, encourage the creation of snags (Priority Habitat features) rather than complete tree removal, involve an avoidance and minimization of damage to remaining trees and vegetation, and require a qualified arborist to evaluate requests for hazard tree removal.	We recommend defining “Hazard Tree” to guide removal and mitigation if necessary. Disregard if defined elsewhere in code.

Page 19/35	Monitoring and adaptive management A systematic process to continually evaluate and improve the effectiveness of critical areas policies, regulations and practices by learning from feedback loops and the outcomes of implementation.	We recommend that the city adopt a Monitoring and Adaptive Management (MAM) program to help ensure Critical Areas regulations meet the state-mandated standard of no net loss of critical area functions and values. Specifically, a MAM program should: • Collect information on CAO effectiveness, • Evaluate the potential for exemptions and variances to cumulatively document critical area gains and losses, and • Improve permit implementation. Implementing a Monitoring and Adaptive Management program not only helps achieve the goals of a CAO but can provide data to document the city's status for no net loss of Critical Areas, as required under the GMA. For guidance on establishing a monitoring and adaptive management program, see Chapter 7 of the Dept. of Commerce's Critical Areas Handbook. See the city of Edmond's approach in their recent draft, which states "the director will provide a report to the city council during the first and third quarter of each year...The report will include information such as the number and type of critical area decisions that have been made, including information on mitigation, buffer modifications, restoration and enhancement..."
Page 20/35	.567 No Net Loss A standard established by the Shoreline Management Act and the Growth Management Act in Washington State to protect the ecological functions of critical areas such as wetlands and shorelines. New development may not introduce new impacts to critical area functions and aim to maintain existing conditions over time. Both protection and restoration efforts are required to meet this goal.	No net loss of critical area functions and values is the standard across all critical area types, including those outside of the shoreline designation (WAC 365-196-830, WAC 365-190-080). A more inclusive definition might include: No Net Loss of Critical Areas The actions taken to achieve and ensure no overall reduction in existing ecosystem functions and values or the natural systems constituting the protected critical areas. This may involve fully offsetting any unavoidable impacts to critical area functions and values pursuant to the Growth Management Act, WAC 365-196-830 'Protection of critical areas,' or as amended.
Page 23/35	~~.690 Priority Species Habitat Conservation Areas Designated regions that are crucial for the conservation of specific species identified in the Priority habitats and species (PHS) program in Washington. 5.346.6 Habitat and Species of Local Importance and~~	We recommend that the below definitions for 'Priority Habitat' and 'Priority Species' be added here, taken from WDFW's Priority Habitats and Species List. Priority *habitats* and *species* are two distinct concepts that are represented through WDFW's Priority Habitats and Species Program (PHS). *Priority Habitat* means a habitat type with unique or significant value to many species. An area identified

	~~5.321 Fish and Wildlife Habitat areas may be regulated as priority species habitat.~~	and mapped as priority habitat has one or more of the following attributes: comparatively high fish and wildlife density, comparatively high fish and wildlife species diversity, important fish and wildlife breeding habitat, important fish and wildlife seasonal ranges, important fish and wildlife movement corridors, limited availability, high vulnerability to habitat alteration, and unique or dependent species. *Priority Species* means fish and wildlife species requiring protective measures and/or management actions to ensure their survival. A species identified and mapped as a priority species fit one or more of the following criteria: State-listed candidate species, vulnerable aggregations, and Species of recreational, commercial, and/or Tribal importance.
Page 27/35	Riparian Management Zone The zone of influence surrounding a stream that provides wildlife protection, shade, and water filtration and cooling for the stream habitat. The riparian management zone is equivalent to the average of maximum tree heights of riparian tree species found in the Puget Sound basin and equal to 150 feet.	WDFW's definition for the RMZ is as follows: The area that has the potential to provide full riparian functions. In many forested regions of the state, this area occurs within one 200-year site-potential tree height measured from the edge of the stream channel. In situations where a CMZ is present, this occurs within one site potential tree height measured from the edges of the CMZ. In non-forest zones, the RMZ is defined by the greater of the outermost point of the riparian vegetative community or the pollution removal function, at 100-feet (WDFW Vol 2).
Chapter 90 – CRITICAL AREAS		
90.35 Exemptions Page 6/81	2. Public Streets... 3. Utilities...	We recommend narrowing this exemption to apply only to routine maintenance and repair that does not increase the footprint of disturbance or alter the function of the critical area or buffer. Any activity that results in ground disturbance, vegetation removal, or expansion into a critical area or buffer should be subject to CAO review and mitigation requirements. Although this section specifies that impervious surfaces shall not increase, vegetation removal is still allowed without clear mitigation standards. Narrowing these exemptions better aligns with the intent of WAC 365-196-830, ensuring public infrastructure projects are held to the same environmental standards as private development, supporting equitable and consistent implementation of the CAO.
90.35 Exemptions Page 8/81	11. Storm Water Dispersion Flow Path – Creation of a vegetated flow path from a dispersion device that is	Exempting stormwater dispersion flow paths from CAO review may create unintended impacts to critical areas and their buffers, especially if flow rates or

	located outside the critical area buffer that flows into the critical area buffer provided the buffer meets the vegetative buffer standards in KZC 90.130, and the design is part of an approved development permit. LID treatments per KMC 15.52 shall be integrated to clean all stormwater discharging into any critical area or buffer less than 100 feet wide.	volumes exceed natural infiltration capacity. Even when vegetated, these flow paths can alter hydrology, increase erosion potential, and introduce pollutants into sensitive areas over time. We recommend requiring review for any new stormwater dispersion features that discharge into or through critical area buffers to ensure designs maintain predevelopment hydrologic conditions and comply with water quality standards. As currently permitted under this CAO, riparian management zones (RMZs) that receive this flow and are less than 100 feet wide will have negative impacts on water quality according to WDFW's best available science (BAS), **even if fully vegetated**.
90.40 Permitted Activities, Improvements or Uses Subject to Development Standards Page 10/81	5.(a.)(4) If located in a ~~fish or wildlife habitat priority habitat and species~~ Fish and Wildlife Habitat ~~c~~Conservation ~~a~~Area, requirements of KZC 90.95;	It is unclear why the term "fish or wildlife habitat" has been replaced with "priority habitat and species" throughout this chapter. These references should instead use "Fish and Wildlife Habitat Conservation Areas (FWHCAs)", which is one of the five critical area categories requiring protection under the Growth Management Act (GMA). Referring only to "priority habitat and species" omits other essential components of FWHCAs, such as streams.
90.40 Permitted Activities, Improvements or Uses Subject to Development Standards Page 10/81	5.(a.)(11) Temporary impacts associated with disturbance in the critical area and buffer are avoided ~~minimized~~ to the ~~minimum~~ maximum extent necessary.	The mitigation sequence (WAC 197-11-768) requires that avoidance of impacts be considered first before minimization or other steps within the sequence.
90.40 Permitted Activities, Improvements or Uses Subject to Development Standards Page 10/81	6. List of Permitted Activities, Improvements and Uses... a. Private Repair and Maintenance of Culverts... 3) Shall comply with Washington State Department of Fish and Wildlife's in-water work window for ~~seasonal restrictions on~~ instream work and all applicable conditions established under the Hydraulic Code (WAC 220-660), including obtaining a Hydraulic Project	We recommend the adjacent edits to provide regulatory clarity for applicants and to avoid unintentional violations of state law.

	Approval (HPA) prior to commencing any work.	
90.40 Permitted Activities, Improvements or Uses Subject to Development Standards Page 11/81	~~6.(b.) Private Roadways – New private driveway or easement road through a buffer if there is no other option available to access a property that is both a legal building site and a buildable site, provided:~~	Road construction within a Fish and Wildlife Habitat Conservation Area (FWHCA) will likely degrade the ecological functions and values that the CAO is intended to protect. For example, creating impervious surfaces within designated wildlife habitat corridors fragments these areas, disrupting essential movement pathways for species. Similarly, constructing roadways through riparian management zones introduces pollutants such as 6PPD, a chemical compound found in tires proven to cause near-immediate mortality in coho salmon. These impacts cannot be mitigated by Kirkland's current CAO standards. Furthermore, most FWHCAs rely on the exact location at which they exist. Given these significant and irreversible impacts, such activities, such as the construction of roadways, should be allowed only under truly exceptional circumstances and through a reasonable use permit, rather than allowed as a standard permitted use. If this is retained, it should incorporate LID and RMZ-specific mitigation measures (KMC 15.52 and KZC Table 90.155.1).
90.40 Permitted Activities, Improvements or Uses Subject to Development Standards Page 11/81	6.(d.) Private and Public Utilities 1) New sewer and storm water lines in critical area buffers where necessary to allow for gravity flow, provided there is no other feasible location outside of the critical area buffer and provided they shall be located as far as possible from the critical area edge;	The mitigation sequence (WAC 197-11-768) requires that avoidance of impacts be considered first before minimization or other steps within the sequence.
90.40 Permitted Activities, Improvements or Uses Subject to Development Standards Page 12/81	6.(d)(3)(d) LID treatments per KMC 15.52 are integrated to clean all stormwater discharging into any critical area or buffer less than 100 feet wide.	We suggest incorporating this statement throughout this chapter wherever there may be probable impacts that will result in increased stormwater runoff into FWHCAs.
90.45 Public Agency and Public	General comment	Many of the provisions in this section require project proponents to describe why certain standards cannot be met, but they do not specify how these projects will still achieve no net loss of critical area functions and

Utility Exceptions Page 14/81		values. If mitigation for public agency or utility projects cannot meet this standard on-site, the city should require alternative approaches, such as off-site mitigation, mitigation banking, or other equivalent measures, to ensure compliance. Maintaining no net loss of critical area functions and values must remain a consistent requirement across all project types. Additionally, this section should incorporate LID and RMZ-specific mitigation measures (KMC 15.52 and KZC Table 90.155.1) when applicable.
90.65 Streams and Associated Buffer Standards Page 24/81	1. Stream Determination - Planning Official shall determine the following: f. If the planning official is uncertain if a watercourse on or within 150 feet of the property is classified as a stream, a critical area report shall be required.	Please reach out to your local habitat biologists for assistance during these determinations (Jesse Dykstra, jesse.dykstra@dfw.wa.gov). WDFW has an interactive state-wide web map that allows applicants/jurisdictions to input an address or GPS coordinate to see which WDFW habitat biologist covers that area: https://wdfw.maps.arcgis.com/apps/MapJournal/index.html?appid=48699252565749d1b7e16b3e34422271
90.65 Streams and Associated Buffer Standards Page 25/81	~~2. Standard Reduced Stream Buffer Width~~	We suggest deleting this section since any new impervious surfaces and structures placed within the Site Potential Tree Height at 200 years distance (100-227 feet within Kirkland) will result in a net loss of ecological functions and values within the riparian management zone according to WDFW's BAS. RMZ functions are complex and cannot be fully replaced or engineered. They provide floodwater storage and dispersal, pollutant filtration, nutrient cycling, habitat connectivity, and large woody debris recruitment. There is no scientifically supported smaller buffer width that provides all these essential functions. We recognize that the reduced buffers are subject to enhanced vegetation standards and that LID techniques are required. However, these measures may only partially mitigate the loss of the pollution removal function that RMZs provide. They do not compensate for the many other essential functions and values these areas support.
Table 90.65.1 Standard Reduced Stream Buffer Widths Page 25/81	2. Note: Piped streams and other disconnected streams not rated as N streams do not require a stream buffer or riparian management zone. All streams have a structure set back requirement (KZC 90.140).	The language in the NOTE associated with this table is unclear. As written, it suggests that all streams not rated as Type N do not require a buffer, which could be read as meaning Type F streams that are piped also lack buffer requirements. If the intent is to exempt only non-regulated, stormwater-only conveyances, that should be explicitly stated. Additionally, due to age and environmental factors, it is likely that **all** piped stream segments will eventually

<table>
<tr><td></td><td></td><td>fail and must be replaced to meet current flow capacity and/or fish passage standards (WAC 220-660-190). With only a 10-foot setback, future maintenance will be difficult, and nearby development may perpetuate nonconforming conditions and increase flood hazards.
Of note, the city of Bellevue has recently proposed a piped stream setback of 50 feet, which can be reduced to 25 feet if the piped stream is daylit, providing an incentive for restoration.</td></tr>
<tr><td>90.65 Streams and Associated Buffer Standards Page 25/81</td><td>3. Table 90.65.2 Regulated Stream Buffer Widths
<table><tr><td>Stream Type</td><td>Buffer Width</td></tr><tr><td>Type F</td><td><s>133 feet</s> SPTH</td></tr><tr><td>Type N</td><td><s>75</s> 100 feet</td></tr></table>The standard RMZ widths presume the area is vegetated with a native plant community for the ecoregion, consisting of an average of 80 percent native cover comprised of native trees, shrubs, and groundcover plants, and less than 10 percent cover of noxious weeds. If the existing buffer does not meet these standards, the buffer must either be enhanced by an approved mitigation plan or increased by 33 percent.</td><td>The importance of addressing water quality concerns is demonstrated by the listing of Kirkland's Lake Washington shoreline on Ecology's water quality atlas. This means that this area has been formally identified as "impaired" under the federal Clean Water Act. In other words, waterways within Kirkland are currently failing to meet basic water quality standards under current regulations and city practices. Protections are needed for all stream types, as polluted Type N streams flow directly into fish-bearing waters such as Lake Washington. As discussed previously, pollution filtration at 100 feet is only one of the functions healthy RMZs provide.
The adjacent addition outlines a path for incentivizing restoration of these areas without compromising the scientifically justifiable width of them.
Several urban jurisdictions have already aligned with WDFW's recommendations. For example, King County is proposing urban stream regulations that include no buffers below 100 feet. Woodinville is similarly advancing amendments aligned with WDFW's BAS. Shoreline is proposing a standard 200-foot width for all stream types. These examples illustrate how urban jurisdictions are proactively collaborating with WDFW to incorporate scientifically defensible standards, strengthening their CAOs against potential appeals. We encourage staff to look at these approaches, as there are many ways jurisdictions can better align with WDFW's BAS.</td></tr>
<tr><td>90.65 Streams and Associated Buffer Standards Page 26/81</td><td><s>4.(c.) Buffer averaging is permitted for both the standard reduced buffer and the regulated buffer if criteria are met in KZC 90.115.</s></td><td>We suggest deleting this section. WDFW's Riparian Ecosystems, Volume 1: Science Synthesis and Management Implications (2020) shows that riparian buffer widths are established on the specific ecological functions they are intended to support, which are directly tied to the width, continuity, and quality of vegetation within the buffer. Any reduction to any part of the RMZ results in a direct loss of habitat functions. However, if averaging is limited to areas that no longer</td></tr>
</table>

		provide ecological function, such as existing pavement, then this provision may be more consistent with no net loss standards. Reducing buffers to 37.5 feet in some cases would result in a degradation of water quality and a net loss of critical area functions and values.
90.65 Streams and Associated Buffer Standards Page 26/81	4(e.) A 10-foot-wide structure setback is required from upland edge of the entire buffer. For streams without buffers, including piped streams, setback shall be 50 feet measured from the top of bank or edge of the pipe ~~structure~~. Improvements listed in KZC 90.140 may be permitted within the setback. A reduction in the required 50-foot stream buffer width, up to 25%, may be allowed where daylighting occurs, resulting in a net gain in ecological function, as demonstrated through a critical areas report and the following standards are met: a. The applicant must demonstrate water quality will be maintained through low impact development techniques, stormwater pre-treatment or equivalent measures; b. The daylighted stream section is planted and restored in accordance with city restoration standards; and c. The resulting buffer is contiguous and functional. d. For projects that daylight more than 100 linear feet of stream, the Director may allow: i. Expedited permit review; and ii. Flexibility in site development standards provided overall critical area functions are maintained or improved.	As mentioned before, a 10-foot buffer for piped streams does not provide adequate space for replacement once infrastructure fails. It also does not incentivize stream daylighting. Please see the adjacent suggestions, taken from the city of Bellevue's most recent CAO draft.
90.65 Streams and Associated Buffer Standards Page 26/81	5(d.) Streams that are degraded must be restored if ~~a stream modification~~ redevelopment or new development is proposed. A critical area report shall address any needed restoration due to degraded vegetation, habitat, water quality	As suggested in previous comments, we recommend including "The standard RMZ widths presume the area is vegetated with a native plant community for the ecoregion, consisting of an average of 80 percent native cover comprised of native trees, shrubs, and groundcover plants, and less than 10 percent cover of noxious weeds. If the existing buffer does not meet

	and hydrologic functions with specific consideration for anadromous salmon.	these standards, the buffer must either be enhanced by an approved mitigation plan or increased by 33 percent" within this chapter. This provision ensures that any development taking place on-site will result in a net improvement to RMZs. Covington (Planning Commission meeting), Skagit County (14.24.530), Mountlake Terrace (Oct. 13 Packet) and other jurisdictions have all adopted similar language. It may also be appropriate to incorporate daylighting incentivization here. The city of Mountlake Terrace incorporates the following provision within their draft COA: "The applicant shall implement the enhancement measures listed below when developing or redeveloping a site that contains a stream or stream buffer: i. Removal of fish barriers to restore accessibility to anadromous fish; ii. Enhancement of fish habitat using log structures incorporated as part of a fish habitat enhancement plan; iii. Planting native vegetation within the buffer area, especially vegetation that would increase value for fish and wildlife, increase stream bank or slope stability, improve water quality, or provide aesthetic/recreational value; iv. Upgrading retention/detention facilities or other drainage facilities to required levels; v. manage stormwater following the latest Ecology manual; vi. Stormwater retrofit is required for redevelopment projects; or vii. Similar measures determined applicable by the Department."
90.65 Streams and Associated Buffer Standards Page 26/81	5 (h) Other Stream Buffer standards. Streams and buffers shall be placed in recorded critical area easements or tracts for perpetual protection and maintenance.	We appreciate this condition to place stream buffers in protection for perpetuity.
90.67 Riparian Management Zone Page 27/81	2. ~~Non Development Requirements:~~ All areas within 150 feet of any stream shall follow Critical Area tree regulations pursuant to KZC Chapter 90.135	We appreciate the inclusion here of RMZ and the associated reference to SPTH. Is this provision intended to require critical area-level tree protection for all areas within 150 feet of a stream, or only for non-development activities? This requirement should **not** be limited to non-development actions. If the intent of this CAO is to preserve the ecological functions of RMZs, tree protection standards must apply to all parcels and projects that impact RMZs.

90.67 Riparian Management Zone Page 27/81	3. New development occurring within 150 feet of any stream shall implement the following into design standards a. LID requirements to treat water before entering stream (KMC 15.52); and b. Measures to minimize impacts to Critical areas Buffers, and Riparian Management Zones (KZC Table 90.155.1).	The provisions and table referenced in this section do not compensate for all of the functions and values lost by allowing new development within RMZs. For example, this section lacks a measure to offset new flooding concerns for infrastructure placed too close to streams that experience overbank flooding during storm events—a risk that is exacerbated in highly developed watersheds with extensive impervious surface coverage. Additionally, the loss of nutrient cycling from leaf litter, woody debris, and other organic matter is not reflected. These natural inputs are essential to sustaining the aquatic food web, providing the primary source of energy for macroinvertebrates and fish species that depend on these systems for survival.
90.75 Daylighting of Streams Page 31/81	1. Daylighting – The City encourages opening up a stream that is located in a culvert to restore the stream to a more natural and open condition...	We encourage the city to actively incentivize daylighting. Please see comments given for 90.65 Streams and Associated Buffer Standards Page 26/81, 4.(e.) above.
90.80 Buffer Reduction for Meandering or Daylighting of Stream Page 32/81	General comment	See comment above. Additionally, this section does not align with the no net loss standard for protecting critical areas. If a stream is altered, relocated, or otherwise modified, such action should result in a net improvement to the ecological functions and values of the stream and its RMZ. If the alteration results in a reduced buffer width compared to what previously existed, this would constitute a net loss of function, particularly regarding water quality protection, habitat connectivity, and nutrient processing. To remain consistent with WDFW's BAS, relocated or modified streams should be afforded buffer widths equal to or greater than the original, ensuring that the project demonstrably enhances, rather than diminishes, riparian functions and values. As described earlier, WDFW's BAS finds that a reduction in stream buffer width is directly tied to a loss of function.
90.95 Priority Habitat and Species Conservation Areas Page 35/81	General comment	WDFW's *Priority Habitats and Species (PHS)* program is distinct from the state's list of threatened, endangered, and candidate species. The PHS program identifies habitats and species of management concern to help guide land use planning and conservation efforts and is considered BAS under the GMA, whereas the threatened, endangered, and candidate species list is a regulatory classification under state law.
90.105 Critical	1. Initial Determination – Either prior to or during review of a	We recommend critical area reports include any possible surface water impacts off-site. For example, a

Area Determination Page 38/81	development application, the Planning Official shall make an initial assessment based on a site inspection and other information as to whether: ...b. A stream is present on any portion of the subject property or surrounding area within 150 feet of the subject property. If a site inspection does not indicate a stream on or within 150 feet of the subject property, no additional stream assessment will be required.	project at the top of a slope that substantially increases impervious surfaces could worsen flooding, runoff, and degrade stream conditions for downstream property owners. This should be based on a watershed approach rather than a static distance.
90.110 Critical Area Report Page 39-40/81	4. Report Content – General c. 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;	Similar to wetlands, WDFW recommends RMZs be delineated to represent the site-specific width needed to support the ecosystem functions and values found on-site. Please see our *Guidelines for Determining Site Potential Tree Height from Field Measurements.*
90.110 Critical Area Report Page 39-40/81	4. Report Content – General Discussion of how the project satisfied the mitigation sequence, including steps taken to avoid impacts. To demonstrate that avoidance has been adequately assessed, the applicant must, at a minimum, address the following considerations where applicable: (A) Alternative building locations on the property; (B) Adjustments to the project footprint and orientation; (C) Modification of non-critical area setbacks, where feasible, as a first option before encroaching into critical areas or their buffers; (D) Multi-story design or alternate building design	We recommend specifying the steps an applicant must take to demonstrate compliance with *avoidance* of impacts. This clarity helps ensure that avoidance is meaningfully evaluated before moving to other steps within the mitigation sequence.
90.110 Critical Area Report Page 41/81	6. Best available information shall be used to determine fish habitat in the stream and recommendations for buffer waivers given known substantial fish barriers per KZC	WAC 220-660-030(52) defines Fish Habitat as, "habitat, which is used by fish life at any life stage at any time of the year including potential habitat likely to be used by fish life, which could reasonably be

	90.120 and other unusual conditions.	recovered by restoration or management and includes off-channel habitat." Even if a stream segment currently has a fish passage barrier, **that barrier will eventually need to be corrected, as required by state law (WAC 220-660-190)** to allow fish passage when the infrastructure is replaced. Classifying such streams to meet fish habitat standards ensures that land uses do not compromise or preclude the recovery of what **will become a future fish-bearing stream.** A type F stream cannot be classified as type N because there is a human-made barrier, unless a fish screen is installed to purposefully keep fish out of man-made water conveyance systems, such as irrigation channels. Additionally, we recommend reaching out to WDFW's local habitat biologist to perform site visits in the early stages of project proposals when the designation of a stream is in question (WAC 220-101-020). Early collaboration is critical to inform the broader scope of the project. Failing to include WDFW in the early stages may induce hardships on the applicant if the stream is incorrectly designated or the buffer is incorrectly sized.
90.110 Critical Area Report Page 41/81	7(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 OHWM cannot be identified (see Chapter 180 KZC, Plate 16). Where a stream enters or exits a pipe, the buffer shall be measured either perpendicular at the pipe opening or to maximize retention of the natural stream buffer area, perpendicular to where the pipe exits the fill when pipes extend into a stream channel.	RMZs should be located on both sides of the stream and measured from the channel migration zone (CMZ) if one is present. If one is not present, the RMZ should be measured from the ordinary high water mark (OHWM) per WDFW's BAS and management recommendations. This section should explicitly state the need for RMZs (stream buffers) to be measured from the edge of the CMZ to align with WDFW's BAS and for consistency with 90.65 Streams and Associated Buffer Standards 4.(a)(3). For further information, please see the WA Department of Ecology's (DOE) informational webpage.
90.115 Buffer Averaging Page 42/81	1. Applicability – Buffer averaging may be applied to wetland ~~and stream~~ buffers. Both the reduced standard buffer and the regulated alternative buffer may use buffer averaging pursuant to this section.	See comments for section 90.65 4(c.) above. Any reduction to any part of the RMZ results in a direct loss of habitat functions. However, if averaging is limited to areas that no longer provide ecological function, such as existing pavement, then this provision may be more consistent with no net loss standards. Reducing buffers to 37.5 feet in some cases, as allowed by these provisions, would result in a degradation of water quality and a net loss of critical area functions and values.

90.120 Limited Buffer Waivers Page 43/81	1.(b) The Planning Official may waive the required critical area buffer for portions of the buffer isolated from the critical area where an existing legally established building, detached garage, accessory dwelling unit, driveway, commercial parking area or retaining wall or other structure over six feet in height divides a portion of the critical area buffer from the portion of the buffer adjacent to the critical area and results in a loss of all functions and values.	All critical area functions and values must be protected to meet no net loss standards (WAC 365-196-830; WAC 365-190-080). An applicant must prove that no function or values are provided to the critical area from the isolated portion of buffer.
90.120 Limited Buffer Waivers Page 43/81	d. The Planning Official may waive the buffer requirement if the waiver request is found to meet the following criteria (see Chapter 180 KZC, Plate 25): 1) The existing legal improvement creates a ~~substantial~~ barrier to all of the buffer's functions and values ... 3) The interrupted buffer does not provide ~~significant~~ hydrological, water quality and wildlife buffer functions relating to the portion of the buffer adjacent to the critical area.	See comment above.
90.120 Limited Buffer Waivers Page 44/81	2. Type F Stream Limited Buffer Waiver a. The Planning Official may partially waive the required buffer for a Type F stream if the stream, while meeting the definition of Type F, does not currently support fish use due to the presence of a substantial natural downstream barrier and fish habitat in the subject area could not reasonably be recovered by restoration or management...	See comments for 90.110 Critical Area Report 6. above. Human-caused fish passage barriers are required to be corrected when infrastructure needs to be replaced. Additionally, just because there is a fish passage barrier does not negate the possibility of resident fish species that are also required to have protection measures under state law.
90.130 Vegetative Buffer Standards Page 45-46/81	3. When Vegetative Buffer Standard Applies a. The complete vegetative buffer standard shall be required when structures or improvements exist or will be placed inside the regulated buffer ~~and:~~	Any impact to a critical area buffer should trigger the requirement to meet full vegetation standards, particularly given that the City's existing buffer widths are already substantially narrower than those supported by WDFW's BAS. Allowing new development to encroach into these already limited RMZs without restoring full vegetative structure

	~~1) The total new net impervious or hardscape area anywhere on the entire subject property exceeds 1,000 square feet, or~~ ~~2) The cost of new or replacement improvements exceeds 50 percent of the tax assessed or appraised value of the existing improvements on the entire subject property, whichever is greater.~~ ~~b. A partial vegetative buffer shall be required to be installed when improvements exist or occur inside the regulated buffer and:~~	undermines the ecological functions these buffers are intended to provide. It is concerning that this section allows up to 1,000 square feet of buffer disturbance with only partial vegetation replacement and only requires full re-vegetation standards when impacts exceed that threshold. Even small-scale vegetation loss within narrow buffers results in disproportionate functional degradation, including reduced capacity for pollutant filtration, shading, bank stabilization, and nutrient cycling. At the very least, this section should require full vegetation for projects impacting RMZs as well as LID requirements. The proposed code fails to address existing water quality impairments and would continue to allow regulatory provisions that insufficiently filter pollutants and permit further encroachment into limited remaining riparian areas.
90.135 Trees in Critical Areas and Critical Area Buffer Page 48/81	1. Removal of Trees a. Other than as specifically approved as part of a critical area approval under this chapter, no trees shall be removed from a critical area, Riparian Management Zone, or critical area buffer unless determined to be nuisance or hazardous trees.	This edit is to align this section with 90.67 Riparian Management Zone, since it is unclear whether an RMZ falls into the 'buffer' category.
90.145 Mitigation – General Page 50/81	3.(a) Preference will be given to on-site mitigation except when the City determines that the following criteria have been met as part of a proposal under this chapter:	Please consult WDFW for decisions relating to off-site mitigation for FWHCAs. Fish-bearing streams rely on intact ecosystem functions and values, such as shading, large wood recruitment, filtration, and habitat connectivity, precisely where they occur. These functions cannot be replicated elsewhere, as aquatic species depend on them across the watershed for survival and recovery. Off-site or mitigation banking may provide some benefits, but it does not often replace the localized functions critical to maintaining fish populations and overall watershed health. Please review WAC 220-660-080 4. b. for guidance that specifies WDFW's requirements. For more information, please review the document *State of Washington Alternative Mitigation Policy Guidance For Aquatic Permitting Requirements from the Departments of Ecology and Fish and Wildlife.* This document outlines WDFW's mitigation preferences, including: "WDFW Decision Basis: For those impacts that are determined to be unavoidable, WDFW's existing mitigation policy (M5002 – Requiring or

		Recommending Mitigation) states that priorities for compensatory mitigation location and type, in the following sequential order of preference, are: 1. On-site, in-kind 2. Off-site, in-kind 3. On-site, out-of-kind 4. Off-site, out-of-kind"
90.155 Measures to Minimize Impacts to Wetlands, Buffers, and Riparian Management Zones Page 57-58/81	General comment	As mentioned previously, new impervious surfaces and structures placed within the Site Potential Tree Height at 200 years distance (100-227 feet within Kirkland) will result in a net loss of ecological functions and values within the riparian management zone according to WDFW's BAS. RMZs perform complex, interdependent processes that cannot be fully replaced or engineered, including floodwater storage and dispersal, pollutant filtration, nutrient cycling, habitat connectivity, and large woody debris recruitment. This table does not identify how functional levels of nutrients and dissolved oxygen will be maintained, nor does it address the full suite of other ecological functions and values provided by intact RMZs.
90.170 Subdivisions and Maximum Development Potential Page 64/81	3. Maximum Development Potential Calculation	The equation seems to be adding a portion of the buffer area back into the total development potential and effectively crediting the buffer area toward density. Additionally, the 'development factor' credits buffers as having development potential depending on the total percentage of area the critical area represents on-site. For example, if 10% of the site is buffer area, **100% of that buffer area** is counted toward development potential. This does not seem to accurately represent buildable potential.
90.180 Reasonable Use Exception Page 66/81	5. Allowed Use and Maximum Disturbance Limits – Allowed uses and maximum disturbance limits under a reasonable use exception are as follows:	We recommend adding language similar to Skagit County's CAO, which specifies that the Reasonable Use Exception (RUE) applies only to sites without at least 4,000 square feet of developable area outside the standard buffer (newest draft of SCC 14.24.140). Incorporating this threshold would help ensure that the RUE is applied narrowly and only in cases of genuine constraint.
90.185 Nonconformances	6. Expansion of Nonconforming Structure that Increases the Nonconformance ~~d. Expansion into Critical Area Buffer but No Closer than the Existing Building~~	In jurisdictions that have aligned with WDFW's BAS and established RMZs that do not fall below the recommended 100-foot minimum for pollution removal, limited one-time allowances for minor modifications—such as covering an existing deck or expanding on the opposite side of a structure—can

	~~e. Expansion into Critical Area Buffer between the Building and the Critical Area~~	sometimes be justified, provided cumulative impacts are tracked over time. However, under Kirkland's current proposal, where RMZs may be reduced to as little as 37.5 feet, where only impacts exceeding 1,000 square feet trigger full vegetation and LID standards, and where multiple exceptions allow encroachment within 100 feet of streams that represent some of the last habitats for federally endangered populations of salmon, it would be inappropriate to allow additional expansions directly into RMZs. Such provisions would result in a measurable loss of ecological function.

Thank you for taking the time to consider our recommendations to better reflect the best available science for fish and wildlife habitats and ecosystems. We value the relationship we have with your jurisdiction and the opportunity to work collaboratively with you throughout this periodic update cycle. If you have any questions or need our technical assistance or resources at any time during this process, please don't hesitate to contact me or the Regional Land Use Lead, Morgan Krueger (morgan.krueger@dfw.wa.gov).

Sincerely,

Signature on final

CC:
Kara Whittaker, Land Use Conservation and Policy Section Manager (Kara.Whittaker@dfw.wa.gov)
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Tyler Gurley

From: Sears, Tricia (DNR) <Tricia.Sears@dnr.wa.gov>
Sent: Friday, October 17, 2025 1:57 PM
To: Anna Heckman
Cc: Sears, Tricia (DNR); Aken, Jeff (COM)
Subject: Kirkland's Critical Areas Ordinance Amendments (2025-S-9893): WGS comments

Hello Tanner,

In keeping with the interagency correspondence principles, I am providing you with comments on Kirkland's Critical Areas Ordinance Amendments (2025-S-9893).

For this proposal submitted via Planview, I looked at the proposal and focused on areas related to WGS work. Of note, but not limited to, I look for language around the geologically hazardous areas, mineral resource lands, mining, climate change, and natural hazards mitigation plans.

Specifically in this proposal, I reviewed Attachment 1 KZC 5 Draft Code, Attachment 2 KZC 5 Draft Code, and CAO Supplemental Slides with Notes. Kudos to you for working on your CAO!

Attachment 1 KCZ 5 Draft Code
Page 12: Geologically Hazardous Areas. "Landslide hazard areas, erosion hazard areas and seismic hazard areas. (Ord. 4701 § 1, 2020; Ord. 4643 § 4, 2018; Ord. 4252 § 1, 2010)." Consider referring to WAC 365-190-120 and then specifying that in Kirkland, the geologically hazardous areas hazards are landslide, erosion, and seismic.

Great to see the detailed definition of qualified critical area and shorelines professional, especially with the requirements for the geologically hazardous areas.

Attachment 2 KCZ 5 Draft Code
On page 2, the critical areas mapped are described. Great! There is no reference to maps used to create the city's critical areas maps.

On page 4, there is a description of geotechnical investigation and geotechnical report. Good.

On page 9, there is a requirement to record to title that the property is within the geologically hazardous area. Good.

Overall, the code provisions are thoughtful and detailed.

Below, I include our usual language for this and future endeavors.

Recognizing the limitations of the current proposals, I want to mention that it would be great for you to consider these in current or future work, be it in your comprehensive plan, development code, and SMP updates, and in your work in general:

- Consider adding a reference to the definition of geologically hazardous areas, WAC 365-190-120, in other areas besides the CAO. In addition, consider adding a reference to WAC 365-196-480 for natural resource lands.

- Consider adding in other areas besides the CAO. If you have not checked our interactive database, the Washington Geologic Information Portal, lately, you may wish to do so. Geologic Information Portal | WA - DNR
- If you have not checked out our Geologic Planning page, you may wish to do so. Geologic Planning | WA - DNR

Thank you for considering our comments. If you have any questions or need additional information, please contact me. For your convenience, if there are no concerns or follow-up discussion, you may consider these comments to be final as of the 60-day comment deadline of 11/28/25.

Have a great day!
Tricia

Tricia R. Sears (she/her/hers)
Geologic Planning Liaison
Washington Geological Survey (WGS)
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Code Section	Code Language WDFW suggestions in red OR strikethrough	WDFW Comment	City Staff Response
Chapter 5 - Definitions			
Page 9/35 **KZC 5.10 Definitions**	Ecosystem functions. The products, physical and biological conditions, and environmental qualities of an ecosystem that result from interactions among ecosystem processes and ecosystem structures. Ecosystem functions include, but are not limited to, sequestered carbon, attenuated peak streamflow, aquifer water level, reduced pollutant concentrations in surface and ground waters, cool summer in-stream water temperatures, and fish and wildlife habitat functions.	We suggest including the definition of ecosystem functions as found in WAC 365-196-210 (14), as both ecosystem functions and ecosystem values are mentioned throughout Chapter 90.	Implement by revising definition: Connect with existing "ecological functions" and "critical area function" language.
Page 9/35 **KZC 5.10 Definitions**	Ecosystem values. The cultural, social, economic, and ecological benefits attributed to ecosystem functions.	See comment above. Ecosystem functions and values are terms used together. See WAC 365-196-210 (15).	Implement by revising definition: Add to definitions with consideration for future use.
Page 11/35 **KZC 5.10 Definitions**	Fish Habitat. Habitat which is used by fish life at any life stage at any time of the year including potential habitat likely to be used by fish life, which could reasonably be recovered by restoration or management and includes off-channel habitat, as defined in WAC 220-660-030(52).	It is important to include this definition to align with state requirements.	Implement by revising definition: Connect with existing "F" type stream definition.
Page 12/35 **KZC 5.10 Definitions**	~~.327.10 Functions and Values The services provided by critical areas to society, including, but not limited to, improving and maintaining water quality, providing fish and wildlife habitat, supporting terrestrial and aquatic food chains, reducing flooding and erosive flows, wave attenuation, historical or archaeological importance, educational opportunities, and recreation.~~	Ecosystem functions and values are two separate concepts that should be uniquely defined. See above comments.	No action: Adaptation was managed before comment was made.

Code Section	Code Language WDFW suggestions in red OR strikethrough	WDFW Comment	City Staff Response
Page 13/35 **KZC 5.10 Definitions**	Hazard tree. A tree that is considered a threat to life, property, or public safety. Due to their high habitat value, hazard tree removal shall not adversely affect ecosystem functions to the extent practicable, encourage the creation of snags (Priority Habitat features) rather than complete tree removal, involve an avoidance and minimization of damage to remaining trees and vegetation, and require a qualified arborist to evaluate requests for hazard tree removal.	We recommend defining "Hazard Tree" to guide removal and mitigation if necessary. Disregard if defined elsewhere in code.	No action: Defined in KZC 95.
Page 19/35 **KZC 5.10 Definitions**	Monitoring and adaptive management A systematic process to continually evaluate and improve the effectiveness of critical areas policies, regulations and practices by learning from feedback loops and the outcomes of implementation.	We recommend that the city adopt a Monitoring and Adaptive Management (MAM} program to help ensure Critical Areas regulations meet the state-mandated standard of no net loss of critical area functions and values. Specifically, a MAM program should: *collect information on CAO effectiveness, * evaluate the potential for exemptions and variances to cumulatively document critical area gains and losses, and * improve permit implementation. implementing a monitoring and Adaptive management program not only helps achieve the goals of a CAO but can provide data to document the city's status for no net loss of Critical Areas, as required under the GMA	Implement: Add term and connect to where adaptative management is already added to the code. Staff does not recommend adding this process to code language in KZC 90. The City monitors the effectiveness of mitigation measures through codified requirements for permit review and post-construction monitoring requirements, effectiveness assessments, and adaptative management. Continuing these practices does not require codification, but enhancing reporting of practices can be established programmatically outside of the code. Assessments from previous reporting were used for this 2025 CAO update.

Code Section	Code Language WDFW suggestions in red OR strikethrough	WDFW Comment	City Staff Response
Page 20/35 **KZC 5.10 Definitions**	.567 No Net Loss A standard established by the Shoreline Management Act and the Growth Management Act in Washington State to protect the ecological functions of critical areas such as wetlands and shorelines. New development may not introduce new impacts to critical area functions and aim to maintain existing conditions over time. Both protection and restoration efforts are required to meet this goal.	No net loss of critical area functions and values is the standard across all critical area types, including those outside of the shoreline designation (WAC 365-196- 830, WAC 365-190-080}. A more inclusive definition might include: No Net Loss of Critical Areas The actions taken to achieve and ensure no overall reduction in existing ecosystem functions and values or the natural systems constituting the protected critical areas. This may involve fully offsetting any unavoidable impacts to critical area functions and values pursuant to the Growth Management Act, WAC 365-196-830 'Protection of critical areas,' or as amended.	Implement: Revise the existing definition and improve clarity.
Page 23/35 **KZC 5.10 Definitions**	~~.690 Priority Species Habitat Conservation Areas Designated regions that are crucial for the conservation of specific species species (PHS} program in Washington. 5.346.6 Habitat and Species of Local Importance and may be regulated as priority species habitat.~~	We recommend that the below definitions for 'Priority Habitat' and 'Priority Species' be added here, taken from WDFW's Priority Habitats and Species List. Priority habitats and species are two distinct concepts that are represented through WDFW's Priority Habitats and Species Program (PHS}. Priority Habitat means a habitat type with unique or significant value to many species. An area identified and mapped as priority habitat has one or more of the following attributes: comparatively high fish and wildlife density, comparatively high fish and wildlife species diversity, important fish and wildlife breeding habitat, important fish and wildlife seasonal ranges, important fish and wildlife movement corridors, limited availability, high vulnerability to habitat alteration, and unique or dependent species. Priority Species means fish and wildlife species requiring protective measures and/or management actions to ensure their survival. A species identified and mapped as a priority species fit one or more of the following criteria: State-listed candidate species, vulnerable aggregations, and Species of recreational, commercial, and/or Tribal importance.	Implement: Adjust and revise existing definitions.
Page 27/35 **KZC 5.10 Definitions**	Riparian Management Zone. The zone of influence surrounding a stream that provides wildlife protection, shade, and water filtration and cooling for the stream habitat. The riparian management zone is equivalent to the average of maximum tree heights of riparian tree species found in the Puget Sound basin and equal to 150 feet.	WDFW's definition for the RMZ is as follows: The area that has the potential to provide full riparian functions. In many forested regions of the state, this area occurs within one 200-year site-potential tree height measured from the edge of the stream channel. In situations where a CMZ is present, this occurs within one site potential tree height measured from the edges of the CMZ. In non-forest zones, the RMZ is defined by the greater of the outermost point of the riparian vegetative community or the pollution removal function, at 100-feet (WDFW Vol 2}.	Implement: Adjust and maintain the City's proposed modified definition to improve connectivity with the State definition and application of the RMZ
Chapter 90 - CRITICAL AREAS			

Code Section	Code Language WDFW suggestions in red OR strikethrough	WDFW Comment	City Staff Response
90.35 Exemptions Page 6/81	2. Public Streets...3. Utilities…	We recommend narrowing this exemption to apply only to routine maintenance and repair that does not increase the footprint of disturbance or alter the function of the critical area or buffer. Any activity that results in ground disturbance, vegetation removal, or expansion into a critical area or buffer should be subject to CAO review and mitigation requirements. Although this section specifies that impervious surfaces shall not increase, vegetation removal is still allowed without clear mitigation standards. Narrowing these exemptions better aligns with the intent of WAC 365-196-830, ensuring public infrastructure projects are held to the same environmental standards as private development, supporting equitable and consistent implementation of the CAO.	No Action: The existing exemption does not allow an increase in impervious areas and is narrowly scoped, while allowing public agencies to quickly respond to repair and maintenance. Any proposed impact must show mitigation sequencing and no net loss requirements.
90.35 Exemptions Page 8/81	11. Storm Water Dispersion Flow Path - Creation of a vegetated flow path from a dispersion device that is located outside the critical area buffer that flows into the critical area buffer provided the buffer meets the vegetative buffer standards in KZC 90.130, and the design is part of an approved development permit. LID treatments per KMC 15.52 shall be integrated to clean all stormwater discharging into any critical area or buffer less than 100 feet wide.	Exempting stormwater dispersion flow paths from CAO review may create unintended impacts to critical areas and their buffers, especially if flow rates or volumes exceed natural infiltration capacity. Even when vegetated, these flow paths can alter hydrology, increase erosion potential, and introduce pollutants into sensitive areas over time. We recommend requiring review for any new stormwater dispersion features that discharge into or through critical area buffers to ensure designs maintain predevelopment hydrologic conditions and comply with water quality standards. As currently permitted under this CAO, riparian management zones (RMZs} that receive this flow and are less than 100 feet wide will have negative impacts on water quality according to WDFW's best available science (BAS}, even if fully vegetated.	Consider: Clarity edits to match code intent within 100 ft of any stream. Maintenance of the flow path is all that is exempt; the location and installation of the device must still be reviewed as a permitted activity pursuant to KZC 90.40 and the requirements therein.
90.40 Permitted Activities, Improvements or Uses Subject to Development Standards. Page 10/81	5.(a.}(4} If located in a ~~fish or wildlife habitat priority habitat and species~~ Fish and Wildlife Habitat of KZC 90.95;	It is unclear why the term "fish or wildlife habitat" has been replaced with "priority habitat and species" throughout this chapter. These references should Areas (FWHCAs}", which is one of the five critical area categories requiring protection under the Growth Management Act (GMA}. Referring only to "priority habitat and species" omits other essential components of FWHCAs, such as streams.	Implement: Adapt and correct through code per adjusted definitions to clarify.
90.40 Permitted Activities, Improvements or Uses Subject to Development Standards Page 10/81	5.(a.}(11} Temporary impacts associated with disturbance in the critical area and buffer are avoided minimized to the minimum maximum extent necessary.	The mitigation sequence (WAC 197-11-768} requires that avoidance of impacts be considered first before minimization or other steps within the sequence.	No Action: KZC 90.40.5(a)(1) already requires permitted activities to comply with mitigation sequences, which incorporates the referenced WAC requirement.

Code Section	Code Language WDFW suggestions in red OR strikethrough	WDFW Comment	City Staff Response
90.40 Permitted Activities, Improvements or Uses Subject to Development Standards Page 10/81	6. List of Permitted Activities, Improvements and Uses...a. Private Repair and Maintenance of Culverts...3} Shall comply with Washington State Department of Fish and Wildlife's in-water work window for ~~seasonal restrictions on~~ instream work and all applicable conditions established under the Hydraulic Code (WAC 220-660}, including obtaining a Hydraulic Project Approval (HPA} prior to work.	We recommend the adjacent edits to provide regulatory clarity for applicants and to avoid unintentional violations of state law.	Implement: Add specific requirements recommended in WDFW comment to clarify existing intent.
90.40 Permitted Activities, Improvements or Uses Subject to Development Standards Page 11/81	~~6.(b.} Private Roadways - New private driveway or easement road through a buffer if there is no other that is both a legal building site and a buildable site, provided:~~	Road construction within a Fish and Wildlife Habitat Conservation Area (FWHCA} will likely degrade the ecological functions and values that the CAO is intended to protect. For example, creating impervious surfaces within designated wildlife habitat corridors fragments these areas, disrupting essential movement pathways for species. Similarly, constructing roadways through riparian management zones introduces pollutants such as 6PPD, a chemical compound found in tires proven to cause near-immediate mortality in coho salmon. These impacts cannot be mitigated by Kirkland's current CAO standards. Furthermore, most FWHCAs rely on the exact location at which they exist. Given these significant and irreversible impacts, such activities, such as the construction of roadways, should be allowed only under truly exceptional circumstances and through a reasonable use permit, rather than allowed as a standard permitted use. If this is retained, it should incorporate LID and RMZ- specific mitigation measures (KMC 15.52 and KZC Table 90.155.1}.	Consider/No action at this time: Mitigation sequencing is required and property access must be allowed in the few cases where access over a critical area is needed. Removal of this option would not change reasonable use requirements
90.40 Permitted Activities, Improvements Development Standards Page 11/81	6.(d.} Private and Public Utilities 1} New sewer and storm water lines in critical area buffers where necessary to allow for gravity flow, provided there is no other feasible location outside of the critical area buffer and provided they shall be located as far as possible from the critical area edge;	The mitigation sequence (WAC 197-11-768} requires that avoidance of impacts be considered first before minimization or other steps within the sequence.	Consider: 90.40.5(a)(1) requires mitigation sequencing which meets requirement intended in comment.
90.40 Permitted Activities, Improvements Development Standards Page 12/81	6.(d}(3}(d} LID treatments per KMC 15.52 are integrated to clean all stormwater discharging into any critical area or buffer less than 100 feet wide.	We suggest incorporating this statement throughout this chapter wherever there may be probable impacts that will result in increased stormwater runoff into FWHCAs.	Consider. Using LID for clean water within 100 ft of streams meets BAS intent through RMZ regulations. Language may be edited to reflect existing code requirements if added.

Code Section	Code Language WDFW suggestions in red OR strikethrough	WDFW Comment	City Staff Response
90.45 Public Agency and Public Utility Exceptions Page 14/81	General comment	Many of the provisions in this section require project proponents to describe why certain standards cannot be met, but they do not specify how these projects will still achieve no net loss of critical area functions and values. If mitigation for public agency or utility projects cannot meet this standard on-site, the city should require alternative approaches, such as off-site mitigation, mitigation banking, or other equivalent measures, to ensure compliance. Maintaining no net loss of critical area functions and values must remain a consistent requirement across all project types. Additionally, this section should incorporate LID and RMZ-specific mitigation measures (KMC 15.52 and KZC Table 90.155.1) when applicable.	Consider: 90.45.3.c, 90.145, 90.150, and 90.70 cover this. No net loss, and mitigation options may be reiterated in this section for improved clarity, though the existing code requirements are responsive to the State intent for using the mitigation sequence. City has an active Advanced Mitigation Program available for City projects. RMZ may be added
90.65 Streams and Associated Buffer Standards Page 24/81	1. Stream Determination - Planning Official shall determine the following: f. If the planning official is uncertain if a watercourse on or within 150 feet of the property is classified as a stream, a critical area report shall be required.	Please reach out to your local habitat biologists for assistance during these determinations (Jesse Dykstra, jesse.dykstra@dfw.wa.gov}. WDFW has an interactive state-wide web map that allows applicants/jurisdictions to input an address or GPS coordinate to see which WDFW habitat biologist covers that area: https://wdfw.maps.arcgis.com/apps/MapJournal/index.html?appid=48699252565749d1b7e16b3e34422271	No Action: Data may be provided for the web page as a resource for public general education. City determines whether an interrupted buffer exists and when a professional report is required for development
90.65 Streams and Associated Buffer Standards Page 25/81	~~2. Standard Reduced Stream Buffer Width~~	We suggest deleting this section since any new impervious surfaces and structures placed within the Site Potential Tree Height at 200 years distance (100- 227 feet within Kirkland} will result in a net loss of ecological functions and values within the riparian management zone according to WDFW's BAS. RMZ functions are complex and cannot be fully replaced or engineered. They provide floodwater storage and dispersal, pollutant filtration, nutrient cycling, habitat connectivity, and large woody debris recruitment. There is no scientifically supported smaller buffer width that provides all these essential functions. We recognize that the reduced buffers are subject to enhanced vegetation standards and that LID techniques are required. However, these measures may only partially mitigate the loss of the pollution removal function that RMZs provide. They do not compensate for the many other essential functions and values these areas support.	Consider/ No action at this time: See BAS for SPTH for urban environment and the decision-making matrix for City specific impacts provided with review request. Most properties within 150 feet of streams are already interrupted or have buildings developed close to the stream. If the stream buffers are expanded, the reduced buffer will be considered at the 150 SPTH per WDFW protection intent.

Code Section	Code Language WDFW suggestions in red OR strikethrough	WDFW Comment	City Staff Response
Table 90.65.1 Standard Reduced Stream Buffer Widths Page 25/81	2. Note: Piped streams and other disconnected streams not rated as N streams do not require a stream buffer or riparian management zone. All streams have a structure set back requirement (KZC 90.140}.	The language in the note associated with this table is unclear. As written, it suggests that all streams not rated as Type N do not require a buffer, which could be read as meaning Type F streams that are piped also lack buffer requirements. If the intent is to exempt only non-regulated, stormwater-only conveyances, that should be explicitly stated. Additionally, due to age and environmental factors, it is likely that all piped stream segments will eventually fail and must be replaced to meet current flow capacity and/or fish passage standards (WAC 220-660-190). With only a 10-foot setback, future maintenance will be difficult, and nearby development may perpetuate nonconforming conditions and increase flood hazards. Of note, the city of Bellevue has recently proposed a piped stream setback of 50 feet, which can be reduced to 25 feet if the piped stream is daylit, providing an incentive for restoration.	Consider: Clarity edits; Kirkland has no S type streams within the city. Streams that rate below a Type N stream on the rating scale may be identified. Edits to clarify existing incentives were included in the update.
90.65 Streams and Associated Buffer Standards Page 25/81	The standard RMZ widths presume the area is vegetated with a native plant community for the ecoregion, consisting of an average of 80 percent native cover comprised of native trees, shrubs, and groundcover plants, and less than 10 percent cover of noxious weeds. If the existing buffer does not meet these standards, the buffer must either be enhanced by an approved mitigation plan or increased by 33 percent. 3. Table 90.65.2 Regulated Stream Buffer WidthsStream TypeBuffer WidthType F ~~133 feet~~ SPTH Type N ~~75~~ 100 feet	The importance of addressing water quality concerns is demonstrated by the listing of Kirkland's Lake Washington shoreline on Ecology's water quality atlas. This means that this area has been formally identified as "impaired" under the federal Clean Water Act. In other words, waterways within Kirkland are currently failing to meet basic water quality standards under current regulations and city practices. Protections are needed for all stream types, as polluted Type N streams flow directly into fish-bearing waters such as Lake Washington. As discussed previously, pollution filtration at 100 feet is only one of the functions healthy RMZs provide.The adjacent addition outlines a path for incentivizing restoration of these areas without compromising the scientifically justifiable width of them.Several urban jurisdictions have already aligned with WDFW's recommendations. For example, King County is proposing urban stream regulations that include no buffers below 100 feet. Woodinville is similarly advancing amendments aligned with WDFW's BAS. Shoreline is proposing a standard 200-foot width for all stream types. These examples illustrate how urban jurisdictions are proactively collaborating with WDFW to incorporate scientifically defensible standards, strengthening their CAOs against potential appeals. We encourage staff to look at these approaches, as there are many ways jurisdictions can better align with WDFW's BAS.	No Action: The City chooses to use the words "Regulated" and "Reduced" to convey when mitigation action is needed. Staff found the existing 33% increase clause causes confusion and is not clear as an option for applicants. The City will use a single buffer to represent SPTH to reduce variation and simplify process. The City's monitoring program shows trends toward improvement in water quality. The city measures habitat and tree canopy cover to monitor future changes. These will take decades to show measurable change. Our data indicates increasing buffers will not result in greater change over current conditions compared to the proposed BAS updates.
90.65 Streams and Associated Buffer Standards Page 26/81	~~4.(c.) Buffer averaging is permitted for both the standard reduced buffer and the regulated buffer if criteria are met in KZC 90.115.~~	We suggest deleting this section. WDFW's Riparian Ecosystems, Volume 1: Science Synthesis and Management Implications (2020) shows that riparian buffer widths are established on the specific ecological functions they are intended to support, which are directly tied to the width, continuity, and quality of vegetation within the buffer. Any reduction to any part of the RMZ results in a direct loss of habitat functions. However, if averaging is limited to areas that no longer provide ecological function, such as existing pavement, then this provision may be more consistent with no net loss standards. Reducing buffers to 37.5 feet in some cases would result in a degradation of water quality and a net loss of critical area functions and values.	No Action: The intent for buffer averaging is to improve connectivity between properties with different buffer widths, topography and interrupted buffers to meet watershed scale no net loss requirements.

Code Section	Code Language WDFW suggestions in red OR strikethrough	WDFW Comment	City Staff Response
90.65 Streams and Associated Buffer Standards Page 26/81	4(e.} A 10-foot-wide structure4(e.) A 10-foot-wide structure setback is required from upland edge of the entire buffer. For streams without buffers, including piped streams, setback shall be 50 feet measured from the top of bank or edge of the pipe structure. Improvements listed in KZC 90.140 may be permitted within the setback. A reduction in the required 50-foot stream buffer width, up to 25%, may be allowed where daylighting occurs, resulting in a net gain in ecological function, as demonstrated through a critical areas report and the following standards are met: a. The applicant must demonstrate water quality will be maintained through low impact development techniques, stormwater pretreatment or equivalent measures; b. The daylighted stream section is planted and restored in accordance with city restoration standards; and c. The resulting buffer is contiguous and functional. d. For projects that daylight more than 100 linear feet of stream, the Director may allow: i. Expedited permit review; and ii. Flexibility in site development standards provided overall critical area functions are maintained or improved	As mentioned before, a 10-foot buffer for piped streams does not provide adequate space for replacement once infrastructure fails. It also does not incentivize stream daylighting. Please see the adjacent suggestions, taken from the city of Bellevue's most recent CAO draft.	No Action: Increasing setbacks for pipes will not change existing on-site conditions. Most piped streams are heavily built over. Daylighing streams is expected to occur during major redevelopment when expanding buffers can occur. Stream alignment and buffers appropriate for the area as required through state HPA and potential federal permitting at that time.
90.65 Streams and Associated Buffer Standards Page 26/81	5(d.} Streams that are degraded must be restored if a stream modification redevelopment or new development is proposed. A critical area report shall address any needed restoration due to degraded vegetation, habitat, water quality and hydrologic functions with specific consideration for anadromous salmon.	As suggested in previous comments, we recommend including "The standard RMZ widths presume the area is vegetated with a native plant community for the ecoregion, consisting of an average of 80 percent native cover comprised of native trees, shrubs, and groundcover plants, and less than 10 percent cover of noxious weeds. If the existing buffer does not meet these standards, the buffer must either be enhanced by an approved mitigation plan or increased by 33 percent" within this chapter. This provision ensures that any development taking place on-site will result in a net improvement to RMZs. Covington (Planning Commission meeting), Skagit County (14.24.530), Mountlake Terrace (Oct. 13 Packet) and other jurisdictions have all adopted similar language. It may also be appropriate to incorporate daylighting incentivization here. The city of Mountlake Terrace incorporates the following provision within their draft COA: "The applicant shall implement the enhancement measures listed below when developing or redeveloping a site that contains a stream or stream buffer: i. Removal of fish barriers to restore accessibility to anadromous fish; ii. Enhancement of fish habitat using log structures incorporated as part of a fish habitat enhancement plan; iii. Planting native vegetation within the buffer area, especially vegetation that would increase value for fish and wildlife, increase stream bank or slope stability, improve water quality, or provide aesthetic/recreational value; iv. Upgrading retention/detention facilities or other drainage facilities to	No Action: Kirkland does not require in-stream work for development permitting due to costs, and poor connectivity to individual homeowner responsibility. Stream restoration should address the cause of degradation which is often at the watershed scale. Both scale and temporal impacts between parcel developments make requirements for an individual property owner infeasible. Non regulatory action should manage this at a watershed

Code Section	Code Language WDFW suggestions in red OR strikethrough	WDFW Comment	City Staff Response
		required levels; v. manage stormwater following the latest Ecology manual; vi. Stormwater retrofit is required for redevelopment projects; or vii. Similar measures determined applicable by the Department."	scale. Code intent is to allow property owners to conduct restoration if they feel the need and expense benefits them.
90.65 Streams and Associated Buffer Standards Page 26/81	5 (h} Other Stream Buffer standards. Streams and buffers shall be placed in recorded critical area easements or tracts for perpetual protection and maintenance.	We appreciate this condition to place stream buffers in protection for perpetuity.	No Action
90.67 Riparian Management Zone Page 27/81	2~~. Non-Development Requirements:~~ All areas within 150 feet of any stream shall follow Critical Area tree regulations pursuant to KZC Chapter 90.135	We appreciate the inclusion here of RMZ and the associated reference to SPTH. Is this provision intended to require critical area-level tree protection for all areas within 150 feet of a stream, or only for non-development activities? This requirement should not be limited to non-development actions. If the intent of this CAO is to preserve the ecological functions of RMZs, tree protection standards must apply to all parcels and projects that impact RMZs.	Consider: The RMZ would be clearer to put above stream buffer requirements. Tree Retention requirements for development also prioritize retention and RMZ will be added to that. The proposed code would also apply critical area tree retention for all properties within the RMZ,

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			including properties not subject to any development activity.
90.67 Riparian Management Zone Page 27/81	3. New development occurring within 150 feet of any stream shall implement the following into design standards a. LID requirements to treat water before entering stream (KMC 15.52}; and b. Measures to minimize impacts to Critical areas Buffers, and Riparian Management Zones (KZC Table 90.155.1}.	The provisions and table referenced in this section do not compensate for all of the functions and values lost by allowing new development within RMZs. For example, this section lacks a measure to offset new flooding concerns for infrastructure placed too close to streams that experience overbank flooding during storm events-a risk that is exacerbated in highly developed watersheds with extensive impervious surface coverage. Additionally, the loss of nutrient cycling from leaf litter, woody debris, and other organic matter is not reflected. These natural inputs are essential to sustaining the aquatic food web, providing the primary source of energy for macroinvertebrates and fish species that depend on these systems for survival.	No Action at this time: City assessment identifies functions and values within 150 feet of streams are already lost. Many proposed RMZ properties outside existing buffers are located in an interrupted buffer area and would not have buffer restrictions. The improvements required through RMZ have BAS to back up they will help meet goals despite interruptions.

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90.75 Daylighting of Streams Page 31/81	1. Daylighting - The City encourages opening up a stream that is located in a culvert to restore the stream to a more natural and open condition…	We encourage the city to actively incentivize daylighting. Please see comments given for 90.65 Streams and Associated Buffer Standards Page 26/81, 4.(e} above.	No Action: Additional incentives are included in City code. To date not enough incentive has been provided to daylight streams. State permitting will require stream bed creation, meandering, and buffers will be established at that time as part of the incentive.

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90.80 Buffer Reduction for Meandering or Daylighting of Stream Page 32/81	General comment	See comment above. Additionally, this section does not align with the no net loss standard for protecting critical areas. If a stream is altered, relocated, or otherwise modified, such action should result in a net improvement to the ecological functions and values of the stream and its RMZ. If the alteration results in a reduced buffer width compared to what previously existed, this would constitute a net loss of function, particularly regarding water quality protection, habitat connectivity, and nutrient processing. To remain consistent with WDFW's BAS, relocated or modified streams should be afforded buffer widths equal to or greater than the original, ensuring that the project demonstrably enhances, rather than diminishes, riparian functions and values. As described earlier, WDFW's BAS finds that a reduction in stream buffer width is directly tied to a loss of function.	Consider: Edits may be made to reference the state HPA requirements. No net loss can be referenced again, though it is required already. With almost all urban streams degraded, investment in repair requires realignment out of ditches. This needs to be incentivized for greater investment.
90.95 Priority Habitat and Species Conservation Areas Page 35/81	General comment	WDFW's *Priority Habitats and Species (PHS}* program is distinct from the state's list of threatened, endangered, and candidate species. The PHS program identifies habitats and species of management concern to help guide land use planning and conservation efforts and is considered BAS under the GMA, whereas the threatened, endangered, and candidate species list is a regulatory classification under state law.	Implement: Corrections will be made.
90.105 Critical Area Determination Page 38/81	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: ...b. A stream is present on any portion of the subject property or surrounding area within 150 feet of the subject property. If a site inspection does not indicate a stream on or within 150 feet of the subject property, no additional stream assessment will be required	We recommend critical area reports include any possible surface water impacts off-site. For example, a project at the top of a slope that substantially increases impervious surfaces could worsen flooding, runoff, and degrade stream conditions for downstream property owners. This should be based on a watershed approach rather than a static distance.	Consider: Clarity edits may be implemented. A Watershed approach is already defined throughout the code.
90.110 Critical Area Report Page 39-40/81	4. Report Content - General c. 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;	Similar to wetlands, WDFW recommends RMZs be delineated to represent the site-specific width needed to support the ecosystem functions and values found on-site. Please see our Guidelines for Determining Site Potential Tree Height from Field Measurements.	Consider: Clarifications to include all critical areas in report requirements will be added.

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90.110 Critical Area Report Page 39-40/81	4. Report Content - General Discussion of how the project satisfied the mitigation sequence, including steps taken to avoid impacts. To demonstrate that avoidance has been adequately assessed, the applicant must, at a minimum, address the following considerations where applicable: (A} Alternative building locations on the property; (B} Adjustments to the project footprint and orientation; (C} Modification of non-critical area setbacks, where feasible, as a first option before encroaching into critical areas or their buffers; (D} Multi-story design or alternate building design	We recommend specifying the steps an applicant must take to demonstrate compliance with the avoidance of impacts. This clarity helps ensure that avoidance is meaningfully evaluated before moving to other steps within the mitigation sequence.	Consider: Corrections were already made to clarify this requirement. City will implement further clarification if needed and add additional specific report requirements outside the codification process.
90.110 Critical Area Report Page 41/81	6. Best available information shall be used to determine fish habitat in the stream and recommendations for buffer waivers given known substantial fish barriers per KZC 90.120 and other unusual conditions.	WAC 220-660-030(52} defines Fish Habitat as, "habitat, which is used by fish life at any life stage at any time of the year including potential habitat likely to be used by fish life, which could reasonably be recovered by restoration or management and includes off-channel habitat." Even if a stream segment currently has a fish passage barrier, that barrier will eventually need to be corrected, as required by state law (WAC 220-660- 190) to allow fish passage when the infrastructure is replaced. Classifying such streams to meet fish habitat standards ensures that land uses do not compromise or preclude the recovery of what will become a future fish-bearing stream. A type F stream cannot be classified as type N because there is a human-made barrier, unless a fish screen is installed to purposefully keep fish out of man-made water conveyance systems, such as irrigation channels. Additionally, we recommend reaching out to WDFW's local habitat biologist to perform site visits in the early stages of project proposals when the designation of a stream is in question (WAC 220-101-020}. Early collaboration is critical to inform the broader scope of the project. Failing to include WDFW in the early stages may induce hardships on the applicant if the stream is incorrectly designated or the buffer is incorrectly sized.	Consider: WDFW guidance is already implemented and referenced. This does not require code change. Reference locations to WAC standards will be double checked for clarity.
90.110 Critical Area Report Page 41/81	7(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 OHWM cannot be identified (see Chapter 180 KZC, Plate 16}. Where a stream enters or exits a pipe, the buffer shall be measured either perpendicular at the pipe opening or to maximize retention of the natural stream buffer area, perpendicular to where the pipe exits the fill when pipes extend into a stream channel.	RMZs should be located on both sides of the stream and measured from the channel migration zone (CMZ} if one is present. If one is not present, the RMZ should be measured from the ordinary high water mark (OHWM} per WDFW's BAS and management recommendations. This section should explicitly state the need for RMZs (stream buffers} to be measured from the edge of the CMZ to align with WDFW's BAS and for consistency with 90.65 Streams and Associated Buffer Standards 4.(a}(3}. For further information, please see the WA Department of Ecology's (DOE} informational webpage.	Consider: Clarifications will be added where appropriate. OHWM is almost always at the top of bank in the degraded streams throughout the city.

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90.115 Buffer Averaging Page 42/81	1. Applicability - Buffer averaging may be applied to wetland and stream buffers. Both the reduced standard buffer and the regulated alternative buffer may use buffer averaging pursuant to this section.	See comments for section 90.65 4(c.} above. Any reduction to any part of the RMZ results in a direct loss of habitat functions. However, if averaging is limited to areas that no longer provide ecological function, such as existing pavement, then this provision may be more consistent with no net loss standards. Reducing buffers to 37.5 feet in some cases, as allowed by these provisions, would result in a degradation of water quality and a net loss of critical area functions and values.	No Action: See response in 90.65 regarding buffer averaging
90.120 Limited Buffer Waivers Page 43/81	1.(b} The Planning Official may waive the required critical area buffer for portions of the buffer isolated from the critical area where an existing legally established building, detached garage, accessory dwelling unit, driveway, commercial parking area or retaining wall or other structure over six feet in height divides a portion of the critical area buffer from the portion of the buffer adjacent to the critical area and results in a loss of all functions and values.	All critical area functions and values must be protected to meet no net loss standards (WAC 365-196-830; WAC 365-190-080}. An applicant must prove that no function or values are provided to the critical area from the isolated portion of buffer.	Consider: No edits are necessary. Clarification edits and references to the WAC will be cross-checked.
90.120 Limited Buffer Waivers Page 43/81	d. The Planning Official may waive the buffer requirement if the waiver request is found to meet the following criteria (see Chapter 180 KZC, Plate 25}: 1} The existing legal improvement creates a substantial barrier to all of the buffer's functions and values ... 3} The interrupted buffer does not provide significant hydrological, water quality and wildlife buffer functions relating to the portion of the buffer adjacent to the critical area.	See comment above.	Consider: Clarification may be added.
90.120 Limited Buffer Waivers Page 44/81	2. Type F Stream Limited Buffer Waiver a. The Planning Official may partially waive the required buffer for a Type F stream if the stream, while meeting the definition of Type F, does not currently support fish use due to the presence of a substantial natural downstream barrier and fish habitat in the subject area could not reasonably be recovered by restoration or management...	See comments for 90.110 Critical Area Report 6. above. Human-caused fish passage barriers are required to be corrected when infrastructure needs to be replaced. Additionally, just because there is a fish passage barrier does not negate the possibility of resident fish species that are also required to have protection measures under state law.	No Action: See response for 90.110. Waivers are per recommendation of a stream/fish habitat expert. These will be made per State requirements as they change and adapt and do not require codification.

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90.130 Vegetative Buffer Standards Page 45-46/81	3. When Vegetative Buffer Standard Applies a. The complete vegetative buffer standard shall be required when structures or improvements exist or will be placed inside the regulated buffer and: ~~1} The total new net impervious or hardscape area anywhere on the entire subject property exceeds 1,000 square feet, or 2} The cost of new or replacement improvements exceeds 50 percent of the tax assessed or appraised value of the existing improvements on the entire subject property, whichever is greater. required to be installed when improvements exist or occur inside the regulated buffer and:~~	Any impact to a critical area buffer should trigger the requirement to meet full vegetation standards, particularly given that the City's existing buffer widths are already substantially narrower than those supported by WDFW's BAS. Allowing new development to encroach into these already limited RMZs without restoring full vegetative structure undermines the ecological functions these buffers are intended to provide. It is concerning that this section allows up to 1,000 square feet of buffer disturbance with only partial vegetation replacement and only requires full re- vegetation standards when impacts exceed that threshold. Even small-scale vegetation loss within narrow buffers results in disproportionate functional degradation, including reduced capacity for pollutant filtration, shading, bank stabilization, and nutrient cycling. At the very least, this section should require full vegetation for projects impacting RMZs as well as LID requirements. The proposed code fails to address existing water quality impairments and would continue to allow regulatory provisions that insufficiently filter pollutants and permit further encroachment into limited remaining riparian areas.	No Action: 1 to 1 minimum buffer standards were added to new code as part of limited buffer standards to ensure no net loss requirements. Full buffer restoration requirements are equal to or more than the proposed or historic impacts to the buffer resulting in a gain across the watershed.
90.135 Trees in Critical Areas and Critical Area Buffer Page 48/81	1. Removal of Trees a. Other than as specifically approved as part of a critical area approval under this chapter, no trees shall be removed from a critical area, Riparian Management Zone, or critical area buffer unless determined to be nuisance or hazardous trees.	This edit is to align this section with 90.67 Riparian Management Zone, since it is unclear whether an RMZ falls into the 'buffer' category.	Implement: Edit will be incorporated.
90.145 Mitigation - General Page 50/81	3.(a} Preference will be given to on- site mitigation except when the City determines that the following criteria have been met as part of a proposal under this chapter:	Please consult WDFW for decisions relating to off-site mitigation for FWHCAs. Fish-bearing streams rely on intact ecosystem functions and values, such as shading, large wood recruitment, filtration, and habitat connectivity, precisely where they occur. These functions cannot be replicated elsewhere, as aquatic species depend on them across the watershed for survival and recovery. Off-site or mitigation banking may provide some benefits, but it does not often replace the localized functions critical to maintaining fish populations and overall watershed health. Please review WAC 220-660-080 4. b. for guidance that specifies WDFW's requirements. For more information, please review the document State of Washington Alternative Mitigation Policy Guidance For Aquatic Permitting Requirements from the Departments of Ecology and Fish and Wildlife. This document outlines WDFW's mitigation preferences, including: 'WDFW Decision Basis: For those impacts that are determined to be unavoidable, WDFW's existing mitigation policy (M5002 - Requiring or Recommending Mitigation} states that priorities for compensatory mitigation location and type, in the following sequential order of preference, are: 1. On- site, in-kind 2. Off-site, in-kind 3. On-site, out-of-kind 4. Off-site, out-of-kind"	Consider: Edits were already made to meet watershed standards. The City of Kirkland is considered low priority habitat for salmon and other listed species relative to other areas in WRIA 8. Mitigation requirement identified is for buffer impacts only and intended to meet no net loss requirements for current impacts and retroactively meet historic impacts.

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90.155 Measures to Minimize Impacts to Wetlands, Buffers, and Riparian Management Zones Page 57-58/81	General comment	As mentioned previously, new impervious surfaces and structures placed within the Site Potential Tree Height at 200 years distance (100-227 feet within Kirkland} will result in a net loss of ecological functions and values within the riparian management zone according to WDFW's BAS. RMZs perform complex, interdependent processes that cannot be fully replaced or engineered, including floodwater storage and dispersal, pollutant filtration, nutrient cycling, habitat connectivity, and large woody debris recruitment. This table does not identify how functional levels of nutrients and dissolved oxygen will be maintained, nor does it address the full suite of other ecological functions and values provided by intact RMZs.	Consider: Clarification edits may be provided. The city has degraded RMZ's and streams. The steps and decision making in this CAO update is to make improvements to already impacted areas given very few non-impacted areas remain.
90.170 Subdivisions and Maximum Development Potential Page 64/81	3. Maximum Development Potential Calculation	The equation seems to be adding a portion of the buffer area back into the total development potential and effectively crediting the buffer area toward density. Additionally, the 'development factor' credits buffers as having development potential depending on the total percentage of area the critical area represents on-site. For example, if 10% of the site is buffer area, 100% of that buffer area is counted toward development potential. This does not seem to accurately represent buildable potential.	No Action: This is a misinterpretation of the code intent. Maximum development potential is for parcel division and does not approve buffer impacts.
90.180 Reasonable Use Exception Page 66/81	5. Allowed Use and Maximum Disturbance Limits - Allowed uses and maximum disturbance limits under a reasonable use exception are as follows:	We recommend adding language similar to Skagit County's CAO, which specifies that the Reasonable Use Exception (RUE} applies only to sites without at least 4,000 square feet of developable area outside the standard buffer (newest draft of SCC 14.24.140}. Incorporating this threshold would help ensure that the RUE is applied narrowly and only in cases of genuine constraint.	No Action: The WDFW threshold provided does not apply to Kirkland property sizes. WDFW objectives are met through 90.180 standards. The existing maximum site disturbance standards in KZC 90.180.5(b) achieve the objective of WDFW's comment regarding threshold for RUEs (and furthermore a modification to that RUE threshold may require additional legal analysis). Specifically, for properties with a total lot area of 6,000-30,000 SF (which comprises the large majority of residential lots in Kirkland), the maximum disturbance is limited to 3,000 SF, which is lower than the threshold suggested by WDFW.

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90.185 Nonconformances	6. Expansion of Nonconforming Structure that Increases the Nonconformance ~~d. Expansion into Critical Area Buffer but No Closer than the Existing Building e. Expansion into Critical Area Buffer between the Building and the Critical Area~~	In jurisdictions that have aligned with WDFW's BAS and established RMZs that do not fall below the recommended 100-foot minimum for pollution removal, limited one-time allowances for minor modifications as covering an existing deck or expanding on the opposite side of a structure-can sometimes be justified, provided cumulative impacts are tracked over time. However, under Kirkland's current proposal, where RMZs may be reduced to as little as 37.5 feet, where only impacts exceeding 1,000 square feet trigger full vegetation and LID standards, and where multiple exceptions allow encroachment within 100 feet of streams that represent some of the last habitats for federally endangered populations of salmon, it would be inappropriate to allow additional expansions directly into RMZs. Such provisions would result in a measurable loss of ecological function.	No Action: Expansions are limited through 90.185 but required as part of the buffer increase in 2017. Code interpretation by WDFW does not account for the full picture of minimum buffer standard requirements and what constitutes permitted development.